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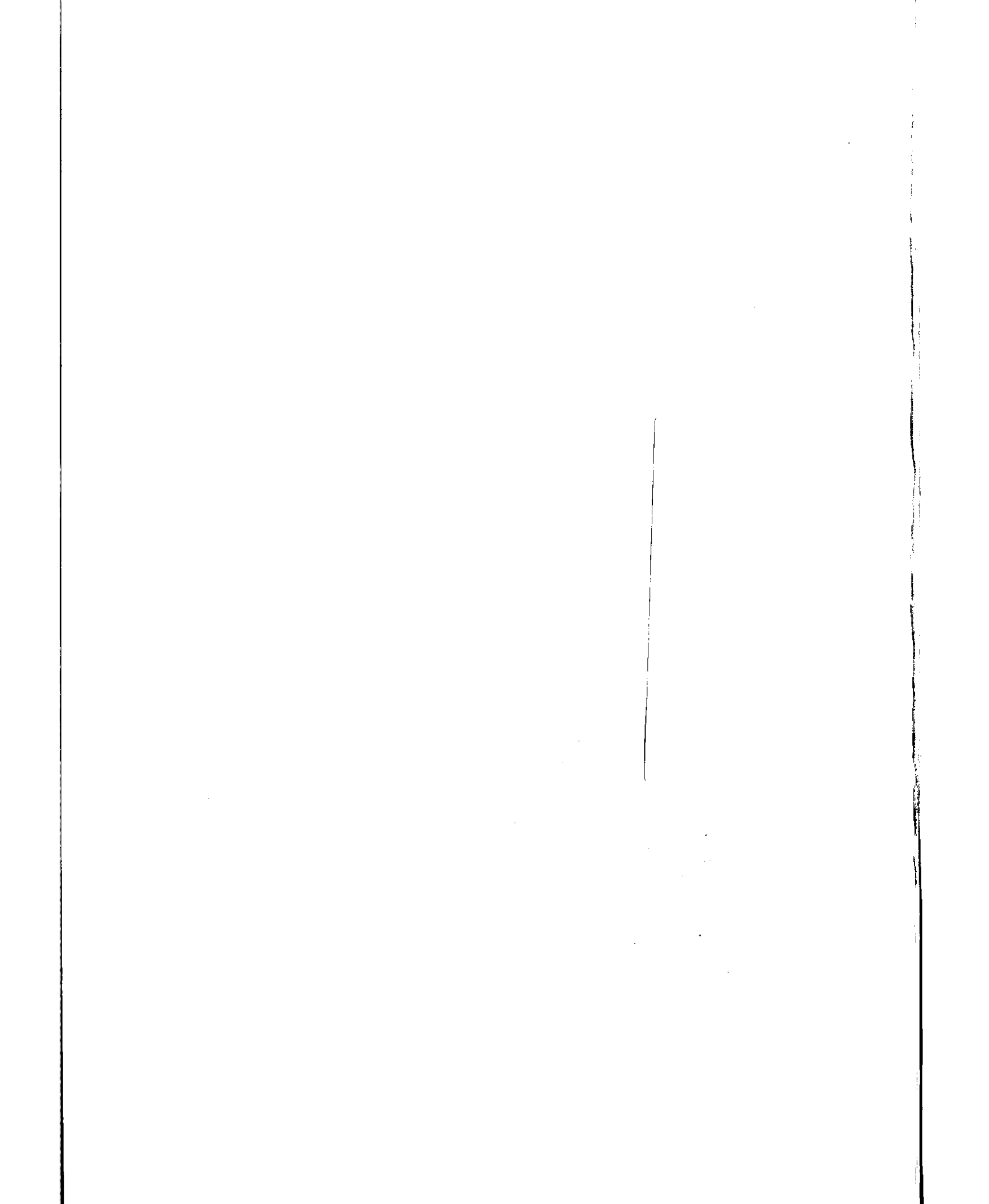
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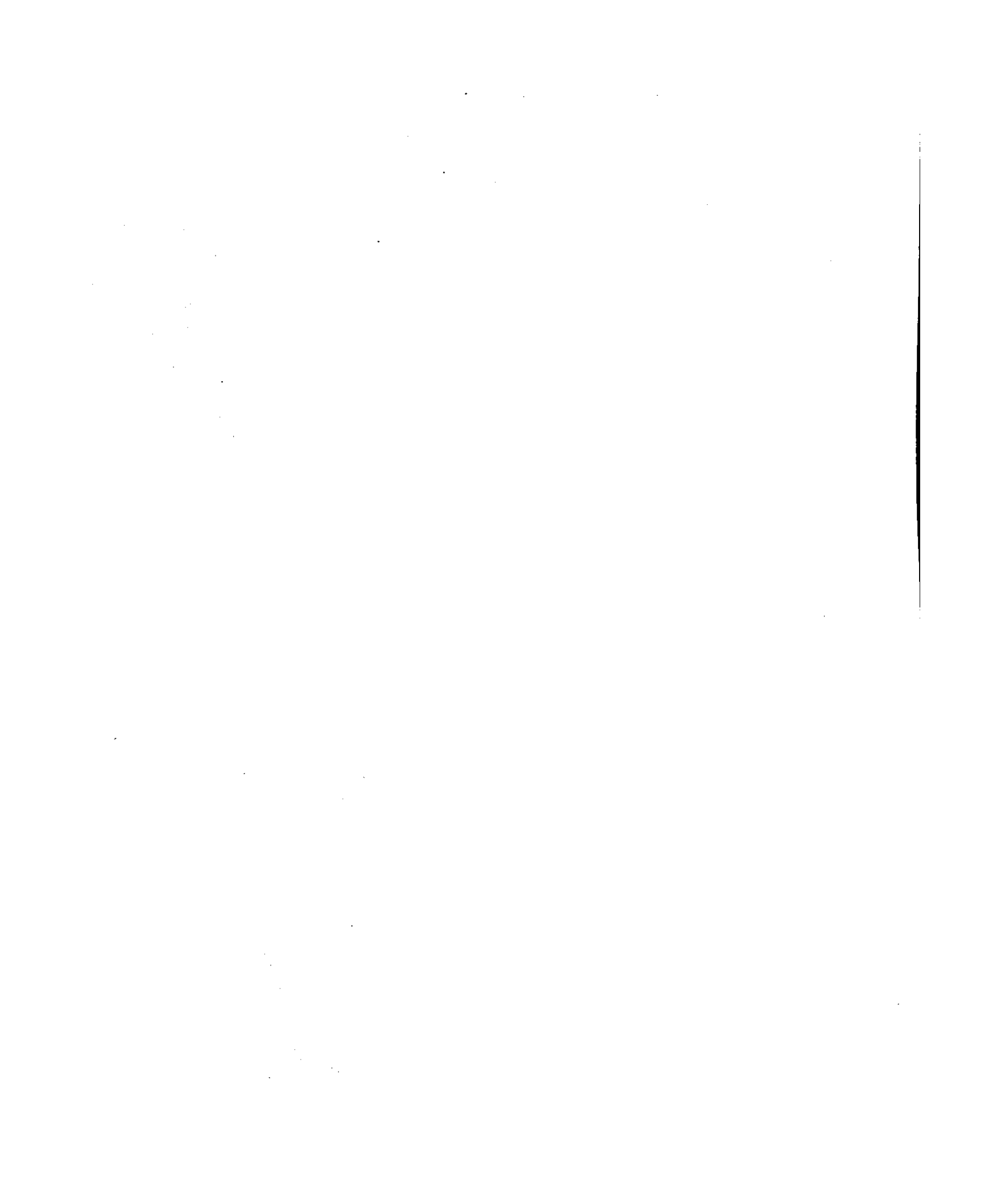
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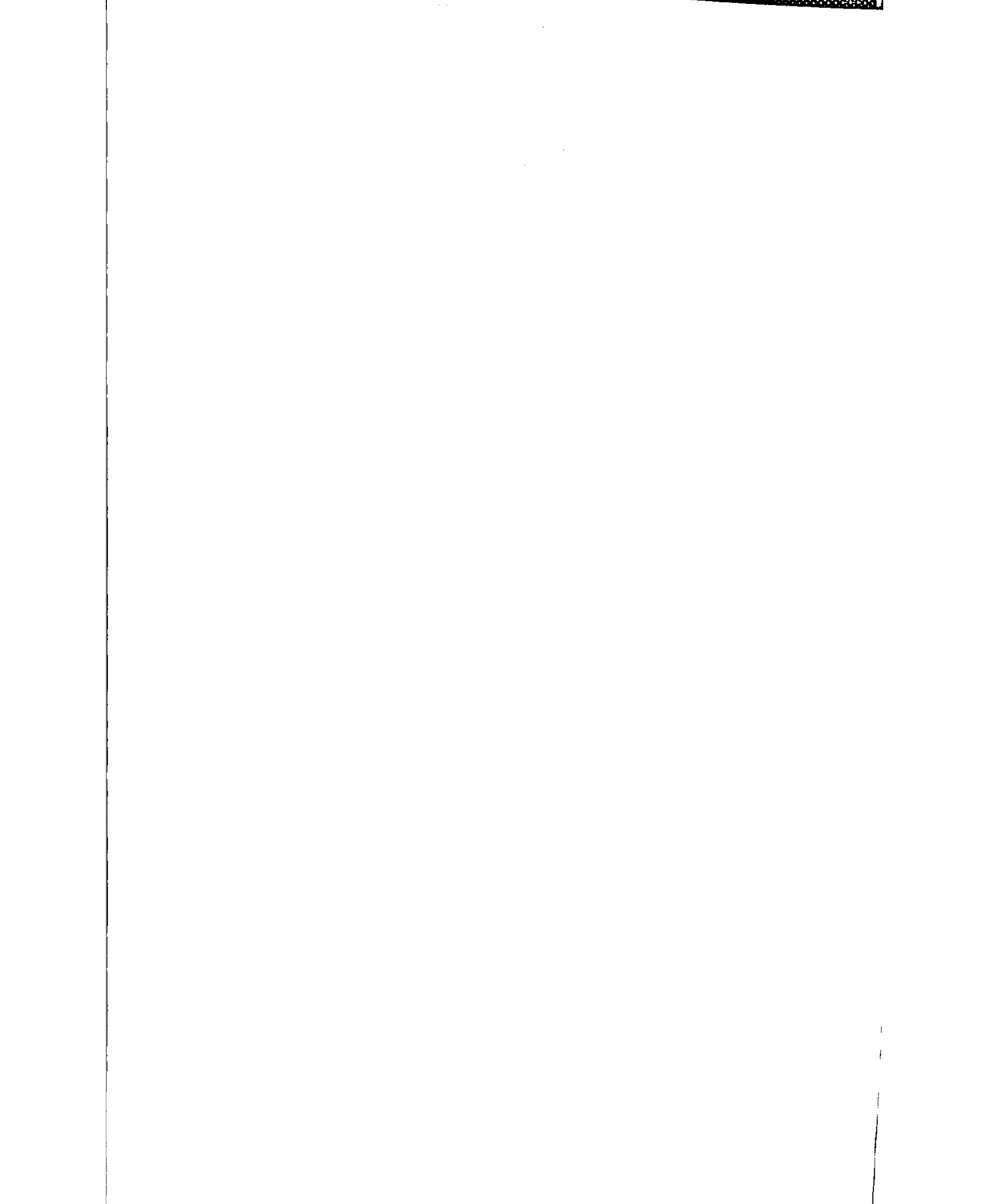
Jari Eloranta

Thesis submitted for assessment with a view to obtaining the degree of
Doctor of the European University Institute

Florence, June 2002





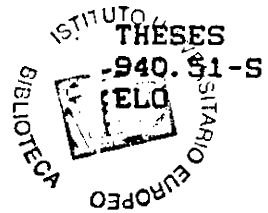


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Symbols:

.. = data not available

- = value equals zero or nonexistent

PREFACE

This thesis is the outcome of years of research on the complex aspects of military spending among various countries in the interwar period. It would not have been possible to complete this study without the help and encouragement of numerous individuals and organizations, although the ultimate responsibility for the remaining errors is of course mine. First and foremost, my deepest gratitude is owed to Professor Jaime Reis, whose intellectual challenges and individual support have been invaluable in order for me to reach the conclusion of this journey. Secondly, the same goes for Professor Mark Harrison's untiring efforts to sharpen and develop the theoretical and empirical premises of this thesis, as well as for his kind assistance during my recent stay at the University of Warwick. In addition, Professor Alan Milward's comments and scholarly challenges have greatly influenced my stay here in Florence. Of the rest of the faculty here, I would also like to mention Professor Giovanni Federico's and Professor Arfon Rees' insightful seminars and intellectual companionship. The friendship and scientific challenges posed by certain of my fellow researchers have been invaluable: Gerben Bakker, Marc Prat, Tobias Witschke, Svetlozar Andreev, and Babak Rahimi. Data has been provided over the years by, among others, numerous professors and researchers: Erik Buyst, Piet Clement, Herman de Jong, Olga Christodoulaki, Thomas David, Olle Krantz, and Jan Tore Klovland. Moreover, a thank you should also be directed towards the staff of the Department of History and Civilisation during these years, especially Rita Peero and Angela Schenk. The EUI library has offered good facilities for this comparative effort, for which also Dr. Serge Noiret should be thanked.

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especially Professor Olle Kranz, Dr. Sven Nordlund, and Dr. Magnus Lindmark. In the same token, Professors Kersti Ullenhag and the research seminar at the University of Uppsala should also be thanked. Some of the research efforts discussed in the winter of 2000—2001 will be coming out as *Eloranta 2002a* (in the Scandinavian Economic History Review), and they are also partially featured in this thesis. Moreover, the help of numerous librarians and archivists should be acknowledged, without whom these kinds of studies would not be possible: especially the personnel in the Military Archive (*Sota-arkisto*, Finland), Industrihuset (*Infocenter*, Sweden), the National Archive (*Riksarkivet*, Sweden), and the Public Records Office (UK).

In conclusion, to say the least, this would not have been possible without the continuing support of my family. The biggest thank you goes to my wife, Charlene, who — besides running the household and putting up with my quirks — also read the entire manuscript and introduced a number of grammatical corrections. The span of this research has seen the arrival of two new persons in my life, my wonderful children Rebekka and Robert. Their patience in seeing Daddy crouched for hours on end in front of the computer has been remarkable. My mother Tamara's financial help and love has been crucial as well. The support of my entire family (especially my aunts), in particular during my stays in Helsinki, has been wonderful. Finally, I would like to dedicate this study to the memory of two great men, my father Jorma and my grandfather Lennart, who both fought in the Second World War. Their stories and sacrifices made a lasting impression on me, also to feed my curiosity on the impacts of such conflicts both during times of crisis and times of peace.

Abstract 1

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1. INTRODUCTION

1.1. Aims of the Study

This thesis provides an analysis of the demand for military spending as an impure public good among eleven European states (European Great Powers: **France, UK**; transitional democracies: **Portugal, Spain**; “weak”, implying limited political and economic status in a given system, states: **Belgium, Denmark, Finland, the Netherlands, Norway, Sweden, and Switzerland**). The aim of this thesis is to ask *what the factors were that determined the demand for military spending in a European democracy or a nation that behaved similar to a democracy in its military spending choices during the interwar period*. I argue in this thesis that one must account for a complex set of forces arising from the level of an international system, the level of an alliance(s), the level of a state, as well as within a particular state to understand the demand for military spending comprehensively. The theory of public goods offers certain tools for the analysis of military spending behavior among a group of countries. Nonetheless, the theoretical and empirical studies utilizing the theory of public goods have usually failed to analyze the underlying economic system and possible changes in it. It is also argued here that, with the exception of *NATO* (North Atlantic Treaty Organization) in 1949—1966, economic systems and alliances relying on conventional weapons and forces will always yield impurely public benefits (with purely public benefits being nested within these benefits) at the various levels of interaction, such as within the states for the relevant interest groups. Thus, the analysis must therefore encompass impure public good variables and proxies at all levels, both in the quantitative and qualitative senses.

This dissertation consists of several complementary parts. Chapter 1 will feature details on the relevant research traditions concerning the various aspects of military spending as well as discussion of the data sources, relevant data problems, and proposed solutions. I will then conclude this chapter with an overview of the key research questions pursued in the thesis. Chapter 2 will form the theoretical nexus of the thesis, where I will first present the basic tenets behind the theory pure public goods, especially in terms of military spending analysis. The focus is then shifted towards challenges arising from the analysis of economic systems and impure public goods, both at the macro- and micro-levels. The chapter is concluded with a detailed presentation of the hypotheses pursued in the thesis, thereby complementing the key research questions presented in Chapter 1. Chapter 3 will outline the essential points of consideration regarding the economic performance and security policy behavior of the selected countries, with emphasis on the League of

Nations and the failure of disarmament. Additionally, I will present broad comparisons of military spending, relative of other indicators to ascertain what kinds of patterns existed, if any, by using the different kinds of measures of military spending — for example, the percentage share of military expenditures in central government expenditures. This section will include both an aggregate overview of the various military spending characteristics of the period, as well as discussion of the military spending behavior of the selected eleven countries, and at times in comparisons with other nations. Chapter 4 will feature discussion of the so-called democratic peace argument, the hegemonic competition framework, and other systemic features of military spending in a system of seventeen countries in the interwar period. More specifically, I aim to explore the impact of the international system (proxied by the said 17-country system) on the demand for military spending among the selected eleven European states. Additionally, certain individual country characteristics, the impact of regime type on military spending, and the interrelationship between economic growth and military expenditures in particular, will be analyzed to provide insights on which variables might be crucial for the specific demand functions.

Chapter 5 endeavors to analyze the “alliance” impacts, or the lack of such influences, as well as the importance of pure public good variables in explaining the individual countries’ military spending. Here it will be shown that, for example, the League of Nations was not able to provide a pure public good in terms of collective security. The demand for military spending among the selected eleven countries was influenced by impurely public benefits, thus including also pure public good influences, arising from the various external and domestic forces in the budgetary process. The individual country demand patterns (often entailing also joint responses to certain variables) are analyzed in more detail in Section 5.2, including discussion of the various domestic political market proxies introduced into the analysis. Chapter 6 provides new insights into the military spending choices of Small and Medium “powers”, via the study of the interwar arms trade, by utilizing the concept of “weak” state in the analysis. This chapter will also attempt to contrast the military spending environments of the “weak” states respective of the Great Powers. Were they in fact as “weak” as they are often portrayed as being?

Chapter 7 will focus the analysis further on two “weak” states: Sweden and Finland. It brings forth discussion and analysis on the political economy of military spending and budgets in Sweden and Finland, taking into account the success of various interest groups in the decision-making processes, focusing especially on industrial federations. A combination of quantitative investigation and the previously largely ignored interest group approach, employing rarely utilized archival data, will provide a fresh outlook on the formation of the demand for military spending. Moreover, I will

attempt to outline specific “paths” (i.e., whether *path dependence*, to be defined later in detail, existed in terms of institutional constraints and opportunities) for these two countries. This chapter will bring forth new insights into the analysis, chiefly the relevant actors in the political economy of a “weak” state, and an evaluation of the weakness and strengths of the preceding quantitative analyses. As Beth A. Simmons has expressed in the introduction of a similar study on the domestic sources of foreign economic policy in the interwar period: “The most convincing conclusions will ultimately be those on which the regressions agree with the archives”.¹ This is certainly the objective here as well. The thesis will be concluded on contemplations of these very issues, as well as the key findings.

1.2. Research Traditions and Military Spending Analysis

Here in this section I will highlight some the most important research traditions and approaches that have been used in the various parts of this thesis, both recognizing the important contributions available to someone willing to embrace an interdisciplinary approach to the questions at hand, as well as outlining a critique of the lack of interaction among the disciplines needed to tackle such a complex issue as the demand for military spending, notably in a comparative setting. For example, the study of military history, perhaps the most traditional research orientation in the study of crises and military issues, has been changing ever since the Second World War, especially in the last few decades. This applies specifically to the international interests in this field. Emphasis has been placed on a new set of problems, primarily concerning the ties between war — as well as the military establishment itself — and society. The traditional view, involving strategic and tactical considerations, of many past historians has gradually been complemented with studies of more complex interrelationships. These newer approaches and studies on the effects of wars and military establishments on societies as a whole, whether concentrating on political, economic, social, or cultural aspects, are aimed at creating more comprehensive or “total” (in Braudel’s terms) accounts of military history.²

These newer approaches include the so-called “New Military History” -school, which originated in the United States.³ There the study of wars found itself in crisis by the 1950s, and it was shrinking into the margins of mainstream historiography in academic institutions. The reasons for this decline included the debilitating impact — as far as academic prestige was concerned —

¹ Simmons 1994, 14.

² Howard 1972, 9—11; Anderson 1988, 8; Milward 1977, xii.

of “big” government and various military history projects, the distrustful attitude of Cold War scholars towards war as a research topic (with wars seen as exceptional “perversions” of the ordinary political and foreign policy processes, usually squared away with the realist perception of competition among self-interested states), and the lack of analytical framework to be found in most of the studies. Some of the military historians of the time continued to study war in a more “traditional” way, whereas others tried to incorporate a broader view into explaining conflicts. Another solution adopted by some military historians, for example by Walter Millis in his 1956 study titled *Arms and Men*, was to try to popularize military history and incorporate a wider range of elements, such as political institutions, into the explanation of wars. The emphasis on nonmilitary characteristics began to challenge and add to the traditional military history framework in the United States during the 1960s, which Peter Paret refers to as the “nadir of American military history in this century”.⁴

The New Military History was greatly influenced by such similar movements as the New Social History, New Economic History and New Cultural History. The term “new” military history is in fact somewhat misleading, because this research orientation has also embraced the traditional military history sphere. The main idea behind the New Military History seems to be that there are numerous approaches available for a researcher of wars and conflicts, which may not necessarily produce identical results. Another characteristic of this research orientation is that it has not become a dominant part of the field of military history rather than a complementary, yet often vague set of interdisciplinary approaches. The viewpoints and methods involved have differed greatly, but this variety may prove vital in order to understand the different structures and elements of war and peace comprehensively. In the United States, as well as in certain parts of Europe, this approach has helped to invigorate interdisciplinary efforts in the study of war to a great degree. In Europe this type of “military” history has claimed the most successes in Great Britain, especially in connection with economics and economic history, yet almost solely in terms of explaining the societal impacts of crisis periods.⁵

However, curiously enough, neither military nor economic historians have dedicated much effort into studying the civil-military relations or socioeconomic impacts of military outlays during periods of peace. Quite frequently, as emerging from the classic studies of A.J.P. Taylor

³ Paret 1992, 220—221.

⁴ Paret 1992, 214—220; Millis 1956.

⁵ Paret 1992, 221. See also Howard 1972; Milward 1977. On the latest British military economics, see Harrison 1996. On the German military history traditions, see Showalter 1984. On the so-called new histories, see Olábarri 1995, 10—12, 17—24; Iggers 1984; on cliometrics, see McCloskey 1987. On the

and many of the more current works in diplomatic history, historians have tended to be more interested in the impact of foreign policy decision-making and alliances — in addition to resolving the issue of “blame” on the road towards major conflicts⁶ — rather than investigating how reliable quantitative evidence could be mustered to support or disprove macro- and micro-level hypotheses. Economic historians, in turn, have not been particularly interested in the long-term economic impacts of military spending. Usually the interest of economic historians has centered on the economics of global conflicts and the immediate short-term economic impacts of wartime mobilization.⁷

Nonetheless, some historical and interdisciplinary studies on war and societies have taken the form of explaining developments at a macro-level, yet often without a great deal of elaboration on the quantitative evidence behind the assumptions on the effects of military spending. For example, Paul Kennedy’s at times elusive *The Rise and Fall of the Great Powers. Economic Change and Military Conflict from 1500 to 2000* (1989), as criticized by many economists, lacks the quantitative evidence and precise testing of hypotheses to support his notion of interaction between military spending and economic growth.⁸ Other examples of large-scale comparisons encompassing a ‘*longue duree*’, which include analysis of the interwar period as well, comprise Caroly Webber and Aaron Wildavsky’s, *A History of Taxation and Expenditure in the Western World* (1986), William H. McNeill’s, *The Pursuit of Power. Technology, Armed Force, and Society since A.D. 1000* (1982), and Karen A. Rasler and William R. Thompson’s, *War and State Making. The Shaping of the Global Powers* (1989), to name a few.⁹ Although they discuss sources and other details behind the figures to varying degrees, they nonetheless do not provide comprehensive analysis of the interwar period, above all in terms of discussing the problems with the data and the various types of quantitative options available in the testing of specific hypotheses. They do, however, offer meta-level explanations of various aspects of military spending demand formation and the competition for power by different types of states.

emphasis of cultural constraints, see Keegan 1993.

⁶ The two classic studies on the origins of the world wars are Taylor 1954 and Taylor 1961. See also e.g. Watt 1977 for just one review of Taylor’s works. On “typical” historical literature on the origins (as historians are rightly wary of using the word cause) of these conflicts, see especially Kaiser 1983 (on Germany’s role), Gordon 1974 (on German and British cases), and on the issue of balance of power see e.g. Kraehe 1992.

⁷ See *The economics of World War II* 1998. Classic studies of this type are Alan Milward’s works on the European war economies; see e.g. Milward 1965, Milward 1970, Milward 1977.

⁸ See Kennedy 1989. Kennedy calls this type of approach, following David Landes, “large history”; see Kennedy 1994, 7, 26. On criticism of Kennedy’s “theory”, see especially Sandler-Hartley 1995 and the studies listed in it, particularly Gold-Adams 1990. Other examples of long-run descriptions of war, society, and the economy can be found in e.g. Pearton 1982 and McNeill 1982.

⁹ Webber-Wildavsky 1986; McNeill 1982; Rasler-Thompson 1989.

Overall, there have been few studies offering analytical treatment (or presenting relevant data) of the military spending of the Great Powers and smaller states in the interwar period, neither in the military historiography or among the social sciences in general. Some of the earliest accounts were actually written by contemporaries, such as *Armaments. The Race and the Crisis* (1937) by Francis W. Hirst. These accounts, however, cannot offer reliable statistical information, especially for the 1930s.¹⁰ A good example of recent work combining the theoretical aspects of economics with historical case studies and offering new data in a comparative fashion is *The Economics of World War II* (1998), a compilation edited by Mark Harrison.¹¹ This compilation, however, does not offer analysis or data for the 1920s. Historical studies relating to military spending in the interwar period are often heavily focused on the 1930s and the rearmament “experience” in particular. Robert Frankenstein’s (1982) *Le prix du réarmement français 1935—1939* and G.C. Peden’s (1979) *British rearmament and the Treasury, 1932-1939* are fine examples of such efforts, often providing comparative data and/or time series on the military spending of various states for the entire period.¹² Studies focusing on the military spending of a single state during the whole period are also quite rare. Finnish historian Vilho Tervasmäki’s (1964) *Eduskuntaryhmät ja maanpuolustus (valtiopäivillä 1917—1939)* study on Finnish military spending and the Finnish Diet is one of the few welcome exceptions in this regard. Business historians, in turn, have studied some of the large arms producing and trading companies of this period, yet even in those studies the focus has been on the 1930s and, by and large, on the Great Powers.¹³ Thus, in general these studies have not analyzed the individual countries’ military spending as a uniform phenomenon nor have they undertaken very far-reaching, consistent comparisons between the various states in the interwar period.

On the aggregate, Charles Tilly’s division of the available approaches in the analysis of war and power is perhaps enlightening as a broad simplification of the state of the art among the social sciences, which include: 1) the statist; 2) the geopolitical; 3) the world system; 4) the mode of production approaches. The statist approach presents war, international relations, and state formation chiefly as a consequence of events within particular states. The geopolitical analysis is rooted on the argument that state formation responds strongly to the current system of relations among states. The world system approach, à la Wallerstein, is mainly centered around

¹⁰ See e.g. Hirst 1937; also, Tiffen 1938.

¹¹ See *The Economics of World War II* 1998.

¹² Nonetheless, there are few quantitatively oriented studies attempting to assess the impact of the 1930s rearmament. For examples of good efforts in this regard, see Thomas 1983 (the British case) and Ritschl 2000.

the idea that the different paths of state formation are influenced by the division of resources in the world system. In the mode of production framework the way that production is organized determines the outcome of state formation. None of these approaches, as Tilly points out, are adequate in their purest form in explaining state formation, international power relations, and economic growth as a whole.¹⁴

Of the more specific research traditions among the social sciences dedicated to military spending analysis, the study of *defense economics* and military spending patterns as such is related to the immense expansion of military budgets and military establishments in the Cold War era. It involves the application of the methods and tools of economics to the study of issues arising from such a huge expansion. One could perhaps distinguish at least three aspects in defense economics that sets it apart from other fields of economics: 1) the actors (both private and public spheres of influence, for example in contracting); 2) the theoretical challenges introduced by the interaction of different institutional and organizational arrangements, both in the budgeting and the allocation procedures; 3) the nature of military spending as a tool of destruction as well as providing security.¹⁵ One of the aspects missing in the study of defense economics has been, at least so far, research focusing on other periods besides the post- Second World War era.¹⁶ The tools offered by defense economists provide a useful starting point in the study of military spending and crises, yet the historical/institutional variations often impose their own constraints on the researcher.

Within *peace sciences* (sometimes also referred to as conflict studies) — a broader yet overlapping school of thought in relation to defense economics¹⁷ — one of the most significant of the interdisciplinary efforts has been the *Correlates of War* (COW) project. This project, which started in 1963, has become the largest research program to trace "the intellectual history of the 'peace research movement'" as well as to try to discover some explanatory models relating to the birth of conflicts. This project and the researchers loosely associated with it have had a strong impact on the study of conflicts, not to mention COW's importance in producing

¹³ See Eloranta 2002a for details.

¹⁴ Tilly 1990, 6—14. For an overview of Tilly's arguments in a concise framework, see Tilly 1985.

¹⁵ Sandler-Hartley 1995, xi; Eloranta 1998. On British defense economics and history, see Harrison 1996. See also Howard 1972.

¹⁶ One of the few exceptions is e.g. Conybeare-Sandler 1990, which analyzes the period before the First World War. Rasler-Thompson 1989, especially with its theoretical and quantitative emphasis, is perhaps another. On importance of time-specific frameworks, see Singer 1979, xvi—xix; McCloskey 1987, 14—15, 24; Komlos 1992. On Nordic studies on military expenditures, covering the 20th century, see e.g. Hagelin-Wallensteen 1992; Gleditsch et al. 1992.

¹⁷ Among the key earlier works are Wright 1942 and Richardson 1960. For an evaluation of Wright's

comparative statistics.¹⁸ As Daniel S. Geller and J. David Singer have noted in an overview of the results achieved in conflict studies, the number of territorial states in the global system has ranged from fewer than 30 after the Napoleonic Wars to nearly 200 at the end of the twentieth century, and it is essential to test the various indicators collected by peace scientists against the “historical record” of these states until theoretical premises can be confirmed or rejected.¹⁹ Yet, a typical feature in most studies of this type is that they are keen on finding those sets of variables that *might* predict major wars and other conflicts, in a way similar to the historians’ obsession on the origins of wars, whereas studies investigating the military spending behavior of specific monads (single states), dyads (pairs of states), or systems are quite rare.

How have theories of state behavior at the system level been linked to the analysis of military spending, especially in terms of economic development? According to *George Modelski* and *William R. Thompson*, who are proponents of Kondratieff waves and long cycles as explanatory forces in the development of world leadership patterns, it is possible to ascertain fourteen approaches to analyze the relationship between war and long-term economic growth, in terms of relationship between wars, economic upswings, and economic downswings.²⁰ Most of them put forward the connotation, either implicitly or explicitly, that military spending is an important component of competition for resources in a system and that engaging in such expenditures represents a tradeoff between the benefits gained by military spending and the domestic consumption costs involved. Obviously, although often overlooked, all of these patterns embody different implications and theoretical models in order to explain the military spending of a state or a group of states *as a system*. Furthermore, military spending may be a crucial variable in explaining hegemonic competition between states in general. The actual operationalization of such models in a consistent way is indeed one of the key challenges of any empirical study.

Another type of literature, mainly stemming from defense economics, institutional economics, as well public choice²¹ theoretical models, views the *actors* involved in the budgeting process as well as the *procurement* side of military contracts as crucial elements in the analysis of military spending. This type of analysis has not been undertaken before in the context of the interwar period.²² For example, a variant of choice-theoretic model of defense, closely related to the

contributions, see Davis 1996. See also Geller-Singer 1998, 2—3.

¹⁸ Singer 1979, xi—xviii; Singer 1990.

¹⁹ Geller-Singer 1998, e.g. 1—7.

²⁰ Modelski-Thompson 1996, 14—40.

²¹ See e.g. Hartley 1991; Sandler-Hartley 1995. For details on these paradigms, see e.g. Eloranta 1998; Lamberg et al. 1997; and the subsequent chapters of this thesis (especially Chapters 2 and 7).

²² See the few rudimentary efforts by this author, e.g. Eloranta 1997c and Eloranta 1999.

premises of most public choice literature, views government bureaucrats as making the military expenditure recommendation based on their own desire to maximize their bureau and prestige. Another variant emphasizes the role played by defense lobbies and other types of interest groups in order for them to achieve various benefits from the government's provision of defense.²³ Here in this thesis I will rely on both the systemic approaches and the models developed by the various schools of thought in the study of economic impacts of military spending at the state level as well as adopt other complementary hypotheses, arising from institutional economics and public choice frameworks in particular, in order to incorporate the actors in the political markets of military spending in the analysis of the said countries. These arguments will be explored more fully in connection with the theoretical framework in Chapter 2.

Overall, one can distinguish perhaps at least five key questions arising from the various theoretical and empirical frameworks reviewed here briefly: 1) How significant is the interaction between the "civil" and the "military" spheres during peacetime? 2) What are, and how important, the domestic determinants of foreign and security policy? 3) How can military might and perceptions of it be measured? 4) What kind of quantitative models can be derived from the various theoretical frameworks and what are the limits of such inquiries? 5) How can we measure the role of the various actors in the formation and distribution of public goods in the political markets? Obviously, all of these questions are relevant and should be incorporated into the analysis of military spending. In the context of the demand for military spending one could ask, for example: 1) Do the armed forces form an interest group in the political markets, and is it indeed possible to separate the "civil" and the "military" spheres, especially at the level of budgetary politics? 2) How important are the external factors, such as arising from the development of the surrounding "system" or alliance(s), compared with the internal factors, such as the behavior and strength of the relevant interest groups, in forming a state's external security needs? 3) How well does military spending reflect the military strengths of a nation, especially in relation to the stock of armaments and limited availability of information? 4) How well do the quantitative variables arising from the various levels of decision-making (system, alliance, state, within state) explain the demand for military spending? What is the relevance of the residual in the quantitative analyses? 5) What is the importance of the institutional framework, offering both opportunities as well as instigating constraints, and the "players" in determining the military spending behavior of individual states? These questions will be put in the context of the thesis in Section 1.4, and the specific hypotheses relating to the theoretical points will be brought forth in Chapter 2. Yet, among the key issues to be resolved *first* are: 1)

²³ Sandler-Hartley 1995, 57—58.

What kind of data should one use in comparing military expenditures in this period? 2) Are the data, in fact, comparable? 3) Which polities could be compared in a meaningful fashion?

1.3. Data Problems and Solutions

In short, the aim in this thesis is to utilize the tools offered by the various research traditions in order to explain the complex phenomenon of the demand for military spending among the selected eleven European nations in the interwar period, which was a relatively short period of few conflicts between the two world wars (see Table 1 below). For this purpose, the criteria for country selection need to be defined. Only European countries were selected for the comparisons here as trade, history, geography, and threat scenarios, among other factors, closely connected them. The availability of data also endorsed this choice. Moreover, this limited the size of the sample in a convenient fashion. The following limitations were taken as starting points for the selection of countries within Europe, spanning the entire period under observation: 1) They had to have at least several years of parliamentary, democratic²⁴ rule in the time period, and the periods of authoritarian rule had embody the characteristics outlined in the subsequent chapters, namely only limited centralized decision-making and inability to ignore the opposing groups in determining the level of military expenditures;²⁵ 2) There had to be relevant statistical sources available for the required estimation of demand (mainly: data on GDP or GNP, military expenditures, total central government expenditures), preferably in the form of encompassing and comparable historical growth studies²⁶; 3) The military spending of a country selected here had to respond to common economic indicators (especially economic

²⁴ For a more theoretical discussion of the different models of democracy, both in a historical and current context, see Held 1991. For discussion of the notion of democracy, see also Chapter 4 of this thesis.

²⁵ Ireland formed an exception here and is excluded from the selection. Ireland would have been a problematic choice due to its only relative independence from Great Britain, especially in terms of foreign policy, during this time period; see e.g. Murphy 1989.

²⁶ Thus, e.g. Austria and Czechoslovakia were excluded as no relevant data beyond the League of Nations or the other data sources listed shortly was found for their military expenditures. The Czechoslovak GDP data, however, seems to be of fairly good quality; see Maddison 1995. Czechoslovakia was included, however, despite its poorer quality data in Chapter 6, since it was a crucial player in the interwar small and medium size armaments trade. On the Czechoslovak economy, see also Teichova 1988. For an example of the use of the League of Nations figures, relating to Eastern Europe, see Hauner 1973. Most Eastern European countries would have qualified for the analyses here if reliable military spending data (beyond the additional databases utilized for the excluded states) were found. The problem of finding relevant economic indicators, such as reliable GDP figures, was also an obstacle in the case of Eastern European countries, i.e., the Baltic nations. See van Ark 1995 for an overview. The same argument of inadequate statistical data applies also to the Balkan states. For a good overview, see again Maddison 1995. Many of these states were, however, utilized in, e.g., the cross-section estimations explained in Section 4.1 of this thesis. See also Appendices, Appendix 2 for further details.

development acting as a constraint) and not exhibit complex forms of structural changes due to periods of non-democratic rule.²⁷

Table 1. Inter-state (=Between Recognized States) and Extra-State Wars (=Within States, Between the Core State and Its Extensions), 1920—1938

A.	B.	C.	D.	E.
<i>Lithuanian-Polish</i>	1920	1920	140	1000
<i>Sino-Soviet</i>	1929	1929	109	3200
<i>Manchurian</i>	1931	1933	505	60000
<i>Chaco</i>	1932	1935	1093	92661
<i>Saudi-Yemeni</i>	1934	1934	55	2100
<i>Italo-Ethiopian</i>	1935	1936	220	20000
<i>Sino-Japanese</i>	1937	1941	1615	1000000
<i>Changkufeng</i>	1938	1938	14	1726
F.	G.	H.	I.	J.
<i>Franco-Syrian</i>	1920	1920	Syrians	..
<i>Iraqi-British</i>	1920	1921	Arabs-Iraq	..
<i>Italo-Libyan</i>	1920	1932	Libya	40000
<i>Riff Rebellion</i>	1921	1926	Riffs	40000
<i>Moplah Rebellion</i>	1921	1922	Muslim Moplah	2474
<i>Franco-Druze</i>	1925	1927	Druze	8000
<i>Saya San's Rebellion</i>	1930	1932	Peasant Rebels	..
<i>British-Palestinian</i>	1936	1939	Palestinians	..

Sources: Correlates of War Inter-State War Data 2000; Correlates of War Extra-State War Data 2000. A—E refer to inter-state wars, whereas F—J refer to extra-state wars. A=names of the warring states; B=beginning year of the war; C=end year of the war; D=duration of the war, in days; E=number of battle deaths; F=name of the warring state and the non-state actor; G=beginning year of the war; H=end year of the war; I=definition of the non-state actor; J=number of battle deaths.

The countries selected thus consist only of European democracies — namely, countries that had experienced a democratic transition or were fluctuating between democratic and autocratic rule, yet exhibited similar military spending behavior as democracies — which here refers to democratic political institutions instead of clearly totalitarian rule (such as Nazi Germany in the 1930s). There were three key arguments recommending this choice: 1) For example, like in the case of Germany, there are only limited sources available on the military spending, namely “uncontested” statistical data, of authoritarian nations²⁸; 2) The interaction of the political system and the economy in a large totalitarian nation differs in certain ways, although often

²⁷ See Section 4.1 of this thesis for details.

²⁸ See especially Abelshauser 1998, 133—138 — Abelshauser’s article emphasizes the deficiencies of the source materials of the time period. See also Ritschl 2000; Showalter 1984. On the problems with German GDP estimates, i.e. the hyperinflation years, see especially Fremdling 1995, e.g. 94—95. For tentative details on Soviet national accounts, see Kudrov 1995. On research into interwar Soviet defense, see e.g. Davies 1993; Simonov 1996; Stone 1996; Harrison-Davies 1997— for a more biased view yet useful, see Tyushkevich 1978.

similar to an elite-ruled “democracy”, from that of a parliamentary democracy;²⁹ 3) The estimation of the demand for military spending usually does not entail a response to the same variables, such as threat and income, in dictatorships as in democratic societies, thus making this estimation more difficult.³⁰ Totalitarian states as well as certain other states not entirely consistent with the rather stringent selection criteria adopted here will, however, be made use of in the estimations of threats and in calculating systemic changes, as well as in some of the other comparisons in this thesis.

The hypotheses of responsiveness to economic growth and the notion of structural breaks being introduced during periods of totalitarian rule will also be tested in Section 4.1 with data on the military spending of various authoritarian and totalitarian nations respective of the nations selected for the thesis; namely, whether the relationship between military spending and economic development changed according to either regime type or the level of democracy. Equally, in-depth testing was carried out regarding whether the “softer” dictatorships of Portugal and Spain³¹ exhibited similar characteristics to the other countries in the sample. As was discovered, Portugal and Spain clearly exhibited rather similar traits in their military spending as the “pure” democracies. Thus, they could not be rejected from the sample. These findings were also complemented with a broader cross-section analysis, which enabled the inclusion of more countries in order to verify the various hypotheses.

The choice of countries reflects well the spectrum of European democracies and transitional regimes³² in the period, as seen in Figure 1. They range from the relatively poor countries such

²⁹ On wages in the German totalitarian economy, see e.g. Temin 1990. See also Mbatia 1990 for an important discussion on the differences in rent-seeking structures for military expenditures between democracies and dictatorships.

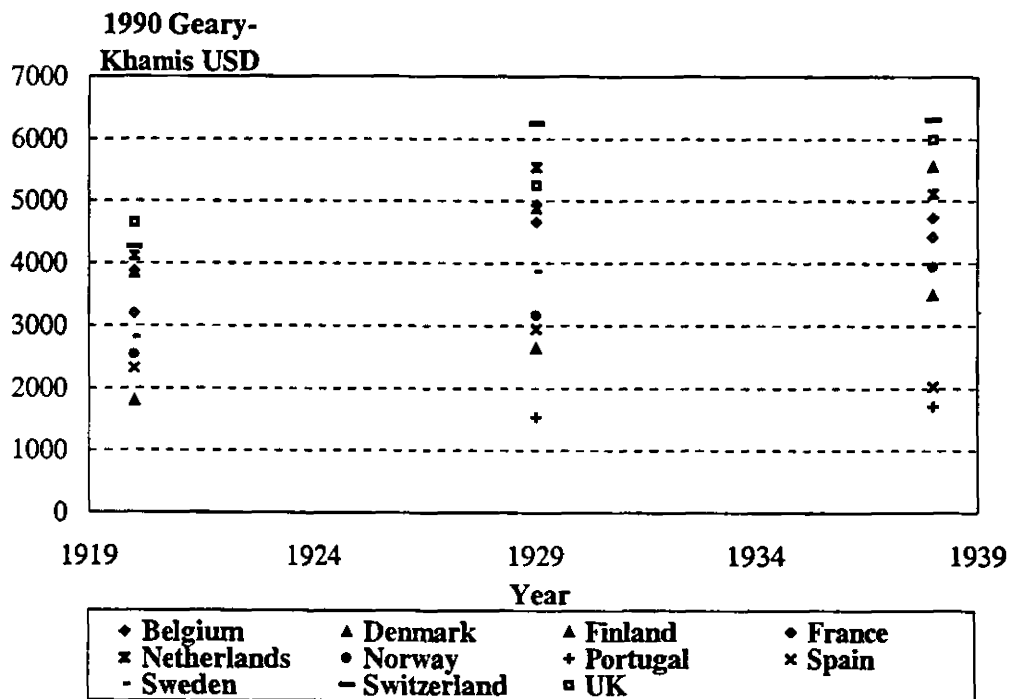
³⁰ The inclusion of different types of countries, or clusters, would be indeed beneficial for understanding the overall military spending patterns in the interwar period. However, here I will take the initial step of overcoming the obstacles by first analyzing comprehensively the demand for military spending among democracies and transitional regimes with adequate data, which also has been lacking so far in the historiography of the period. Additionally, I will also bring forth aspects of the military spending by many states beyond the focus group of eleven in the thesis.

³¹ E.g. Austria would be similar to Spain and Portugal in the interwar period as the Austrian parliamentary democracy ended in 1933, due to difficult societal conflicts between the right-wing and left-wing paramilitary groups. See e.g. Carsten 1986. Yet, similar to Germany, relevant data is difficult to find. Implications of the limitations set in the Versailles Treaty would also have to be accounted for. In the case of Greece, only limited sources were found for its military spending except the League of Nations data and the other data listed in Appendices, Appendix 2. Indicators of Greek economic performance can be found in Kostelenos 1995. Greece would be an interesting choice because the Greek interwar history is filled with numerous coup d'états (even more so than for e.g. Portugal or Spain), difficulties with the public debt, social unrest, and deep depression, which were all nevertheless likely to induce structural changes in the time series. See e.g. Kofas 1983, vii-31.

³² Discussion of the definitions of democracies and other regimes is undertaken in Section 4.1.

as Finland, Portugal, and Spain to the richer Scandinavian countries as well as Belgium and Netherlands. Switzerland and the UK can perhaps be classified as high-income countries in terms of real GDP per capita in this comparison. Thus, the comparisons in the thesis will have implications for the demand for military spending among countries with varying economic resources, yet they are mostly representative of either purely democratic or semi-democratic decision-making systems. This argument will be explored further in connection with the democratic peace argument in Section 4.1.

Figure 1. GDP per capita for Belgium, Denmark, Finland, France, the Netherlands, Norway, Portugal, Spain, Switzerland, Sweden, and the UK: 1920, 1929, 1938



Source: Maddison 1995.

Note: the GDP per capita figures are not modified in the manner described later in this chapter. See Appendices, Appendix 2 for details.

The countries selected for the comparisons were assumed to be, with their foreign policy threat scenarios to be defined more clearly in the later chapters, relatively threatened (both of the conditions below apply) or only moderately threatened (only one of the conditions below apply) on the basis of: 1) a disadvantageous geographic location (relative of historically known aggressors; 2) aggression encountered during the First World War (for example, the success of their neutrality policy). Thus, both of the Great Powers selected here, Great Britain and France, could be qualified as relatively threatened (=both conditions 1 and 2 apply) countries, since their rivals were only temporarily weakened. Equally, Belgium and Finland would also belong to this

group. For example, Finland can be viewed as a relatively and continuously "threatened" (by the Soviet Union) country during these two decades, at least according to the views of its major decision-makers. The rest of the sample countries could be characterized as only moderately threatened. For example, in the Swiss case the success of its neutrality policy during the First World War, despite the geographic proximity of Germany, Austria, and Italy, would qualify her into the latter group, similar to the Danish and Dutch cases. In the Swedish and Norwegian cases, their geographic location was less of a threat than in the former cases. In the Spanish case, the First World War had been a time of neutrality, yet some degree of "threat", or at least distrust, existed between Spain and Portugal, especially in terms of Spain's latent desire to be one of the Great Powers at all cost in the interwar period. Portugal had a long-lasting defensive alliance with Great Britain in 1899—1949, a tradition that was established already centuries ago, that gave it some guarantees against its neighbor.³³ All could nevertheless be defined to have experienced at least some degree of threat, based on the above conditions, albeit accumulating fast during the course of the 1930s. A more detailed review of the individual countries' foreign policy stances, as well as an evaluation of the value of the assumptions made above, will be undertaken in connection with the individual military spending analyses in Chapters 3 and 5.

The comparisons in this thesis have been set to begin in 1920, since the years 1918—1919 were still times of reorganization for both the military establishments and the respective countries due to the First World War. Nevertheless, the Great War, as it was called, and the subsequent demobilization had an impact on the military spending patterns of the first years of the 1920s as well. The effect of the Great Depression on the military expenditures, emerging through the demand models, should become apparent from the comparisons for the first years of the 1930s, although it must be remembered that in the case of the United States (excluded from the detailed analyses), for example, the depression lasted for most of the decade. The different kinds of comparisons in this thesis will extend to year 1938, which was the last year of peace before the Second World War, although certain acts of aggression not yet resulting in an all out war did occur before this, mainly undertaken by the authoritarian states.

Do comparable data exist for this period? What must a researcher of military spending take into account in the comparisons? Firstly, one must provide a definition for the term military expenditure. There have been numerous definitions for military spending as a concept³⁴. The

³³ On alliances, see the sources listed in Appendices, Appendix 2.

³⁴ The term military expenditures is preferred here instead of defense expenditures (cf. Pryor 1968) for

OECD definition, based on modern statistical data, includes "all the material and human resources devoted by a state to its defence and intended to guarantee its national independence, the integrity of its territory and, where appropriate, the respect of the international treaties binding the country to foreign states" and deems it also necessary "to extend the concept of military expenditure to include all or part of the resources employed by a state to maintain internal security and public order" as well. The OECD also makes an important distinction between the term military expenditure and defense budget: "...the field of application of military expenditure goes beyond the simple vision of external defence guaranteed by the state through public financing, to constitute a statistical aggregate covering the whole of the resources devoted to the national defence effort understood in the broad sense."³⁵

The definition of military expenditures (=ME) utilized in this thesis abides mostly by Frederick L. Pryor's (1968) definition, with certain minor differences. Military expenditures by his definition include all expenditures for the recruiting, training, and maintenance of an army, navy, air and rocket forces, and national security troops. Pryor also excludes, on the basis of his selection of nations, such items as expenditures on civil defense, veterans, military research and development, interest payments on war debts, reparations, military assistance abroad, and military construction. Here I have also included civil defense measures and military construction if they have been reported separately, as well as excluded colonial military spending for all but the United Kingdom.³⁶ In certain isolated cases it has been possible to employ an economically more precise definition, arising out of national accounting procedures. Using the expenditure approach in classifying the GNP, military consumption includes all elements of military expenditure: wages and government pensions (not war pensions), the purchases of nondurable goods and services (such as heat, lighting, food, clothes), and the purchases of durable military goods (such as armaments). However, studies providing a breakdown of government consumption are not available for most countries concerning, for example, the interwar period.³⁷ Here I will refer to as *military consumption expenditures* that part of the military expenditures that include the wage component and the nondurable goods and services purchased, whereas *military capital expenditures* are used as a reference to the purchases of durable military goods. All in all, comparisons have to be performed with

wanting to avoid value judgment on the purpose of these outlays. On the offensive and defensive aspects, as well as the public good aspect of military spending, see Pryor 1968, 86—88.

³⁵ Herrera 1994, 13—14.

³⁶ Pryor 1968, 85—86.

³⁷ On classifications of government consumption, see Clement 2000, 22—35. Detailed studies on government consumption, including disaggregated figures, concerning the states selected exist only for Sweden and Belgium. On further time series data concerns, see Eloranta 2000a.

aggregate spending figures in most cases. Statistical sources, however, do not always list precisely what has been included under the heading military expenditures, which makes the figures difficult to assess.³⁸ Thus, the aim in this study is to evaluate central government military spending — since no military appropriations were generally found for the local government or the municipal sectors — based on the specifications listed above. The various possible sources of such expenditure data, including specific studies on either the military budgets or the public sector in general, historical statistical publications, as well as the various historical national accounting projects, enable us to arrive at the series preferred for the individual countries in this thesis.

Table 2. Characteristics of World Armies in the Interwar Period, by the League of Nations

	Name of the Army	System of recruiting: voluntary or compulsory service	Duration of military service			Name of the Army	System of recruiting: voluntary or compulsory service	Duration of military service	
			Service with the colours	Total duration of liability to service in years				Service with the colours	Total duration of liability to service in years
Albania	Perm. Army	oblig.		32	Haiti	Haiti	possesses only a gendarmerie		
Argentina	"	"	1 year	25	Honduras	Perm. Army	oblig.		19
Austria	"	volunt.	6 years	1	Hungary	"	volunt.	12 years	
Belgium	"	oblig.	10-12-13 months	25 ²	Italy	"	oblig.	18 months	19
Bolivia	"	"	2 years	30 ²	Japan	"	"	2 years	23 ^{2a}
Brazil	"	volunt. ²	1-2 years	7	Latvia	"	"	18 months ^{2b}	30 ^{2a}
British Empire:					Lithuania	"	"	2-3 years	25 ²
Great Britain and					Luxemburg	"	volunt.		1
Northern Ireland . .	"	"	2-9 years	1	Mexico	"	"	3 years	20
Australia	Militia ²	"	16-25 days	11	Netherlands	Perm. Army	oblig.	5 1/2-15 months ^{2c}	21
Canada	Perm. Army and Militia	"	30 days	12	Norway	Perm. Army and Militia	"	48-102 days ^{2d}	37 ^{2b}
India	Perm. Army	"		1	Panama	Panama	possesses only a militarized police		
Irish Free State	"	"	3-5 years	1	Paraguay	Perm. Army	oblig.	2 years	28 ^{2b}
New Zealand	Militia ²	"	10 days	12	Peru	"	"	3-4 years	16
Union of South Africa .	Perm. Army and Militia	"	16-25 days	12	Poland	"	"	2 years	29 ²
Bulgaria	Perm. Army	"	12 years		Portugal	Perm. Army and Militia	"	17 months ^{2e}	25 ^{2b}
Chile	"	oblig.	1 year	25	Romania	Perm. Army	"	2 years	29 ^{2b}
China	"	volunt. ^{2f}	3 years		Salvador	"	volunt.		1
Colombia	"	oblig.	3 years	19	Serbia, Croats and Slovenes (Kingdom of)	"	oblig.	18 months	29
Costa Rica	"	"		42 ^{2g}	Spain	"	"	2 years	18
Cuba	"	volunt. ^{2h}	2 years	1	Sweden	Perm. Army and Militia	"	140-200 days	22
Czechoslovakia	"	oblig.	14 months	30	Switzerland	Militia	"	45-92 days ²ⁱ	28 ^{2b}
Denmark	Militia ²	"	5 months ^{2j}	16	Turkey	Perm. Army	"	1 1/2- 2 years	
Dominican Republic . .	The Dominican Republic possesses only a police force				U. S. S. R.	Perm. Army and Militia	"	2-3-4 years ^{2k}	21
Ecuador	Perm. Army	oblig.	3 years		United States of America .	Perm. Army	volunt.	1-3 years	1
Estonia	"	"	18 months ^{2l}	35 ²	Uruguay	"	"		1
Finland	"	"	12-15 months	35 ^{2m}	Venezuela	"	oblig.		1
France	"	"	18 months ²ⁿ	28					
Germany	"	volunt.	12 years						
Greece	"	oblig.	18 months	29					
Guatemala	"	"	1 year						

Source: Images scanned from the League of Nations, Armaments Year-Book 1927.

³⁸ On detailed data on public finances, offering details on military expenditures, see e.g. Clement 2000 in the Belgian case; Tervasmäki 1964, Taimio 1986 in the Finnish case; and Krantz 1987 in the Swedish case.

Nonetheless, two factors make the figures for the United Kingdom less comparable here: 1) The inclusion of colonial military spending; 2) The fact that it was the only country in the sample of eleven that did not rely on conscription (see Table 2 above). Firstly, what implications does the inclusion of colonial military spending carry for the comparisons here? How high was the British colonial military spending compared to the overall total? As seen in Table 3 below, the share of colonial military spending was surprisingly small; for example, in 1923 only 5.7 per cent of the total ME. In 1925—1927, comparatively, colonial ME formed only circa 2.6—3.7 per cent of the total British ME.³⁹ The reason for this relatively low share was that the colonies usually paid for their own defense, out of the revenue collected therein. The colonial spending figures in the British case represented thus only small supplementary payments made to sustain certain specific military efforts pertaining to the colonies. The same applied, by and large, to the other colonial powers as well.⁴⁰

Table 3. Summary of British Military Expenditures in 1923, by the League of Nations

	1923-24	1924-25	1925-26
	Closed Accounts	Estimates	Estimates
	£'s (see't omitted).		
<i>Budgets of the Fighting Services:</i>			
Army Services	46,230	45,000	44,500
Navy Services	54,064	53,800	60,500
Air Force Services	10,505	24,861 ¹	15,513
<i>Other Budgets (Civil Services, etc.)</i> Except the budget of the Colonial Office:			
Army Services	825	896	971
Navy Services	734 ²	705	810
Air Force Services	234 ¹	252 ²	297
<i>Colonial Office Budget:</i>			
Middle East Services:			
Iraq and Palestine: Defence.	5,944	4,823	3,803
Iraq: Maintenance of native service	671	580	625
Palestine: Gendarmerie	241	265	212
TOTAL	119,448	123,182	127,231
Defence Expenditure Index	% 100	% 103	% 107
Index Number of Wholesale Prices:			
1913 = 100	161	167	160 ¹
1923-24 = 100	100	104	99
	£'s (see't omitted).		
Defence Expenditure reduced to pre-war price level	76,500	73,800	79,500
Index of Defence Expenditure reduced to pre-war price level	% 100	% 96	% 104

Source: Image scanned from the League of Nations, Armaments Year-Book 1924.

³⁹ Calculated from the League of Nations, Armaments Year-Book 1927—1928; Eloranta 1998, Appendices.

⁴⁰ See League of Nations, Armaments Year-Books 1924—1940.

Nonetheless, the inclusion of colonial ME in the British case increased its military spending totals. Additionally, the fact that the other states in this sample relied on conscription tended to undervalue the "true" economic burden of these expenditures. Countries that relied on conscription, as discussed by John M. Hobson for the period before the First World War, did not pay the true opportunity costs for their military manpower.⁴¹ Thus, in the comparisons the British military burden (=percentage share of ME to GDP) is likely to be higher than it should. The use of GNP as a denominator for the UK alleviates this problem somewhat. However, a correction of some sort, advocated by some for conscription for example, would always be artificial and debatable. Furthermore, most of the British colonial ME included here was administrative by nature, thus not necessarily incompatible with the other series.⁴² The possible distortion caused by this is nevertheless duly acknowledged here.

Besides collecting the latest statistical data, are there other sources of data available? How reliable are they? Of the newer accounts, for example Peter Flora's (1983) *State, Economy, and Society in Western Europe 1815—1975* is based on outdated economic indicators and offers no documentation on its sources.⁴³ Another source of comparable figures is Arthur S. Banks' *Cross-Polity Time-Series Data* (1976), advocated by some social scientists⁴⁴ as suitable data.⁴⁵ Banks lists as his primary source the *Stateman's Yearbooks*, comparable to the *League of Nations Armaments Year-Books*. The Armaments Year-Books, in turn, are also very comprehensive indeed, containing data not just on the military expenditures but also on naval armaments, tonnages and so on. Other League of Nations documents, especially the *Statistical Year-Book of the Trade in Arms, Ammunition and Implements of War*, have additional information on the military spending and the arms trade.⁴⁶ Yet another source of long-term military spending figures in particular, in fact the most comprehensive comparative database available, is the *National Capabilities database* (=Singer-Small 1993, which forms a part of the Correlates of War project).⁴⁷ Can these figures be utilized in military spending comparisons for the interwar period, as has been suggested?

⁴¹ Hobson 1993, especially on the British case. See also Sandler-Hartley 1999, e.g. 42.

⁴² See Eloranta 1998, Appendices.

⁴³ See Flora 1983. Flora's figures are not utilized in any of the comparisons in this thesis, because they are simply not verifiable. See for example Eloranta 1998.

⁴⁴ See e.g. Väyrynen 1990.

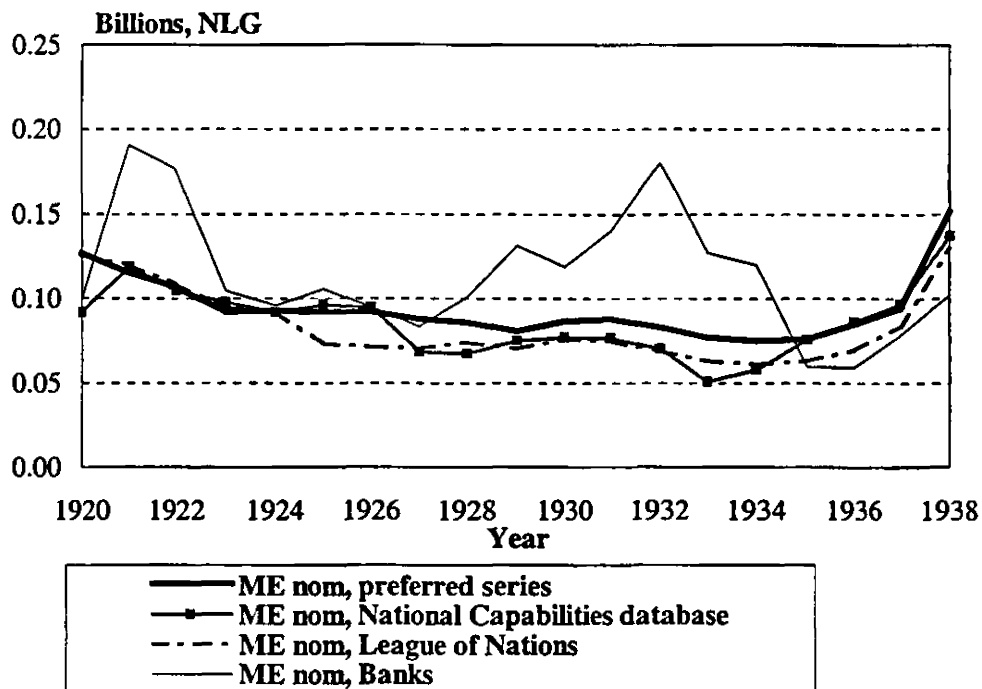
⁴⁵ See Banks 1971.

⁴⁶ See League of Nations, *Statistical Year-Book of the Trade in Arms, Ammunition and Implements of War 1924—1938*. See also Appendices, Appendix 2 for details on the early 1920s military expenditure sources.

⁴⁷ One of the problems with the National Capabilities database (Singer-Small 1993) is the lack of specifics on the sources used for a country, although for example Singer-Small 1982 contains an overview. A general outline of the sources used can be found in Singer 1988.

Compared to the newer figures based on the specific studies on national accounts and public sectors utilized here (=preferred series)⁴⁸, the Banks series display the most problems, due to the single source used. Here I converted all of the series, including the preferred series used in this thesis, with some of them listed in USD, for the selected countries into their respective national currencies, using annual exchange rates.⁴⁹ In general, the Banks series seem to: 1) either overemphasize (for example, Norway, Denmark, Portugal) or underestimate (for example, UK) the early 1920s' military spending; and 2) there seems to be much more volatility present in the Banks-series (for example, Switzerland, the Netherlands) for the entire time period. In the Belgian and the French cases, the Banks figures were found to contain serious discrepancies in comparison with other existing statistical data. A good example of the differences between the data can be seen in the Dutch case, in Figure 2.⁵⁰

Figure 2. Dutch ME Data in Comparison, 1920—1938



Sources: see Appendices, Appendix 2 for details.

The more detailed statistical analysis between the time series preferred in this thesis and the three others (National Capabilities database, League of Nations, and Banks) underscored these

⁴⁸ See the Appendices, Appendix 2.

⁴⁹ Banks 1971, especially xviii-xix. See Appendices, Appendix 2 for details on the sources and exchange rate data.

⁵⁰ For the rest of the figures, see the Appendices, Appendix 4

conclusions. As seen in Table 4, five tests on the equality of the medians (indicating approximately the same medians) and further five tests on the variances (indicating approximately the same volatility) of the time series, under the null hypothesis of same median and same variance respectively, confirmed the visual inspection of the differences between the series (see Appendices, Appendix 4). The acceptance of one of the three others being statistically the same as our preferred series was here deemed to require more than two out of five tests indicating the acceptance of the null hypothesis. The Banks series seemed to be the same only for Portugal, Spain, Sweden, and Switzerland, whereas the League of Nations and National Capabilities series fared much better. The League figures were statistically different only in the cases of Belgium, Denmark, France, and the Netherlands, whereas the National Capabilities seemed to be different from the chosen series only for Denmark, Portugal, and Sweden. Thus, since the preferred series are based on the latest sources, with detailed documentation on the origins of the figures, and specific research surrounding the topic, they were chosen here to represent the "actual" military expenditures of these nations.

Table 4. Comparison of the Preferred Nominal Military Expenditure (=ME) Data of Eleven Countries and Three Other Sources, 1920—1938⁵¹

A.	B.	C.	D.	E.	F.	G.
<i>BEL</i>	5/5	4/5	0/5	4/5	0/5	0/5
<i>DEN</i>	5/5	5/5	5/5	4/5	5/5	5/5
<i>FIN</i>	5/5	2/5	0/5	0/5	0/5	0/5
<i>FRA</i>	0/5	3/5	1/5	5/5	0/5	0/5
<i>NED</i>	5/5	4/5	5/5	1/5	0/5	0/5
<i>NOR</i>	1/5	4/5	0/5	0/5	0/5	0/5
<i>POR</i>	0/5	0/5	0/5	0/5	3/5	0/5
<i>SPA</i>	0/5	1/5	0/5	0/5	2/5	0/5
<i>SWE</i>	0/5	0/5	0/5	0/5	3/5	0/5
<i>SWI</i>	1/5	1/5	0/5	0/5	0/5	0/5
<i>UK</i>	3/5	3/5	0/5	1/5	0/5	0/5

Sources: see Appendices, Appendix 2. A=country abbreviation (see Appendices, Appendix 1A for details on the abbreviations used in this thesis in general); B=five median tests between the preferred series and Banks 1976 nominal ME series; C=five variance tests between the preferred series and Banks 1976 nominal ME series; D=five median tests between the preferred series and the League of Nations nominal ME series; E=five variance tests between the preferred series and the League of Nations nominal ME series; F=five median tests between the preferred series and the National Capabilities database (Singer-Small 1993) nominal ME series; G=five variance tests between the preferred series and the National Capabilities database (Singer-Small 1993) nominal ME series.

Note: here are shown the number of tests that reject the null hypothesis at 10 per cent level of significance. Null hypotheses = same median; same variance. See Appendices, Appendix 1B for details on the statistical tests.

The League of Nations figures, nonetheless, were surprisingly similar to the "actual" figures, which increases their value as a secondary source of information to be utilized in this thesis, for example concerning naval tonnages and arms trade. Both the League of Nations and the

⁵¹ See the Appendices, Appendix 1B, 2, and 4 for further details.

National Capabilities series seem to be useful even in broader comparisons, such as in various parts of this thesis, yet they are not substitutable for the preferred series in the strictest sense.

In this thesis, the aim will also be to utilize the latest statistical information available in the measurement of economic development. The breakthroughs that have taken place in national accounting are of great significance in macro-level comparisons of economic development. The advances made in Sweden and in the United States in the 1920s and 1930s as well as during the Second World War (especially by Simon Kuznets) made it possible, for example, to measure the development of the American economy through production and income accounts by the mid-1940s. After this — and related to the steps the United Nations took in the adaptation of *System of National Accounts* (SNA) in the 1950s — the development in national accounting has been extremely fast. The application of aggregate measures of economic growth reached also smaller, newly independent states. National accounting has been able to produce more homogenous and reliable data in most of the countries in the world from the 1970s onwards, although enormous gaps still exist for some nations, providing more accurate figures for general comparative purposes. Various historical national accounting projects have made it possible to collect GDP (or GNP for the UK) figures for all of the eleven states chosen for the in-depth analyses in this thesis.⁵²

The progress made in national accounting has, however, not decreased the amount of debate on the subject. Thus, an economic historian must make an effort to discuss the basis of the figures to be employed in macro-level comparisons. Estimates of the American GNP, for example, for 1920—1939 have been under scrutiny for the last decade or so. Christina Romer, for example, has criticized the older GNP estimates of the time before 1929 rather severely. She claims to have calculated more accurate aggregate GNP figures than both the Kuznets' and U.S. Department of Commerce figures. She has in turn been criticized for both placing too much importance on such revised figures and for the methods used in obtaining the figures.⁵³ In the context of the European states to be compared here, the most comprehensive and reliable GDP dataset (in a common currency) can be found in Angus Maddison's works (especially Maddison 1995). Furthermore, he has criticized severely the earlier GDP estimates of Paul Bairoch. In the case of most of the countries selected here, especially the Nordic countries, the extensive growth

⁵² Mannermaa 1982, 43; Grönlund-Niitamo 1968, 11—14; Hjerpe 1988, 23—25.

⁵³ See Romer 1986, 341—342; Romer 1992, 773—781. Also see Weir 1986, 353—354; and Lebergott 1986. There is some truth in Weir's criticism of Romer, since her figures do not alter the picture of cyclical variations in the 1920s to a great degree.

studies efforts, combined with the Maddison data, provide a reasonably comfortable *starting point* for comparisons, since the Maddison figures are far from contentious either.⁵⁴

In order to first posit the military spending efforts of the selected countries in relative terms, one needs to utilize other indicators to construct: 1) *military burdens* (=nominal ME as a share of nominal GDP⁵⁵, at market prices, preferred option, or at factor cost as a percentage); and 2) *defense shares* (=nominal ME as a share of nominal central government expenditures, CGE, as a percentage). These two will also form the dependent variables for most of the statistical exercises in the thesis. These indicators can be obtained from similar sources as described above (see Appendices, Appendix 2 for details), although I have had to resort to indirect estimation of GDP for some of the out-of-sample countries (for example: in the early 1920s). As advised by many previously, one needs to exercise caution in order to keep the numerators and denominators as close to being the same as possible for all of the sample countries.⁵⁶ The data for the selected eleven countries can be deemed quite reliable. However, since other states are employed (Austria, Germany, Italy, Japan, Russia/USSR, USA) as well in the comparisons — to provide more comprehensive insights, both in the individual comparisons as well as at the level of a 17-country system (=the eleven plus the six listed above) — I have had to devise various solutions in order to make the data as comparable as possible (see Appendices, Appendix 2 for details). On the whole, the data is considerably less reliable for Austria, Germany, and Russia in the interwar period.

Additionally, the nominal MEs and nominal GDPs have been converted to real terms to derive country shares in the 17-country system. As stated above, for the real GDP I have relied mainly on Angus Maddison's (1995) dataset, with a few exceptions. However, the method which Maddison has used to come up with the real GDP series in 1990 Geary-Khamis dollars can also be criticized for distorting the results, as PPPs (=Purchasing Power Parities) arising from the actual period in question would of course be preferable. These are, however, currently impossible to come across for a large set of countries. Here I have, instead, "corrected" the

⁵⁴ See Maddison 1982; Maddison 1991; Maddison 1995; Hjerpe 1988. Maddison's critique can be found for example in Maddison 1990, 104. As indicated before, e.g. Paul Kennedy does not employ the latest figures on GNP or GDP, or military expenditures. See Kennedy 1989. On the development of e.g. Swedish historical national accounts, see Christensen et al. 1995, 32—44. See also Krantz-Nilsson 1975. E.g., the data on the Swedish GDP for the thesis can be obtained from Krantz 1997. On criticism of Maddison's method of arriving at common currency figures, see e.g. Prados de la Escosura 2000.

⁵⁵ In the British case, GNP figures are utilized, as discussed before. See also Appendices, Appendix 2. Percentages in this thesis always, unless otherwise mentioned, calculated with current price variables.

⁵⁶ See e.g. Singer 1990; Kennedy 1983; Hawke 1980, e.g. 27—36; Cullis-Jones 1987, 64—73.

Maddison figures, or some of the national estimates, with the indirect PPPs calculated by Leandro Prados de la Escosura (2000) by using his 1929 benchmarks for the interwar real GDPs (per capita).⁵⁷

The deflation (i.e., turning nominal figures into real value series) and conversion of military expenditures into a common currency (i.e., using exchange rates and/or PPPs to arrive at common currency figures) is an equally challenging and controversial task. One way is to adopt the method used by *SIPRI* (Stockholm International Peace Research Institute). The steps include at first deflating the currencies respective of certain year, and then converting them all to a common currency for that year.⁵⁸ Yet, the choice of deflator is important in conversions to real terms. As for example Riitta Hjerppe has emphasized, it is essential that the price index is both "correct" and that it suits the commodity in question.⁵⁹ In this study the deflator used in the conversions to real terms for the military expenditures has been an arithmetic average of the wholesale price and the consumer price indices, despite their obvious weaknesses. Yet, in order to keep the error inherent in the approach for every country the same, especially in systemic terms, this approach seems to be the least problematic solution. The error in using the consumer price or the wholesale price indices becomes more pronounced in long-run comparisons.⁶⁰ Furthermore, two problems have emerged concerning the use of the *SIPRI* method in conversions to a common currency: 1) The lack of a comprehensive set of PPPs for the interwar years or older periods; 2) Military expenditures do not necessarily comply to the price trends of other goods; thus, one would need to construct PPPs specific to military expenditures.⁶¹ Here I have, nonetheless, employed a PPP-correction on the military expenditures, again utilizing the indirect income PPPs calculated by Prados de la Escosura. However, in estimating the *demand* for military spending I will utilize the two relative spending shares, military burden and defense share, as primary indicators of military spending behavior instead, as the comparisons in real terms might distort the results.⁶²

In order to see whether the "simple" deflator, the combination of the wholesale and consumer price indices, has any basis in the actual deflation of the military expenditures, I will also

⁵⁷ See Prados de la Escosura 2000 and Appendices, Appendix 2 here. The "dollar" values converted in such a way will be referred to as 1929 quasi-USD in this thesis. On a recent analysis of PPPs since the late 19th century, see especially Taylor 2000.

⁵⁸ See Cars 1987, 78—82; Blackaby-Ohlson 1987, 3—24.

⁵⁹ Krantz 1988, 166—173; Hjerppe 1996, 11-12, 86. See also Ljungberg 1996.

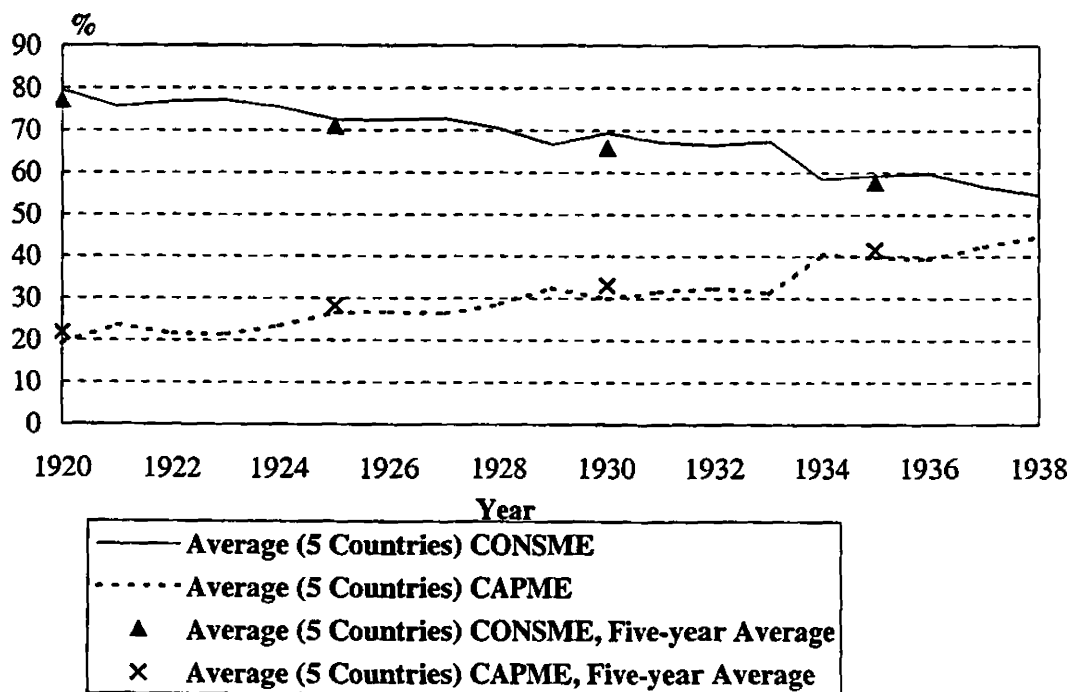
⁶⁰ Hirvilahti 1993.

⁶¹ See e.g. Herrera 1994, 18; West 1993.

⁶² Herrera 1994.

construct an alternative deflator for the eleven countries analyzed in detail here. The optimal way of converting the military expenditures would be to deflate the individual components of the military expenditures with the corresponding indices, like Charles Feinstein explains in his 1972 study:⁶³ "For military expenditure, a series at 1938 values built up from five elements: average annual numbers of in the armed forces at average 1938 rates of pay; civilians on defence votes at average 1938 rates of pay; purchase of land and buildings deflated by the index of building costs; purchase of military equipment deflated by the general index of machinery costs; and other military expenditure deflated by the average value index for consumers' goods and services.". Of these, the military wage and the military equipment cost indices are perhaps the hardest to come by for the interwar period in a comparative sample of countries. Indeed, as shown below, it is difficult to even get adequate data on the disaggregated components of military expenditures, let alone suitable sub-deflators. For many of these, it is possible to break down the military spending figures only according to function or the branch of armed forces.

Figure 3. Unweighted Mean Shares of Military Consumption Expenditures (=CONSME) and Military Capital Expenditures (=CAPME) in the Aggregate ME for Five European States, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Note: countries included: Belgium, Finland, France, Sweden, and the UK.

⁶³ Feinstein 1972, 79.

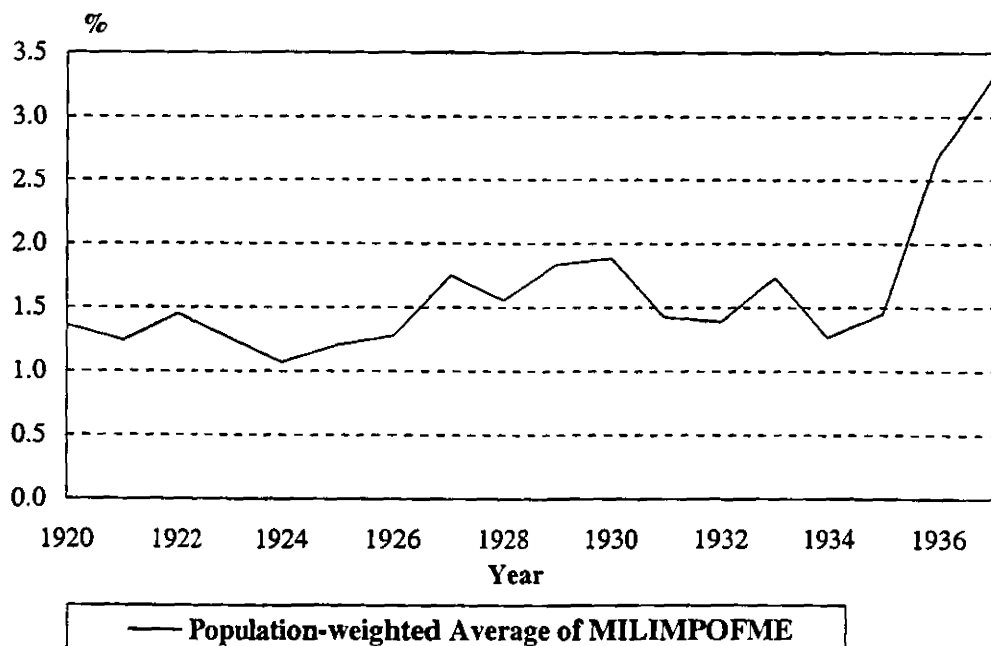
As seen in Figure 3, it is possible to come up with figures for the breakdown between consumption and capital military expenditures for five out of the eleven European states included in this thesis. The level of consumption ME was still over 80 per cent for Belgium and France, and near 70 per cent for Finland in 1930. From thereon, these levels began to decrease for even these countries. The Swedish current ME was the most immobile of these five, fluctuating more or less between 55 and 60 per cent for the whole period. In the British case, the consumption ME declined rapidly already in the 1920s, to bottom out at 23,5 per cent in 1938. All in all, the trend seems to be clear: a move toward more capital-intensive military spending, especially during the 1930s. As far as the disaggregation of military expenditures is concerned, it is possible to use the exact figures for the five countries listed in Figure 3 and apply the average ratio between the consumption and the capital ME represented here for the rest of the countries.

To arrive at an alternative deflator, the nominal military expenditures of a country will be deflated according to use in this thesis. As such, the consumption ME included the wages and other types of monetary compensation of officers and other military personnel, as well as the purchases of non-durable goods and services, as described above. The type of indices recommended by Feinstein for the deflation of this component — with the same procedure and deflators to be applied to all countries in order to enhance comparability — would include an index of military personnel wages and pensions and another for non-durable goods and services. It is not possible to find these for all of the eleven countries in this sample. Nonetheless, we can approximate the deflation of this component by use. For these countries, I will utilize the breakdown between the component to be directed toward consumption by the military personnel (to be deflated by the consumer price index) and the other to be directed toward supporting these forces by purchases of non-durable goods and services (to be deflated with the wholesale price index) with the Belgian case, which coincidentally is the only one that this type of data disaggregation can be found. For Belgium, the wage component in consumption ME increased from a little over 74 per cent in the early 1920s to circa 84 per cent in 1938. The Belgian ratio will be utilized for each country, with the respective consumer price (for wages) and wholesale price (for purchases of non-durables) indices, to arrive at real consumption ME deflators.

The deflation of capital military expenditures (=purchases of durable military goods) is equally problematic. Even without data on this, one would have to make the assumption here that a majority of these durable goods were bought from the domestic markets. Thus, either the price index of capital goods in the country, analyzed recently comparatively in the long run by for

example William Collins and Jeffrey Williamson (2001), or the price index of manufactured goods might be the appropriate choice for a deflator. Here we have preferred to use the price of capital goods if possible. However, they represent only the price development of these goods in the domestic economy as a whole. Here the capital ME deflators were weighted with military unit prices (inclusive of only small and medium size armaments) arising out of interwar military trade statistics. These unit prices will complement the price data on domestic capital goods. Here I will adhere to the assumption, with the absence of real data, that in 1925 one-third of the capital military expenditures would have gone for purchases from the world markets. This percentage was extrapolated, due to their incomplete military trade statistics, for the UK and Denmark according to the combined average population-weighted military import (only small and medium size armaments) share of ME (see Figure 4) for this period. For the others, the individual country shares were utilized. The remaining part (two-thirds in 1925) of the capital ME was deflated with the capital goods price index (or a close substitute) for those that it was found.⁶⁴ The comparison between the “simple” deflators and the ones explained above will be undertaken in Section 3.3 in connection with the review of common currency ME patterns.

Figure 4. Development of the Population-weighted Military Import Share as a Percentage of Nominal ME for Nine “Weak” States, 1920—1937



Sources: see Eloranta 2002a for details.

Note: countries included: Belgium, Czechoslovakia, Finland, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland. MILIMPOFME=military imports as a share of ME, percentage.

⁶⁴ For further discussion of the solutions that were adopted, see Appendices, Appendix 2.

One important conceptual issue still remains to be discussed in this section, namely the debate on whether to measure the flow or the stock of a public good. One of the most prominent models in this field, introduced in 1960 by Lewis F. Richardson⁶⁵, is quite illustrative in this respect. Richardson created essentially a two-actor model: increases in armaments spending were positively related to increases in threats and negatively related to increases in military burden. This could be represented by the following equation in its purest form:

$$\begin{aligned}\frac{dx}{dt} &= ky - \alpha x + g \\ \frac{dy}{dt} &= lx - \beta y + h\end{aligned}\tag{1}$$

where the time derivatives of x and y signify the rate of increase in the military spending (here assumed to be the flow of military expenditures) of two different countries; k and l represent the sensitivity of each state to the threat posed by the other; α and β represent the economic burden coefficients, assumed to be negative; and g and h are the so-called grievance terms summarizing the relations between the states. The Richardson equation, and its many variants, essentially attempts to capture the effects of both internal (how to reduce the burden imposed by national defense efforts) and external (how to respond to threats) factors. The arms race responding to this equation can have an equilibrium that is either stable or unstable. A stable arms race is one in which the military burden effectively controls the military build-up in both countries, whereas a "run-away" race is created when the threat factor (or perception of it) dominates the equation.⁶⁶ A significant question still remains: how should we measure military spending? Is it adequate to use a flow variable, such as military burden? Is it, in fact, more meaningful to compare the relative military stocks? Or both?

Since Richardson's contribution, there have been several improved versions of this original equation, of which the most important is perhaps the stock-adjustment model. In adaptations of this model the perceived threat of the other is sometimes judged by the desired stock advantage or ratio compared to the other state. Another variant is a model in which the past military expenditures are assumed to depreciate at a certain rate, enabling the calculation of a "military spending" stock. There has also been considerable debate over the choice of the correct dependent variable, be it a flow variable such as military expenditures or stocks of armaments

⁶⁵ Richardson 1960. See more especially Maddock 1990, 1—21; Wiberg 1990, 31—38. Another early seminal contribution can be found in Olson-Zeckhauser 1966.

⁶⁶ Gleditsch 1990; Wiberg 1990; Eloranta 1998 and the studies listed in it.

(usually represented by the missile stocks in the Cold War period). The correct deflation, or conversely depreciation, of these variables has equally been debated.⁶⁷ Here we have decided to analyze the *flow* of military expenditures, such as the military burden, and include the stock adjustment element in the construction of the threat and spillover variables (discussed in later chapters in detail). Thus, the demand for military spending as a flow can be expected to be influenced by the relative position of a state in an international system, an alliance, as well as by other impure public goods characteristics.

In conclusion, the primary sources in the thesis as a whole will consist of materials and data from the League of Nations, as well as archival sources relating to the cases of Finland and Sweden). The Armament Year-Books and other materials produced by the League of Nations will complement the statistical basis of the analysis. For example, the Finnish archival sources consist of parliamentary documents, documents relating to the functions of the State Council⁶⁸ on military matters, material of the Ministry of Defense, papers of the Defense Revision committee (*puolustusrevisionikomitea*), material of the Board of Acquisitions (*hankinta-asiain neuvottelukunta*)⁶⁹, and the papers of the Federation of Finnish Industries.⁷⁰ These sources will provide a deeper understanding of the decision-making system relating to the military outlays — in this case, interwar Finland — although the characteristics of the functioning of bureaucracies could be understood as similar among these parliamentary democracies. The Swedish political economy of military spending will be analyzed with similar materials as in the Finnish case: the various defense committees, parliamentary minutes, and papers of the Federation of Swedish Industries (*Industriförbundet*). The archival materials will be subjected to source-critical treatment in the following chapters, in connection with the pertinent literature.

1.4. Key Research Questions in the Thesis

In this thesis I aim to explain an individual country's demand for military spending based on influences arising from four different, yet intricately linked explanatory levels: 1) International system; 2) Alliance (with for example League of Nations serving as an example of a failed alliance); 3) State; 4) Within state. The main question can be formulated as: What determines the demand for military spending in a European democratic nation or a nation (i.e., only semi-autocratic) that behaves similarly in the period between the two World Wars? The answer

⁶⁷ Gleditsch 1990, 7—9. See also Eloranta 2000a for further details.

⁶⁸ The State Council is roughly the Finnish equivalent of the term Cabinet.

⁶⁹ This archive covers only the years 1919—1926.

⁷⁰ See the Bibliography of this thesis for details.

expounded in this thesis both theoretically and empirically is that military spending was an impurely public good, implying a combination of both public and private benefits, in this period, both at the level of an “alliance” and the individual states. The impurely public benefits were linked to the actions of the domestic players in complex international and domestic settings. Furthermore, an absence of systemic and foreign policy stability was underlined by the absence of central leadership by and within the League of Nations, leading to the return of “power politics” in the 1930s.

Thus, at the first level, the international system, this thesis aims to explain the impacts of systemic changes — the importance of balance of power, the democratic peace argument, as well as systemic leadership (or the lack of it) — on individual country’s military spending. In regards to balance of power, I aim to test whether increased systemic threats, especially aggregate military spending, and an increased dispersion of resources (indicating a shift in the balance) had a growth impact on the military spending of individual states. Secondly, I aspire to see whether the democratic peace argument would hold at the systemic level, and for example an increase in the total resources held by democracies would be perceived as increasing systemic stability, thus reducing individual country military spending. I will also test the “peacefulness” of democracies against authoritarian regimes at the level of individual states, — i.e., whether for example a higher level of democratization, measured by an aggregate index, invoked lower military spending. Systemic leadership and military-economic development interaction will also be tested as determining factors both at the level of a system and an individual state. Did individual states respond to changes in the total resources held by systemic leaders? Or, at the level of a state, were military spending and economic growth interlinked, as proposed by many hegemonic theorists?

At the level of an alliance, there are a plethora of hypotheses to be pursued. Here in this I will use the selected eleven European states to proxy the significance of the League of Nations as a failed “alliance”. As pointed out in Chapter 2, there are many tools developed chiefly by defense economists to distinguish between alliances providing pure and/or impurely public benefits. For example, did the League of Nations provide collective security as a public good? Or, did the League of Nations provide centralized authority required in such an alliance? To be more precise, did the cost and benefits for the individual states indicate free-rider behavior (=alliance as a public good) or approximate balance (=alliance as an impure public good)? The pure and impure public good hypotheses will also be tested at the level of an individual state — i.e., how important were such pure public good variables as price, income, threats, and

spillovers (defined in more detail in subsequent chapters) in explaining the demand for military spending? Or, in terms of impurely public benefits, did the political market proxies, incorporating the actors in the political markets into the analysis, help explain the demand for military spending especially among the "weak" states?

In Chapters 6 and 7 the analysis will focus primarily on "weak" states as actors in the international system as well as individual polities, both in terms of their military trade and military spending behavior. Were "weak" states actually weak actors in the system, having simply to adapt to the actions of the Great Powers? Are, for example, "weak" states dependent on their military trade? Furthermore, concepts such as rent seeking, interest-group collusion, and competition in the political markets will be explored for these "weak" states, Sweden and Finland in particular. Key proxies used in the aggregate quantitative analyses are the performance of domestic industries (=industries as an interest group), lagged military spending (=path dependence or budgetary stability), parliamentary fragmentation (=preferences of legislators), election cycle dummies (=re-election maximization by the legislators), as well as other dummies. Did the various groups involved in the budgetary process engage in rent seeking behavior (maximizing their profits) or more complex forms of utility maximization? How effective was the "rent seeking" in the cases of Sweden and Finland, especially by the domestic market industries? The concepts and questions will be explored with the extensive qualitative materials analyzed for both countries. Additionally, the role of the key actors will come into focus more clearly, as well as the possibilities of actually being able to influence the level of military expenditures. What part of the military expenditures, the consumption or capital ME, was influenced by the budgetary game for a particular public good, namely the national defense? As argued in this thesis, it is also essential to account for the institutional framework in the analysis to provide a comprehensive analysis of the demand for military spending.

2. MILITARY SPENDING AS AN IMPURE PUBLIC GOOD: Combining Macro-level Influences with Micro-level Analysis of Domestic Political Markets

2.1. Theory of Pure Public Goods

This chapter will feature discussion of the theoretical aspects of the thesis, especially in terms of the public goods theory. What is a public good? Does military spending or, more accurately, national defense qualify as a *pure* public good? One of the first more comprehensive definitions of a public good can be found in Paul Samuelson's seminal works on the topic in the 1960s. He defined "collective consumption goods" as goods whose consumption by an individual leads to no subtraction of that good from another individual. Individuals also consume these goods according to their own preferences.⁷¹ This definition of a public good has been modified and improved upon by public sector economists over the years. For example James Buchanan (1968) in his well-known study *The Demand and Supply of Public Goods* described pure public goods in the following manner:⁷²

"By the orthodox definition of a pure public good or service is *equally available* to all members of the relevant community. A single unit of the good, as produced, provides a multiplicity of consumption units, all of which are somehow identical. Once produced, it will not be efficient to exclude any person from the enjoyment (positive or negative) of its availability."

Buchanan also defined this nonexclusion principle as such that additional consumers may be added at zero marginal cost. This kind of polarized definition, in fact acknowledged by him, seems quite restrictive and has attracted plenty of criticism. Actually, no good or service can fit this definition of a public good, although Buchanan cites national defense as coming close "to the descriptive purity".⁷³

Indeed, Samuelson's ideas are the centerpieces of the neoclassical approach to public goods analysis. The so-called Samuelson Rule states that in order for optimal supply of public goods to be reached, the sum of marginal rates of substitution between the public good and the private good must be equal to the marginal rates of transformation between the two goods. Accordingly, a social planner could then, if the good is purely public, sum up the benefits across individuals. By and large, the neoclassical treatment of public goods has been characterized as "largely a technical one", which relies on the ideas of optimum distribution by a social planner and the

⁷¹ Samuelson 1966a, 1223. See also Samuelson 1966b.

⁷² Buchanan 1968, 49.

⁷³ Idem.

pure publicness of such goods.⁷⁴ In fact, one of the most important criticisms leveled against Samuelson's, or Buchanan's, definition of public good is that no such good has actually existed.⁷⁵

Following the Samuelsonian tradition, in current research pure public goods are usually defined as having two essential features: 1) *Nonexcludability* of benefits; 2) *Nonrivalry* of benefits. Nonexcludability refers to the aspect that the good is available to all once provided and its benefits cannot be restricted. Nonrivalry means that a unit of the said good can be consumed by one individual without detracting from further consumption of the good by someone else.⁷⁶ Furthermore, there are also different types of "publicness" among public goods, depending on the extent of congestion in consumption and the costs of excluding the good from others. This means that they can perhaps be distinguished further into pure public goods, quasi-public goods (exclusion is feasible, yet there are strong social externalities and incentives governing its public provision), and merit goods (goods about which individuals are not sufficiently informed to assess the true private benefits which can be derived from their consumption or for which individuals have defective preferences), all produced in the "political markets".⁷⁷

Thus, a more precise definition of a public good, contrary to Samuelson's early contributions, reflects the fact that goods may possess merely elements of publicness, to varying degrees, and may therefore possess characteristics of nonprice exclusiveness or nonrivalness in consumption.⁷⁸ These goods that stand in-between, whose benefits are partially rival and/or partially excludable, are often referred to as *impure public goods*, which is the term preferred in this thesis. One important sub-class of such goods, for which benefits are excludable but partially nonrival, is called club goods. Activity by individuals and/or groups to pursue such goods may give rise to multiple outputs — private, public, and impure public — that are here defined as *joint products*.⁷⁹

Why are public goods produced in the first place? A common explanation has been to equate them with market failure. The private provision of public goods can be deemed inefficient or inadequate, thus making an alternative mode of provision more feasible. Numerous public

⁷⁴ Drazen 2000, 375—379.

⁷⁵ Cullis-Jones 1987, 20.

⁷⁶ Sandler-Hartley 1995, 4; Hummel-Lavoie 1990, 38. Origins of these distinctions can be found in Olson-Zeckhauser 1966.

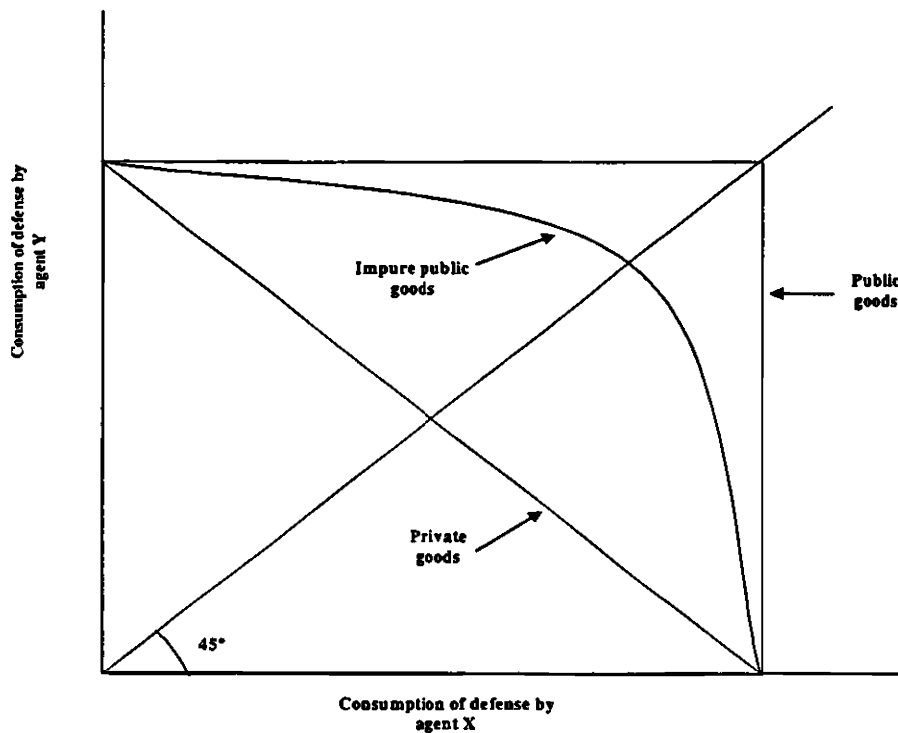
⁷⁷ Hjerpe 1997, 14—15.

⁷⁸ Cullis-Jones 1987, 20—21.

⁷⁹ Cornes-Sandler 1996, 9; Sandler-Hartley 1999. See also Olson-Zeckhauser 1966.

choice theorists have countered this argument by presenting instances of government failure.⁸⁰ Nevertheless, some goods are produced publicly in modern societies. Individuals demand some goods publicly, usually through certain types of collective entities entailing governmental-political processes, which differ from those of regular market exchanges. It has been said that the advantage a government has over the market is derived from its power to force people to contribute to public goods. Quite interestingly, national defense, often considered to be a prime example of a "pure" public good, is included for example in Charles Tilly's notion of strong state-formation in the Early Modern period through a "monopoly of violence".⁸¹

Figure 5. Consumption of Defense as a Public Good, by Two Agents



Source: adapted from Atkinson-Stiglitz 1980, 485.

The basic premises of the theory of public goods are summarized in Figure 5. An increase of one unit in the consumption of a private good by one of the agents reduces the consumption of the same unit by the other agent by one unit, whereas an increase of one unit in the consumption of a public good does not impose a reduction of consumption on the other agent. Thus, Figure 5 displays the consumption possibility frontiers for private and public goods. The consumption of

⁸⁰ Hjerpe 1997, 14, 18—19; Lee 1990, 25. On government failure, see e.g. Buchanan 1984, 11—12; Ostrom 1984; Hummel-Lavoie 1990, 42—43.

⁸¹ Buchanan 1968, 7—8; Lee 1990, 25. See e.g. Tilly 1985.

impure public goods, in case nonrivalness does not apply in full, would perhaps resemble the third consumption possibility frontier presented in the figure.⁸²

One of the first important distinctions to be made in the analysis of the demand for any public good is the level of analysis — i.e., whether one wishes to analyze the demand for a public good at the level of a state or within a particular group of nations, such as an alliance. Some of the most important insights into the analysis of military spending have indeed originated from the analysis of NATO by Mancur Olson and Richard Zeckhauser (1966) in their path-breaking article *An Economic Theory of Alliances*. The theoretical propositions developed in the article relied strongly on the notions of nonrivalry and nonexcludability within an alliance framework. An alliance — as opposed to the “public” in a state — is treated as providing a public good for its members in the form of deterrence against aggression, yielding either purely or impurely public benefits, although the authors do not develop the latter dimension of the analysis very far. A purely public good cannot be denied from the nonpayers (or agents who pay less for it), and thus the agents who value the good will overprovide for it. Others can free ride to a certain extent at the expense of the said agents.⁸³ A key notion supporting the idea of NATO providing a pure public good arises from the weapons technology and the strategic aspects of the post-Second World War period. When it is possible for a state to retaliate on behalf of its allies in a way that produces devastating damage and this retaliatory threat is deemed automatic and credible, the conditions for a purely public good alliance (nonrivalry, nonexcludability) are in place. For example, in the case of nuclear deterrence there is no reason to limit the size of the group sharing the good if the above conditions are met. NATO’s strategy of Mutual Assured Destruction (MAD) in 1949—1966 indeed provided such conditions, yet since and before then alliances have rarely possessed the required pure public good qualities.⁸⁴

Olson and Zeckhauser’s article, in addition to other efforts inspired by it in the more recent literature, introduced several useful hypotheses concerning the analysis of military spending as a *pure* public good in an alliance. Firstly, military burdens in such an alliance are anticipated to be shared unevenly; the large, wealthy allies should shoulder the defense burdens for the smaller, poorer allies (=HYPOTHESIS 14⁸⁵). Correspondingly, one ally’s defense provision needs to be perfectly substitutable by that of another ally. Secondly, defense spending should be allocated

⁸² For further details on the discussion, see especially Atkinson-Stiglitz 1980.

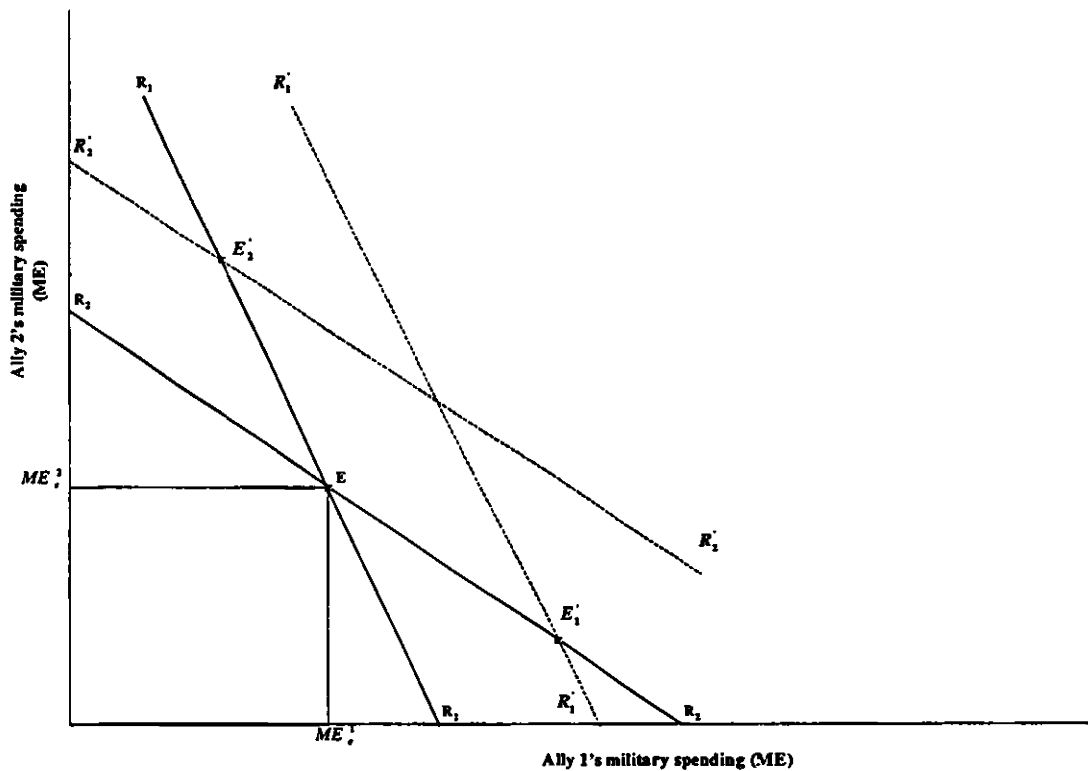
⁸³ Olson-Zeckhauser 1966, e.g. 267—271.

⁸⁴ Olson-Zeckhauser 1966; Sandler-Hartley 1999, 29, 37—38. See also Bruce Russett’s early seminal contribution on alliances, Russett 1971.

⁸⁵ The numbers refer to the list of hypotheses presented in Section 2.3.

inefficiently from an alliance standpoint, as the sum of marginal benefits of defense provision would not equal the marginal cost of this provision (=HYPOTHESIS 15). Thirdly, as argued previously, there is no need to restrict alliance size when defense is purely public. Fourthly, some central authority is required in the alliance to coordinate spending to overcome this tendency for suboptimal provision (=HYPOTHESIS 16). These hypotheses, as evaluated in Section 5.1, are commonly investigated with fairly simple statistical tools, such as nonparametric tests of statistical equality between samples.⁸⁶

Figure 6. Demand for Military Spending in a Two-member Alliance



Source: adapted from Sandler-Hartley 1999, 33.

Two of the notions embodied by the hypotheses above may not be immediately apparent; namely, the exploitation or free riding by the small at the expense of the large allies, and the tendency for suboptimal defense provision. Firstly, the optimality of defense provision by an ally is dependent on the defense provision, or the expected defense provision, of others. Thus, suboptimality is closely linked to the free riding phenomenon. As the number of allies grows, the equilibrium in the alliance becomes even more suboptimal as the free riding increases. Moreover, each ally reacts to the behavior of the others and ignores the increase in the sum of

⁸⁶ Olson-Zeckhauser 1966; Sandler-Hartley 1999, 30—31.

marginal benefits that their defense provision brings to the others' disposal.⁸⁷ Free riding can be illustrated by comparing the reaction paths of two states in a two-member alliance, as seen in Figure 6 above. Curve R_1R_1 indicates the reaction path for *ally 1*, whereas R_2R_2 marks the reaction path for *ally 2*. These reaction paths display the ally's best choice for its defense provision, given the level of defense provision by the other ally, holding other independent variables constant. E indicates the equilibrium point for the two countries' defense provision, which will not survive an adjustment by one of the allies, thus leading to a corresponding adjustment by the other. For example, a change in the disposable income of ally 2, assuming that defense is normal good (i.e., increases in income shift the demand curve rightwards), leads to a new reaction path by ally 2, equaling $R_2'R_2'$. Respectively, the corresponding equilibrium E_2' indicates that ally 1 is now paying less for the common defense due to its tendency to free ride. Other factors that could be argued to have an impact in the reaction path include the price of defense provision, changes in threats, as well as changes in strategy (i.e., a move from MAD to Flexible Response by NATO in 1967⁸⁸). For example, ally 1 might make an adjustment to reaction path $R_1'R_1'$ if it perceived an increase in its threats, for example in the absence of a comprehensive retaliatory strategy, thus leading to a new equilibrium E_1' . This, of course, would mean that it has a different preference or "taste" for defense, indicating the presence of joint products, than ally 2. Furthermore, one of the allies could hold a price advantage in producing defense compared to the other.

The types of equilibria achieved in an alliance or at the level of an individual state, in terms of pure public goods provision, can, of course, vary. One of the most typical equilibria characterizing military spending behavior is the Nash equilibrium, wherein in the public goods contributions are devised independently by the states or by individuals and/or groups within a state. Each agent chooses their public and private good allocation levels, subject to a budget constraint, while the others' public good contribution level is assumed as given at a best-response level. This model entails purely self-interested behavior. A variant of this model assumes a dynamic setting with repeated interactions, wherein multiple Nash equilibria are formed, and the subgame perfect equilibrium in year t is dependent on the Nash equilibrium at $t-1$. Other types of equilibria, forming a departure from the rationality expectation, include such in which an agent believes that a change in his/her public good contribution will induce the other agents to alter their aggregate contribution by a nonzero amount, entailing simultaneity

⁸⁷ See e.g. Sandler-Hartley 1995; Sandler-Hartley 1999, 33—34.

⁸⁸ See Sandler-Hartley 1999, 37—41.

and dynamic, systemic interactions.⁸⁹ In a Lindahl equilibrium, respectively, the equilibrium is a price vector imitating a market allocation system, with tax shares referred to as “Lindahl prices”. Country groups maximize their utility according to their tax share. Between countries, this would mean negotiation on the assigned shares of public good provision within a particular country. It is sometimes also called a quasi-market solution, which implies an “auctioneer” would assign the “correct” tax shares.⁹⁰ This would in turn require extensive leadership or agreement in the system on how to measure the “correct” shares.

There have been numerous theoretical and empirical ruminations on how to measure the demand for a public good, and some common features have indeed emerged. The most common demand elements, at the state level, include prices; income; various kinds of complementarity and substitutability relationships both within the public sector and between the private and the public sector; tastes and/or preferences; and population size and structure. The supply side influences usually include technology and factor prices.⁹¹ To be more precise, there are several characteristics that distinguish the demand for a public good from the demand for a private good. Firstly, the demand for a public good is susceptible to spillins (=contributions of others), as indicated by the free-rider dilemma discussed in Section 2.2. It also means that an agent’s public good demand is dependent on the contributions and actions of others. Secondly, the identity of the decision maker is an important factor in estimating public good demand. For example, the decision maker can be an oligarchy, a bureaucrat, a median voter, interest group, or a combination of these, whereas the agent is known in estimating private good demand. Thirdly, the price of a public good is difficult to ascertain, especially in the case of military goods and services, since there is rarely relevant statistical information available.⁹²

If we attempt to represent military spending in a public good demand framework, it is possible to isolate several factors influencing this process from macroeconomic perspective. Based on the utility maximization of an individual between a private good and a public good⁹³, we can write the demand for a public good for agent i in period t as:

$$q_i^t = q_i^t(I_i^t, p_g, \tilde{Q}_{t-1}^t, E_i^t) \quad (2)$$

⁸⁹ Cornes-Sandler 1996, 30—32.

⁹⁰ Drazen 2000, 381—382; Cornes-Sandler 1996, 30—31, 201—204

⁹¹ Cullis-Jones 1987, 80—85.

⁹² Cornes-Sandler 1996, 485—487.

⁹³ For the appropriate derivation of this demand function, see Sandler-Hartley 1995, 53—60, and Cornes-Sandler 1996, 484—487.

in which q stands for the public good, I represents income, p equals the price of the public good, \tilde{Q} signifies lagged spillins (assuming that an agent responds to the preceding period's spillins), and E denotes environmental factors affecting the demand for the public good.

In the case of military expenditures (=ME), one of the most common adaptations of this demand function, following Sandler-Hartley (1995), is the following basic linear function:

$$ME_{it} = \beta_{i0} + \beta_{i1}PRICE_{it} + \beta_{i2}INCOME_{it} + \beta_{i3}SPILLINS_{i,t-1} + \beta_{i4}THREATS_{i,t-1} \dots \dots \dots + \beta_{i5}STRATEGY_{it} + \varepsilon_{it} \quad (3)$$

in which ME stands for military expenditures for agent i in year t ; $PRICE$ for the price development of military goods; $INCOME$ for the income of the state in question, for example GDP per capita; $SPILLINS$ (usually lagged) for spillovers from both actual defensive alliances and free-riding based on perceived increased security, either as a combined index or a vector; $THREAT$ (usually lagged) is the perceived military spending of a potential enemy or enemies, again either as a combined index or a vector; $STRATEGY$ usually stands for a dummy indicating a change in the defensive or offensive strategy of the nation or alliance.⁹⁴

If this simple demand were tested for a single state or among a group of states, one would expect the $INCOME$ variable to have a positive effect, as argued before, thus indicating that ME is a normal good (=HYPOTHESIS 19). The $PRICE$ variable should have a negative impact on ME (=HYPOTHESIS 20). $SPILLINS$ could be expected to have a negative coefficient in an alliance producing a pure public good with deterrence or at least with some pure public good characteristics, indicating free-riding behavior. In the presence of joint products spillins are not perfectly substitutable among states, yet some degree of free riding is likely to occur (=HYPOTHESIS 21) $THREATS$ could be expected to have a positive impact on the said country's ME (=HYPOTHESIS 22). The effect of $STRATEGY$ depends greatly on the nature of the change in the military strategy (=HYPOTHESIS 23); for example, the change from MAD to Flexible Response in the case of NATO would be expected to increase the presence of joint products for the NATO allies. Moreover, it would also be possible to include a slope dummy (strategy dummy times the $SPILLINS$ variable(s)) to see what kind of an impact the strategy change had on another variable in the equation. Here, as discussed in subsequent chapters, it is pointed out that it is hard to distinguish the changes in the strategy of these nations due to both

⁹⁴ See more Sandler-Hartley 1995, 60—62.

an absence of detailed information on the strategic development of some of them, as well as the shortness of the period under study. The latter quality makes the study of all of the dummies in the equations more difficult to achieve.

As indicated above, if defense is purely public in an alliance, *SPILLINS* should be perfectly substitutable. Thus, *INCOME* and *SPILLINS* could be added together to form a full income (=FULL) variable. Moreover, the above equation might no longer feature the *SPILLINS* and *INCOME* variables separately rather than the *FULL* variable alone: $ME=f(\text{PRICE, FULL, THREATS, STRATEGY})$. In essence, Equation 3 is the simplest form of the joint product model, with joint products being quite unspecified as to their origins, and the pure public good model with the full income variable is nested within Equation 3. Equation 3 could be rewritten, for example, as (with ME as an alliancewide or individual country military spending):

$$ME_t = \beta_{10} + \beta_{11}PRICE_t + \beta_{12}FULL_t + \beta_{13}SPILLINS_{t-1} + \beta_{14}THREATS_{t-1} \dots \\ \dots + \beta_{15}STRATEGY_t + \varepsilon_t \quad (4)$$

in which the pure public good alliance would yield a zero coefficient for the *SPILLINS* term. It might also be that both the *FULL* variable and *SPILLINS* variable are found statistically significant, indicating the presence of joint products. Moreover, there are a variety of ways to distinguish between the two models. For example, Todd Sandler and James Murdoch (1990) used multiple regression analysis to distinguish whether the coefficient of the *SPILLINS* variable was different from zero (=HYPOTHESIS 18). One could also use, for example, an F-test to test the coefficients associated with the *SPILLINS* term.⁹⁵ In case the alliance yielded joint products, it could be argued that the military burdens in the alliance in question should be shared according to the benefits received (=HYPOTHESIS 17).

In this thesis I am interested in the individual country military spending demand, not primarily as a common response by the selected countries. The common responses and effects from within the system will, nonetheless, emerge out of the analyses. Also, since the time period is too short to offer very reliable individual country regression results, not to mention the issue of limited degrees of freedom, the regression analyses will here be performed with pooled data. The primary tool used here is, assuming that the countries selected here faced similar "shocks" (especially external ones) that affected them all, the technique of *Seemingly Unrelated Regressions* (SUR). I will, however, evaluate these results with *Two-Stage Least Squares*

(2SLS) if endogeneity and autocorrelation are both encountered. 2SLS assumes the presence of Nash equilibrium(s), implying independent behavior among the countries in the initial regressions upon investigating the pure public good characteristics. The preferred solution here, nonetheless, is to solve these problems within the SUR-framework, if encountered, with *Three-Stage Least Squares* (3SLS). Yet, the choice of technique will depend on several pre-conditions as well as certain empirical considerations. Moreover, the results and variables found significant in the various stages, respective of the analytical levels, will be carried over to the following stages.⁹⁶ As Lois W. Sayrs (1989) has noted, pooling time series requires a number of conditions, such as the expected error term value to be zero and not be correlated with the independent variables, to be met in the pool, depending naturally on the chosen technique. The results of these exercises and the underlying conditions suggested by the data will be investigated in the corresponding chapters of the thesis.⁹⁷

Figure 7 below features the key features of a pure public good model in explaining the demand for military spending, essentially in an alliance. At the level of state, prices (often assumed common for all or excluded from the analysis altogether⁹⁸), full income, and threats form the key independent variables. Alliance is argued to provide a public good in the form of deterrence, which leads to suboptimality in defense provision as well as exploitation of the “large” by the “small”. The most important factors that are missing from this framework are, in particular: 1) Systemic influences; 2) Impacts of regime type; 3) Adequate representation of the price of “defense”; 4) Group influences on the budgetary process within the states (bureaucracies, industries, as well as other interest groups). Given the expected rarity of an alliance providing a pure public good deterrence, these aspects of the analysis of military spending seem quite crucial, although often not analyzed together with the pure public goods perspective and the related hypotheses. As shown above, pure and impure benefits are usually both present in forming the demand for a public good, with the pure public goods model often being nested in the derived impure public good models.

⁹⁵ Sandler-Murdoch 1990, e.g. 884—885; Cornes-Sandler 1996, 495.

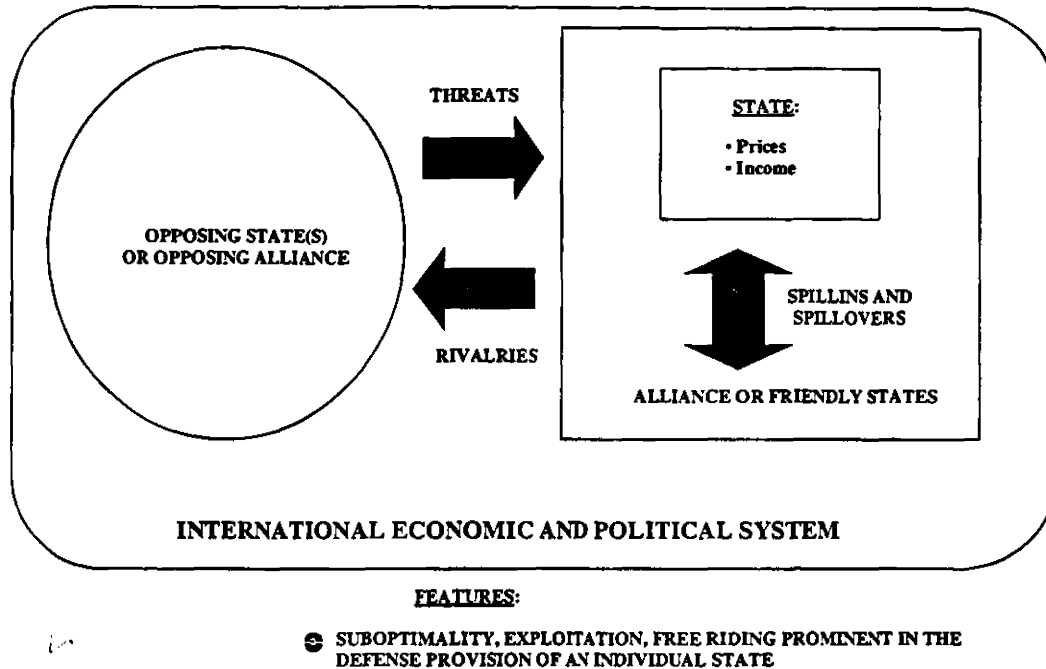
⁹⁶ SUR allows error terms to be correlated among equations and involves pooling between coefficients whose equality cannot be rejected. On the 2SLS variation, see Sandler-Hartley 1995, Cornes-Sandler 1996; this technique involves making one of the independent variables endogenous. Sandler-Hartley (1995, 62—63), for example, advocate using the THREATS variable for alliances as dependent variable in the second equation, whereas e.g. Hewitt (1996, 551—554) uses CGE as a function of GDP, ME, and foreign financing for this purpose. Hewitt employs also, as is done in this thesis as well to improve the SUR coefficient estimates, Three-Stage Least Squares (3SLS). See subsequent chapters for further details.

⁹⁷ See Sayrs 1989 for more on these models. See also Fomby et al. 1984, chapter 15.

⁹⁸ See e.g. Sandler-Murdoch 1990 as an example of such assumptions.

Figure 7. Military Spending as a Pure Public Good in an Alliance

PURE PUBLIC GOODS: Military Spending in an Alliance with Perfectly Substitutable Spillins



Source: constructed by the author.

2.2. Measuring Impure Public Goods: The Impact of Systemic Changes, Regime Type, Domestic Actors, and the Political Markets

As discussed in the previous section, there are numerous aspects that one might perceive lacking in the framework arising from the analysis of pure public goods. Nonetheless, which aspects could and should we include in a broader analytical framework? How can we measure systemic impacts, for example? And, is it indeed possible to come up with a comprehensive research framework for the study of such a complex phenomenon as military spending? Such a widening of scope, linked to the research influences reviewed in Section 1.2, can have its dangers as well.⁹⁹ For example, where should we draw the line as to which elements of the society should be included in the study? Where do the “civil” and “military” spheres intercept and can they in fact be separated from one another? I would argue that these two spheres cannot be separated, mainly since the actors involved in the decision-making processes serve multiple functions. Any research framework is, thus, by necessity an abstraction of “reality”. Its representative value should be judged on the basis of its’ success in explaining the phenomenon in question.

Although it has been suggested that the systemic, or in general a “wider context”, approach might be more useful in studying Great Powers, it is here argued (see Chapter 6) that “weak” states may indeed be studied in such a fashion as well. Thus, this thesis is following in the footsteps of researchers who have made a clear effort of going beyond the so-called realist, *statist* tradition of historical and/or security studies. Other explanatory levels are equally important in the analysis military spending.¹⁰⁰

Here in this thesis, following the framework outlined by Buzan et al. (1998), the levels of analysis include: 1) International system, meaning the largest conglomerates of interacting or interdependent units that have no system level above them; 2) International sub-systems, such as alliances, meaning groups of units within the international system that can be distinguished from the entire system by the particular nature or intensity of their interactions with or interdependence on each other; 3) Single units, here referring to states, meaning actors composed of various subgroups within a unit, sufficiently cohesive and independent to be differentiated from other such units; 4) Subunits, meaning organized groups of individuals within the units that are able or wish to affect the behavior of the unit, such as bureaucracies, lobbies. Buzan et al. also include a fifth level of analysis, that of an individual, which is not pursued here.¹⁰¹ Of these levels of analysis, I will first review some of the limitations and implications of the systemic perspective.

Did the world or at least the Western states form a “system” in the interwar period? Is there reasonable basis for treating it as such? In fact, the world was dominated by the Western Great Powers, following the colonial exploits of the 19th century, almost exclusively by 1920, with the fall of the Ottoman Empire leading to even greater Western domination. More precisely, Europeans or the former colonies of Europe in the Americas controlled 84 per cent of the earth’s land surface in 1914. As described by Samuel Huntington, “by 1910 the world was more one politically and economically than at any other time in human history”. The new challenges of the 1920s were mostly ideological by nature.¹⁰² Thus, the interwar period should lend itself well to the analysis of a “world system” or “Western system”, which is indeed taken up in Chapter

⁹⁹ Buzan et al. 1998, 1—3.

¹⁰⁰ Buzan et al. 1998; Tilly 1990, 6—8; Geller-Singer 1998, 7. For a truly global, somewhat neorealist argument, namely in terms of civilizations and their potential clash in the post- Cold War era, see Huntington 1997. Huntington also criticizes the older realist school, especially for its preoccupation with power alone as a motive for state behavior; see e.g. Huntington 1997, 33—35. For a strong push towards the adoption of a neorealist perspective, see Rosecrance-Stein 1993.

¹⁰¹ Buzan et al. 1998, 5—6. See also Geller-Singer 1998, 20.

¹⁰² Huntington 1997, e.g. 50—53. See also McNeill 1982 in particular.

4.¹⁰³ Even though for example Beth A. Simmons has argued in the interwar monetary context that systemic forces did not vary enough during the interwar period¹⁰⁴, I would question this assumption at least without corroborating evidence. As Daniel S. Geller and J. David Singer have put it: "...the global/international system is an evolving one, with some of its properties changing slowly over time, others rapidly fluctuating, and still others remarkably constant over the decades and centuries".¹⁰⁵ Hypotheses arising from relevant research on systemic factors should therefore indeed be investigated to determine their role in the military spending demand fluctuations. Moreover, one of the premises here is, shared by both Simmons and Barry Eichengreen, that the interwar period should be studied as a uniform period. The Great Depression simply could not be understood without the failure of the renewed Gold Standard and the absence of centralized monetary cooperation among states.¹⁰⁶ An analogy, reviewed more rigorously in the coming chapters, could be made quite easily to comprise the security policy environment of the period: It is impossible to understand the rearmament of the 1930s without the analysis of the preceding failure of centralized cooperation on disarmament among the members of the League of Nations. Yet, what kinds of hypotheses have been put forward concerning systemic forces, whether representing increased or decreased stability?

The structure of an international system, as vague as the term may be, has been characterized in terms of three features: 1) Anarchy among the states; 2) Functional homogeneity of states and/or other intergovernmental organizations; 3) Distribution of capabilities among states. It is often maintained in conflict studies that the warproneness of a system is contingent on the distribution of capabilities within the system; in essence, this is an extension of the realist argument of self-interested behavior by the states in the system, with all states reacting similarly given the same resources and strategic opportunities.¹⁰⁷ According to Geller-Singer (1998), factors increasing the probability of war at the system level include polarity (such as weak unipolarity and/or declining leadership), unstable hierarchies, the number of borders, and the frequency of civil/revolutionary wars. Factors increasing the severity of war at this level include especially high polarization between alliances.¹⁰⁸ Coincidentally, such effects and ensuing hypotheses have rarely been investigated as possible independent variables in explaining military spending behavior.

¹⁰³ Chapter 4 will also feature details on how could approximate such a system, as well as discussion on the potential problems in the empirical analysis.

¹⁰⁴ Simmons 1994, 13.

¹⁰⁵ Geller-Singer 1998, 9.

¹⁰⁶ Simmons 1994; Eichengreen 1992.

¹⁰⁷ Geller-Singer 1998, 26. For an overview, see also Levy 1985.

¹⁰⁸ Geller-Singer 1998, 27--28.

The effect of polarity in a system seems to be one of the key issues to analyze. As a concept polarity is, however, quite contentious and ambiguous. Whereas some argue that a system dominated by a single state is the most stable, it is not entirely clear how multipolar systems compare with periods of bipolar hegemonic competition. It may be important whether the hierarchies in a system are well defined or not, since challenges may be directed against the leading state or lesser states within an increasingly unstable international order. Thus, the best solution may be to analyze the *concentration* of resources, especially total resources available to a state as well as its military resources. It is possible that as the international system moves from a high concentration of resources in the leading state or among the leading states towards multipolarity, as has been discovered empirically in terms of war occurrence, military spending rivalry among the states is more likely to occur.¹⁰⁹ Here in this thesis I will first test the notion that an increase in systemic military spending, representing an increase in systemic threats, should induce a positive military spending response among the individual states (=HYPOTHESIS 1). Moreover, an increase in the dispersion of military spending among the system states should also induce higher individual state military spending (=HYPOTHESIS 2). The impact of changes in systemic concentration, as a structural variable, should also be measured with more adequate indicators representing total resources as well as military resources.¹¹⁰ It could be argued, like above, that a decline in the concentration of total resources should induce higher individual state military spending (=HYPOTHESIS 3); similarly, a decline in the concentration of aggregate military resources ought to induce higher individual state ME (=HYPOTHESIS 4).¹¹¹ These hypotheses, however, say little about the role of actual leadership in the system, whether for example a system having a hegemonic leader might be more averse to arms races.

A leader (or leaders) in a system, as proponents of hegemonic stability theory maintain, may possess the required capabilities for the maintenance of the kind of international regime it favors. A similar argument is often made that stable economic regimes require leadership. A system is likely to be hegemonial if there are major benefits to be gained by the leading actor(s). This implies both positive (actual power to change the rules, for example) and negative control (power to block moves by other states), at least up to a degree, by the actual or potential hegemon. These kinds of structuralist assumptions stem partially from Charles Kindleberger's conception of world leadership as producing international stability in the form of a public good.

¹⁰⁹ Rapkin 1990, 3—8; Geller-Singer 1998, 115—118.

¹¹⁰ The actual indicators are discussed in detail in Chapter 4.

¹¹¹ The actual concepts used in the measurement as well as other empirical issues are discussed in Chapter

Furthermore, quite curiously, economic capabilities are seen as necessary for a state to exercise hegemonic leadership, whereas military-strategic capabilities are often assigned a secondary role.¹¹² As explored further in Section 4.2, military spending is commonly considered an eventual burden for such a hegemon, as it has tendency to increase even faster than the acquired resources, therefore becoming instrumental in its downfall, although the empirical evidence proving such a mechanism exists is less than convincing.

Could these theoretical suggestions be adapted to the analysis of individual states' military spending behavior? Firstly, it could be argued that all the states in the system, besides the leader(s) of course, should respond to the leader(s)'s military spending behavior, either as military challengers or followers (=HYPOTHESIS 9). Again, the analysis of military spending behavior by the leader(s) might be misleading. Given the system's structure, individual nations might respond, as challengers or followers, to changes in the total resources held by the systemic leader(s) (=HYPOTHESIS 10). Or, respectively, they might react to changes in the total military resources held by the leader(s) in their own military spending behavior (=HYPOTHESIS 11). These hypotheses ought to clarify the role played, or instead the absence of such a role, by the so-called hegemons in the interwar system. Also, as Barry Eichengreen has argued convincingly, one of the key problems of the international economic relations in the period was the absence of leadership and cooperation by the major powers. This in turn led to disastrous consequences, among other factors, such as the Great Depression and the 1930s' monetary chaos, not to mention trade disruptions.¹¹³ Did, similarly, the absence of leadership (as discussed in the subsequent chapters) in the military sphere have a likewise impact in this period?

The peace scientists, like defense economists, have been abundantly interested in the notion and impact of alliances. Often in such studies — contrary to the more openly applicable tool of analyzing an "alliance", which could be any organization producing a pure or impure public security benefits, from the perspective of the theory of public goods — the focus has been on purely military alliances. Bruce M. Russett (1971), for example, defined an alliance in his seminal article as "a formal agreement among a limited number of countries concerning the

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¹¹² Keohane-Nye 1977, 44—46; Eloranta 2001a; Kindleberger 1973; Rapkin 1990, 3—8; Dobson 1998, 134—138. See also Kindleberger 1988, 153—158 — Kindleberger is in fact quite critical of the hegemonic theories per se. As Beth Simmons has pointed out, Kindleberger does not advocate "blind" assumptions, often germane to the structuralist interpretations, about the hegemons' priorities and interests. See Simmons 1994, 5—6. See also Section 4.2 of this thesis.

¹¹³ Eichengreen 1992, Introduction. To be fair, Eichengreen's argument is much more complicated than

conditions under which they will or will not employ military forces".¹¹⁴ Alliances, if considered in more general terms, although ignoring the analytical dimension of intergovernmental organizations such as the League of Nations, can be qualified even further. As for example the *ATOP* (=Alliance Treaty Obligations and Provisions) database utilized in this thesis takes into consideration, alliances can have five different characteristics: 1) Defensive (=alliance member commits to defensive obligations); 2) Offensive (=alliance member commits to offensive obligations); 3) Neutrality (=alliance member commits to neutrality obligations); 4) Nonaggression (=alliance member commits to nonaggression obligations); 5) Consultation (=alliance member commits to consultation obligations).¹¹⁵ A more detailed discussion of alliances, foreign policy, and the concept of neutrality is taken up in the subsequent chapters.

What about the impact of alliances defined in such terms as above? In peace science research the evidence on system-level alliances and warfare seems to be clear: The onset of war is unrelated to either alliance formation or configuration, yet the magnitude, duration, and severity of war are consistently correlated with alliance configuration. Also, at the level of dyads or intra-dyad alliances, the findings seem quite convincing: Dyads where only one member has an external alliance tie are more likely to experience war than are dyads in which both members have external ties. These explanations have also been connected to (changes in) the military balances expressed through available knowledge on capabilities.¹¹⁶ Here in this thesis I will indeed focus on testing the military spending impacts of alliance configuration. Based on the use of the *ATOP* database in building alliance dummies, it is possible to investigate the impacts that the various alliance — in this instance defined more restrictively as described above — characteristics had on the demand for military spending. For example, did alliances *in general* (including all of characteristics 1—5 listed above) reduce the military spending of the said states (=HYPOTHESIS 12)? Or, did membership in an alliance provide increased security only according to the nature and conditions of the alliance (=HYPOTHESIS 13)?

Another important factor in the analysis of military spending, especially in the more recent periods, has been the underlying regime. It has been suggested both theoretically and empirically in conflict studies, again in terms of war proneness, that democracies do not fight each other. This framework has often been coined "the democratic peace" argument. While

the simplification presented here. On exchange rates, in particular, see Eichengreen-Sachs 1985.

¹¹⁴ Russett 1971, 262—263.

¹¹⁵ See *ATOP 2000* and Appendices, Appendix 2 for more details.

¹¹⁶ Geller-Singer 1998, 82—85, 119—120.

there is a great body of research supporting this notion¹¹⁷, there is much less agreement on the theoretical causes of this phenomenon. In essence, the explanations can be divided into two variants: 1) The political culture of a democracy imposes the same norms to conflict resolution which are characteristic of its domestic political processes (=the normative explanation); 2) The democratic political structure, with its built-in decision-making constraints, makes it difficult for democratic leaders to move their countries into war (=the structural explanation).¹¹⁸ The latter argument has been developed further by, for example, Michelle Garfinkel, who argues that electoral uncertainty associated with competition between political parties imparts a negative bias on the nation's military spending.¹¹⁹ Nonetheless, there have been very few efforts in order to study the impact of regime type on the military spending of a state, especially before the post-Second World War period.

Although a more detailed discussion of the concept of democracy (or autocracy), its measurement, and the impact of regime type in general follows in Section 4.1, it is nevertheless possible to outline some general hypotheses to be tested subsequently. At the level of a system, it could be argued that an increase in the aggregate military spending (=HYPOTHESIS 5) or in the total resources (=HYPOTHESIS 6) held by the democracies would represent increased systemic stability for the participants of the system, thus reducing the individual country military spending. Contrary hypotheses could be tested for the influence of autocracies in the system, again on the aggregate. For example, did increased aggregate military spending (=HYPOTHESIS 7) or total resources (=HYPOTHESIS 8) held by autocracies represent a systemic threat? In the empirical applications, the definitions of regime type will be crucial; a task, which is taken up especially in Section 4.1. Furthermore, these types of arguments can also be taken to the level of a state. For example, it could be maintained that the more democratic a regime was, the less of a military burden (=HYPOTHESIS 24) or a defense share (=HYPOTHESIS 25) it would prefer. Of course, contrary arguments could be made about authoritarian regimes (=HYPOTHESES 26 and 27).

Any analysis of wars, or military spending for that matter, must draw its theoretical insights from models of decision-making. So far in this thesis the main sources of theoretical insights and testable hypotheses have been the rational models of decision-making, especially at the

¹¹⁷ For an overview, see *Debating the Democratic Peace*. Ed. by Michael E. Brown, Sean M. Lynn-Jones, and Steven E. Miller. Cambridge 1996. For examples of dissenting voices, see e.g. Layne 1996; Farber-Gowa 1995.

¹¹⁸ Russett 1993, 24—40; Geller-Singer 1998, 85—89; Rummel 1997, 4—6.

¹¹⁹ Garfinkel 1994, 1294—1295.

level of states, alliances, and systems. However, latest peace science research and social sciences in general have put more emphasis on nonrational models of decision-making, focusing on psychological and cultural factors, coalitions of groups, as well as organizational functionality in decision-making.¹²⁰ Indeed, there may be no coherent preference function for the decision-making unit (most commonly the state) as whole, due to the nature of the groups' position and influence in the decision-making process, as well as the institutional "playing field" in which the decisions are formed. Yet, a compromise outcome can be detected, and often also the main actors' role in the collective action processes.

Public expenditures are the results of policy choices by governments, shaped by the respective stages of the decision-making process. Among economics and political science there have been fewer attempts to model the demand for military spending in terms of decision-making opportunities and constraints. Macro-models of public expenditures, arising out of the assumption of a particular type of rationality on the part of an individual and respectively the military spending decision-making, attempt to explain the development of public goods in terms of a range of aggregate macro-level independent variables. In contrast, a second class of models can be labeled microeconomic or decision-process models, which are strongly rooted in the public choice tradition and institutional economics. In these models, the underlying characteristics of the decision-making process are linked to the analysis of the demand variations.¹²¹

For example, James Buchanan has argued that a researcher of public goods must attempt to derive the institutional structure from the "broadly conceived exchange process", in which outcomes can be estimated and approximations made on the efficiency of the political institutions. In this process, three main features should be concentrated on: 1) The complementarity of the goods; 2) The substitutability of the goods; 3) The institutional arrangements governing the provision of the goods.¹²² All of these aspects are related to the fact that the actual decision-making as to how the demand, or "public good", takes place is estimated within the complex decision-making system of the country in question.

Public goods are provided by a government or a decision-making body by determining the demand for the public good in question, to be financed with compulsory taxes. What does this

¹²⁰ See especially Geller-Singer 1998.

¹²¹ See more Brown-Jackson 1978.

¹²² Buchanan 1968, 7—8, 78.

mean for military spending, if it indeed can be defined as a public good? Key concepts in this respect are the so-called free-rider dilemma, group dynamics, and rent seeking. The most important starting points for the study of bureaucracies and public-good decision-making processes are Mancur Olson's (1965) *The Logic of Collective Action* and Anthony Downs' (1967) *Inside Bureaucracy* on the internal dynamics of political and economic groups, especially bureaucracies.¹²³ The free-rider dilemma relates to the fact that there are always persons who benefit from a particular public good or goods without paying for it. For example, it is in everyone's interests to have a national defense, yet it is difficult for an individual to decide how much funds to invest for this purpose. Thus, a rational individual would wait for others to pay for a national defense, which does not have direct pay-off potential except in crisis situations. The end result would be that no one invests in national defense. National defense is therefore a public good which has to be funded with compulsory taxes. The free-rider problem is also related to group behavior. According to Olson, the larger the number of individuals or organizations that would benefit from a collective good, the smaller the share of gains from a particular line of action. This also leads to the conclusion that large groups are less likely to act in their common interest — for example to pay X amount of money for national defense — than smaller ones. Moreover, large, heterogeneous groups may be less effective in their pressure activities than small, homogeneous groups.¹²⁴

The concept of rent seeking is important in analyzing the behavior of actors in a polity. Firms, either on their own or more commonly through joint trade organizations and ultimately their national peak association, attempt to obtain benefits from governments via different rent seeking strategies such as campaign funding and political networking. As expounded by Gordon Tullock¹²⁵, rent-seeking behavior is said to occur when the profits exceed the opportunity costs for the owners of resources in the political markets, with the costs of these actions entailing a waste of social resources. Thus, the idea of profit, implying self-interested behavior, is instrumental in all forms of rent seeking. Accordingly, it is considerably more reasonable to argue that *national defense*, the end product of all the investments and consumption, is a pure public good than to extend this argument to military spending. In particular, there are additional

¹²³ There are two distinctly different research traditions relating to bureaucracies. The older organizational tradition is based on sociology and the thoughts of Max Weber (e.g. Mouzelis 1975; Blau 1973), whereas the newer Anglo-American tradition is strongly rooted in the public choice tradition. In the latter, the actors and bureaus are seen as utility maximizers, which act according to their own notion of rationality. See Downs 1967, 1—2; Lane 1987. For other studies relating to the bureaucracy research, see especially Niskanen's (1971) seminal study; also, de Bruin 1987; Peters 1978.

¹²⁴ Olson 1965, 9—16; Olson 1982, 25—34; Mueller 1991; Buchanan 1968, 84—86. For a definition of the free-rider problem, see Stiglitz 1988, 120—122.

theoretical concerns that the formulations of military spending demand fail to capture, especially arising from supply-side influences, such as the principal-agent problem. It is also fruitful to include the influence of political/economic agents and the impact of group dynamics in the analysis. This type of analysis of economic development focuses namely on the internal dynamics of different groups, which respectively influence the outcome of political decision-making and state formation. This aspect becomes even more pronounced in the analysis of such a politically volatile "public good" as military expenditures.¹²⁶

For example Keith Hartley has indicated three key determinants in the formation of military spending levels: political (i.e., political markets), strategic (i.e., technical progress), and economic (available total resources) factors. Respectively, the groups involved in the decision-making for military spending levels include: 1) Voters/consumers; 2) Political parties; 3) State bureaucracies; 4) Interest groups, especially representing producers; 5) International community of foreign nations and international agencies.¹²⁷ Political markets resemble other markets in that they contain buyers and sellers pursuing certain interests by undertaking mutually beneficial exchange within the rules determined by both formal authorities and informal practices. In the formation of military budgets, firstly, a bureaucrat chooses the levels of defense, for example, to present to the decision-makers, often choosing to maximize the discretionary defense budget. A decision-maker(s) and/or the different organizations involved then make the assessment on the "necessary" level (=demand) of military spending. During this process the various interest groups and other interested parties attempt to influence this decision, according to their complex motives, often being more interested in the government's acquisition policies after the decision is made.¹²⁸

The idea of group influence and interaction being crucial parts of decision-making processes is hardly new. Interest groups have been the topic of intense scrutiny in the post- Second World War period, especially among political scientists. Research has mainly been channeled into three schools of thought: 1) Pluralism, in which groups are considered central to the political processes, and the policy is the outcome of various group pressures; 2) Marxism, in which interest groups in general are of little importance except the representatives of labor and representatives of capital; 3) Corporatism, in which the increased complexity of industrial society is interpreted to eventually force the state to incorporate groups into the policy process

¹²⁵ Tullock 1967; Tullock 1980.

¹²⁶ Eloranta 1998; Eloranta 1999.

¹²⁷ Hartley 1987, 404—406; Hartley 1991, 42—52. See also Appelbaum-Katz 1987; Gradstein 1993.

in order to promote economic growth and stability.¹²⁹ The approach here in this thesis could perhaps be defined as coming closest to the pluralist variant, with specific interdisciplinary flourishes.

Providing a definition for an “interest group” is instrumental in clarifying one’s analytical perspective. Following for example Graham Wilson, here interest groups are defined as organizations, not necessarily entirely separate from the government, attempting to influence public policy. Thus these groups — be they unions, producers’ groups, or for example corporations — provide an institutionalized linkage between the state and the major sectors of the society.¹³⁰ However, the state should not be understood as a cohesive, unified actor; rather, the sectors and departments within the state apparatus have the ability to act autonomously in particular situations, depending on the availability of resources.¹³¹ Equally, as suggested by Martin Smith, it is possible to improve the above definition of an interest group by emphasizing that these groups, in order to achieve their goals, are dependent on policy networks: The government needs the assistance of the various groups in the development and implementation of policies, whereas groups are equally dependent on the state for “rents” and subject to state coercion.¹³²

The “formal” (i.e., political parties and bureaucracies) and “informal” (i.e., interest groups) spheres of influence can be linked by analyzing not only their actual activities, but including also an evaluation of their contact surfaces in different kinds of committees and other cooperative organs. As Downs intuitively has pointed out, “committees to study the situation and recommend possible action are almost always used whenever substantial changes in a bureau’s organization are required”.¹³³ This perspective is adopted in this thesis through a review of the workings of such committees, especially the Defense Revision committees in Sweden and Finland, designed to alter the premises of the entire military establishment, both in terms of funding and organization. It is equally beneficial to analyze the workings of more permanent committees, especially relating to the allocation of military outlays, which formed an important part of the interwar governance systems.

¹²⁸ Buchanan 1968. See also Sandler-Hartley 1995, 54—58; Eloranta 1999.

¹²⁹ See Smith 1993 for further discussion and review of these research trends.

¹³⁰ Wilson 1990, 8—9.

¹³¹ See e.g. Eloranta 1999.

¹³² Smith 1993, 50—61.

¹³³ Downs 1967, 207.

Downs defines all officials and politicians as *utility maximizers*, which should here be understood in terms of the broad definition of rationality offered later.¹³⁴ Downs describes the following potential aims to explain the behavior of officials: power, money income, prestige, convenience, security, personal loyalty, pride in proficient performance at work, desire to serve the "public interest", and commitment to a specific program of action. Furthermore, he divides officials into categories, ideal types of sorts, including purely self-interested officials (climbers, conservers) and mixed-motive officials (zealots, advocates, statesmen). For climbers, power, income, and prestige form the most important values, whereas conservers seek to retain the amount of those factors they already possess. In contrast, zealots seek power for both its own sake and to achieve the goals they value. Advocates in turn are loyal to the organization and want to have an influence upon the policies, and statesmen see themselves as loyal to the society as a whole.¹³⁵

Additionally, as Rune J. Sørensen has shown, research of bureaucracies has tended to emphasize two often opposing features of bureaucracies and political markets: 1) Complexities of budget making, as well as limitations of knowledge, time, and resources lead decision-makers to focus on marginal adjustments in the previous year's budget, thus making it the determinant of the next year's appropriations; 2) Each bureau maximizes its appropriations on the basis of knowing the demands of the decisive organs and keeping the costs of supplying the good a secret within the bureaucracy.¹³⁶ The first one could be defined as a path dependence argument, which maintains that military spending should be path dependent, especially in terms of being dependent on the possible immobility of central government spending (=HYPOTHESIS 42).¹³⁷ As argued in Chapters 6 and 7, it is even more likely that consumption ME will be path dependent (=HYPOTHESIS 40) due to the legislative difficulties involved in changing its levels, whereas capital ME (=HYPOTHESIS 41) should be more susceptible to rent seeking by economic interest groups, within the constraints and opportunities allotted by the institutional framework. The second argument essentially views bureaucrats primarily as self-interested rent seekers, attempting to maximize the prestige and power of their bureau. The armed forces could be characterized as having similar goals, namely attempting to maximize the level of military spending (=HYPOTHESIS 43), although inter-branch rivalries may be influential as well.

¹³⁴ Downs 1967, 81—82; also, 1—2. Downs' definition is less stringent than e.g. Niskanen's proposition that bureaucrats are essentially attempting to maximize their budgets, which in turn leads to bureaucratic inefficiency — see Niskanen 1971. On criticism of this notion, see e.g. Lane 1987, 11—16.

¹³⁵ Downs 1967, 84—111.

¹³⁶ Sørensen 1987, 63. On the definition of a bureaucracy, see Downs 1967, 26—27.

Competition within the legislative dimension of the “formal” sphere, especially among officials selected for a limited term, can also have a profound effect on a nation’s military spending. As Michelle Garfinkel has argued cogently, electoral uncertainty associated with competition between political parties, each representing a certain part of the electorate, should theoretically impart a negative bias on the said country’s military budgets. Her key argument is that decision-makers in democracies consider military spending as security for future consumption, yet they feel the burden of military expenditures in lower current consumption. The incumbent, unless elected for another term, cannot enjoy the benefits and the popularity arising from the security achieved through military spending.¹³⁸ Moreover, it is possible to take this argument further in a different direction and test whether increased party fragmentation, implying more electoral confusion and increased political competition, lowers military spending levels (=HYPOTHESIS 49).¹³⁹ It has also been suggested, in the context of analyzing war initiation by democratic states, that aggression, or in this case military spending, might be linked to election cycles in the political markets. Some evidence links aggression to early phases in a country’s election cycles, perhaps related to preceding weak economic performance.¹⁴⁰ One could argue that military spending should respond to election year cycles, with an election year bringing a negative adjustment to ME (=HYPOTHESIS 50) along the same logic as suggested by Garfinkel.

In politics diverse non-governmental interest groups, especially groups representing the different production sectors, attempt to influence political decisions especially through campaign financing, different types of networks, and outright bribery. As Juha-Antti Lamberg has indicated in the Finnish context, the interest groups attempt to “buy” politicians by awarding them direct campaign contributions or offering people/organizational resources at their disposal. It is not illegal to accept campaign funding from corporations, similar to most of even contemporary Europe, in Finland, which differs at least in principle from the current American system. Nonetheless, even the current day American interest organizations have been able to channel campaign financing to their candidates through specific political action committees (PAC), in essence making the formal institutional framework completely ineffective.¹⁴¹

¹³⁷ See e.g. Koistinen 1980, 101.

¹³⁸ Garfinkel 1994, e.g. 1294—1295. To be more precise, as John M. Mbaku argues, in dictatorships the dictator usually controls the supply of legislation, yet interest groups can participate in the functions of the governmental apparatus. See Mbaku 1991.

¹³⁹ Details on the indicators used can be found in Chapter 6.

¹⁴⁰ Gaubatz 1991; Geller-Singer 1998.

¹⁴¹ Lamberg 1997, 148—150. On the American campaign financing system, see e.g. Coleman 1985, 50—54, 101—104; Eloranta 2000b.

When do situations arise that the interaction between the public and the private sectors increases? Immoral or even criminal activity becomes rational action when the benefits to be acquired exceed the risks (for example, moral condemnation, punishment, economic consequences) involved. According to Douglass C. North, increasing returns arising from political participation and imperfect markets are prerequisites for private sector investments in political markets.¹⁴² How then is the rent seeking of interest groups limited in the political markets? Following North's notions, the constant interaction between institutions and organizations, within an established system of *constraints* (formal rules, such as laws and statutes; informal rules, such as codes of behavior), and *opportunities* are crucial in order to understand and explain the paths of different economies. The formal, governmental groups in the political market (for example, political parties) and the informal, non-governmental groups (for example, economic interest groups) form the "players" that limit the actions of their members but also act as collective entities in shaping societal development in interaction with each other. This activity by the organizations, within an institutional and cultural framework, shapes economic performance in the Northian framework.¹⁴³ Individual firms, for example, often via various cooperative group structures, anticipate and adjust to institutional changes. Firms and their networks can and will respond to changing institutional challenges, and will attempt to change the existing rules of the game in their favor. The form which the interaction between the firms and the political entities takes will depend critically upon a combination of market, institutional, social, and legal dynamics.¹⁴⁴

It is nonetheless difficult to proxy the influence of different groups in the process of military spending decision-making. The economic interest groups in particular exert their influence, as discussed previously, in a multitude of ways, and they also receive the rewards of their actions in many forms (such as tariffs, quotas, informal favors etc.), often almost impossible to measure comprehensively. For example, the cooperation networks of firms are often aimed at competing in the political markets for formal and informal "rents", in which the so-called insider groups have the advantage of participating in many of the existing forms of cooperative organs or those being created between the public and private sectors, such as various committees. These networks and diverse forms of cooperation are created also due to a need on the part of the

¹⁴² North 1994, 94—96.

¹⁴³ North 1994, 17—27; North 1997, 8—12. Organizations can be defined broadly as political, economic, social, and educational groups.

¹⁴⁴ Lamberg et al. 2002; Colli-Rose 1999, 28.

public sector to utilize the expertise offered by the private sector and/or to rely on its political support.¹⁴⁵

The rent seeking by economic interest groups, usually by clusters of firms organized for a common purpose or by large individual firms, can be investigated with the help of a set of theoretical propositions. As argued in Lamberg et al. (2002), the rent seeking of such agents is not necessarily motivated by purely profit maximization alone. It may be possible to divide the factors increasing the probability of political action among industries into three groups: 1) Intra-organizational; 2) Intra-industry; 3) Inter-industry. At the intra-organizational level, the factors that are hypothesized as affecting the probability of participation in the political markets include past economic performance and organizational slack as well as firms' past performance in the political markets. For example, good economic performance may reduce the probability of political activity, similar to big organizational slack. Secondly, at the intra-industry level, the probability of participation might be influenced by the nature and competitive situation in the industry, phases of the industry life-cycle, and the relative strength of the representative interest group in the political markets. For example, a phase of growth within the industry may increase the probability of political activity, whereas the relative weakness of the representative group should reduce the probability of political activity (through this particular group). Thirdly, at the inter-industry level, selective incentives and excludable benefits, institutional opportunities available, and institutional constraints should have an impact on the probability of collective (or individual firms) action in the political markets, as argued already above as well.¹⁴⁶ In this thesis I will concentrate on measuring, firstly, the quantitative impact of the most important economic interest group respective of capital ME, namely domestic market industries, by arguing that industries as an interest group should attempt to maximize the level of military expenditures especially in times of economic hardship (=HYPOTHESIS 44).

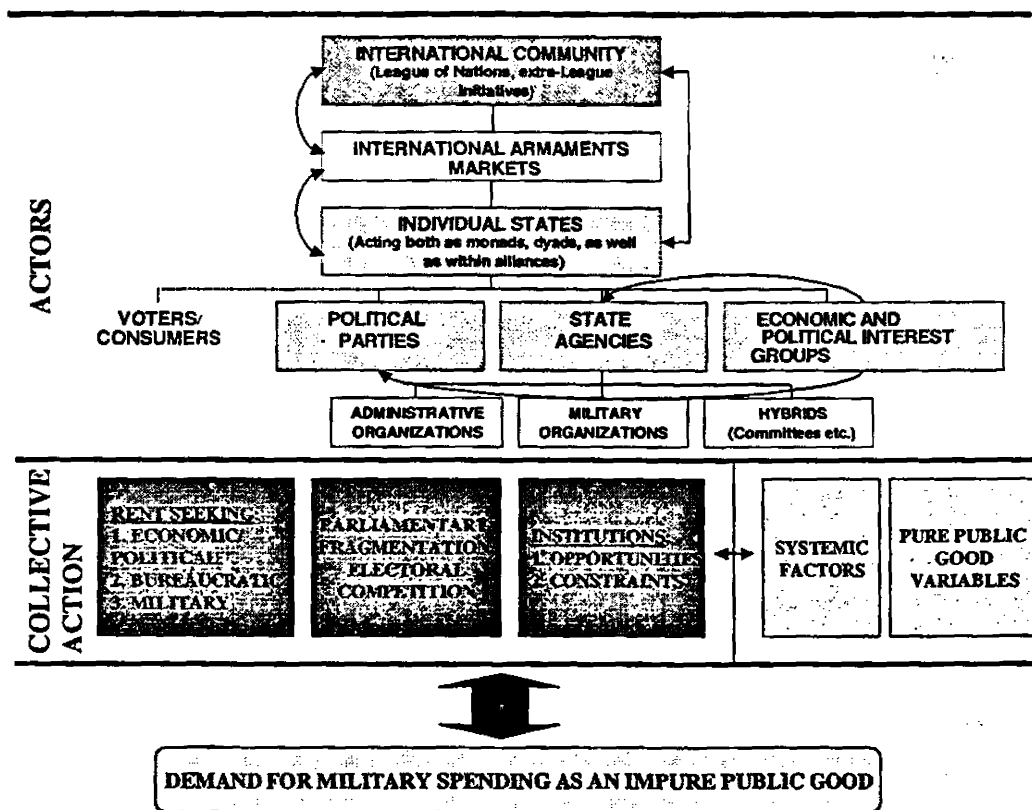
Figure 8 below represents an effort to incorporate the various actors and their collective action into a military spending decision-making framework. The three top levels are similar to the ones already discussed in this chapter: The international community (League of Nations and beyond), the international armaments markets (see Chapter 6), and the individual states. The actors within a state consist of the groups introduced earlier: 1) Voters/consumers, assuming a limited role besides influencing the strength of the political parties; 2) Political parties, influenced by competition within the parliament and myopic survival perception (as well as strong ideological

¹⁴⁵ Colli-Rose 1999, 27—28; Smith 1993, 4—7, 60—61; Eloranta 2000b.

¹⁴⁶ See Lamberg et al. 2002 for details and theoretical discussion.

convictions); 3) State agencies, especially the various bureaucracies attempting to maximize their perception of required spending; 4) Economic and political interest groups, attempting to influence the level of public goods provision as well as the ensuing government acquisition policies. In addition, their contact surfaces, such as committees, are displayed therein as well. This framework, nonetheless, does not feature discussion of the instances when the interaction between those awarding the military contracts and those competing for them becomes *collusion*, inasmuch their interests become identical and the rent seeking becomes a joint venture.¹⁴⁷

Figure 8. Demand for Military Spending as an Impure Public Good: The Actors and Collective Action



Source: constructed by the author.

Paul Koistinen (1980) has argued quite convincingly that the First World War formed an important watershed in business-government relations. In the U.S. context, the federal government, the business community, and the military services had developed complex, modern, and professionalized structures by the Great War, which became virtually indistinguishable from one another during the wartime. He sees the *Military-Industrial Complex*

¹⁴⁷ In the NATO and public choice context, see especially Sandler-Hartley 1999, 124—128.

(MIC) — defined as a loosely structured form of collusion, an outgrowth of the “power elite” — resulting from the economic mobilization for the First World War as well as the interwar planning cooperation between the armed forces and the business community.¹⁴⁸ However, Koistinen does not define the MIC very specifically, and the U.S. case is somewhat different from many of the European countries where the armed forces did not usually have independent procurement powers. How should we define the MIC and how is it relevant for the research aims of this thesis?

The demand side of defense markets is dominated by the government in its role as a purchaser of all the inputs of labor, capital, land, other resources, and services needed in the maintenance of national defense. In this context, for example Sandler-Hartley (1999) has defined the business-government relations in the following manner: “This combination of government, the armed forces, defense contractors, together with politicians and other lobbying interest groups forms the military-industrial-political complex.”¹⁴⁹ This type of definition still is rather vague regarding the actual functioning of these networks and other forms of cooperation. Following Mark Harrison (2001), it is essential to make a distinction between different forms of rent seeking (entailing profit maximization) and actual collusion between the agents involved. Collusion can occur in many ways, at many levels, and between many combinations of actors. For example, at the level of economic interest groups collusion enables rivalrous agents to pool their probabilities of winning the contract in question.¹⁵⁰

Collusion is also possible between the state agencies responsible for the military budgets (such as Ministry of Defense), acting as the principal in the contractual relationship, and the domestic market industries, in turn acting as the agent. The purchase of military goods involves the decision to acquire a certain good, the relevant contract to be drawn between the contracting parties, as well as the delivery of a certain quality and quantity of this good in a specific time period. Repeated transactions and extensive cooperation are likely to occur in countries with less developed armaments production capabilities and military trade constraints, including also a limited pool of professional expertise in arms technology. This relationship also involves transaction costs in the form of acquiring information about the possible products and suppliers, organizing competitions, bargaining with the contractors, and then the writing, monitoring, and enforcing of the contracts. In short, the government as the principal has to choose the contractor

¹⁴⁸ Koistinen 1980, 8—47. Government efforts to regulate business activity also stimulated business groups to organize; see Hrebenar-Scott 1982, 9—10.

¹⁴⁹ Sandler-Hartley 1999, 120—121.

or the agent, and to ensure that the agent pursues the goals of the principal. Furthermore, armaments markets and industries are commonly under regulatory control of the state to varying degrees, due to their role in crisis management.¹⁵¹

However, the game between the principal and the agent is not quite as simple as described above. Often the armed forces act as the third player, since they are in practice employed in some form in the preparation of the military budgets. The U.S. interwar case forms the extreme in this sense, since the armed forces were able to carry out, almost without any centralized control, their own procurement. Collusion between groups can occur in different ways and lead to different cooperative game outcomes. The possible, yet often competing objectives of the players in the "European" interwar context could perhaps be simplified in the following way: 1) Ministry of Defense — Goals: bureau budget maximization, prestige, efficiency, national security readiness; 2) Other state agencies involved, especially Ministry of Finance — Goals: lower central government spending, budget maximization; 3) Armed forces — Goals: efficiency, budget maximization; 4) Domestic market industries — Goals: lower central government spending, maximum domestic share of purchases of military goods and services. Collusion would occur when the interests of the players, or at least most of them, coincided after repeated games. Then the competitive rent seeking, based on complex utility maximization, of the groups involved would lead to collusion, either resulting in the creation of an actual MIC or at least amounting to more temporary forms of collusion, depending on the level of military expenditures. The concept of a *corruptive contact surface* describes this collision of interests. It refers specifically to the increasing opportunities (sometimes called windows of opportunities) of corruption and rent seeking as the interaction between the public sector organizations and private firms (or their representatives) increases. Yet, many forms of rent seeking and especially collusion on this surface are only morally reprehensible, not illegal. The extension of this contact surface can take place, for example, due to societal crises or changing economic conjunctures.¹⁵²

It is possible to develop certain hypotheses to test these ideas on the interwar military spending decision-making process, which is here mainly undertaken with the cases of Sweden and Finland. This is because, as Harrison has argued, it is very difficult to measure the outcomes of

¹⁵⁰ Harrison 2001, 4.

¹⁵¹ See e.g. Sandler-Hartley 1995, 113—115. On transaction costs and exchange relationships, see Greif 2000.

¹⁵² North 1994; Hrebennar-Scott 1982, 9—12; Isaksson 1997, 130; Eloranta 2000b.

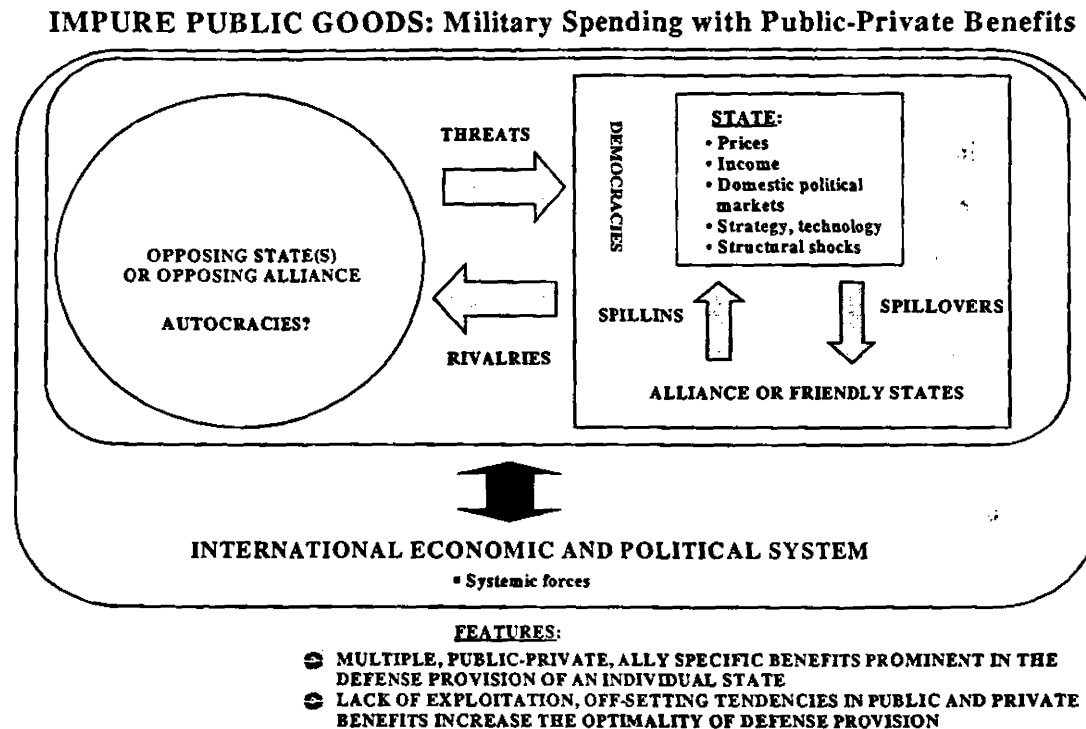
military budgeting and procurement reliably through statistical indicators.¹⁵³ Thus, most of these hypotheses will be verified with the use of extensive archival materials and relevant literature. Firstly, based on the rent-seeking framework outlined earlier, we could argue that industries as an interest group will attempt to maximize the binding nature of formal and informal military procurement rules in favor of the domestic markets (=HYPOTHESIS 46). Secondly, armed forces, inclusive of relevant state acquisition bureaucracies, and domestic market industries should resort to collusion in the military acquisition policy if the economic interest groups have been able to achieve an extensive role in government functions (=HYPOTHESIS 47), such as via crisis planning and procurement. Thirdly, an institutional shock, requiring extensive military acquisition cooperation between the relevant groups, or an institutional “power vacuum” should increase the amount of collusion between the armed forces, inclusive of relevant state acquisition bureaucracies, and the domestic market industries (=HYPOTHESIS 48). In other words, clearly defined rules of the game, with the enforcement of individual property rights encountered commonly among modern democracies should reduce the probability of actors’ of resorting to rent seeking or further to collusion. Conversely, poorly defined rules of the game should induce rent-seeking behavior, which implies profit-maximization by the firms involved, and lead to collusion when some of the groups’ interests coincide.¹⁵⁴

Figure 9 below displays a simplified conceptualization of the research framework pursued in this thesis. It features systemic level forces, alliance level influences, significance of regime type, state-level influences, as well as factors arising from within a particular state and its decision-making system. It does not offer details on the various hypotheses developed here, however. The key arguments in this framework are that one needs to account for the influences arising from all of the explanatory levels, and that military spending is likely to be an impure public good (including both pure and impure public good characteristics), as argued throughout this chapter. Figure 9 hardly presents a comprehensive model, since it does not address some of the aspects of military spending demand as discussed in this section; namely rent seeking, collusion, interaction between the players, and the institutional framework, which are included in the aggregate research framework. Also, it fails to account for such hard-to-measure influences as culture, ideology, and group rationality in the framework. It does, however, provide a working conceptualization of the impure public good characteristics of military spending demand, especially in terms of quantitative analysis.

¹⁵³ Harrison 2001, 7.

¹⁵⁴ See Lamberg et al. 2002 for more details.

Figure 9. A Research Framework for Studying Military Spending as an Impure Public Good



Source: constructed by the author.

Organizations operate under limited or bounded rationality, routines and organizational rules rather than calculated decisions, as well as self-interest and competition with other organizations and/or bureaucratic units. Here it is assumed that, following Herbert Simon, individuals act rationally within the cognitive, information, and temporal bounds surrounding them.¹⁵⁵ It is, nevertheless, quite irrelevant for this analysis to concentrate on the rationality of individuals in explaining mesa- and macro-level events.¹⁵⁶ The rationality, the aims in relation to the actions taken, of groups involved in the military spending decision-making is of course very important in this respect. Many of the hypotheses developed in this chapter imply a certain type of rationality on the part of a certain group. Many of these rational model expectations do not exactly comply with the notion of bounded rationality, yet some of the (often competing) hypotheses do take into account more complex decision-making frameworks and the interaction between the relevant actors. Any model, no matter how complex, is still only an approximation of the complex reality of human interaction.¹⁵⁷ The success of the model depends on how well

¹⁵⁵ Simon 1957; Lamberg et al. 1997; Geller-Singer 1998, 39—40. See also Lamberg et al. 2002.

¹⁵⁶ On a call for further emphasis on understanding group dynamics, see e.g. van Winden 1997.

¹⁵⁷ For further discussion, the reader should consult e.g. Geller-Singer 1998.

and convincingly it performs this abstraction. The model, being a combination of hypotheses, has to be verifiable on the basis of empirical data and provide transparency on the methods how the tests are accomplished.¹⁵⁸

Mark Casson (1999) has provided a useful interpretation on how to relax the quite stringent rationality assumptions behind especially neoclassical economic models. As such, most neoclassical models assume that people, firstly, optimize, and that there is a tendency toward equilibrium in interactions between optimizers. He makes four assumptions relaxing the rigidity of these assumptions, which comply quite well with the theoretical additions introduced in this section: 1) Interaction with and within the legal system is costly, entailing transaction costs; 2) Information is costly to acquire and scarce; 3) All firms cannot be reduced to a "black box", whereby the role of the entrepreneur or a group of entrepreneurs¹⁵⁹ is often crucial; 4) Material rewards are not enough to make the analysis comprehensive, as there are material as well as emotional rewards for particular actions, linked to the social fabric of the society.¹⁶⁰ Thus, different types of hypotheses, sometimes representing competing theoretical interpretations of "aggregate rationality" or group rationality, are necessary in the analysis of public good decision-making.

One of the problems of modeling decision-making with at least some assumptions of rationality, as opposed to nonrational models (for example, chaos theory), are the notions of group dynamics and collective action. One of the key issues in defining the rationality of actors is the relationship between the individual and the group, and in groups "irrational" individuals are often of negligible importance in the outcome. Mancur Olson's theoretical framework on the rationality of an individual, for example, recognizes altruistic behavior as a problem in defining rationality, and he also attempts to analyze the different forms of altruism. A typical altruistic and rational individual does not influence decisively the bargaining for collective goods in a large group. On the other hand, an altruist interested in making "visible" sacrifices has to be taken into account in explaining group rent seeking.¹⁶¹ Still, it is a dubious exercise to attempt making a value judgment on the *efficiency* or perhaps even irrationality of different kinds of historical choices.¹⁶² For example, a certain nation's defense acquisitions may be consciously

¹⁵⁸ See especially Kalela 1976, 126—127.

¹⁵⁹ On emphasis of other factors, see Lamberg et al. 2002.

¹⁶⁰ Casson 1999, 12—13.

¹⁶¹ Olson 1965; Olson 1982, 19—20, 34—35. Cf. e.g. North 1994. For an excellent analysis of the notion of rationality, see Williamson 1997. Also, the tools of bureaucracy research should not be ignored; see Eloranta 1998 for more on this aspect.

¹⁶² See Buchanan 1968, 6—7.

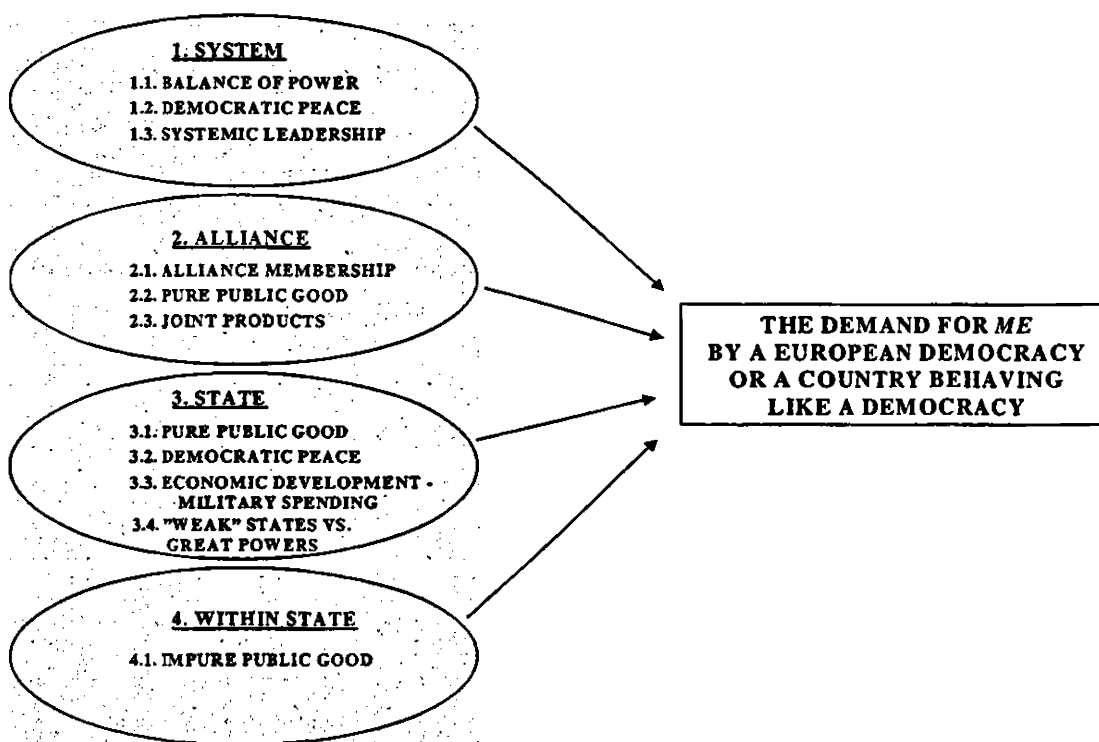
directed towards significantly more expensive domestic production in a certain year, which would make it tempting to classify this situation and its consequences as path dependence, implying inefficiency in one form or another. The analysis must, on the other hand, take into account the personal motives of the decision-makers, the social and political incentives created by group dynamics, as well as other ideological and cultural constraints.¹⁶³ Most likely, the outcome is a combination of several causal factors, which are often inseparable. For example, favoring domestic production may also have positive consequences for the entire economy, even though at first it might appear to be economically inefficient. Here these perspectives will emerge from the comparisons between the more macro-level statistical analyses and the more detailed analysis of the decision-making mechanisms of Sweden and Finland. Thus, the quantitative and qualitative approaches are seen as crucial, complementary parts of the analysis of the demand for military spending.

2.3. Summary of the Hypotheses

This thesis aims to analyze the demand for military spending as an impure public good for eleven European states (Belgium, Denmark, Finland, France, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom) in the interwar period. The key research question in this thesis can be summarized in the following manner: What determines the demand for a military spending for a democratic nation or a nation that behaves like a democracy in the interwar period? Based on the theoretical premises outlined previously, it seems evident that military spending is not just a pure public good in this period, as it lacks the required pure public good alliance characteristics, to say the least. Also, the other explanatory levels and the relevant theoretical insights attached to them would suggest that both systemic forces as well as actor-related influences within the nations are crucial in any analysis of military spending behavior.

¹⁶³ The application of different degrees of *path dependence* to e.g. political and economic phenomena should include an element of caution. The starting point for the analysis must be the different views of the world by the individuals and their effect on the group, however large, behavior. See Eloranta 1997c for more.

Figure 10. Organization of the Hypotheses in the Thesis



Source: constructed by the author.

The general outlines of the questions that are pursued have already been summarized in Section 1.4. As has been emphasized already, the analysis in this thesis will seek insights from four different explanatory levels: system, alliance(s), state, and within state. These levels are all intricately linked, and the aim here is to explain how these levels (and the variables approximating their behavior) affected the military spending behavior of a single state, although common responses are possible as well (for example, on the axis "weak" states — Great Powers). As seen in Figure 10, at the systemic level I will be concentrating on verifying hypotheses grouped into three clusters: balance of power, democratic peace, and systemic leadership. At the level of an alliance, the focus will be on hypotheses evaluating alliance membership, pure public good aspects, and joint products. The level of a state will have four clusters of hypotheses: pure public good aspects, democratic peace, economic development — military spending, and "weak" states vs. Great Powers. Finally, within a state, I will explore the various impure public good hypotheses related to the political markets and the actors involved in the game for public goods.

Below you can find a complete list of the hypotheses tested and evaluated in this thesis, based on the organization according to the levels as explained above. There is a description of the

hypothesis, its number (that is used as a reference tool in the various chapters), description of the main form of analysis, the location where the hypothesis was first put forth, and the location where the hypothesis will be tested. Although most of the hypotheses were developed in this chapter, some are introduced in the subsequent chapters instead. One should also note that some of the hypotheses are complementary, whereas others are competing.

LIST OF HYPOTHESES: (1—50)

1. INTERNATIONAL SYSTEM: (HYPOTHESES 1—11)

1.1. BALANCE OF POWER: (HYPOTHESES 1—4)

⊙ An increase in the total system military spending should induce a positive threat response in the form of increased individual country military spending (at a lag) (=HYPOTHESIS 1). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ An increase in the dispersion of military spending by the states in the system should represent mounting threats to the individual states, thus inducing higher military spending (at a lag) (=HYPOTHESIS 2). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ A decline in the concentration of total resources should increase the polarity in the system, thus increasing uncertainty in the system, and inducing higher military spending by the individual states (at a lag) (=HYPOTHESIS 3). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ A decline in the concentration of military resources should increase the polarity in the system, thus increasing uncertainty in the system, and inducing higher military spending by the individual states (at a lag) (=HYPOTHESIS 4). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

1.2. DEMOCRATIC PEACE: (HYPOTHESES 5—8)

⊙ An increase in the total resources held by democracies in the system should exert a spillover effect on the individual states, thus inducing a reduction in their military spending (at a lag) (=HYPOTHESIS 5). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ An increase in the aggregate military spending of democracies in the system should exert a spillover effect on the individual states, thus inducing a reduction in their military spending (at a lag) (=HYPOTHESIS 6). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ An increase in the total resources held by autocracies in the system should represent a threat for the individual states, thus inducing an increase in their military spending (at a lag) (=HYPOTHESIS 7). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ An increase in the aggregate military spending of autocracies in the system should represent a threat for the individual states, thus inducing an increase in their military spending (at a lag) (=HYPOTHESIS 8). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

1.3. SYSTEMIC LEADERSHIP: (HYPOTHESES 9—11)

⊙ Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the military spending behavior of the perceived systemic leader(s) (at a lag) (=HYPOTHESIS 9). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the total resources held by the perceived systemic leader(s) (at a lag) (=HYPOTHESIS 10). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊙ Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the military resources of the perceived systemic leader(s) (at a lag) (=HYPOTHESIS 11). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

2. ALLIANCE: (HYPOTHESES 12—18)

2.1. ALLIANCE MEMBERSHIP: (HYPOTHESES 12—13)

⊙ Membership in an alliance, without qualifying the type of alliance, should increase the feeling of security for an individual state, thus inducing lower military spending (=HYPOTHESIS 12). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ Membership in an alliance should provide increased security only according to the nature and conditions of the alliance (=HYPOTHESIS 13). FORM OF ANALYSIS: QUANTITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

2.2. PURE PUBLIC GOOD: (HYPOTHESES 14—16)

⊙ Military burdens (military expenditures of GDP) are anticipated to be shared unevenly in an alliance; thus, large wealthy allies (measured by real GDP) would be expected to shoulder more of the common defense than the smaller, poorer allies (=HYPOTHESIS 14), and one ally's defense provision needs to be perfectly substitutable by that of the other ally. FORM OF ANALYSIS: QUANTITATIVE, RANK CORRELATIONS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ Defense spending would be expected to be allocated inefficiently from an alliance standpoint, as the sum of marginal benefits from defense provision will not equal the marginal costs of this provision (=HYPOTHESIS 15). FORM OF ANALYSIS: QUANTITATIVE, RANK CORRELATIONS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ A central authority in an alliance is required to coordinate spending to overcome suboptimal provision and ensure the functionality of the cooperation (=HYPOTHESIS 16). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapters 3—5.

2.3. JOINT PRODUCTS (=IMPURE PUBLIC GOOD WITHIN AN ALLIANCE): (HYPOTHESES 17—18)

⊙ Military burdens in an alliance yielding joint products should be shared based on the benefits received — the greater the ratio of excludable benefits to total benefits, the larger should be the agreement between the benefits received and burdens shared (=HYPOTHESIS 17). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ If there are joint products present at the level of an alliance, spillins from other allies are no longer perfectly substitutable among members and the so-called full income variable (equals nation's available income plus the defense spending of other alliance members) does not adequately capture the income effect (=HYPOTHESIS 18). FORM OF ANALYSIS: QUANTITATIVE, GLS SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

3. STATE: (HYPOTHESES 19—39)

3.1. PURE PUBLIC GOOD CHARACTERISTICS: (HYPOTHESES 19—23)

⊙ Military expenditures can be expected to be positively correlated with income, thus having the characteristics of a normal good (=HYPOTHESIS 19). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ Military spending can be expected to be negatively correlated with the price of "defense" (=HYPOTHESIS 20). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ Military spending can be expected to yield a negative correlation with spillins (alliances, groups of states, neighboring countries considered "nonhostile"), thus some free riding should occur (yet impure public good at the international level, therefore spillins should not be perfectly substitutable) (=HYPOTHESIS 21). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊙ External threats (alliances, groups of states, neighboring countries considered "hostile") should exert a growth influence on a particular state's military spending (=HYPOTHESIS 22). FORM OF ANALYSIS:

QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

⊗ A change in domestic military strategy may produce a change in the military spending path of the said nation (=HYPOTHESIS 23). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 5.

3.2. DEMOCRATIC PEACE: (HYPOTHESES 24—29)

⊗ The more democratic a regime is, the less of its economic resources, in relative terms, it should allocate for military purposes (=HYPOTHESIS 24). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊗ The more democratic a regime is, the less of its central government expenditures, in relative terms, it should allocate for military purposes (=HYPOTHESIS 25). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊗ The more authoritarian a regime is, the more of its economic resources, in relative terms, it should allocate for military purposes (=HYPOTHESIS 26). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊗ The more authoritarian a regime is, the more of its central government expenditures, in relative terms, it should allocate for military purposes (=HYPOTHESIS 27). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 4.

⊗ Authoritarian states without totalitarian characteristics and centralized leadership should be unable to concentrate more resources for military purposes than democracies (=HYPOTHESIS 28). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

⊗ A change in the form of government, resulting in authoritarian rule as well as enabling totalitarian and centralized leadership, should create a disruption in the relationship between military spending and economic growth (=HYPOTHESIS 29). FORM OF ANALYSIS: QUANTITATIVE, VARIOUS STATISTICAL TESTS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

3.3. ECONOMIC DEVELOPMENT - MILITARY SPENDING: (HYPOTHESES 30—33)

⊗ Economic growth should Granger-cause military spending in the short run (=HYPOTHESIS 30). FORM OF ANALYSIS: QUANTITATIVE, GRANGER NON-CAUSALITY TESTS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

⊗ Military spending should Granger-cause economic growth in the short run (=HYPOTHESIS 31). FORM OF ANALYSIS: QUANTITATIVE, GRANGER NON-CAUSALITY TESTS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

⊗ Military spending should have a positive economic growth effect in the short run (=HYPOTHESIS 32). FORM OF ANALYSIS: QUANTITATIVE, REGRESSION ANALYSIS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

⊗ Military spending should have a negative growth effect in the short run (=HYPOTHESIS 33). FORM OF ANALYSIS: QUANTITATIVE, REGRESSION ANALYSIS. LOCATION WHERE DEVELOPED: Chapter 4. LOCATION WHERE TESTED: Chapter 4.

3.4. "WEAK" STATES VS. GREAT POWERS: (HYPOTHESES 34—)

⊗ There should be fewer domestic constraints on the foreign and trade policy decision-making of a "weak" state (carrying the connotation of limited political and economic power in a given system), implying that external variables such as market prices or perceived threats ought to have primacy in explaining the military trade behavior of these nations (=HYPOTHESIS 34). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM ON ARMS TRADE. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 6.

⊗ Great Powers should respond more strongly to changes in the balance of power in the system than "weak" states, e.g. in terms of greater dispersion of military spending among the states inducing higher military spending, due to the tendency of Great Powers to engage in hegemonic competition with one another (=HYPOTHESIS 35). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 5.

⊗ "Weak" states should be highly dependent on military trade and military imports in particular (=HYPOTHESIS 36). FORM OF ANALYSIS: QUANTITATIVE, RATIOS AND SUR SYSTEM ON

ARMS TRADE. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 6.

⊙ “Weak” states should differ from one another mostly due to factors such as their geographic and/or strategic location, the level of industrialization, the type of foreign policy tradition, and the size of the economy (=HYPOTHESIS 37). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM ON ARMS TRADE. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 6.

⊙ “Weak” states may be influential in the international system when a balance of power exists between the Great Powers (=HYPOTHESIS 38). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM ON ARMS TRADE. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 6.

⊙ “Weak” states should be influential in the international system when there is hegemonic competition for leadership between the Great Powers (=HYPOTHESIS 39). FORM OF ANALYSIS: QUANTITATIVE, SUR SYSTEM ON ARMS TRADE. LOCATION WHERE DEVELOPED: Chapter 6. LOCATION WHERE TESTED: Chapter 6.

4. WITHIN STATE: (HYPOTHESES 40—50)

4.1. IMPURE PUBLIC GOOD: (HYPOTHESES 40—50) (*=evidence arising only from the Swedish-Finnish interwar context)

⊙ Military consumption expenditures should be more path dependent than military capital expenditures due to the difficulties in changing the laws concerning conscription and will cause military spending to exhibit path dependence on the whole (=HYPOTHESIS 40). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.*

⊙ Military capital expenditures in a nation should be subject to complex rent seeking by various groups within the said polity — the less binding the rules governing such rent seeking, the higher the military spending levels (=HYPOTHESIS 41). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.*

⊙ Military expenditures as a whole should be path dependent and strongly influenced by the central government budgetary path dependence (=HYPOTHESIS 42). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.

⊙ The more developed the nation is economically, with more established institutions and political markets, the lower its military spending should be (=HYPOTHESIS 43). FORM OF ANALYSIS: QUANTITATIVE. LOCATION WHERE DEVELOPED: Chapter 5. LOCATION WHERE TESTED: Chapter 5.

⊙ Armed forces and bureaucracies should attempt to maximize the level of military spending (=HYPOTHESIS 44). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapters 5, 7.

⊙ Industries as an interest group should attempt to maximize the level of military spending in times of economic hardship (=HYPOTHESIS 45). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapters 5, 7.

⊙ Industries as an interest group should attempt to maximize the binding nature of formal and informal military procurement rules in favor of domestic market actors (=HYPOTHESIS 46). FORM OF ANALYSIS: QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.*

⊙ Armed forces (including the relevant acquisition bureaucracies) and domestic market industries should resort to collusion in the military acquisition policy if the economic interest groups have been able to achieve an extensive influence in government functions (=HYPOTHESIS 47). FORM OF ANALYSIS: QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.*

⊙ An increase in the amount of collusion between armed forces (including the relevant acquisition bureaucracies) and domestic market industries should arise when an institutional shock occurs, requiring extensive contacts between these groups, or an institutional “power vacuum” exists (=HYPOTHESIS 48). FORM OF ANALYSIS: QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapter 7.*

© An increase in the fragmentation of the parliament in a democracy should result in lower military spending levels, due to the myopic bias on the part of the legislator (=HYPOTHESIS 49). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapters 5, 7.

© Military spending within a state should respond to election cycles, with an election year bringing a negative adjustment to military spending (=HYPOTHESIS 50). FORM OF ANALYSIS: QUANTITATIVE AND QUALITATIVE. LOCATION WHERE DEVELOPED: Chapter 2. LOCATION WHERE TESTED: Chapters 5, 7.

3. ECONOMIC CHALLENGES, ELUSIVE COLLECTIVE SECURITY, AND DIVERGENT MILITARY SPENDING PATTERNS, 1920—1938

3.1. Economic Development, Central Government Spending, and the Impact of the Great Depression

This chapter focuses on providing broad outlines of two components that had a crucial impact on the military spending environment of the interwar period, namely: 1) The economic development environment that prevailed before and the one that emerged after the Great Depression; 2) The collective security environment that prevailed before and the one that emerged after the failure of the League Nations' disarmament process in the early 1930s. Furthermore, as it is argued throughout in this thesis, the interwar period should nevertheless be analyzed as a complete segment, because it is impossible to understand the mechanics and timing of the 1930s rearmament without understanding the role played by the Great Depression and the turn towards domestic markets, and the impact of the gradual revelation of the impotence of the League of Nations in security policy issues. This chapter represents, however, an effort to merely describe the processes involved at a macro-level, without going deep into the analysis of the reasons, for example, behind the League of Nations' failure in providing collective security guarantees. These aspects of the analysis are taken up in earnest in the subsequent chapters. This chapter also entails an effort to see how the military spending of the eleven selected nations, respective of a variety of indicators, developed in comparisons with other nations and within the sample. Firstly, I will present an overview of the economic development of the period, the Great Depression being featured quite prominently in this effort, as well as discussion of the central government spending changes and policy environment of the interwar period.

"Whether 1914 or 1929 is the break point, the period labelled 'the inter-war years' has acquired a poor reputation for achievements in the fields of economics and politics. What were later regarded as the mistakes of the inter-war years fixated policy-makers at the end of the Second World War and subsequently. These were years of metamorphosis of institutions and beliefs. The old international liberal economic order seemed unable to cope with the disruptions of the 'war to end all wars' and with the Great Depression. Rival doctrines of fascism and communism both offered remedies which emphasised greater state economic control. And all policy-makers chose more corporate ways of organising domestic and international economic relations."

James Foreman-Peck 1995¹⁶⁴

¹⁶⁴ Foreman-Peck 1995, 175.

As Charles Tilly has noted, the 20th century was the most war-prone in human history, producing a death rate of 46 per thousand of population, almost an eightfold increase in comparison with the 19th century. One of the features of the 20th century was also the tendency for Great Power conflicts to decline in frequency, duration, and the number of participating states in comparison with the four preceding centuries.¹⁶⁵ One of the monumental milestones of the century was the First World War; a war that the participants expected to be short like the wars that preceded it in the 19th century. Instead, the more or less *ad hoc* organization for “total war”¹⁶⁶ required the warring nations to undertake economic mobilization at unprecedented levels, necessitating also tremendous public spending increases. During the war as much as 30—40 per cent of the belligerents’ GDP was controlled directly or indirectly by the state. The political, economic, social, and cultural impacts of the First World War can hardly be overlooked either. It has been estimated that approximately nine million combatants and twelve millions civilians died during the Great War, with damage to property perhaps amounting to as high as 36 billion current USD.¹⁶⁷

As Feinstein et al. (1997) have argued, there were four direct economic consequences arising from the war and its long shadow: 1) Two immediate exogenous shocks, in terms of disruptions of supply and demand as well as excess mobilized production (and military) capacity after the conflict; 2) A more rigid economic environment, since for example wage flexibility was diminished; 3) A weaker financial structure, since the economies had to carry the new, increased levels of public spending as well as the acquired debts with mainly pre-war levels of taxation; 4) A fragile international monetary system. The “winners” of the war, at least in terms of economic growth effects, seemed to be the neutral states, such as the Nordic countries, who outperformed other Western states.¹⁶⁸ According to Barry Eichengreen, the First World War shattered two important features of the prewar system; namely, the credibility of the monetary system and international financial cooperation. The credibility of governments in making economic adjustments in accordance with the Gold Standard was challenged by an array of political and economic changes affecting the concentration and operation of political decision-making within the countries. New political influences and groups entered the political arena, riding the wave of corporatist experiments and enlarged franchises, which in turn exerted pressure upon the central banks. Thus, a domestic economic adjustment to market disturbances was no longer an automatic response. International cooperation faced three insurmountable obstacles: domestic

¹⁶⁵ Tilly 1990, 67. See also Geller-Singer 1998 for an overview.

¹⁶⁶ On this, see especially Neilson 1987.

¹⁶⁷ De Groot 2001, 1; Hardach 1977, 150—152; Feinstein et al. 1997, 18—19, 25.

political constraints, international political rivalry, and incompatible conceptual frameworks.¹⁶⁹ How, then, did these economic challenges and constraints imposed by the Great War affect the economic development of European states, especially the selected eleven democracies or transitional democracies?

It is fairly illuminating to first take a look at the economic development of the economic leader nation in the time period, the United States. The New Era -label, as the 1920s were often understood to be in the United States, has some merit in describing this period in American history. Some of the themes in American economic thinking in the 1920s were the supremacy of the United States in the world economy and the minimization of government activity in economic life. As President Calvin Coolidge expressed it in 1923: "We have now reached a point in our financial program where we can lighten the tax burden of the people, which is an added reason for taking a firm stand against any and all programs of spending that would tend to absorb the expected margin between receipts and expenditures."¹⁷⁰ This period, and especially the last few "crazy" years, represented a time of significant economic growth. The economic collapse that occurred in September 1929 launched the United States into a deep depression known as the Great Depression. Some of the reasons for this crash have been said to include speculation, overheated markets, lesser demand for housing, and huge increases of supply while the demand stayed the same, and monetary instability. Structural problems of the new industries and their needs have also been emphasized. This crash spread throughout the world rapidly, contributing to a worldwide depression.¹⁷¹

As James Foreman-Peck has noted, the links between the Great Depression and the First World War were extensive. Without the war the depression would have been much less severe. The human costs and injuries resulting from the war damaged the European economies even more than the destruction of capital. Another notable feature of the interwar economy was the significant decline in foreign trade, even in the 1920s — this development was mainly caused by the nationalist commercial policies. Also, it is important to take into account that during the 1920s the United States was largely economically independent of the rest of the world, or so it had seemed. Overall, this period was marked by uneven economic growth in the 1920s and

¹⁶⁸ Feinstein et al. 1997, 12—14, 20—25.

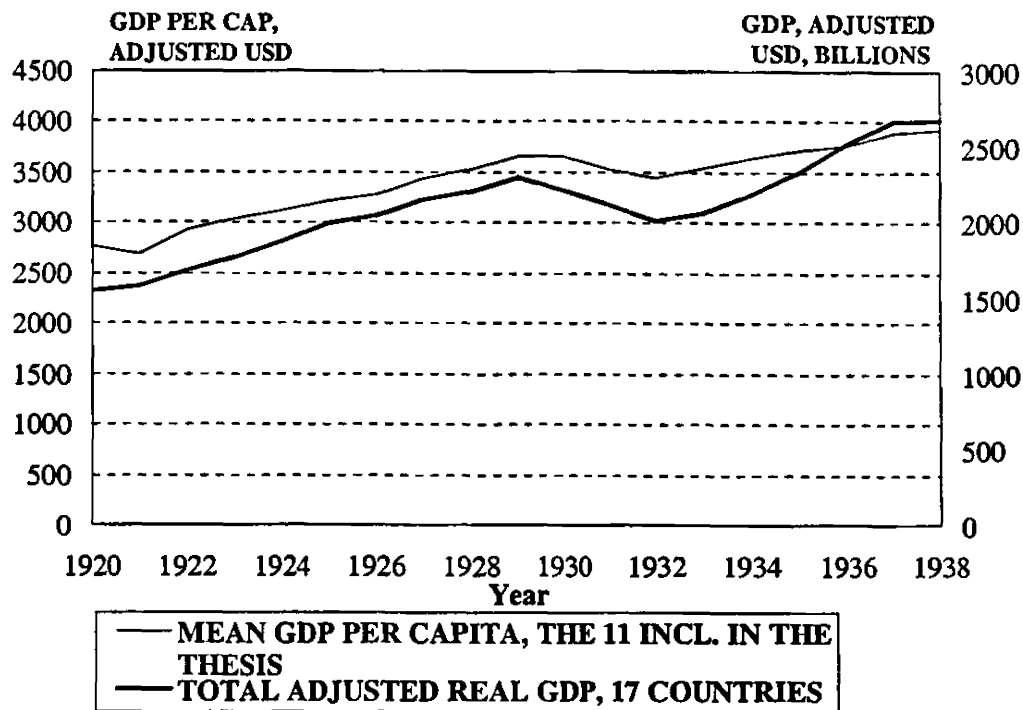
¹⁶⁹ Eichengreen 1992, 8—11.

¹⁷⁰ Message of the President of the United States transmitting budget for service of fiscal year 1925. 1923. House Documents 76, 68th Congress, Second Session, Volume 31.

¹⁷¹ Kindleberger 1973, 58—62; Barber 1985, 4, 14. See also Bernstein 1987, 1—20. On the severity of the depression, see Maddison 1991, 54—55, 87. See also Eichengreen 1992.

divergent experiences of recovery from the depression in the 1930s among the Western democracies.¹⁷²

Figure 11. Mean Adjusted Real GDP per Capita (in 1929 Quasi-USD) of the Selected Eleven European States and the Aggregate Adjusted Real GDP (in 1929 Quasi-USD) of Seventeen Nations, 1920—1938



Sources: see Appendices, Appendix 2 for details.

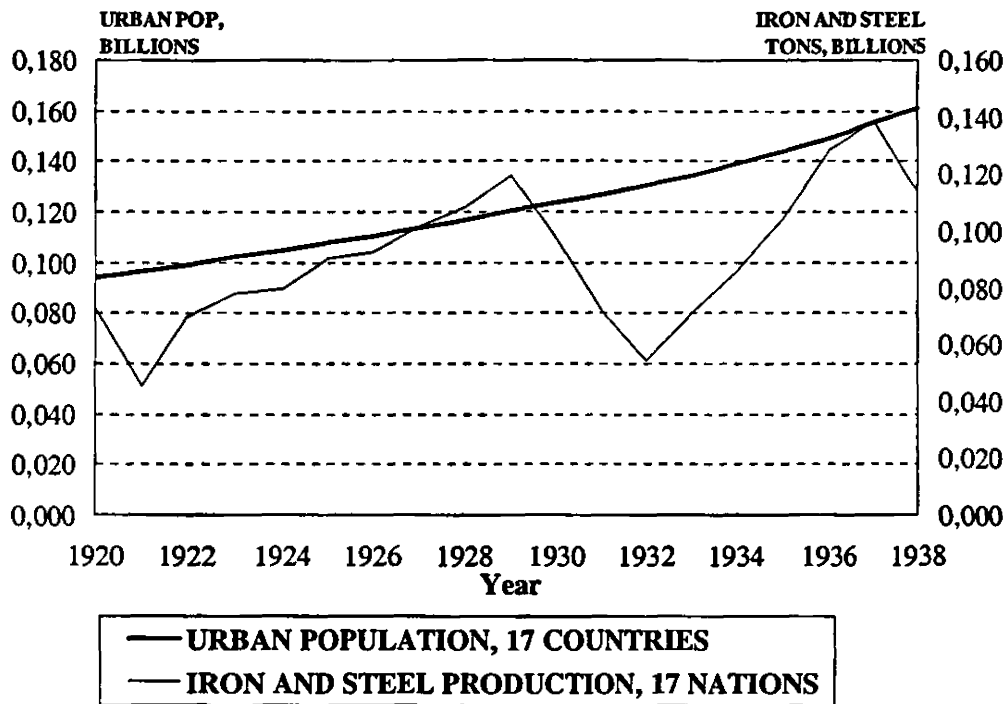
Note: for details on the PPP-adjustment (see also Chapter 1), see Appendices, Appendix 2 for more. The eleven are: Belgium, Denmark, Finland, France, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The six others included in the 17-country total are: Austria, Germany, Italy, Japan, Russia/USSR, and the United States.

As seen in Figure 11, the 1920s was unquestionably a time of economic growth, both for the larger sample of states seen above as well as for the selected eleven European states. This growth spurt came to an end with the Great Depression in 1929. Recovery, on the whole, seems to have begun after 1932, and countries outside the sample of eleven seem to have experienced a deeper slump. Nevertheless, the general trend is quite clear for the 1930s: the recovery can be distinguished quite clearly. The individual experiences, as will be shown shortly, of course varied. Figure 12, below, underlines these conclusions. Iron and steel production, on the aggregate, experienced a small plunge in 1921, followed by a growth period until 1929. Subsequently, the most important iron and steel producers decreased their production volume until 1932, after which a recovery ensued. Another smaller downturn can be seen to have taken

¹⁷² Foreman-Peck 1995, 176—180.

place in 1937, which was mainly caused by the renewed economic difficulties experienced by the United States. The steady growth of the urban population points to an uninterrupted trend of industrialization and urbanization during this period.

Figure 12. Aggregate Urban Population and Aggregate Iron and Steel Production of Seventeen Countries, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Note: for details on the countries included, see Figure 11.

The level of industrialization, correlating highly with the level of GDP per capita as discussed in Chapter 1, varied greatly among the selected eleven European states. In 1930, four groups could be discerned from among them: 1) Highly industrialized countries (BEL, NED, SWI, UK¹⁷³); 2) Industrialized countries (DEN, FRA, NOR, SWE); 3) Semi-industrialized countries (POR, SPA); 4) Agricultural countries (FIN).¹⁷⁴ The last group among these states, however, is rather redundant since Finland caught up quickly to the third group and even surpassed it.¹⁷⁵

How did the impacts of the Great Depression vary among the European states? The depression reached Europe as well as the United States with equal strength, although for example Finland and many Central European countries had experienced signs of the coming depression as early

¹⁷³ All abbreviations used in this thesis are listed in Appendices, Appendix 1A.

¹⁷⁴ Following Feinstein et al. 1997, 56—58.

as 1928.¹⁷⁶ The repercussions of the crash included, among other things, a partial collapse of the Gold Standard and the international trade agreements, numerous bank failures, high rates of unemployment, and internal political disturbances. By the summer of 1932, industrial production in many Western countries had been halved to that of 1928, and world trade had been reduced by a third. Both international and domestic politics were greatly affected by the economic crisis. The increased trade rivalry divided countries into competing blocs by mid-1930s: a Sterling Bloc led by the British; a Yen Bloc dependent upon Japan; a Dollar Bloc led by the United States (after a similar Gold Bloc had fallen apart); and the detached socialism of the USSR.¹⁷⁷

The growth of GDP (or GNP) in real terms during the interwar period was quite uneven among these eleven countries. The depression years did emerge distinctly from the growth experience of these countries; only the length and the severity of it differed. In the United Kingdom, Norway, Sweden, and Denmark the depression seems to have been milder than for example in France, where the depression was severe and long lasting. All in all, as argued earlier, the 1920s seemed to be a time of vigorous economic growth compared to the more divergent trends of the 1930s.¹⁷⁸ As Figure 13 amply displays, the economic development of three Western Great Powers — namely, France, the United Kingdom, and the United States — was not particularly impressive, especially in the 1930s. In the U.S. case, the 1920s produced the said growth phenomenon, which reached its zenith in 1929. After that, the Great Depression seems to have persisted throughout the decade. The American economy did not reach the 1929 real GDP per capita levels before the outbreak of the Second World War. In the British case, the Great Depression indeed had a relatively mild impact, yet the overall positive growth trend of the whole period was not very steep. In the French case, there was a distinct growth path evident before 1929, yet the 1930s did not produce a recovery for France — modest recovery did not take place until the last years of the 1930s.¹⁷⁹

¹⁷⁵ For extensive analysis of the Finnish economy in the long run, see Hjerpe 1988.

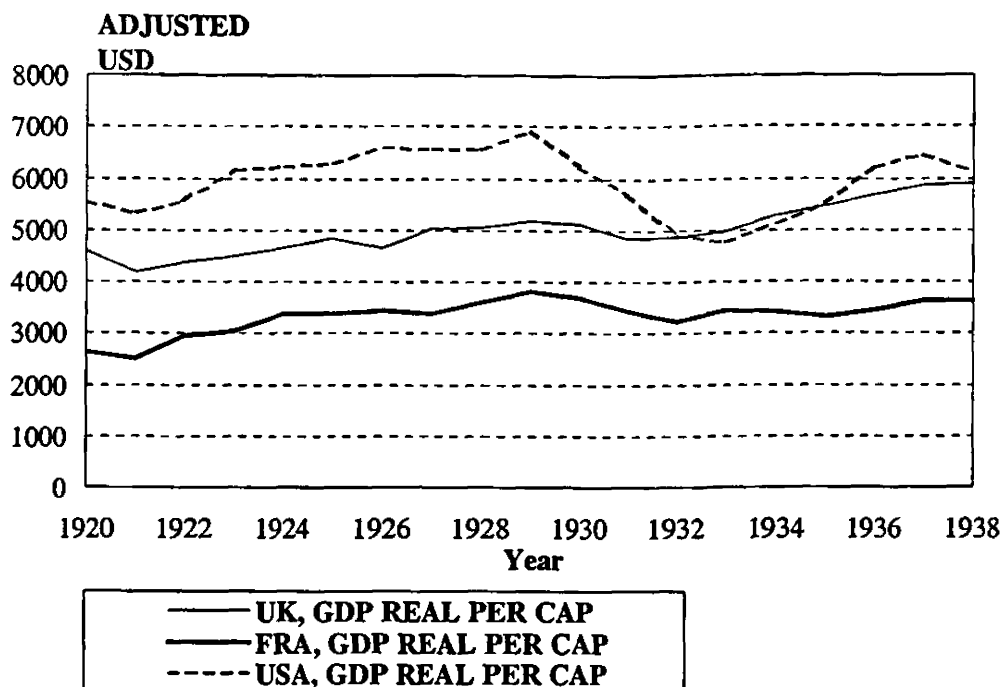
¹⁷⁶ Eichengreen 1992, 222.

¹⁷⁷ Kennedy 1989, 364—366; Hjerpe 1988, 45—46; Autio 1992, 17—18; Foreman-Peck 1995, 208—209; Paasivirta 1987, 204.

¹⁷⁸ See e.g. Maddison 1991; Maddison 1995 for details. See also Eloranta 1996.

¹⁷⁹ On public expenditures, see e.g. Lévy-Leboyer 1978, e.g. 248—255. On labour conflicts, see Lequin 1978. On monetary developments, see Kindleberger 1993, 337—349.

Figure 13. Adjusted Real GDP per Capita (in 1929 Quasi-USD) for France, the United Kingdom, and the United States, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Note: for details on the PPP-adjustment (see also Chapter 1), see Appendices, Appendix 2 for more.

Of the three, the British position in the world economy was still strong after the First World War. As Paul Kennedy has noted, Great Britain was not "predestined to decline" after the war. A significant feature of the British economic policy was the attempt to reclaim her position as an economic/political leader, which was made at least hypothetically possible by the American political isolationism and the near collapse of the German economy.¹⁸⁰ The British economy experienced a slump in 1920—1921, the worst depression of the interwar period in terms of output. Another such downturn occurred in the mid-1920s. From 1929 to 1933, the Great Depression caused unemployment to rise, and real GDP per capita decreased. Recovery started in 1933 and was sustained throughout the 1930s. Compared to for example the French economy in the 1930s, the difference was pronounced.¹⁸¹

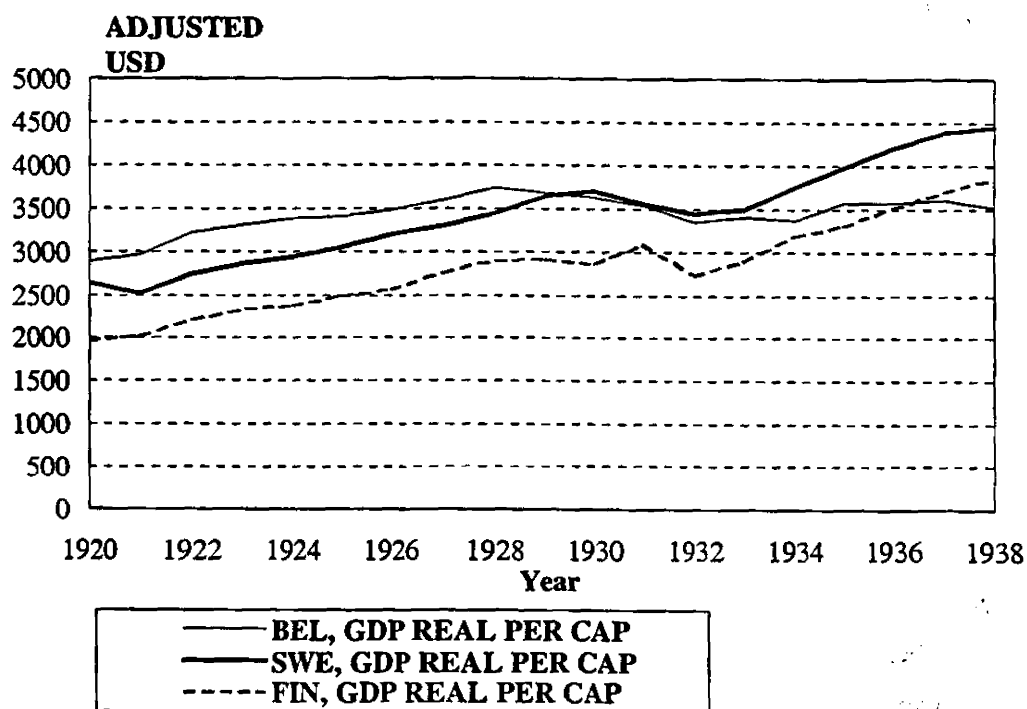
In comparison, the Great Depression posed the greatest difficulties for the American economy. The position attained by the United States was central in the world economy by the 1920s, as the supreme creditor of war-torn Europe. The depression reached its bottom during the winter

¹⁸⁰ Kennedy 1981, 223—227.

¹⁸¹ Broadberry 1986; Solomou 1996, 113—115 — however, the British growth in the 1930s was modest

1932—1933, when various civil disturbances occurred and the national government had used up all of its ideas, yet the economy was disarray.¹⁸² The American economy started to recover slowly after 1933, although unemployment fell only from 25 percent to 17 percent in 1933—1935.¹⁸³ The most distinct signs of recovery emerged in 1936, when for example veterans' benefits and increased wages boosted the aggregate demand. This growth spurt, however, was followed by another recession in 1937. The American economy did begin to grow just before the Second World War due to, among other factors, increased war production. The decisive element was, however, the drafting of over twelve million men to arms during the Second World War.¹⁸⁴

Figure 14. Adjusted Real GDP per Capita (in 1929 Quasi-USD) for Belgium, Finland, and Sweden, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Note: for details on the PPP-adjustment (see also Chapter 1), see Appendices, Appendix 2 for more.

The experiences of small and medium size countries, here referred to as “weak” states, differed from one another as well. In Finland, for example, the period after the First World War was

compared to e.g. Germany.

¹⁸² Kindleberger 1973, 198; Leuchtenberg 1963, 22-30. See also Eichengreen 1992.

¹⁸³ Kindleberger 1973, 233. On unemployment, see Jensen 1989; on the impact on the African-American population, see Sundstrom 1992. On the development of real wages, see Temin 1990.

¹⁸⁴ Kindleberger 1973, 262—271; Robertson 1973, 708; Higgs 1992.

followed by a period of accelerating growth that lasted until the end of the 1920s. As Riitta Hjerppe has noted, the international depression of 1921 merely slowed down this growth pattern in Finland. The Great Depression was less severe in Finland, similar to the other Nordic countries, and the decline also turned out to be shorter. As seen in Figure 14, after 1932 Finland entered "a record-breaking pace of growth" as the average rate of growth for 1920—1938 rose to 4,7 per cent.¹⁸⁵ Whereas in Finland the depression was rather short-lived, the Belgian experience was rather different. The depression lasted longer in Belgium and the economy did not start to recover until 1934. The problems that the Belgian economy faced especially in the 1930s included monetary instability (Belgium was part of the Gold Bloc after 1931 until the devaluation of 1935), stagnation of international trade, the economy's dependence on traditional low-value, cyclically prone heavy sectors (coal mining, metallurgy, and textiles), and indecisive government policies. Overall, the 1930s performance of the Belgian economy seems to have been modest at best (see Figure 14).¹⁸⁶

The Norwegian economy, in turn, went through three periods of crises during the interwar period: early 1920s, mid-1920s, and early 1930s. The post-First World War depression resulted in slow recovery and once again in a new domestic economy downturn in the mid-1920s. As Ola Honningdal Grytten has pointed out, GDP per capita did not reach the 1920 level until 1927. The 1930s depression made the Norwegian real GDP fall by 8,4 percent in 1931 — despite the setbacks, the interwar period on the whole represented a period of significant economic growth compared to the early 20th century.¹⁸⁷ In Norway, the depression was sharp yet recovery occurred rather swiftly after 1933. Massive unemployment, which plagued other Scandinavian countries as well, was reduced considerably. A common feature, with Finland being a somewhat of a latecomer among Nordic states, in the development of these "weak" states in the late 1930s was the emergence of early corporatist structures, social security schemes, and coalition politics.¹⁸⁸

The years of the First World War were a time of almost an unbroken boom for Sweden. Another boom began in 1918, yet Sweden experienced also the crises of the international economy in 1921—1922. The effects of this recession were short-lived, and in 1922 exports were back on track again. The Swedish exports, for example, increased 11 per cent annually for the rest of the

¹⁸⁵ Hjerppe 1988.

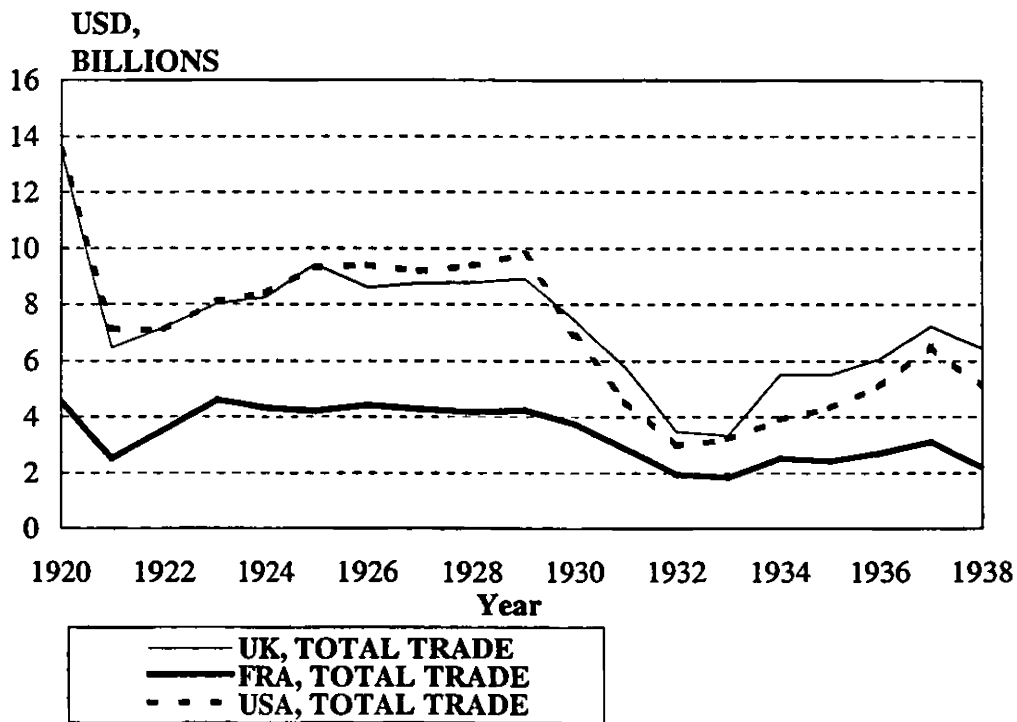
¹⁸⁶ Mommen 1994, 1—33; Buyst 1995; Eloranta 1996. See also Autio 1992, 15—20.

¹⁸⁷ Grytten 1996, 1—3. See also Hodne-Grytten 1992.

¹⁸⁸ Jörberg-Krantz 1976, 435—440; Mommen 1994, 30—33; Hjerppe 1988; Derry 1979, 317—325. In Scandinavia, an essential part of this period was the rise of Social Democracy. See also Kennedy 1991,

1920s. Brisk economic growth also ensued, amounting to circa 7—8 per cent annual growth until 1929.¹⁸⁹ The international crisis came to Sweden again, with a delay in 1931, leading to unemployment and a profound financial crisis in 1932. The Great Depression had an acute disruptive effect on Swedish exports. Although the initial real GDP per capita drop was more pronounced in Sweden than in the other Nordic countries, the recovery in the 1930s was very rapid and exceeded the economic performance of, for example, Finland or Denmark. The domestic markets expanded rapidly in Sweden during the 1930s.¹⁹⁰ As we can see in Figures 15 and 16, the disruption of trade was a uniform phenomenon among European states.

Figure 15. Aggregate Trade (Exports plus Imports) for France, the United Kingdom, and the United States, in Current USD, 1920—1938



Source: International Trade database 1998.

Figure 15 displays the dramatic decrease in trade for the three leading Western states. The United States decreased its external trade in the most dramatic fashion after 1929. However, it should be noted that the growth trend in the 1920s was almost nonexistent for these states, or at least fairly tenuous. The French trade seemed to maintain almost the same level in the 1920s,

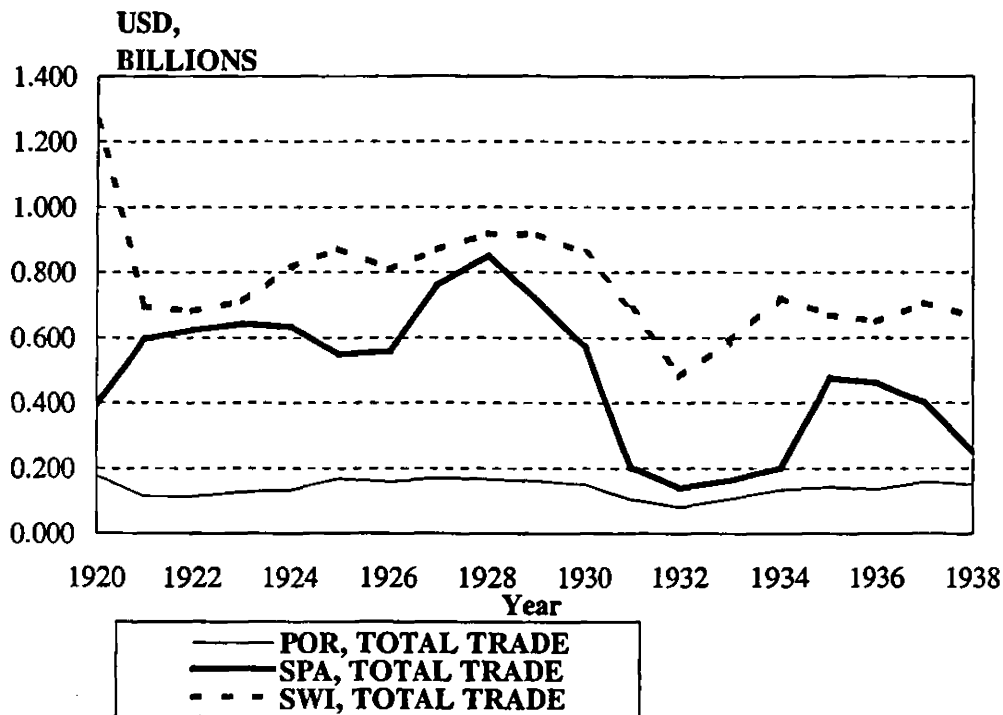
320—321. On unemployment, see e.g. Grytten 1995.

¹⁸⁹ Magnusson 1996, 367—369.

¹⁹⁰ Olsson 1993, 73—80; Myhrman 1994, 117—137; Magnusson 1996, 373—374. On the banking crises, see e.g. Lindgren 1993.

only to decline during the persistent burden of the Great Depression. The British case indicated the most extensive recovery in this sense in the 1930s, although this reprieve merely meant much lower trading levels than in the 1920s.

Figure 16. Aggregate Trade (Exports plus Imports) for Portugal, Spain, and Switzerland, in Current USD, 1920—1938



Source: International Trade database 1998.

“Weak” states — the states included in the sample of eleven other than France and the UK — were economically hurt by the tightening of protectionism in the 1930s, even though the increased domestic demand and the bilateral trade treaties enabled quite strong growth for them in the late 1930s. However, as Fritz Hodne has pointed out, the small nations carried relatively little military weight in the “international power game”, and were in general open and export-dependent economies.¹⁹¹ As seen in Figure 16, the Portuguese economy developed quite similar to France in this period inasmuch its trade barely increased in the 1920s and then declined in the 1930s, only to experience a modest recovery at the end of the decade. Switzerland and Spain, in turn, experienced more pronounced growth in the 1920s, and also a more distinct drop due to the Great Depression. Recoveries in both cases were modest, at least in terms of not coming even close to the trade levels achieved in the 1920s.

Table 5. Industrial Recovery in the Selected Eleven European Countries, 1929=100

A.	B.	C.	D.
<i>BEL</i>	85	99	101
<i>DEN*</i>	90	124	135
<i>FIN*</i>	88	121	152
<i>FRA</i>	74	72	81
<i>NED</i>	84	91	103
<i>NOR*</i>	94	108	130
<i>POR</i>	103	112	119
<i>SPA</i>	84	86	52
<i>SWE*</i>	89	123	152
<i>SWI</i>	..	..	..
<i>UK*</i>	89	113	130

Source: Feinstein et al. 1997, 172. A=country; B=year 1932; C=year 1935; D=year 1937. POR figures provided by Jaime Reis.

Note: *=country devalued in 1931. Abbreviations can be found in Appendices, Appendix 1, Table 1A.

It seems that the growth rates of the European countries that went off the Gold Standard in 1931 exceeded the others in the 1930s. Industrial recovery varied a great deal among European states, yet by 1935 most countries had achieved at least a partial revival of industrial production. As Table 5 suggests, the countries that followed the United Kingdom in 1931 by devaluing their currency experienced a rather vigorous industrial recovery. Some of this recovery was the contribution of their currency depreciation, making their exports more competitive in the world markets, yet their departure from the constraints of the Gold Standard seem to have been even more important. By contrast, the Gold Bloc countries stagnated.¹⁹² Why was the Gold Standard so constraining for the interwar economies?

The world economy of the early 1920s experienced for the first time during peacetime since the latter half of the 19th century a situation in which the currencies were not tied to a unifying Gold Standard, since the First World War had issued a devastating blow to the old Gold Standard. This situation stabilized for a while in the mid-1920s with most of the countries returning to the Gold Standard. Yet, the Gold Standard of the 1920s could not perform like the prewar system, and it set the stage for the Great Depression of the 1930s by heightening the fragility of the international financial system. The stability of the prewar Gold Standard had been contingent on two factors: credibility and cooperation. Credibility represented the confidence invested by the public in the government's commitment to a policy, and was derived from the priority attached by governments to the maintenance of a balance-of-payments equilibrium. Such adjustments went mostly unopposed until the first decade of the 20th century, until unemployment became a prominent social issue. International cooperation has been argued to have been the basis of the

¹⁹¹ Hodne 1995, 60—61. See also Fitzmaurice 1996, 253.

entire system: the system was stabilized ultimately by cooperation among governments and central banks. In the interwar period, however, according to Eichengreen, "it [Gold Standard] was the mechanism transmitting the destabilizing impulse from the United States to the rest of the world".¹⁹³ It represented an obstacle to offsetting action and a constraint on the decision-makers. Thus, the uncertainty in international transactions persisted, as the Gold Standard allowed little flexibility for the domestic decision-makers, with the arrival of the Great Depression. Great Britain was the first of the European states to give up its gold parity in 1931.¹⁹⁴ The dates of entry into and exit from the interwar Gold Standard for the selected eleven states can be observed below in Table 6.

Table 6. Entry into and Exit from the Interwar Gold Standard by the Selected Eleven European States

A.	B.	C.
BEL	1925 (1926)	1935
DEN	1927 (1926)	1931
FIN	1926 (1924)	1931
FRA	1928 (1926)	1936
NED	1925 (1924)	1936
NOR	1928 (1928)	1931
POR	1931 (1929)	1931
SPA	-	-
SWE	1924 (1922)	1931
SWI	1925 (1924)	1936
UK	1925 (1925)	1931

Source: Eichengreen 1992, 188-191. A=country; B=entry into the Gold Standard; C=exit from the Gold Standard.

Note: the year in parenthesis in column B is the *de facto* year of return to the Gold Standard, from Feinstein et al. 1997, 46.

The conviction that the maintenance of the "golden fetters" and balanced budgets were necessary remained widespread until the Great Depression, and even then the change in attitudes followed slowly. Accordingly, unemployment rose to new heights in the 1930s, around 20—30 per cent according to the official figures, even though many countries had experienced sizable unemployment also in the 1920s. Unofficial unemployment was even higher during the depression era. Many of the unemployed remained without work for many years, with the younger workers hit especially hard. Unemployment reached all echelons of work and economic life, including white-collar workers and investors.¹⁹⁵ In the British case, for example, the

¹⁹² Feinstein et al. 1997, 171—173.

¹⁹³ Eichengreen 1992, 5—8; xi.

¹⁹⁴ Foreman-Peck 1995; Eichengreen 1992; Autio 1992, 11—18; Hirvilahti 1993, 26—34; Hirvilahti 1996 — in many countries the return to the Gold Standard often resulted in an undervalued currency. For a detailed account of financial crises, see Kindleberger 1993. On the case of Norway and other Nordic countries, see Grytten 1996, e.g. 5—6.

¹⁹⁵ Clavin 2000, 112—115.

number of registered unemployed persons reached its peak in 1932 at 22,1 per cent, whereas it had been only as high as 9,7 per cent five years earlier. Needless to say, the relatively undeveloped European welfare systems were ill equipped to handle the social problems that followed. Yet, the recovery fixed some of these tensions, since for example in the British case unemployment was down to 10,8 per cent by 1937.¹⁹⁶

Political instability was hardly the by-product of the Great Depression in the interwar period. There were many factors that contributed to a new climate of political competition in the interwar period. The extension of the voting franchise, also to women, was one of the revolutionary features of the First World War phase and its immediate aftermath. It also represented the rise of labor and socialist parties to the national political arena as worthy contenders. In some countries, like Finland, this had already taken place before the war. Also, the electoral reforms that were carried out gave more voice to the minority groups in national politics. This meant more political conflicts and cabinet instability, since the coalition partners in the cabinets often brought down the government they sat in if it adopted policies considered unacceptable. Even the well-established democracies, such as the United Kingdom, France, the Netherlands, Belgium, and Norway, experienced more political instability in the interwar period than in the prewar period.¹⁹⁷ In the French case, as Paul Kennedy has pointed out, the economic weakening was irreversibly connected to the turmoil in domestic politics in the 1930s.¹⁹⁸

Table 7 below serves as a case in point. There were only three countries experiencing less political instability, in terms of cabinet changes, in the interwar period compared to the period 1870—1913; namely, Denmark, the Netherlands, and Switzerland. If we consider the 0,5 level (=one cabinet change in two years) a threshold for comparative purposes, there were only four countries (FRA, POR, SPA, and UK) that surpassed this level in the prewar period. In the interwar period, only the three mentioned above (DEN, NED, and SWI) were below this threshold. Of course, one needs to consider also who had access to political power in the two periods. They were not entirely compatible in this sense, due to the reforms brought on by the First World War. Access to political decision-making increased significantly after the war, as seen in the percentages of votes per population in the first elections held in these two periods. Exceptions, although only temporarily, were Belgium, France, and perhaps Switzerland. These issues will be discussed further in Section 4.1.

¹⁹⁶ Clavin 2000, 114—117. British figures from Thorpe 1994, 88.

¹⁹⁷ Eichengreen 1992, 92—95; Simmons 1994, 25—27.

¹⁹⁸ Kennedy 1989, 403—404.

Table 7. Average Number of Cabinet Changes in a Year in the Selected Eleven European Countries, and the Number of Votes Cast / Population in the First Elections Held during the Periods 1870—1913 and 1920—1938

A.	B.	C.	D.	E.
<i>BEL</i>	0,30	0,67	0,28 (1894)	0,26 (1921)
<i>DEN</i>	0,46	0,39	0,06 (1880)	0,32 (1920)
<i>FIN</i>	-	1,00	-	0,27 (1922)
<i>FRA</i>	0,74	1,39	0,21 (1871)	0,23 (1924)
<i>NED</i>	0,44	0,39	0,05 (1888)	0,42 (1922)
<i>NOR</i>	0,44	0,61	0,04 (1882)	0,34 (1921)
<i>POR</i>	0,58	0,83	..	..
<i>SPA</i>	1,16	1,61	..	..
<i>SWE</i>	0,37	0,61	0,01 (1881)	0,11 (1920)
<i>SWI</i>	0,02	0,00	0,13 (1875)	0,19 (1922)
<i>UK</i>	0,60	0,67	0,12 (1885)	0,31 (1922)

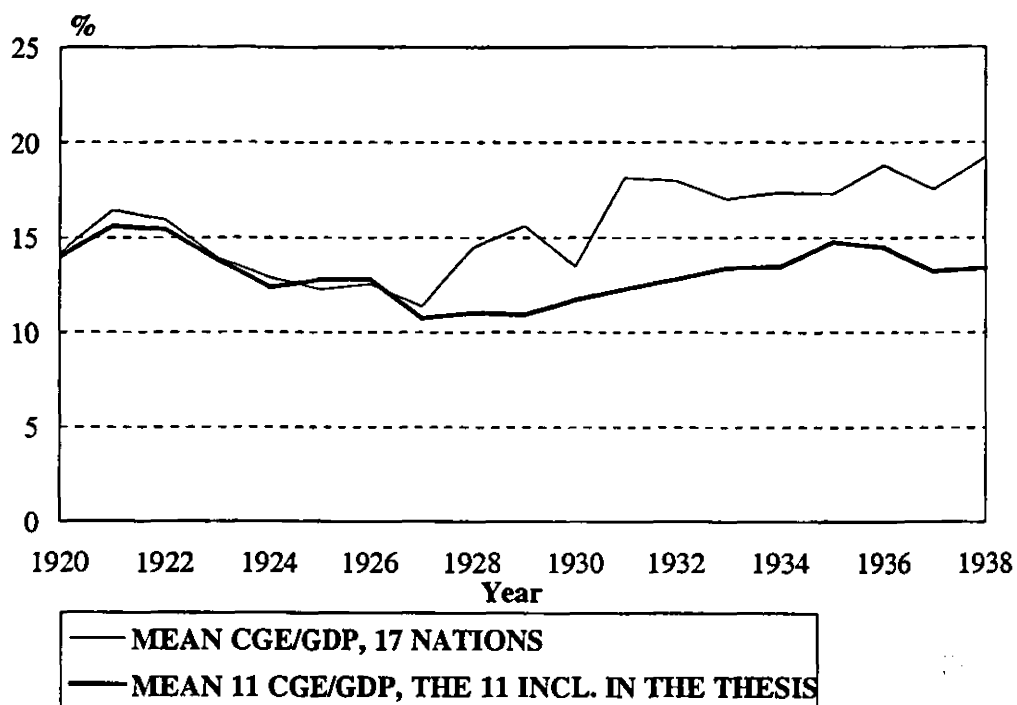
Source: calculated from Banks 1976. A=country; B=average number of cabinet changes in a year, 1870—1913; C=average number of cabinet changes in a year, 1920—1938; D=number of votes cast per population in the first election of the period 1870—1913, year of election in parenthesis; E=number of votes cast per population in the first election of the period 1920—1938, year of election in parenthesis.

Note: Refers to voting in parliamentary elections, to the lower house if applicable.

All the issues discussed in this section so far, such as the economic constraints of the period and the impacts of increased domestic political competition, had a profound bearing on the public spending choices of the interwar period. The First World War imposed its own constraints on the budgetary decision-making of Western states. Many states, like Germany and France, were unwilling to fund the war with high taxes, contrary to for example the United Kingdom, but preferred the sale of debt as a solution instead. Even the United Kingdom and the United States discarded central controls and high taxes after the war. The war also enhanced preexisting tendencies for higher public spending, as social programs, for example in France and Britain, were expanded and new programs added. Aggregate spending levels thus tended to remain higher after the war compared to the prewar period. Another factor contributing to this development was the growth of state bureaucracies. According to the displacement hypothesis first expounded by Peacock and Wiseman, people get used to paying higher taxes during wars, which in turn leads to higher spending and taxation level afterwards. This indeed seems an adequate description of the fiscal impact of the First World War. Another feature of the period was the persistence of balanced budgeting and, especially in the U.S., efforts to introduce public spending cuts based on conservative policies. The factors outlined above also tended to make public spending quite path dependent, due to the counterbalancing tendencies.¹⁹⁹

¹⁹⁹ See for example Webber-Wildawsky 1986, 431—451; Rasler-Thompson 1989; Eloranta 1998.

Figure 17. Central Government Expenditures (CGE) as a Share of GDP (or GNP), Mean Percentage, for the Selected Eleven European Nations and the 17-Country Sample

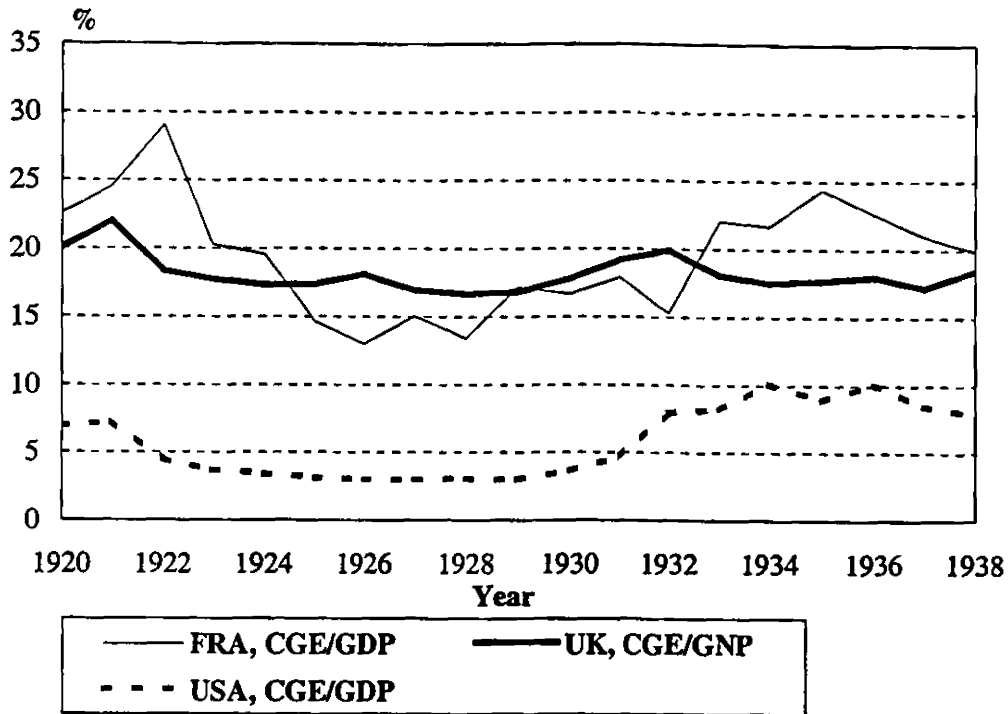


Sources: see Appendices, Appendix 2 for further details.

Note: for details on the countries included, see Figure 11.

The mean percentage of central government expenditures to GDP for the selected eleven European states, similar to the larger 17-state sample, did display a declining trend for the 1920s (see Figure 17 above). Yet, for the eleven this share began to increase again, albeit slowly from 1927 onwards, and it continued throughout the Depression era. Nonetheless, the larger sample demonstrated that the countries beyond this group increased their central government spending much more aggressively in the 1930s, outlining the out-of-sample countries' commitment to a greater central government role during the depression. By 1938, an almost five percent difference existed between the two groups, whereas the levels had been practically identical up until 1927.

Figure 18. CGE as a Share of GDP (or GNP), Per Cent, for France, the United Kingdom, and the United States, 1920—1938



Sources: see Appendices, Appendix 2 for further details.

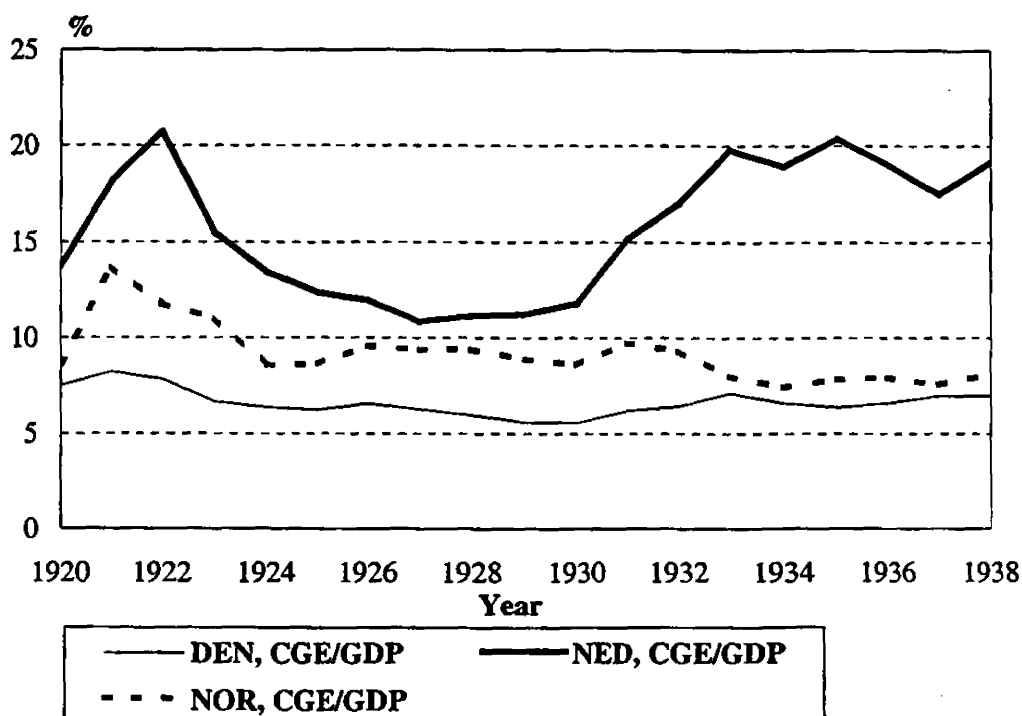
A comparison of three Western economic giants — France, the United Kingdom, and the United States — highlights two different approaches to central government spending. In the U.S. case, the Republican presidents of the 1920s were against large public expenditures, which can be seen in Figure 18. For example, Calvin Coolidge's (President of the United States in 1923—1929) basic principles were resistance to war (as he considered it a waste of money), active pursuit of peace without politically "dangerous" entanglements, and showing off America as an example in combining peace and wise financial management.²⁰⁰ In fighting the downward economic trend, the Hoover Administration in turn merely tried limited investments in construction, for example, in order to re-establish confidence in business, thereby initiating recovery. The election of Franklin D. Roosevelt and the beginning of the so-called New Deal signaled a change in the government's economic activity. Federal government expenditures and public debt continued on an upward trend, even though Roosevelt was an ardent supporter of balanced budgets throughout the 1930s.²⁰¹

²⁰⁰ McCoy 1988, 147—149, 168—170; Eloranta 1995; Eloranta 1998.

²⁰¹ Barber 1985, 80—83, 193; Kindleberger 1973, 262—263; Documents of American History 1949, doc.

In Britain, the public authorities expenditures²⁰² continued to grow throughout the time period. This modest trend was initiated during the First World War, since the growth of governmental activities affected also the local governments. The persisting wish of the Conservative Party to “pull back” to the central government spending role that had existed in the prewar period was not fulfilled in the 1920s.²⁰³ The percentage share of CGE to GNP, in turn, remained almost the same; only slight growth occurred. The only notable increase took place during the latter part of the 1930s. One reason for this must have been the unusually good performance of the British economy during the Great Depression. As said before, the French experience was, in comparative terms, more turbulent, arising from the tumultuous domestic political struggles (see Figure 18).

Figure 19. CGE as a Share of GDP, Per Cent, for Denmark, the Netherlands, and Norway, 1920—1938



Sources: see Appendices, Appendix 2 for further details.

no. 496, 482—484.

²⁰² See Sefton-Weale 1995. These figures are used in this thesis due to their consistency. There are significant discrepancies in the following regarding the UK: Mitchell 1988 and Mitchell 1992. See also Feinstein 1972, which has served as the basis for Sefton-Weale 1995.

²⁰³ See e.g. Beloff 1984, 10—14, 58—59.

What about the “weak” states? Can we distinguish various types of “patterns” in their public spending choices? For example, Finland’s efforts in restraining the growth of the central government expenditures were as unsuccessful as the efforts of many other states. Some “weak” states, such as Belgium and Norway, differed from Finland in this respect: there was no sustained increase in central government expenditures after the Great Depression. In Belgium, the central government expenditures dropped significantly after 1926, and stayed at a lower level until the World War II. One reason for this might have been the monetary crisis of 1926.²⁰⁴ Significant is also the abnormally high percentage share of these expenditures out of GDP after World War I due to the reconstruction efforts. Norway and Denmark, as seen in Figure 19, actually decreased both the volume and the percentage share of central government expenditures in the 1930s.²⁰⁵

Central government consumption (=central government as final consumer)²⁰⁶ developed along two different patterns in Sweden and Finland in the interwar period. Whereas for Finland the interwar period represented a rapid upward adjustment in the central government’s role, the Swedish long-run development path was much smoother. Many key decisions affecting the role of the state were undertaken already before the war. In the sphere of social services and transfers, the period from the turn of the century to the First World War saw the first breakthroughs in Swedish social policy. For example, universal and compulsory old age and invalidity pension was introduced in 1913. At the end of the war, state responsibility for employment and housing was assumed for the first time and social expenditures, both the consumption and especially the transfer payments, rose considerably. Yet, among European states Sweden was among the countries providing the lowest levels of social security in the 1920s.²⁰⁷ Major adjustments to the central government role took place mainly after the Second World War, yet the foundations were laid already in the 1930s.

In Sweden, the 1920s was a period of instability and minority governments with unemployment as the main issue in political discussions. This situation changed in 1932, when the Social Democrats and the Agrarian Party began cooperating with one another. The first coalition government was formed in 1936 and the first of the corporatist agreements between the trade

²⁰⁴ Mommen 1994, 9—11. For a recalculation and re-interpretation of Belgian public finances see Clement 1995; Clement 2000.

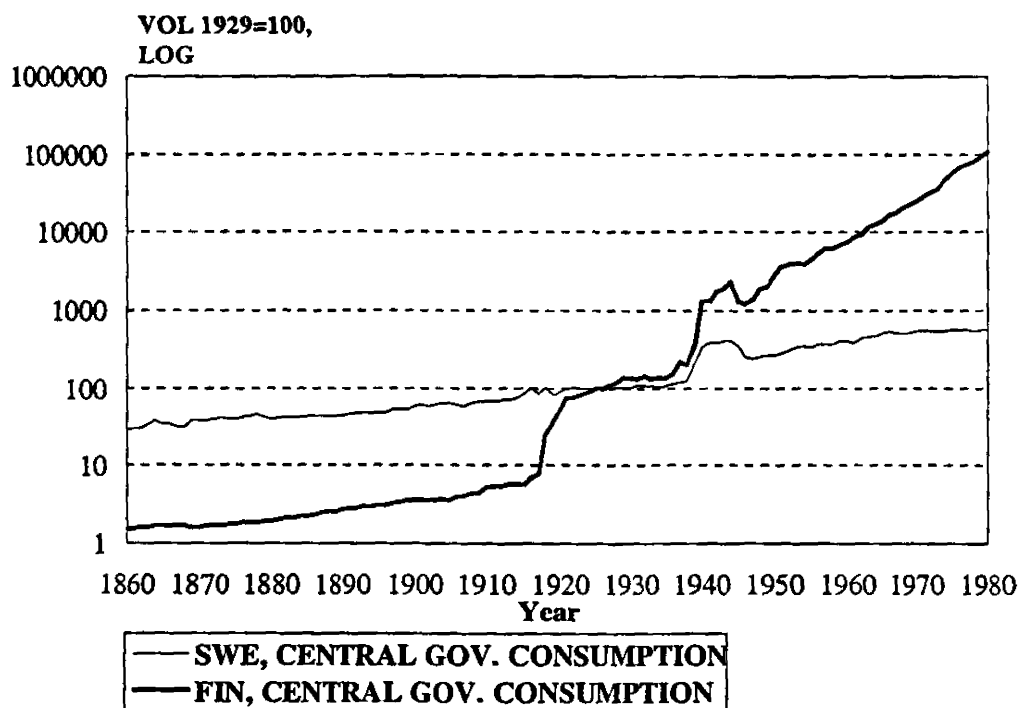
²⁰⁵ See Eloranta 1998.

²⁰⁶ Central government expenditures in the national accounting (expenditure approach) framework consist of central government consumption expenditures, investment expenditures, subsidies, transfer payments, and debt payments. See Clement 2000, e.g. 24—37 for more.

²⁰⁷ Olson 1986, 4; Johansson-Magnusson 1998, 24.

unions and the Employers Federation was reached in 1938. The 1930s represented a new period in the development of the Swedish public sector — among the new policies, there were state employment creation programs, state subsidies to voluntary (trade union) unemployment benefit societies, and a housing program for families with many children. The level of state involvement was unprecedented compared to the previous decades. At the outbreak of the Second World War, the Social Democratic-Agrarian coalition government was replaced by an even broader coalition with Per Albin Hansson, the creator of the Swedish "folkhemmet"-ideal, still as the prime minister. Four of the five parties represented in the parliament were involved in the cabinet with support of over 95 percent of the electorate. The Social Democratic party reached practically a hegemonic position in the Swedish politics by the end of the 1930s.²⁰⁸

Figure 20. Development of Finnish and Swedish Real Central Government Consumption in the Long Run



Source: see Eloranta 1997a and the sources listed in it. See also Eloranta 1997b.

Finland experienced the neo-classical principle of reducing government involvement gaining popularity in policy-making in the 1920s. During the 1930s, efforts were made to reduce the overall amount of public finances. These aims were only partially met. All in all, though, central government expenditures continued to rise almost yearly from their lowest point in 1932. When

²⁰⁸ Olson 1986, 5—6; Rojas 1991, 70—73; Johansson-Magnusson 1998, 17—22. On longer term

the Winter War against the Soviets began in 1939, the percentage share of these expenditures had reached an all-time high of 22,3 percent.²⁰⁹ The Finnish "welfare state" building, which may be an overstatement in regards to the Finnish case in the 1930s, was slow during the interwar period. The political and social division caused by the Civil War of 1918 affected social policy legislation as well. Among the few developments of the 1920s was an act prescribing a compulsory eight-year period of education, although it was not implemented until the late 1930s. In financial terms, social legislation was not extensive. In the 1930s, the role of the state increased, especially in economic policy matters, only to decrease late in the decade.²¹⁰ The more cooperative stance of the Social Democratic Party in coalition politics as well as the re-integration of the Finnish society after the division of the Civil War of 1918 were much more influential features of the 1930s Finnish domestic politics than the welfare state measures.²¹¹

In conclusion, the First World War brought forth enormous social, economic, and political changes for the European states. The economic performance of these states was deeply affected by the burden as well as reforms introduced by this new type of conflict, "total war". Whereas the 1920s, in general, were a time of economic growth, the economic environment of the 1930s was plagued by uncertainty and ambiguity. Despite the appearance of return to normalcy in the 1920s, the inherent economic weaknesses of the national economies of the period were serious to begin with, especially stemming from the lack of economic cooperation and credible commitment by the nation states to economic adjustments. Thus, the seeds of an economic crisis were already contained in the New Era. The Great Depression, beginning in 1928—1929, was an important watershed in the interwar period. It forced the European states to undertake a comprehensive re-evaluation of their economic policies. The impact of the crisis was profound, and for example GDP per capita levels plummeted and unemployment soared. The recoveries from the slump varied, as the so-called Gold Bloc countries, such as France and the Netherlands, performed quite poorly in the 1930s. In contrast, the neutrals of the First World War, such as Scandinavian states, and other countries that devalued in 1931 or soon thereafter experienced a fast recovery in the 1930s. This was mostly due to the increased freedom in policy-making after the abandonment of the "golden fetters" and the increases in domestic demand.

comparisons, see especially Eloranta 1997a.

²⁰⁹ Pekkarinen-Vartiainen 1993, 96—102.

²¹⁰ Alestalo-Uusitalo 1986, 200—201.

²¹¹ See especially Tervasmäki 1964; Eloranta 1998.

The First World War also produced the seeds of greater domestic political instability for the interwar period. The enlargement of the voting franchise, the greater involvement of business groups in governance, and the emergence of new political challengers in the legislative arena all portended increased domestic political competition. Thus, the interwar period would have a much higher number of annual cabinet changes than the prewar period. The war also led to a greater central government role, especially in the social policy sphere. The new social programs introduced after the war, the persistence of high public debt, as well as the various reconstruction efforts exerted an upward bias on central government expenditures. However, the various conservative parties, who wanted to see a return to the prewar austerity in the public sector spending, provided a counter pressure to these tendencies especially in the 1920s. These two tendencies mostly canceled each other out, whereas the Great Depression again increased the pressure for a greater government role. Thus, mostly central government spending increased in the 1930s. All in all, however, central government spending tended to be quite path dependent. As such, both the economic developments of the period as well as the central government spending environment had important consequences for the military spending behavior of the European states. First, nonetheless, we should take a closer look at the collective political environment of the period, especially in terms of the search for disarmament solutions and collective security guarantees.

3.2. Collective Security Aspirations and the League of Nations

The aim of this section is to undertake a review of the functions of the League of Nations, especially in terms of aspirations towards disarmament, regulation of arms trade, and a general strive towards improved collective security. Also, I will review some of the key measures aimed at promoting peace outside the League of Nations. Thus, here I will not venture deep into the reasons why the League was not successful in its efforts to, for example, advance disarmament. Nor will I undertake a detailed review of the foreign policy stances of the eleven European states. These issues will be discussed further in Section 5.1. First I will review the structure and functions of the League of Nations in the sphere of collective security, by necessity often at an elusive macro-level. Then I will present an overview of the extra-League peace initiatives. Finally, I will conclude this section by reflecting on the impacts of American isolationism for Europe, and the broad policy stances of the United Kingdom and France in comparison.

The termination of the First World War on November 11, 1918 brought with it a quick withdrawal of American forces from Europe and a significant initial change in the political

attitudes of the Great Powers. With the devastation brought on by the war, the advancement of peace became a popular theme in international politics in the 1920s.²¹² The efforts to achieve peace rested on Wilson's Fourteen Points, developed on the basis of many similar ideological schemes that surfaced during the Great War, and the Treaty of Versailles, which included the foundations of the League of Nations, to bring the United States back into the policy of internationalism.²¹³ These aspirations were dealt a severe blow right from the beginning. For many reasons, the attempt to bring the United States back into the international politics failed. The U.S. Senate refused to ratify the treaty first in November 1919, and again in March 1920 as Woodrow Wilson stubbornly refused to compromise.²¹⁴ Thus, Wilson and the League of Nations were defeated politically in the United States. Warren G. Harding's victory in the American presidential elections in 1920 led the United States into isolationism again, which became the leading guideline in American foreign policy for two decades.²¹⁵

The League of Nations came into existence on January 10, 1920. All in all eighteen states became members of the League at first by formally approving the peace treaty. By late 1920, the number of members had already grown to over forty. In 1938, by comparison, the member count was fifty-five (see Table 8). The member states of the League of Nations in 1920 comprised 74 per cent of the world's population and, respectively, 63 per cent of the world states' area.²¹⁶ If one were to ask what the League of Nations was, Zara Steiner's depiction might be considered fairly accurate: "It was an institutionalized form of collective action by the sovereign states to maintain the peace."²¹⁷ The League also became the supreme defender of the Versailles settlement in the postwar world. And, it represented no real effort to create a supranational authority, because its decision-making structure granted the member states the final say in all matters.²¹⁸

The League of Nations' structure consisted of three essential bodies: 1) Assembly; 2) Council; 3) Secretariat. The first two were the ones that had the power to act, whereas the Secretariat formed the functional bureaucracy of the League. The Assembly was in essence the League's legislative arm, whereas the Council functioned as its cabinet. The Assembly consisted of not

²¹² Preston-Wise 1970, 78—79; Pogue 1964, 209.

²¹³ Eloranta 2000b; Soule 1968, 81—82; Northedge 1986, 25—30.

²¹⁴ Eloranta 2000b; Bemis 1959, 437—439.

²¹⁵ Bemis 1959, 440—441; Stimson-Bundy 1948, 106.

²¹⁶ The League of Nations Starts 1920, 1—5; Northedge 1986.

²¹⁷ Steiner 1993, 38.

²¹⁸ Northedge 1986, e.g. 288—289; Steiner 1993, 41—43.

more than three representatives of each member state, and the Council had eight members (the ninth seat was reserved for the United States).

Table 8. Members of the League of Nations in 1920 and 1938

A.	B.
Argentina	Afghanistan
Australia	Albania
Belgium	Argentina
Bolivia	Australia
Brazil	Austria
British Empire	Belgium
Canada	Bulgaria
Chile	Canada
China	Chile
Colombia	China
Cuba	Colombia
Czechoslovakia	Cuba
Denmark	Czechoslovakia
Ecuador	Denmark
France	Dominican Republic
Greece	Ecuador
Guatemala	Estonia
Haiti	Ethiopia
Hedjaz	Finland
India	France
Italy	Greece
Japan	Guatemala
Liberia	Haiti
Netherlands	Honduras
New Zealand	India
Nicaragua	Iran
Norway	Iraq
Panama	Ireland
Paraguay	Italy
Persia	Latvia
Peru	Liberia
Poland	Lithuania
Portugal	Luxemburg
Roumania	Mexico
San Salvador	Netherlands
Siam	New Zealand
South Africa	Nicaragua
Spain	Norway
Sweden	Panama
Switzerland	Peru
Uruguay	Poland
Venezuela	Portugal
Yugoslavia (Serb-Croat-Slovene State)	Roumania
	Salvador
	Siam
	South Africa
	Spain
	Sweden
	Switzerland
	Turkey
	UK
	Uruguay
	USSR
	Venezuela
	Yugoslavia

Sources: The League of Nations Starts 1920, 2; Northedge 1986, Appendices B and C. A=League of Nations original members in 1920; B=League of Nations members 1.2.1938.

The Assembly was meant to assuage the fears of the smaller states, since the number of representatives was set to be equal among members. The Assembly also exercised considerable

control, when it wished to do so, over the Council — it, for example, controlled the appointment of four out of eight Council members as well as determined its size and basic character. The Council, in turn, was intended to give the smaller states even further say in the matters of the League, because four of the eight represented the smaller states (Belgium, Brazil, Greece, and Spain), yet they were only meant to be temporary seats. Permanent seats were occupied by the former Allied Great Powers: the United Kingdom, France, Italy, and Japan. By design, the Council was expected to be (which turned out to be true) a passive organization, although most policy decisions were up to the Council to initiate and act upon. Finally, the organization was run by a Secretary-General, with the Secretariat at his disposal.²¹⁹

The cornerstone of the League of Nations was its Covenant, consisting of 26 articles, which remained mostly intact in the form adopted in 1919 throughout the interwar period.²²⁰ Articles 1—7 set up the central machinery of the League. The basic premises of the disarmament were outlined in Articles 8—9, and Articles 10—17 elaborated on the so-called League system for the prevention of war, cited by the organizers as “*the one great object of the whole organization*”. The rest of the Articles, “*following the piece de resistance*”, dealt with a miscellaneous group of “*important matters*”.²²¹ The Covenant’s Article 8 consisted of the key elements of the future disarmament. It maintained that the League Council was to assess each state’s security needs and to formulate a plan for the disarmament of its members, based on this assessment. Equally, with this Article and others the League was entrusted with the task of supervising the collection of information on the development of armaments among its members.²²² It maintained that “*the Members of the League recognise that the maintenance of peace requires the reduction of national armaments to the lowest point consistent with national safety and the enforcement by common action of international obligations.*” Additionally, it put the Council in charge of achieving this goal: “*The Council, taking account of the geographical situation and circumstances of each State, shall formulate plans for such reduction for the consideration and action of the several Governments.*”²²³ Moreover, Article 9 provided for the establishment of a permanent commission, The Permanent Advisory Commission for Military, Naval, and Air Questions, to study what criteria to set for the member states and to request relevant information pertaining to these matters. This commission was also open to

²¹⁹ The League of Nations Starts 1920, 5—18; Northedge 1986, 49—55.

²²⁰ Compare The League of Nations Starts 1920, Appendix I (containing the 1919 Covenant) and Northedge 1986, Appendix A (containing the 1938 amended Covenant). Many of the amendments dealt with changes in the administrative structure of the League.

²²¹ See the League of Nations Starts 1920, 26; Appendix I

²²² Barros 1993, 606—607; Peterson 1993.

²²³ The League of Nations Starts 1920, Appendix I, Article 8.

representatives of all states, including non-League countries when the matters were of concern to them.²²⁴

The Articles relating to the resolution of conflicts, through voluntary or forced arbitration, were both impressive in their detail yet vague in their enforcement. It provided for conflict resolution both among the League members, as well as between a League member and non-member. The general principle was, outlined in Article 11, that "any war or threat of war, whether immediately affecting any of the Members of the League or not, is hereby declared a matter of concern to the whole League, and the League shall take any action that may be deemed wise and effectual to safeguard the peace of nations."²²⁵ The principles of arbitration were found in Articles 12, 13, and 15. Article 16, the most important part of the Covenant in terms of collective security guarantees, outlined the courses of action available to the League and its members in case arbitration was not successful or it was rejected altogether:²²⁶

"Should any Member of the League resort to war in disregard of its covenants under Articles 12, 13, of 15, it shall *ipso facto* be deemed to have committed an act of war against all other Members of the League, which hereby undertake immediately to subject it to the severance of all trade and financial relations, the prohibition of all intercourse between their nationals and the nationals of the covenant-breaking State, and the prevention of all financial, commercial, and personal intercourse between the nationals of the covenant-breaking State and the nationals of any other State, whether a Member of the League or not. It shall be the duty of the Council in such case to recommend to the several Governments concerned what effective military, naval, or air force the Members of the League shall severally contribute to the armed forces to be used to protect the covenants of the League."

As was the case with the advancement of disarmament, the responsibility for determining the necessity of sanctions, or indeed a harsher punishment, was placed on the hands of the Council. Nonetheless, the Council's task was merely to *recommend* what contributions member states should make to the armed forces to protect the covenants of the League.²²⁷ The same standards were applied to both intra-League and extra-League conflicts. Article 17 stated that "in the event of a dispute between a Member of the League and a State which is not a Member of the League...If a State so invited shall refuse to accept the obligations of membership in the League for the purposes of such dispute, and shall resort to war against a Member of the League, the provisions of Article 16 shall be applicable as against the State taking such action."²²⁸ Finally,

²²⁴ The League of Nations Starts 1920, 137—138. See also the later Temporary Mixed Commission for the Reduction of Armaments, e.g. its report in League of Nations, Assembly Documents, A. 35. 1923. IX (Part 1): August 30.

²²⁵ The League of Nations Starts 1920, Appendix I, Article 11.

²²⁶ The League of Nations Starts 1920, Appendix I, Article 16.

²²⁷ Northedge 1986, 56—57.

²²⁸ The League of Nations Starts 1920, Appendix I, Article 17.

Article 23 trusted the League with the supervision of the trade in arms and ammunition as well.²²⁹ Thus, the war-prevention strategy of the Covenant consisted of four parts: 1) Reduction of the means to fight wars with; 2) Enforcement the principle of sending unsettled disputes to third-party settlement and taking measures against states which refused the arbitration or ignored its outcome; 3) Exchange of guarantees on the status quo created by the Treaty of Versailles; 4) Resolution of international conflicts before they become dangerous for world peace.²³⁰

It became apparent early on in the 1920s that individual states, regardless of their commitment to the League framework, would not disarm unless they felt secure. This for most states meant some type of a framework of collective security guarantees. Within the League of Nations, the member states attempted to achieve disarmament measures in earnest at least until the mid-1930s. The first plans right after the war were merely aimed at containing the military spending levels or preferably reducing them.²³¹ All of these efforts failed due to one reason or another (for example, due to different conceptions of disarmament among the Great Powers). Mostly these efforts took place between diplomats within the various committees in the League of Nations' political machinery. One of the many difficulties with achieving concrete results was the heterogeneous nature of the participants and their different expectations. For example, the Geneva Protocol of 1924 — which advocated principles such as denouncing of war, agreement on sanctions against aggressor(s), and the convening of a disarmament conference — failed ultimately due to British rejection of the Protocol. In 1925, nonetheless, a Preparatory Commission for the Disarmament Conference was established, to prepare for a disarmament conference. Its work took five years and culminated in the Disarmament Conference of 1932—1934.²³² The Preparatory Commission was not particularly successful in its endeavors, since there were, for example, major disagreements between the British and the French over the scale of disarmament and security guarantees, and between the British and the Americans over naval disarmament. There were three important sources of disagreement still left concerning the commission's recommendations before the actual conference took place: 1) It made no provision for the inclusion of trained reserves; 2) It assigned no limitations for the materials of

²²⁹ The League of Nations Starts 1920, Appendix I, Article 23.

²³⁰ Northedge 1986, 54. See also Steiner 1993.

²³¹ See e.g. League of Nations, A. 13. 1921. IX: August 22. Reduction of National Expenditure on Armaments. Including replies from 26 governments; League of Nations, C.90.M.40.1921.IX: June 7. Reduction of National Expenditure of Armaments. Including replies from 16 governments.

²³² Barros 1993, 615—619; Northedge 1986, 56; 118—119.

armies and navies; 3) There were no restrictions placed on the cost of material for the air forces.²³³

The Conference for the Reduction and Limitation of Armaments was convened on February 2, 1932, when the League was already experiencing the difficulties of furthering world peace due to Japanese aggression against China in Manchuria. Before the opening, a draft resolution of the Danish, Norwegian, Dutch, Swedish, and Swiss delegations was submitted requesting the Council to urge governments to abstain from increases in their level of armaments. These countries had made a similar suggestion already on September 11, 1931, leading to the acceptance of this principal by the participants of the upcoming conference. This was a curious solution, one of the few temporarily successful disarmament acts, known as the armaments truces, in fact very similar to the early armaments containment efforts in the 1920s. Thus, an armaments truce was maintained during the Disarmament Conference, which of course was the peak of the Great Depression for many countries, making the acceptance of this measure less challenging.²³⁴ Although the conference met on and off for nearly two and a half years, it failed to produce results. The differences of opinion between the participants were simply too great, and the emergence of Hitler's rule in Germany at this time hardly helped matters. The failure of the League in Manchuria dealt the League an "almost fatal blow", surely also contributing to the failure of the Disarmament Conference. On the spring of 1934, the Danish, Norwegian, Spanish, Swedish, and Swiss delegations made a final plea to overcome the impasse of the conference, but to no avail. Hopes of collective disarmament died in a definitive fashion with the departure of Germany from the League. Fifteen years of effort had been wasted. When the Disarmament Conference met for the last time on June 11, 1934, the disarmament "process" was effectively dead on its tracks.²³⁵

One of the few successful disarmament undertakings by the League of Nations was the collection of data on military spending and arms trade. The first report, titled *Budget Expenditure on National Defence: 1913 and 1920—1922*, was published in 1922, and it included military spending data for twenty-one countries in the post-war period. The introduction to the report made specific stipulations on the limitations of the enquiry, yet the

²³³ Northedge 1986, 120—121. See also Scott 1973, e.g. 189. A good overall account of the disarmament "process" can be found in Vaisse 1993.

²³⁴ See e.g. League of Nations, A. 51. 1931. IX: September 11. Reduction of Armaments; League of Nations, C. 774. M. 369. 1931. IX: October 29. Voluntary Armaments Truce (Czechoslovakia's positive reply); League of Nations, C. 627. M. 309. 1932. IX: September 5. Voluntary Armaments Truce. Replies from 6 governments (concerning the extension of the armaments truce). See also Jones 1939, 244—246.

²³⁵ Jones 1939, 249—251; Northedge 1986, 122—134; Vaisse 1993.

data for each country also included real value comparisons with the prewar period. The aim was "to furnish material indicating the development and tendency in each individual country".²³⁶ The next report was issued already in 1923, titled *Statistical Enquiry into National Peace-time Armaments*. This time the report included two volumes, nearly two hundred pages in total. Also, the report gave detailed data on the military spending, including the colonies, and the armed forces of seventeen nations in all.²³⁷ One of the most detailed statistical sources on peacetime armies and military spending of the world was created on the same principles in 1924, as the *Armaments Year-Book* came into existence.²³⁸ This yearbook continued to provide fairly reliable data on the military establishments of most countries, excluding Germany in the late 1930s, as I have already discussed in Chapter 1.

In the period following the First World War, there were a multitude of efforts aimed at controlling and limiting the trade of armaments with the League of Nations. Among others, the Versailles Peace Treaty established controls for the arms trade of the losers of the war, and there were negotiations on embargoes and production limitations both at the national and the supranational level, mainly under the auspices of the League of Nations. Similarities with the overall disarmament process are abundant. For example, the St. Germain Convention for the Control of the Trade in Arms and Ammunition of 1919, which attempted to establish a government licensing system for certain weapons, was to be supervised by a specific League of Nations' Central International Office. The downfall of this agreement was mainly the opposition of the United States to the close connection with the League of Nations. A broader agreement following the Conference for the Supervision of the International Arms Trade in 1925 ran into similar problems when it came to the ratification phase of the convention. The participating states attached conditions to the ratification process, which effectively destroyed its chances of success. The United States' Senate did not ratify the convention until 1934. The main results that emerged from the 1920s armaments trade limitation negotiations were the establishment of a licensing system among the nations, which also served as a basis for the gathering of statistical information on this type of trade in the League publications. One of the basic aims in the control efforts of the 1920s and 1930s was to ban private manufacture and sale of armaments, although

²³⁶ League of Nations, A. 38(a). 1922. IX. Budget Expenditure on National Defence: 1913 and 1920—1922, 1—5.

²³⁷ League of Nations, A. 20. 1923. IX. Statistical Enquiry into National Peace-time Armaments, Parts 1 and 2.

²³⁸ See Appendices, Appendix 2.

The most important of the treaties accomplished in the Washington Conference was the Washington Treaty for Limitation of Naval Armaments in 1922. In this treaty the United States, Great Britain, and Japan (in addition to France and Italy) agreed upon maintenance of a battleship and carrier ratio of 5—5—3 for the "big" naval powers (and 1,7 respectively for the others).²⁴¹ With the Four Power Treaty (1921), the United States, Japan, Great Britain, and France agreed upon displaying mutual respect for their interests and possessions in the Pacific region. The third treaty, the Nine Power Treaty (1922), was designed especially to solve the problem of China's "defense", which in practice meant the continuance of Western domination. In this treaty the nine naval powers agreed, at least in principle, to respect China's sovereignty, independence, and other matters.²⁴² Even though these reforms had honorable aims and were recognized to be outstanding achievements in their time, the outcomes proved to be disappointing in many ways. The limitations were not always obeyed.²⁴³ The treaties accomplished in the Washington Conference also lacked the machinery required to enforce the established agreements. For example, the Nine Power Treaty on China was mainly rhetorical by nature and did not offer anything concrete for its enforcement.²⁴⁴

Another Republican President, Calvin Coolidge, tried to revive the naval limitation tradition in 1927 by assembling a new conference, but the effort was a total failure. The reasons behind the failure of the conference can be found in the lack of communication by the participants over the aims of the conference, and in the British domestic pressures.²⁴⁵ Herbert Hoover's effort in the 1930 London Conference extended the limitations set in the Washington Conference only a little further. The more militaristic climate of the 1930s, however, rendered these new agreements useless almost immediately.²⁴⁶ Efforts to renew these commitments in the London Naval Conference of 1936 resulted only in a treaty between the United States, Great Britain, and France. Many other states later concluded similar treaties with Great Britain. The latter half of the 1930s was, however, mostly a time of bilateral treaties and continuous negotiations, often with less than satisfactory results.²⁴⁷

²⁴¹ Eloranta 2000b; American Foreign Policy 1961, 245—248; The Washington Treaty for Limitation of Naval Armaments 1922.

²⁴² Morison et al. 1977, 586—587; American Foreign Policy 1961, 248—251; The Four Power Treaty for Pacific, The Nine Power Treaty on China. There was also a less significant Five Power Treaty signed at the same time.

²⁴³ Hicks 1963, 39, 41—43, 49; Morison et al. 1977, 586; Eloranta 2000b.

²⁴⁴ Morison et al. 1977, 587; Hicks 1963, 46—47.

²⁴⁵ Tate 1948, 141—151; Stimson-Bundy 1948, 163—164.

²⁴⁶ Bemis 1959, 461; American Foreign Policy 1961, 259—260, The London Conference in 1930. On the failures of disarmament efforts, especially in regards to navies, see more Buckley 1993; Kennedy 1991.

The illusion of increased likelihood of lasting peace was propounded by other limited successes in the field of international diplomacy in the 1920s. The Locarno agreements, creating the so-called Locarno System, brought Germany back to the international arenas of diplomacy in 1925, which was welcomed especially by the British. The British felt that they had now appeased the French demands for security guarantees against possible German aggression. The basic premise of the agreements was that Britain and Italy agreed to guarantee the Belgian-German and Franco-German frontiers against aggression from either side.²⁴⁸ As far as other initiatives were concerned, the Pact of Paris (or Kellogg-Briand Pact) that was signed in 1928 was at first thought to lead to one of the most important peace achievements of the time. However, as the negotiations among the diplomats progressed, and especially since the Americans wanted to make this pact as vague as possible, the final declaration was received with less enthusiasm due to the restricted nature of the pact. It represented the "outlawry of war" -ideology that was popular among the diplomats in particular, to renounce war "as an instrument of national policy". Even though altogether 62 nations finally adhered to this agreement, it provided no means of enforcing these principles. Furthermore, it included no positive obligations or procedures for a pacific settlement of disputes, due to the reservations of some of the signatories. In fact, the Kellogg-Briand Pact has been said to have been quite characteristic of the hopes and the illusions of the late 1920s. According to George Scott, "it meant no new obligations and cost nothing but a promise of good behavior."²⁴⁹

If the League of Nations failed for the most part in its mission to provide leadership in furthering peace and the other extra-League efforts provided only partial solutions, what was the role of the peace movements within nations? Paul Kennedy has expressed the British sentiment accurately: "With almost unanimous fervor and emotion, the British people revolted against the idea of war and all that the contemporary sources of wisdom — politicians, historians, publicists — claimed it was caused by: arms races, secret diplomacy, military *ententes*, imperialism." The peace movement was strong and widespread, for example, in the United States between the two World Wars. There different organizations, of which U.S. Carnegie Endowment for International Peace was the most prominent, operated on different levels and tried to achieve different goals. These organizations could not, however, present a unified front on issues relating to the advancement of peace — for example legalists and feminists emphasized wholly different things. This divided movement was still strong enough to pressure Coolidge and the

²⁴⁷ See more Buckley 1993; Pearton 1982.

²⁴⁸ Northedge 1986, 119; Steiner 1993, 48—49; Kennedy 1989.

²⁴⁹ Scott 1973, 185; McCoy 1988, 189, 375—381; Hicks 1963, 151; Eloranta 2000b; Jones 1939, 240.

American Administration into a balancing act between their demands and the ultra-isolationist Senate's views. The peace movement started to lose its influence in the White House in the late 1920s as the peace movement started to move politically towards the left.²⁵⁰

The European peace movement, which is a misleading title for a group of movements lacking any unity what so ever, drew its inspiration from the 19th century and prewar movements to further peace. However, the divisions among the different groups were readily apparent during the First World War, especially on ideological basis. After the war the situation presented both opportunities as well as obstacles for the European peace movement(s), since the nature of the war produced a strong public backlash against such cruelty in the future. Yet, these groups were constrained in their actions by the strong nationalist and revisionist elements existing in many continental countries. Furthermore, some of the most fervent advocates of pacifism were enthusiastically supporting the League of Nations as the solution to the problems of the past, whereas some in fact opposed it as a remnant of the balance-of-power world. In the 1930s the European peace movements lost most of their steam, and in fact ceased to function in many countries (at least officially) due to both domestic pressures as well as loss of credibility when the League of Nations displayed its inherent weakness.²⁵¹

When did the League's impotence in the task of maintaining the world peace become apparent to all of its members? As I argue in Section 5.1, the weaknesses that were contained in the League framework and the foreign policy stances of the members made it impossible for the system to work. The real tests of the covenants came first with the surprising Japanese aggression in Manchuria. This turned out to be quite a shock for the League members, since Japan, a permanent member of the Council, had been conciliatory in its foreign policy in the 1920s, even during the naval disarmament conference of 1930. The long slide into war in Manchuria began on September 18, 1931, when local Japanese army attacked the city of Mukden without the knowledge and the wishes of the government in Tokyo. The government was forced to follow the military's lead on the matter, and the incident developed into an international conflict as the Japanese made considerable headway against the inferior Chinese forces. This prompted extensive debate in the Council, yet it was not willing to put heavy pressure against Japan. Further Japanese military action in Shanghai on January 28, 1932, finally triggered a more unitary collective response, which, despite being quite cautious, got Japanese troops out of Shanghai. When a special report condemning Japan was approved on

²⁵⁰ Kennedy 1991, 321; Ferrell 1952, 21—22; DeBenedetti 1980, 108—109, 120.

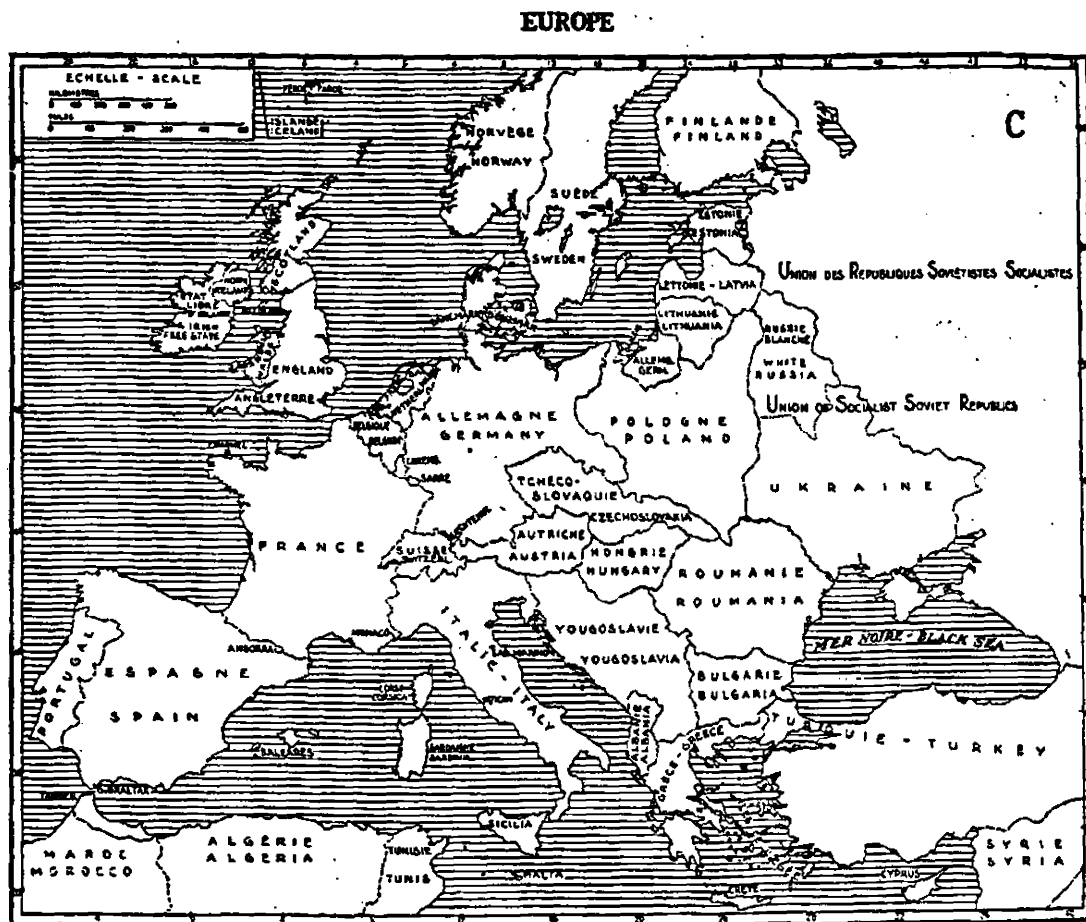
²⁵¹ Robbins 1993, 73—83.



February 24, 1933, the Japanese delegation walked out of the Assembly. Japan announced her formal withdrawal from the League on March 27, 1933.²⁵²

The “Manchurian Incident”, as it was called, was just the first of many deadly blows to come at the League of Nations. The Soviet Union’s joining of the League in 1934 at first provided a signal of hope for peace. Hitler’s ascendancy to power in 1933 and his revisionist ideas soon came to fore in European politics. Germany’s withdrawal from the League (admitted to the League in 1926) and its fevered rearmament from 1935 onwards certainly cast doubts on the League’s and Europe’s future. Equally, the process of “peaceful” conquests started by the remilitarization of Rhineland in March 1936, leading up to the Second World, were certainly among the death blows to the League’s credibility.²⁵³

Figure 22. Map of Europe in 1930, by League of Nations



Source: Image scanned from the League of Nations Statistical Year-Book 1930.

²⁵² See e.g. Scott 1973, 208—229; Northedge 1986.

²⁵³ See, for example, Murray 1984; Kennedy 1989; Northedge 1986.

Yet, inability of the League to halt Italian (another member of the League's Council) aggression in Abyssinia in 1935—1936 turned out to be its most decisive fiasco. Mussolini, in essence, was able to achieve his illicit conquest despite the protestations of the other European and world powers. Especially the British, who initially were the prominent force behind them, were against the continuation of the sanctions put in place under Article 16 initially, and thus even the sanctions were removed in July 1936. This merely acknowledged the prevailing situation: the Great Powers were not ready to initiate aggression against Italy because of this conflict, and that Mussolini's victory in Abyssinia had already been sealed months before. To many revisionists, especially Hitler, this meant that the League was truly unable to stand in the way of the redrawing of the map of Europe and the destruction of the status quo created at Versailles.²⁵⁴

If the League could not uphold peace, what could and would the leading Great Powers, essentially the guardians of the status quo, do in such a situation? The three leading democracies, the United States, the United Kingdom, and France had only limited interests in providing diplomatic leadership in the interwar period. The most crucial aspect, however, was the absence of the United States in the League of Nations, as well as its only half-hearted participation in any event that might seem like a sacrifice of its principles of non-involvement in supranationalist flirtations. The American isolationism has inspired a lot of debate over its extent and impact on the world affairs during the interwar period. Paul Kennedy refers to the American position as "at least relative diplomatic isolationism".²⁵⁵ Thomas Paterson et al. advocate the use of the term "independent internationalism". The American influence was strong in Europe and Latin America, although the Americans had arrived at the conclusion, which stuck throughout the interwar period, that Europe would have to solve its own problems before any significant American involvement.²⁵⁶ What were the consequences of the cautious withdrawal of the economic leader from the European power politics? The 1920s was a pivotal time in the confirmation of the isolationist stance, since the deep depression of the 1930s forced the United States to concentrate on her domestic problems and the established policies of the 1920s held their ground almost unchallenged.

Warren G. Harding's victory in the American presidential elections led the United States into isolationism, which became the leading guideline in American foreign policy for two decades: During the years between 1920 to 1940 no party dared to put the League in their political plat-

²⁵⁴ See especially Northedge 1986, Chapter 10.

²⁵⁵ Kennedy 1989, 357.

²⁵⁶ Paterson et al. 1983, 305. See also Eloranta 1995.

form.²⁵⁷ Though the Harding Administration followed a generally isolationist course regarding the League of Nations membership, it also established a tradition of cooperation outside the organization on issues like disarmament — the Coolidge and Hoover Administrations followed suit since the League was a politically dangerous item to advocate.²⁵⁸ Scandals, such as the Teapot Dome oil incident and the Veteran's Bureau mismanagement, occurred during the latter part of Harding's presidency, and his death on 2 August 1923 "saved" him from the embarrassments to come.²⁵⁹ Yet the legacy that Harding left to Coolidge and the presidents following him was that of clear isolation from the European affairs but also of improvised efforts outside the League of Nations' organization.

Although isolationism was the three Republican Administrations' guideline in matters of foreign policy, they strongly pursued international cooperation on disarmament. These efforts were meant to steer decisively clear of any connection to the League of Nations. The United States only participated in numerous humanitarian, cultural, economic, and technological conferences with the League — in practice, America held on to their idea of isolationism, which meant cooperation outside an internationally binding organization and activity generally initiated by American diplomats.²⁶⁰ The purpose of these efforts was to create a world of peaceful nations characterized by economic and political stability, with the emphasis on nonmilitary means of enforcing such principles.²⁶¹

For example Calvin Coolidge, who became the president of the United States after Warren G. Harding's surprising death in August 1923, had only few basic principles in his foreign policy efforts: he was against war and militarism, and pursued peace actively without entangling America in a military alliance. Coolidge wished to make America an example in combining peace and wise financial management.²⁶² Coolidge believed international peace efforts to be the only effective way of fighting communism and fascism. He did not really believe that the League of Nations could achieve these aims, but he also did not wish to "betray" Harding's voters during his first term. Opposition to the League of Nations was, in addition, politically wise at the time.²⁶³ He was, above anything else, a skeptic when it came to politics, and he did

²⁵⁷ Bemis 1959, 440—441; Stimson-Bundy 1948, 106.

²⁵⁸ Morison et al. 1977, 586.

²⁵⁹ Hicks 1963, 73—78, 80; Hawley 1979, 74—75. See also Noggle 1965 on the Teapot Dome scandal.

²⁶⁰ Bemis 1959, 479; American Foreign Policy 1961, 243.

²⁶¹ Paterson et al. 1983, 305.

²⁶² McCoy 1988, 177—178; Eloranta 1995.

²⁶³ McCoy 1988, 184—185.

not fully believe in the peace efforts of the 1920s. Nevertheless, he pursued them since they were popular and were aimed at reducing federal government expenditures.²⁶⁴ This passive nature Coolidge's presidency became evident in the World Court, or more correctly, the Court of International Justice issue. Even though Coolidge, and the public opinion for that matter, favored joining the World Court, the ultra-isolationist Senate rejected the membership and shaped the future of American foreign policy to be isolation from world politics. The trend was clearly to return to the strict isolationist tradition of the Monroe Doctrine. The Senate's opinion on entanglements or international organizations for controlling world peace was clear in 1926:²⁶⁵

"Resolved further, that adherence to the said protocol and statute hereby approved shall not be so construed as to require the United States to depart from its traditional policy of not intruding upon, interfering with, or entangling itself in the political questions of policy or internal administration of any foreign state; nor shall adherence to the said protocol and statute be construed to imply a relinquishment by the United States of its traditional attitude toward purely American questions."

Though Coolidge did not agree with the Senate, he did not wish to argue the matter and stray from his principles.²⁶⁶ American foreign policy, therefore, continued on the same course during Coolidge's presidency as already defined by Harding— that is, emphasis placed on individual, issue-specific peace-efforts rather than reliance on international organizations.

From the 1920s until the Roosevelt Administration, the American foreign policy decision-making was characterized by, as Paterson et al. have pointed out, "weak presidential leadership, congressional-executive competition, and increased professionalism in the Foreign Service". Both Harding and Coolidge left the foreign policy decisions, especially Harding, to their respective secretaries of state Charles Evan Hughes (1921—1925) and Frank B. Kellogg (1925—1929). Herbert Hoover held a similar philosophy in foreign affairs yet was more active than his predecessors in the 1920s. Hoover's secretary of state Henry L. Stimson was a combative and eager leader of American foreign policy, often disapproved by Hoover for his tactics.²⁶⁷ Franklin Delano Roosevelt, who became the president in 1933, had gained some foreign policy-making experience in the 1920s and often conducted diplomacy personally. He centralized decision-making to the White House. Roosevelt's diplomacy was, however,

²⁶⁴ Brown 1960, 108; Baruch 1960, 133. On Coolidge's attitude towards the military establishment, see Eloranta 1995 for details.

²⁶⁵ American Foreign Policy 1961, 243; 256, Senate Reservation to the Protocol of the World Court Jan 27, 1926. Also see Hicks 1963, 145—146.

²⁶⁶ McCoy 1988, 359—363; Eloranta 1995.

²⁶⁷ Paterson et al. 1983, 305—308.

ambiguously torn between Wilsonian ideals within isolationist policies. He did believe in limited collective security arrangements, yet he shared mostly the basic components of isolationist thought: 1) Abhorrence of war; 2) Limited military intervention abroad; 3) Freedom of action in international relations.²⁶⁸ Overall, his foreign policy continued the isolationist tradition established in the 1920s.

What about the European large democracies of United Kingdom and France? Firstly, the British position towards the League of Nations, as well as commitment towards European mainland defense, was one of caution right from the start. There were essentially two views on foreign policy: those who favored the British involvement in the League and its aims in disarmament, and those who wanted to improve Franco-German relations by regional agreements and political concessions. Inevitably, policy tensions resulted. Nonetheless, neither of these views expressed enthusiasm about extensive commitment on the European continent. The British view, if there was such a thing, underscored the importance of self-defense by the individual states, and was against commitment to international troops to maintain peace.²⁶⁹ Prime Minister Ramsay MacDonald's speech at the League of Nations on September 4, 1924 perhaps illustrates the point:²⁷⁰

“Our position briefly is this. We do not believe that military alliances will bring security. We believe that a military alliance within an agreement for security is like a grain of mustard seed. Small to begin with, it is the essential seed of the arrangement and that seed, with the years, will grow and grow until at last the tree produced from it will overshadow the whole of heavens and we shall be back in exactly the military position in which we found ourselves in 1914.”

The French, on the contrary, firmly believed that an international military force or at least military cooperation in some formal way was necessary. From the very beginning, the Americans and the British were opposed to this due to the reasons outlined above. The French foreign policy was quite consistent in its attempt to achieve “adequate” security guarantees against possible German aggression. The French solution, by and large, was to work towards these aims in the League as well as construct a net of alliances intended to contain Germany. The main directions where alliances were sought were Great Britain in the north as well as Eastern European states, like Poland, Czechoslovakia, Yugoslavia, and Poland, in the east. An alliance was first formed with Belgium in 1920, and then with Poland in 1921. In 1924, France

²⁶⁸ Paterson et al. 1983, 308—309. Roosevelt ignored his secretary of state in most of the foreign policy decisions in the 1930s. See also Kennedy 1989.

²⁶⁹ Towle 1993, 127—140; the League of Nations Starts 1920, 234—235.

²⁷⁰ League of Nations, C.708.1924.IX. Arbitration, Security, and Reduction of Armaments. Extracts from the Debates of the Fifth Assembly, 9.

concluded an alliance with Czechoslovakia, and entered into protracted negotiations with the so-called Little Entente countries (Romania and Yugoslavia). The French solution of alliances was meant to be a comprehensive security, economic, military, and political resolution to the problem. This system suffered setbacks in the 1930s as its allies turned out to be more of a burden than a blessing.²⁷¹ All in all, as expressed eloquently by Prime Minister Edouard Herriot in 1924, the French approach was to combine the collective security needs of Europe in particular with comprehensive solutions on disarmament and conflict resolution enforcement, “to mate justice with might”:²⁷²

“Arbitration, security, disarmament: the three words are, we hold, closely inter-connected. Without real international solidarity we shall, we believe, never attain that international community which we passionately desire, which we are resolved to create, to perpetuate, to organize conformably with the laws which govern life and being. Without international solidarity there will never be international peace. Through international solidarity alone shall we attain disarmament, which is our goal.”

The American isolationism, however inadequate as the term may be, thus left the European and even the “world” power relations in the hands of Great Britain and France. They were reluctant leaders in their own right, with their own interests displayed in their actions for example in the League of Nations functions. Germany and Russia had been defeated in the First World War, thus leaving room for these traditional Great Powers to re-emerge in European politics. There were obvious disagreements in the goals valued by the British and the French. The British, like the Americans, were less and less interested in the goal that France valued the most: keeping Germany in check. Additionally, Great Britain was more pre-occupied by extra-European problems, namely keeping the vast Empire from disintegrating. At the beginning of the 1930s France seemed to be the leading nation in the European scene. Its economic performance in the 1930s, however, proved to be poor in comparison with the other European Great Powers.²⁷³ Thus, the European stage created a sort of a “power vacuum” during the 1930s, which seemed to invite hegemonic competition for leadership.

The “weak” states were actually important players in the League of Nations and the failure of the disarmament in particular during the interwar period. The impact of these states will be analyzed in connection with the discussion of the reasons behind the failure of the League of Nations in Section 5.1. All of the factors discussed in this chapter so far have underlined important points about the key elements in this period: 1) The variety of economic performances

²⁷¹ Hovi 1993, e.g. 115—126; Murray 1984, 93—97; Groth-Randall 1991.

²⁷² League of Nations, C.708.1924.IX. Arbitration, Security, and Reduction of Armaments. Extracts from the Debates of the Fifth Assembly, 21.

among the selected eleven European states; 2) The tendency for their public spending to be path dependent; 3) The failure of the League of Nations in its various aims one blow after another, starting with the structural factors of the 1920s inherent in the League Nations and gathering force after the Japanese aggression in 1931, as well as the other events that followed (failure of the disarmament conference, the rise of Hitler, Abyssinian conflict etc.). These factors provided the setting for the military spending framework of the eleven nations selected for a closer scrutiny in this thesis. How did they respond in their military spending choices?

3.3. Military Spending Patterns Emerging Through Different Indicators – How Much is “Enough”?

This section represents an effort to re-evaluate the military spending efforts of especially the eleven core countries in this thesis, by utilizing different types of indicators to see whether patterns will emerge. As such, it seems that the “general” picture of the interwar military spending has emerged through various studies in the post- Second World War period. This literature, as indicated in Chapter 1, has usually focused solely on the 1930s, often ignoring the possibility of continuous processes at work in the military spending decision-making. Mostly this literature maintains that the 1920s were a time of military spending cuts due to the impact of the Great War and the scattered efforts at organized pacifism, the economic difficulties involved in the keeping of large standing military establishments, and the collective security enhancing steps taken in the international arenas. In turn, the 1930s represented a time of emerging challenges to the Versailles settlement, namely by the authoritarian nations, whereas the democracies were unable or unwilling to match this challenge, at least in the early stages.²⁷⁴ How accurate is this snapshot of the military spending characteristics in this period? For example, how did the military-government-business relations affect the military spending paths? Did they exhibit resistance to change, as expected on the basis of the theoretical points made in Chapter 2? Or, how exactly should we compare the military spending efforts of these eleven nations? Furthermore, how divergent were the military spending paths of these nations in this period? A comparative study going beyond the Great Powers of the period has so far been lacking. The less than complete comparisons made in the earlier literature often offer a

²⁷³ Kennedy 1989, 357—375; Pearton 1982, 177, 197—198.

²⁷⁴ See, among others, Kennedy 1981; Kennedy 1989, e.g. 380—412, with emphasis on the harmfulness of high military spending; Webber-Wildawsky 1986, 462—472; Coox 1988, 257. See also *The economics of World War II* 1998 and Murray 1984, cf. 20—21. The overview presented here is merely a simplification, and the authors listed here provide much more in-depth analyses of the issues in question in these readings.

somewhat limited view of the phenomenon, and indeed are not entirely convincing due to the lack of rigor to be applied in the comparisons.

The scale and the economic impact of the First World War has already been discussed in this chapter, yet the military spending implications of this "global war"²⁷⁵ have not been explored yet. The military-economic dimension of the war has not been studied very thoroughly so far, compared to the Second World War for example. As seen in Table 9, it is possible to compile some comparative indicators on the extent of the economic mobilization, central government spending, and the demographic strain placed on the population of the Great Powers by the mobilization of large standing armies. It seems that columns C and E, by and large, match one another. The highest public sector or central government military spending share was borne by Germany, with France and Russia following close behind it. The American defense share, for example, was low in comparison, due to the brevity of its involvement in the war. The same observation could be made, more or less, for the mean military burdens of the war years. Notably, however, the British share was quite low, below fifty per cent. Finally, in the demographic sense, the French mobilization respective of the population was the most extensive, eleven per cent of the population on the average, whereas the United States had to mobilize only circa two per cent of its population to its armed forces. Still, Germany and Russia suffered similar numbers of casualties in the war (1,8 and 1,7 million respectively), whereas the British lost significantly less men in this conflict (0,9 million).²⁷⁶

Table 9. Military Exertions of Five Great Powers in the First World War

A.	B.	C.	D.	E.	F.
<i>FRA</i>	1914—1918	79	43	77	11
<i>GER</i>	1914—1918	83	..	91	7
<i>RUSSIA</i>	1914—1916	76	..	..	4
<i>UK</i>	1914—1918	63	22	49	7
<i>USA</i>	1917—1919	54	7	47	2

Sources: Column C from Hardach 1977; column D calculated from Fontvieille 1976 (ME for France), Morgan 1952 (ME for UK), Historical Statistics 1975 (ME for USA), Mitchell 1998b (GDP for France and UK), Historical Statistics 1975 (GNP for USA); column E calculated from the same ME sources as column D except National Capabilities database (Singer-Small 1993) (ME for Germany), as well as Mitchell 1998b (CGE for France, Germany, and UK), Historical Statistics 1975 (federal government outlays for USA); column F calculated from the National Capabilities database (Singer-Small 1993). A=country; B=years; C=percentage, total war expenditures of total public expenditures; D=mean military burden; E=mean defense share; F=mean percentage, armed forces of population.

²⁷⁵ On the concept of global war and its occurrence in history, see especially Rasler-Thompson 1989, 127—151.

²⁷⁶ On the casualties, see Correlates of War, Inter-State War Data 2000 — France lost circa 1,4 million and the United States "only" 0,1 million men in the First World War.

After the First World War, especially in the 1920s, although the defense shares of large democracies dropped noticeably, their respective military burdens stayed either at similar levels as before or actually increased. As can be seen in Table 10 below, the mean military burden of sixteen countries did not change much from the period 1870—1913 (AJ) to the interwar period (AJ); in fact, only a slight increase occurred. However, the mean defense share of the pre-First World War period (BS) was nearly double that of the interwar period (BT), with the latter amounting to eighteen per cent.

Table 10. Military Burdens and Defense Shares of Seventeen Nations, Individually and on the Aggregate, 1870—1913 and 1920—1938

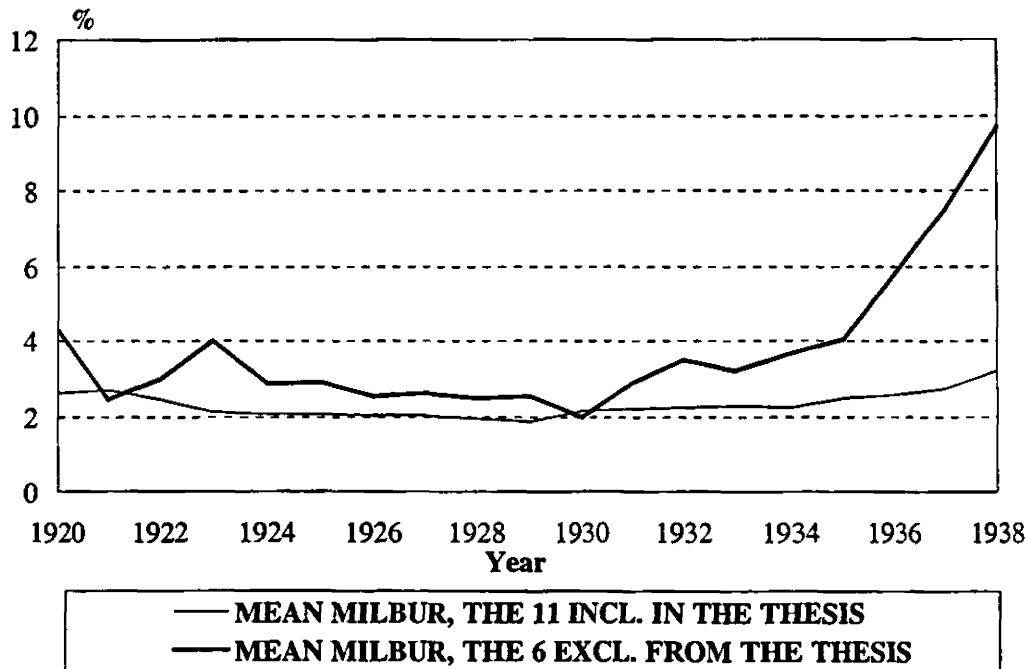
AUT	BEL	DEN	FIN	FRA	GER	ITA	JAP	NED	NOR	POR	RUS	SPA	SWE	SWI	UK	USA	TOT
A.	C.	E.	G.	I.	K.	M.	O.	Q.	S.	U.	W.	Y.	AA.	AC.	AE.	AG.	AI.
3.47	1.88	1.89	-	3.68	2.56	2.75	4.99	2.77	5.54	1.34	3.87	2.01	2.13	1.12	2.63	0.74	2.71
B.	D.	F.	H.	J.	L.	N.	P.	R.	T.	V.	X.	Z.	AB.	AD.	AF.	AH.	AJ.
0.90	2.01	1.03	2.85	4.34	3.33	4.38	5.73	1.70	0.96	3.77	7.11	2.94	1.88	1.01	2.95	1.21	2.83
AK.	AM.	AO.	AQ.	AS.	AU.	AW.	AY.	BA.	BC.	BE.	BG.	BI.	BK.	BM.	BO.	BQ.	BS.
12.03	14.54	29.93	-	25.91	54.12	21.69	32.24	26.18	85.33	18.95	27.91	21.35	35.93	60.21	37.52	29.43	33.33
AL.	AN.	AP.	AR.	AT.	AV.	AX.	AZ.	BB.	BD.	BF.	BH.	BJ.	BL.	BN.	BP.	BR.	BT.
5.84	9.80	15.64	20.56	22.37	23.81	25.40	20.13	10.74	10.63	26.49	11.93	23.80	19.92	22.85	16.25	22.36	18.00

Sources: see Appendices, Appendix 2 for the interwar period; plus Eloranta 2001b for the preceding period. A=Austria, mean military burden, 1870—1913; B=Austria, mean military burden, 1920—1938; C=Belgium, mean military burden, 1870—1913; D=Belgium, mean military burden, 1920—1938; E=Denmark, mean military burden, 1870—1913; F=Denmark, mean military burden, 1920—1938; G=Finland, mean military burden, 1870—1913; H=Finland, mean military burden, 1920—1938; I=France, mean military burden, 1870—1913; J=France, mean military burden, 1920—1938; K=Germany, mean military burden, 1870—1913; L=Germany, mean military burden, 1920—1938; M=Italy, mean military burden, 1870—1913; N=Italy, mean military burden, 1920—1938; O=Japan, mean military burden, 1870—1913; P=Japan, mean military burden, 1920—1938; Q=Netherlands, mean military burden, 1870—1913; R=Netherlands, mean military burden, 1920—1938; S=Norway, mean military burden, 1870—1913; T=Norway, mean military burden, 1920—1938; U=Portugal, mean military burden, 1870—1913; V=Portugal, mean military burden, 1920—1938; W=Russia, mean military burden, 1870—1913; X=Russia/USSR, mean military burden, 1920—1938; Y=Spain, mean military burden, 1870—1913; Z=Spain, mean military burden, 1920—1938; AA=Sweden, mean military burden, 1870—1913; AB=Sweden, mean military burden, 1920—1938; AC=Switzerland, mean military burden, 1870—1913; AD=Switzerland, mean military burden, 1920—1938; AE=UK, mean military burden, 1870—1913; AF=UK, mean military burden, 1920—1938; AG=USA, mean military burden, 1870—1913; AH=USA, mean military burden, 1920—1938; AI=16-country (excl. Finland) mean (average of annual averages) military burden, 1870—1913; AJ=16-country (excl. Finland) mean (average of annual averages) military burden, 1920—1938. AK=Austria, mean defense share, 1870—1913; AL=Austria, mean defense share, 1920—1938; AM=Belgium, mean defense share, 1870—1913; AN=Belgium, mean defense share, 1920—1938; AO=Denmark, mean defense share, 1870—1913; AP=Denmark, mean defense share, 1920—1938; AQ=Finland, mean defense share, 1870—1913; AR=Finland, mean defense share, 1920—1938; AS=France, mean defense share, 1870—1913; AT=France, mean defense share, 1920—1938; AU=Germany, mean military burden, 1870—1913; AV=Germany, mean military burden, 1920—1938; AW=Italy, mean defense share, 1870—1913; AX=Italy, mean defense share, 1920—1938; AY=Japan, mean defense share, 1870—1913; AZ=Japan, mean defense share, 1920—1938; BA=Netherlands, mean defense share, 1870—1913; BB=Netherlands, mean defense share, 1920—1938; BC=Norway, mean defense share, 1870—1913; BD=Norway, mean defense share, 1920—1938; BE=Portugal, mean defense share, 1870—1913; BF=Portugal, mean defense share, 1920—1938; BG=Russia, mean defense share, 1870—1913; BH=Russia/USSR, mean defense share, 1920—1938; BI=Spain, mean defense share, 1870—1913; BJ=Spain, mean defense share, 1920—1938; BK=Sweden, mean defense share, 1870—1913; BL=Sweden, mean defense share, 1920—1938; BM=Switzerland, mean defense share, 1870—1913; BN=Switzerland, mean defense share, 1920—1938; BO=UK, mean defense share, 1870—1913; BP=UK, mean defense share, 1920—1938; BQ=USA, mean defense share, 1870—1913; BR=USA, mean defense share, 1920—1938; BS=16-country (excl. Finland) mean (average of annual averages) defense share, 1870—1913; BT=16-country (excl. Finland) mean (average of annual averages) defense share, 1920—1938.

Thus, military spending relative of economic development proved quite resistant (or path dependent) to change, whereas the military expenditures' budget shares shrunk noticeably as new spending programs were introduced in the spheres of social issues and education. Of the eleven individual countries under analysis in this thesis, for example France's military burden average increased respectively in the interwar period compared to the earlier period, and its mean defense share declined only slightly. Other countries that behaved similarly included Belgium, Portugal (with also its defense share average increasing after the First World War), Spain (with its defense share developing the same way as in the case of Portugal), and the UK.

Many of the smaller countries, such as Denmark, the Netherlands, Norway, Sweden, and Switzerland decreased their military spending in the interwar period, compared to the period before the First World War, even in terms of the military burden. The general pattern outlined above — namely, either a similar in size or slightly higher military burden, and a declining defense share — applied to most of the other nations, even the authoritarian states (perhaps also due to only partial periods of authoritarian and/or totalitarian rule), listed in Table 10.

Figure 23. Mean Military Burdens of the Selected Eleven European Countries Compared with The Six Other Countries, 1920—1938

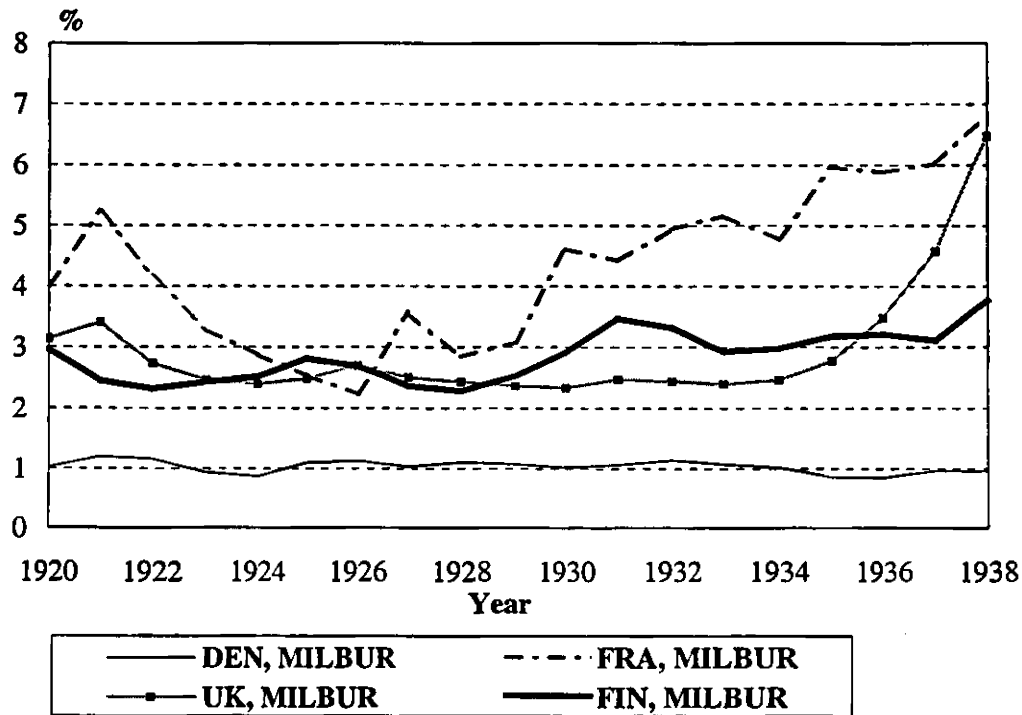


Sources: see Appendices, Appendix 2 for details. The averages are unweighted.

Note: for details on the countries included, see Figure 11.

As seen above in Figure 23, the mean military burden of the eleven states selected for the analyses in this thesis was very stable during the period in question. Only slight growth occurred in the 1930s. Comparatively, the mean military burden of the six excluded states (with only the United States embodying uninterrupted democratic rule in this period) — included here since the same states are included in the systemic analysis of Chapter 4 — differed radically from the sample states. Besides the fact that the variance between the military burdens of these states was much greater, it can be seen that the more aggressive stance of the authoritarian and totalitarian states among them caused this average to increase sharply from 1930 onwards. The gap between the eleven and the six portrayed in Figure 23 widened drastically in the late 1930s.

Figure 24. Military Burdens of Denmark, Finland, France, and the UK, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Figure 24 displays the military burdens of the two Great Powers, France and the United Kingdom, in the sample as well as two of the “weak” states, Denmark and Finland. The French military burden was quite erratic by nature, with a strong growth trend from the late 1920s onwards. Thus, the French military burden on the economy increased rather dramatically in the 1930s. The British trend was much more even, indeed almost flat, until the rearmament began to assert itself on the economy after 1934. Finland also represented, like France and the United Kingdom, a country with a high military burden in the sample of eleven. The Finnish military burden, moreover, remained quite stable, with a very slight growth trend discernible from the

late 1920s onwards. The Danish military burden remained equally stable, yet the Danish military burden was less than half the level maintained by the other three in Figure 24.

Among the “weak” Western democracies, Finland, for example, invested more on its national security than its Nordic neighbors. The Finnish defense share was circa twenty percent during the entire 1920s. The only years that noticeable drops occurred were 1923 and 1928. During the Great Depression this share rose significantly above the twenty percent level for some of the years. For the rest of the 1930s, the defense share stayed close to the twenty percent level until the last few years before the war. Of the Nordic countries, Norway maintained a ten percent level throughout the 1920s and 1930s.²⁷⁷ The Swedish defense share, respectively, stayed close to twenty percent for most of the 1920s. At the turn of the decade this share started to decrease rapidly, which was partly a result of conscious disarmament (at least as far as state budgets were concerned) policy in the 1930s. In Denmark, the defense share rose in the 1920s, but did not reach the twenty percent level. For the Danish military the 1930s was a time of shrinking budget shares like in most of the Nordic countries, with Finland being an exception.²⁷⁸

The military burdens of the authoritarian and totalitarian challengers of France and the United Kingdom grew strongly from 1933—1934 onwards, and the overall levels of these countries during authoritarian rule were in general higher than those of most democratic states. One should also take note of the impression that the more authoritarian the nation was, the higher its military burden seemed to be. For example, Mussolini’s Italy, with Mussolini unable to subjugate and consolidate all groups under his direct rule, seems to have been unable to match the militaristic drive of Japan (under a military regime) and Germany (under Hitler’s centralized regime), perhaps also the Soviet Union, in the late 1930s. For the European democracies, the mid-1930s in general marked the beginning of rather slow rearmament, although their authoritarian challengers had begun earlier. Hitler’s Germany increased its military burden from 1,6 per cent in 1933 to 18,9 in 1938, a rearmament program promising both “guns and butter”. Mussolini’s efforts in Italy were less successful, producing a military burden of four to five per cent in the 1930s. The Japanese rearmament drive was perhaps the most extensive, relative of its economic base, amassing a military burden as high as 22,7 per cent in 1938.²⁷⁹ However, these impressions need to be verified with more substantial empirical data and more specific hypotheses testing, which will indeed be taken up in Section 4.2. What about the defense shares

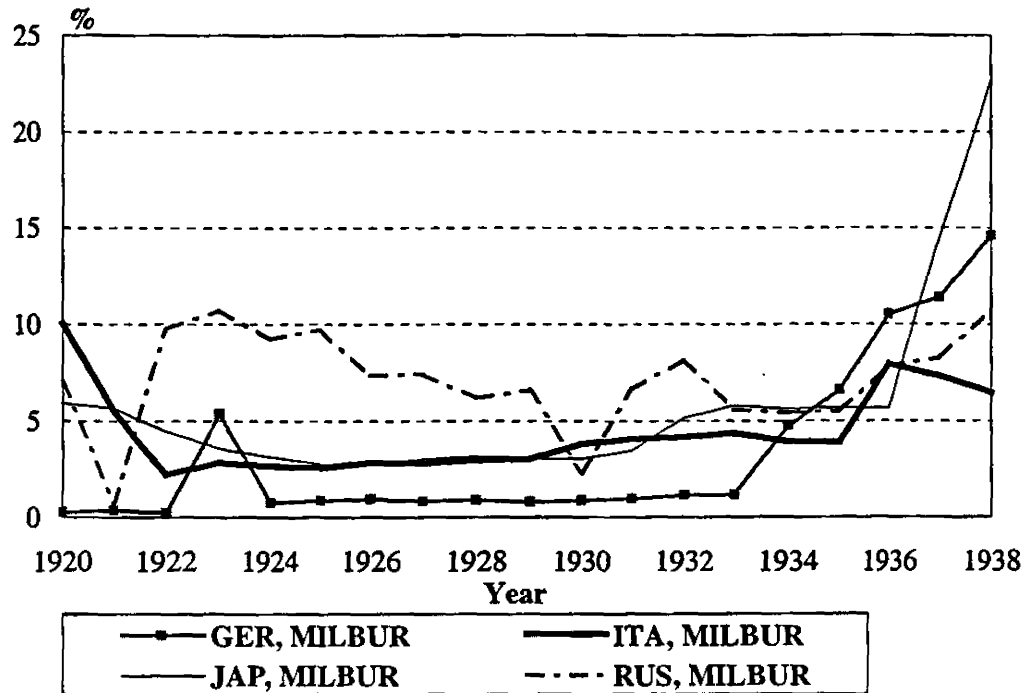
²⁷⁷ Eloranta 1998; on Norwegian military spending in the long run, see Gleditsch 1992.

²⁷⁸ Eloranta 1998.

²⁷⁹ Eloranta 2001b and the sources in it.

of the selected eleven European states, for example in comparisons with other states? If military spending of the said eleven maintained a rather steady share of the economic resources, can the same be said of its budget share?

Figure 25. Military Burdens of Germany, Italy, Japan, and Russia/USSR, 1920—1938

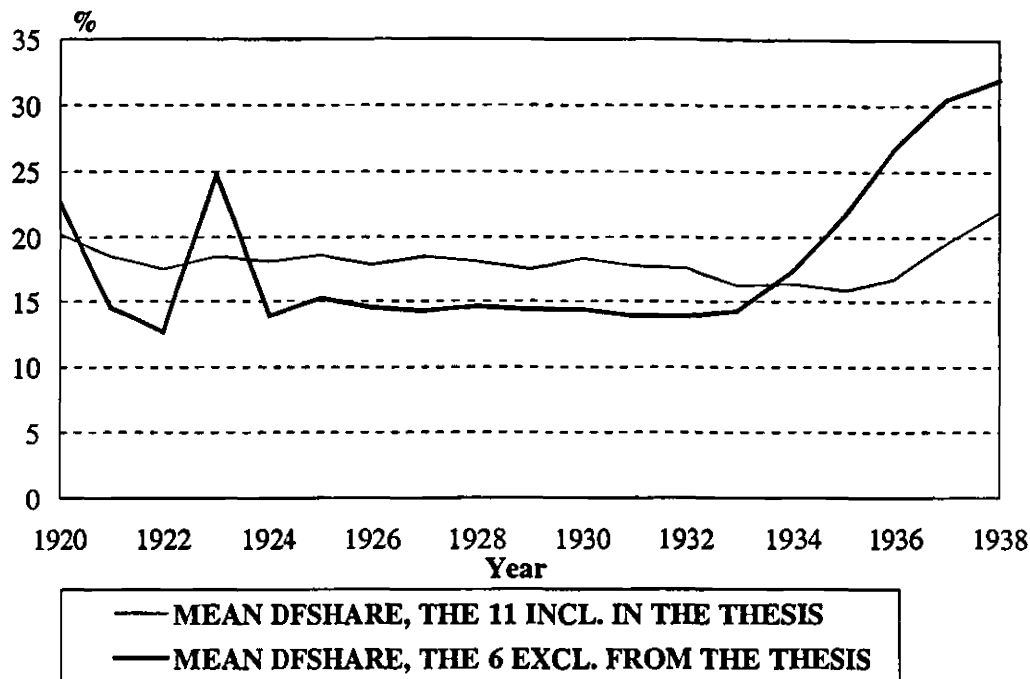


Sources: see Appendices, Appendix 2 for details.

Note: the data of these countries are less robust than the eleven; see Chapter 1 and Appendices, Appendix 2.

Indeed, as we can infer from Figure 26, the mean defense share of the eleven showed a remarkably stable, slightly decreasing trend, at least until the mid-1930s. The late rearmament could be seen clearly in their mean defense share, although this share did not surpass the 1920 level until 1937. The rearmament of these nations was therefore quite modest, which could also be deduced from the development of their mean military burden. The mean defense share of the six countries excluded from the thesis, however, displayed a strong growth trend from 1933 onwards, quite similar to their respective mean military burden. Their rearmament, and thus the priority status awarded to military expenditures in their budgets (with the United States and Austria definitely not fitting the pattern outlined by the other four) created a significant gap between them and most democracies during the 1930s. The curious jump in 1923 was mostly due to the German data, caused either by data inaccuracies or the deep crisis in German government finances in the midst of the hyperinflation.

Figure 26. Mean Defense Shares of the Selected Eleven European Countries Compared with the Six Other Countries, 1920—1938

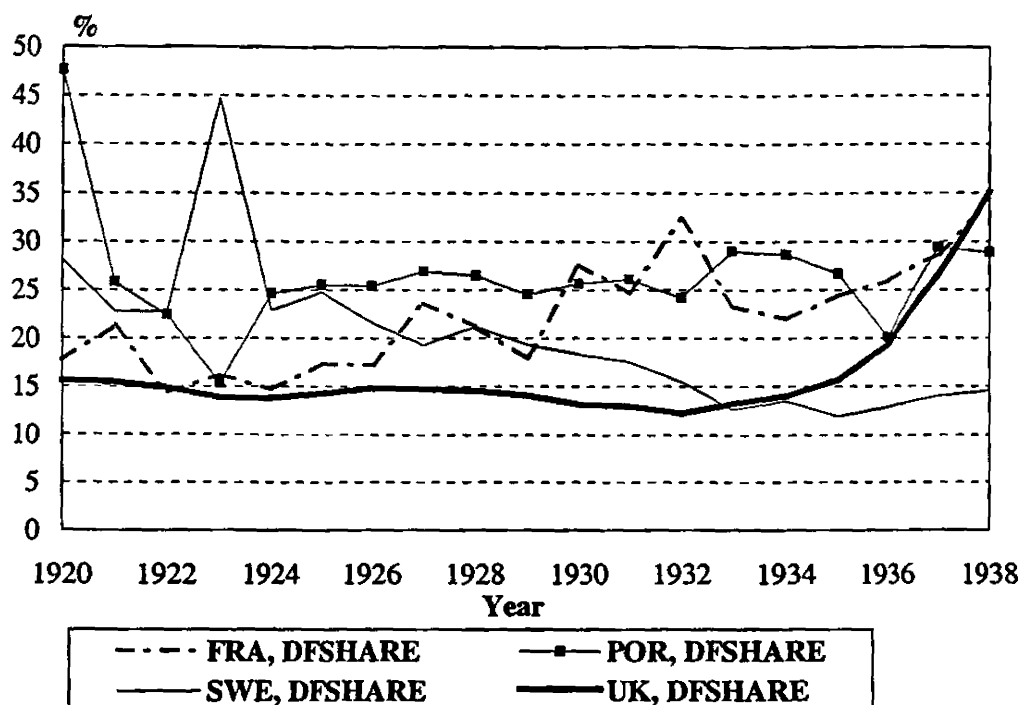


Sources: see Appendices, Appendix 2 for details. The averages are unweighted.
 Note: for details on the countries included, see Figure 11.

If we look at the individual defense shares more closely, as in Figure 27, it is possible to distinguish different patterns among the selected countries. The United Kingdom and France both had similar defense shares in the beginning of the 1920s, but whereas the French share increased until circa 1932 with great variations being shown from year to year, the British share was very stable with a slight decreasing trend. Also, it seems that the French governments of the 1930s were not able and/or did not wish to maintain such high defense shares, and the British share slowly caught up with the French in the last years of the decade. Similar to their respective military burdens, their defense shares were practically identical when the Second World War started. In both instances, the French relative military spending was quite high, possibly becoming a hindrance to the economy as a whole. Even so, the British seemed to outspend the French in absolute terms.²⁸⁰

²⁸⁰ See e.g. Kennedy 1989, 402—412; Murray 1984, 95—97. One of the most significant military spending constraints in the British case was the so-called Ten Year Rule, introduced in 1919, which based the British military spending policy on the assumption that Britain would not be involved in a war with another major power in the next ten years. This principle was finally abandoned in 1932. Thorpe 1994, 113—115.

Figure 27. Defense Shares of France, Portugal, Sweden, and the UK, 1920—1938

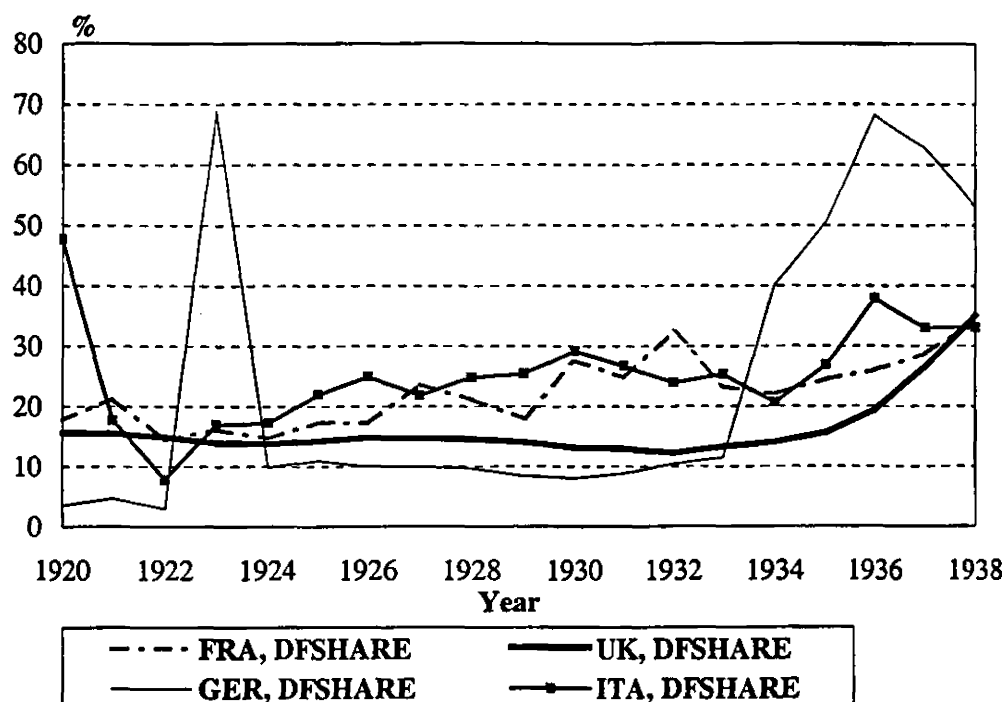


Sources: see Appendices, Appendix 2 for details.

Again, the erratic nature of the French military and public finances is amply displayed in Figure 27. Sweden, in turn, began with a high defense share, which declined noticeably until the end of the period. Many of the smaller states did not begin active rearmament until after 1935, except the ones that had high military burdens already in the 1920s (like Portugal and Finland). Sweden, a member of the League of Nations from the beginning, was a good example of an active pursuit of disarmament policies throughout the period. According to Ulf Olsson (1973), the Swedish rearmament was slow to react to the worsened international security climate. Nonetheless, its military burden remained meager until 1939, below two per cent. In relation to for example Germany and the United Kingdom, the Swedish rearmament was very modest indeed. In fact, it was quite similar to the slow reaction of the United States in the late 1930s. Even during the Second World War the Swedish military burden rose to only about 11—12 per cent, whereas the Great Powers usually exceeded the 50 per cent level for many of the war years.²⁸¹

²⁸¹ See Olsson 1973, 9—23; Olsson 1982; Eloranta 2002b.

Figure 28. Defense Shares of France, Germany, Italy, and the UK, 1920—1938



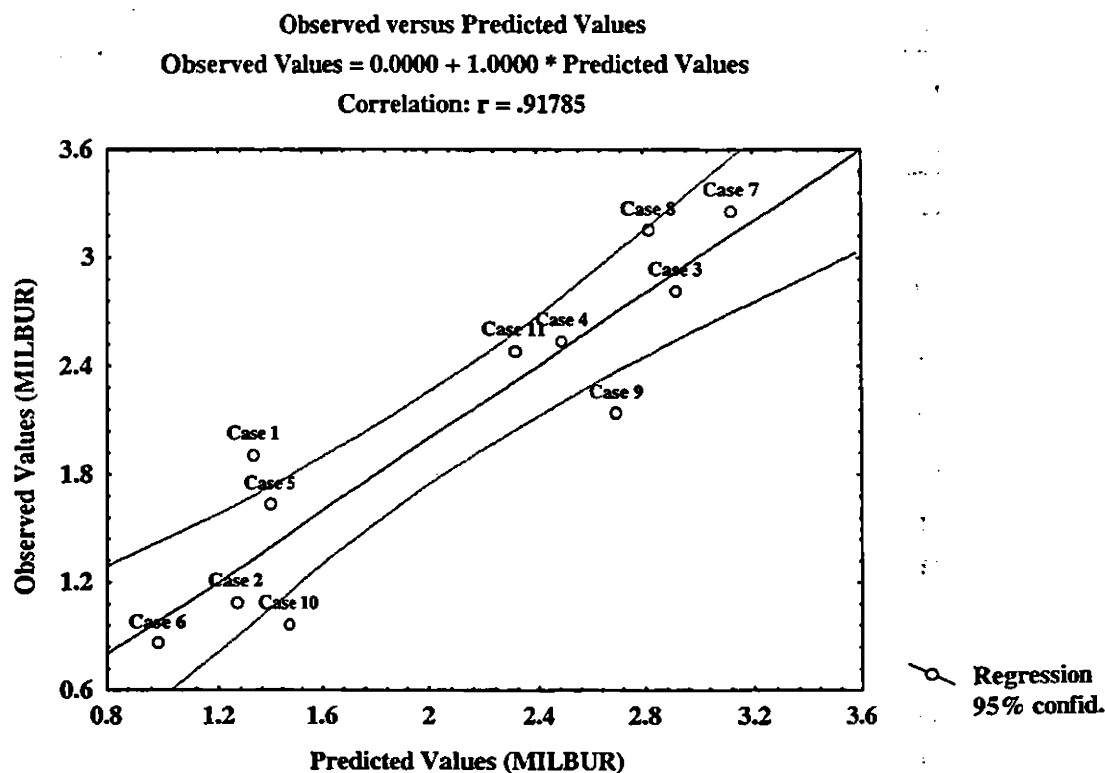
Sources: see Appendices, Appendix 2 for details.

The Portuguese defense share seemed to retain quite a high and stable level since the beginning of the 1920s, with a bit of a decline occurring in the first half of the 1930s. Part of this stability was certainly caused by the fact that all political leaders in this period, even Salazar, had to keep the armed forces happy, despite for example Salazar's strong drive for economy in public spending. The economic difficulties and political instability of the 1920s in fact paved the way for this authoritarian government. Salazar's possibilities of introducing drastic changes to the military budgets were hindered by the fact that his power base included the armed forces, the Church, the upper bourgeoisie, banking interests, as well as right-wing intellectuals and monarchists. He applied his conservatism to old-fashioned budgetary financing and restricted the access to foreign investment. In essence, he quite successfully balanced the budget in the 1930s, yet he was unable and unwilling to promote, for example, rapid industrialization or carry out social reforms. Accordingly, the Portuguese military spending remained, in comparative terms, quite high.²⁸²

²⁸² Lee 1987, 221—226. See also Gallagher 1983. More details on the foreign policy stances of the eleven European states can be found in Section 5.1.

If we compare the French, German, Italian, and British defense shares to one another (see Figure 28), it seems clear that the German case was quite exceptional since the ascendancy to power by Hitler. For example, the Italian and French defense shares behaved very similarly. Thus, it would be difficult to characterize the Italian case as belonging to the totalitarian camp on the basis of its military spending per se. Although these issues are discussed at length in Section 4.1, it should prove useful to see how the selected eleven countries differed from one another in terms of their military burdens and defense shares when their level of economic development (measured by real GDP per capita) is accounted for.

Figure 29. Military Burdens of the Selected Eleven European Countries Regressed Against Their Respective Real GDP per Capita (in 1929 Quasi-USD), 1925



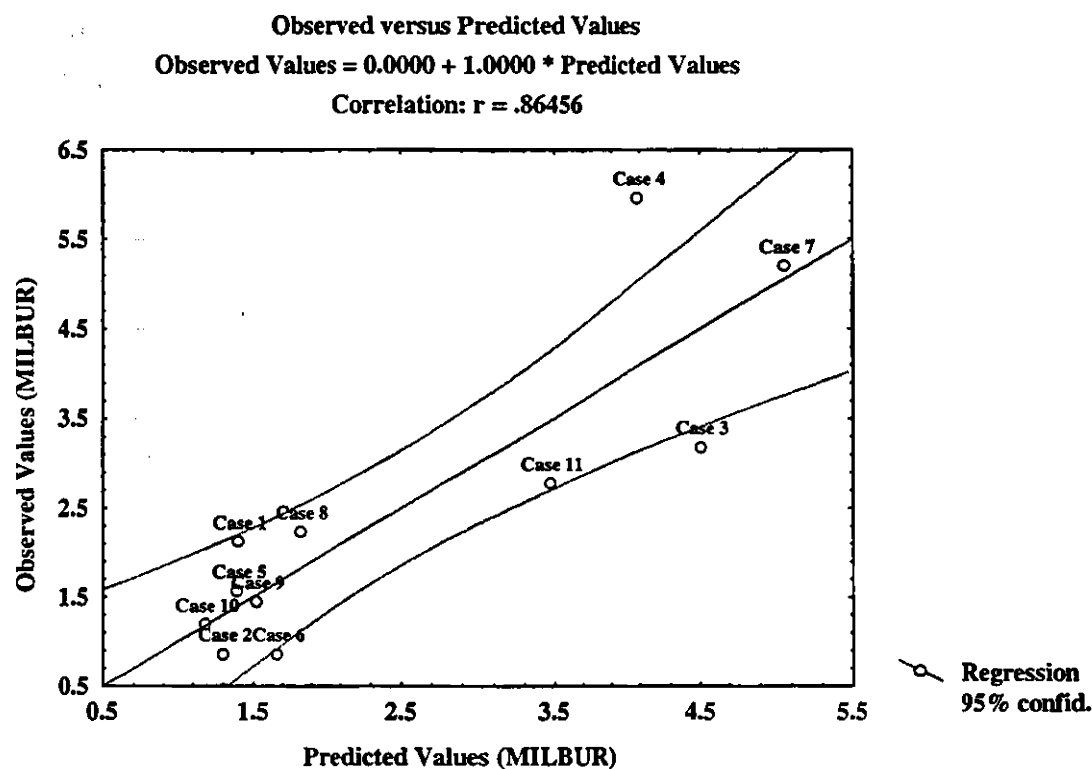
Sources: see Appendices, Appendix 2 for details. Case 1=Belgium; Case 2=Denmark; Case 3=Finland; Case 4=France; Case 5=the Netherlands; Case 6=Norway; Case 7=Portugal; Case 8=Spain; Case 9=Sweden; Case 10=Switzerland; Case 11=the United Kingdom. Independent variable: real GDP per capita. Model: piecewise linear regression with breakpoint.

If we observe the military burdens of the eleven countries selected here in 1925 and 1935 (see Figures 29 and 30 respectively²⁸³), it seems that there were two groups of countries based on using their real GDP per capita data as a predictor of their relative military spending, utilizing a

²⁸³ See Appendices, Appendix 4 for the graphs on the military burdens and defense shares, as seen above and below, for the year 1930.

breakpoint regression. The countries that remained in the low military burden group throughout the period included Belgium, Denmark, the Netherlands, Norway, and Switzerland. This group included also Spain and Sweden in 1935. The higher military burden group included consistently four states: Finland, France, Portugal, and the United Kingdom. As seen in the graphs, the two groups seemed to come closer to one another in the 1930s, perhaps implying that they were responding, albeit slowly, to a common threat impetus, namely represented by the authoritarian nations.

Figure 30. Military Burdens of the Selected Eleven European Countries Regressed Against Their Respective GDP per Capita (in 1929 Quasi-USD), 1935

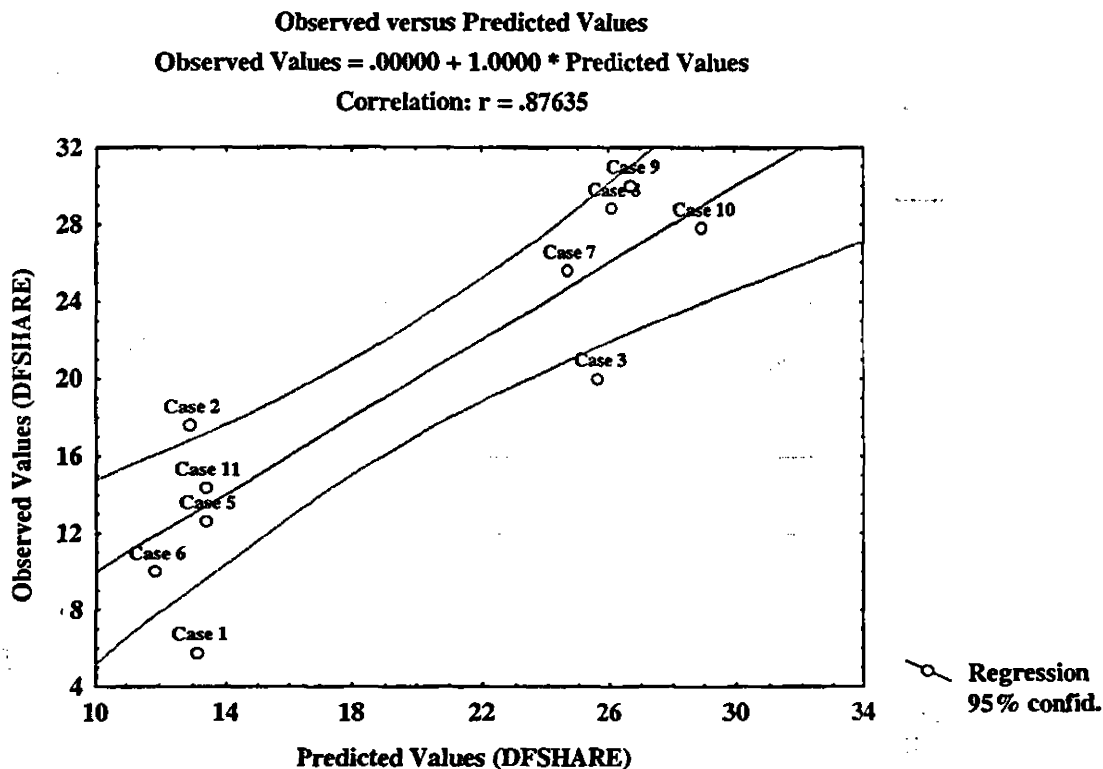


Sources: see Appendices, Appendix 2 for details. Case 1=Belgium; Case 2=Denmark, Case 3=Finland; Case 4=France; Case 5=the Netherlands; Case 6=Norway; Case 7=Portugal; Case 8=Spain; Case 9=Sweden; Case 10=Switzerland; Case 11=the United Kingdom. Independent variable: real GDP per capita. Model: piecewise linear regression with breakpoint.

The development of the defense shares, respective of the individual GDP per capita levels, sheds further light into the military spending behavior of these eleven European nations. In 1925 (Figure 31), the low spending group included Belgium, Denmark, the Netherlands, Norway, and the United Kingdom, whereas the higher spending group consisted of Finland, France, Portugal, Spain, Sweden, and Switzerland. In 1935 (Figure 32), the only change was Spain's passage to the lower spending group. Spain's interwar foreign policy, even compared to the conflicting

views of Portuguese interwar governments, was contradictory by nature: Whereas in the 1920s under Primo de Rivera's authoritarian rule the Spanish foreign policy still encompassed hopes for a return to a Great Power status, including relatively high military spending, during the Second Republic the aim of the foreign and defense policy was to achieve pacifist aims within the League of Nations. The third phase was, of course, that of the chaos of the Civil War, which enticed the involvement of numerous competing states and ideologies.²⁸⁴

Figure 31. Defense Shares of the Selected Eleven European Countries Regressed Against Their Respective GDP per Capita (in 1929 Quasi-USD), 1925



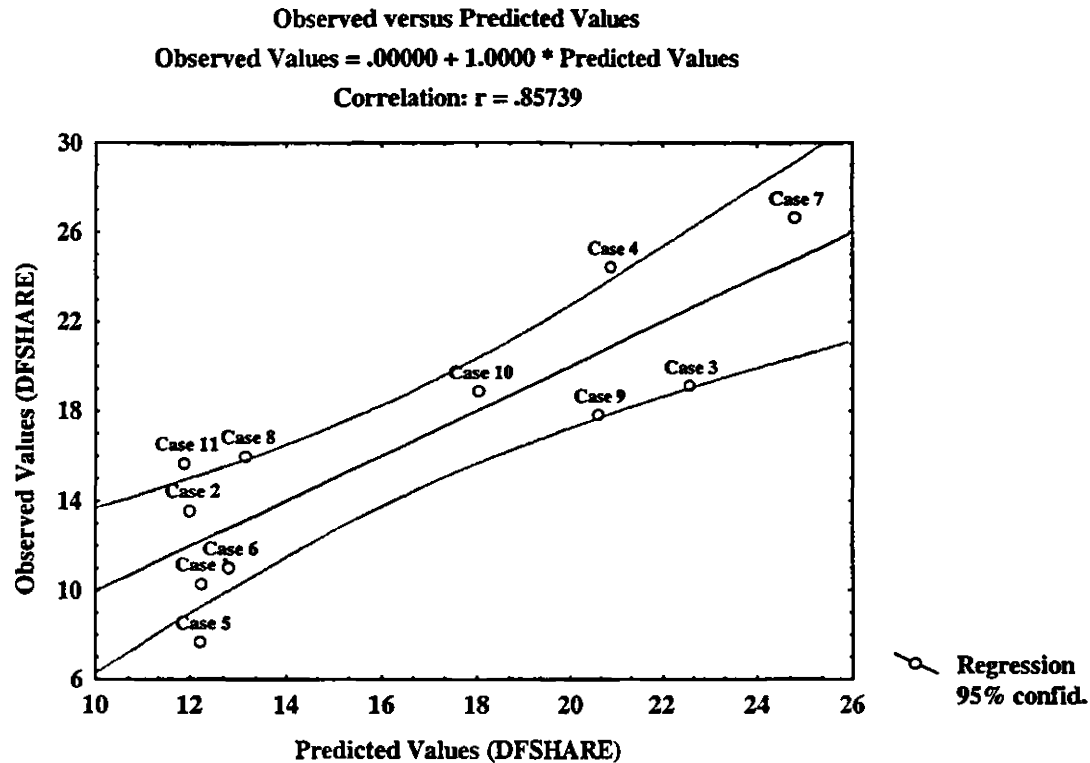
Sources: see Appendices, Appendix 2 for details. Case 1=Belgium; Case 2=Denmark, Case 3=Finland; Case 4=France; Case 5=the Netherlands; Case 6=Norway; Case 7=Portugal; Case 8=Spain; Case 9=Sweden; Case 10=Switzerland; Case 11=the United Kingdom. Independent variable: real GDP per capita. Model: piecewise linear regression with breakpoint.

Therefore, on the basis of both the military burdens and the defense shares, Finland, France, and Portugal were consistently high-spending nations in terms of their military effort, and Belgium, Denmark, the Netherlands, and Norway low-spending states. The others seemed to move between the groups during this period. However, it seems evident that the groups had come closer to one another also in terms of their defense shares by 1935, and the groupings were less

²⁸⁴ See e.g. Saz 1999a, 54; Saz 1999b, 73—76.

clear in this sense. As we have seen before, the rearmament of the authoritarian nations seemed to be ignored by all of these states in the very beginning of the phenomenon. Finally, the Great Depression did not seem to be an exceptional event from this perspective; namely in terms of perhaps expected military spending cuts. The continuity involved in the military spending of the period for the eleven European states was quite remarkable.

Figure 32. Defense Shares of the Selected Eleven European Countries Regressed Against Their Respective GDP per Capita (in 1929 Quasi-USD), 1935

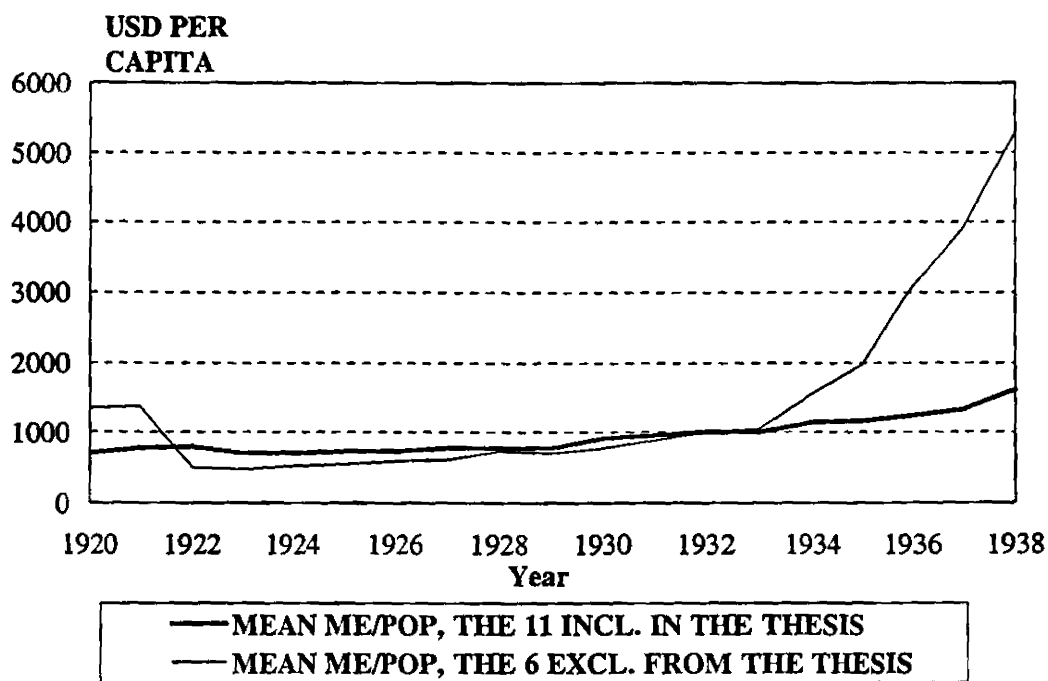


Sources: see Appendices, Appendix 2 for details. Case 1=Belgium; Case 2=Denmark, Case 3=Finland; Case 4=France; Case 5=the Netherlands; Case 6=Norway; Case 7=Portugal; Case 8=Spain; Case 9=Sweden; Case 10=Switzerland; Case 11=the United Kingdom. Independent variable: real GDP per capita. Model: piecewise linear regression with breakpoint.

What about military spending in real absolute values? The relative shares, it could be argued, might provide a misleading view of the military spending trends in this period. Again, if we look at the mean military expenditures per capita, in a common currency (converted with the deflator calculated as the arithmetic average of the respective WPIs and CPIs as explained in Chapter 1), for the eleven, it becomes apparent again that the military spending of these states was very stable in this period, at least on the average (see Figure 33 below). And once more, the military spending gap between these democracies and transitional regimes, and the authoritarian states increased dramatically after 1933. The interwar democracies spent, on the average, less

than a third of the average ME per capita that their authoritarian challengers did in 1938. What about the “true” military spending potential of the democratic Great Powers; i.e., in absolute values? Who were the “leaders” and how did the “balance of power” among them change during the course of this period?

Figure 33. Real Military Spending (=ME, in 1929 Quasi-USD) per Capita (POP=Population) of the Selected Eleven European Countries Compared with the Six Other Countries, 1920—1938



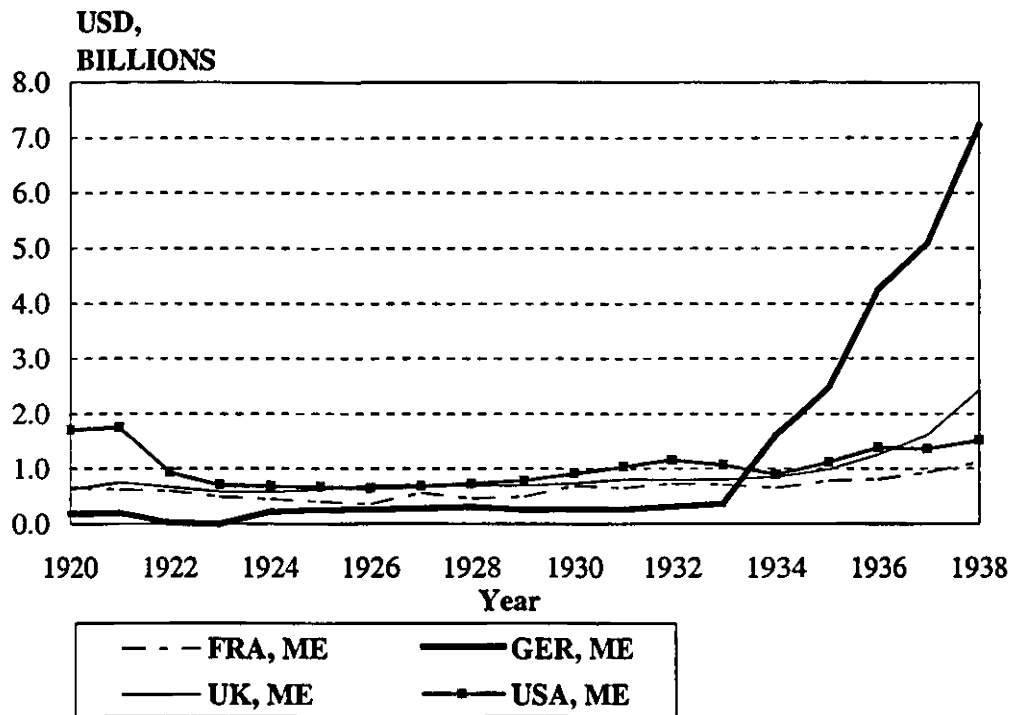
Sources: see Appendices, Appendix 2 for details. Averages are unweighted.

Note: for details on the countries included, see Figure 11.

As seen in Figure 34 below, the real military spending of the United States, in absolute terms, was the highest until Hitler’s ascendancy to power in 1933, after which the German ME increased rapidly. The United Kingdom and France matched the U.S. spending levels quite closely throughout the period. The enormous military spending effort of Nazi Germany was indeed quite staggering. Whereas Germany was spending approximately 7,2 billion 1929 quasi-USD on its military establishment in 1938, the combined spending of France, the United States, and the United Kingdom amounted to only less than 5,1 billion 1929 quasi-USD. It is important to note, however, that although the U.S. military burden was below 1,5 per cent in 1938, it was still able to produce such a high level of absolute military expenditures, revealing the huge

mobilization potential of the world's leading economy. The British military burden, for example, was almost 6,5 per cent in 1938.²⁸⁵

Figure 34. Real Military Expenditures (in 1929 Quasi-USD) of France, Germany, the UK, and the United States, 1920—1938



Sources: see Appendices, Appendix 2 for details.

How well do the common currency figures reflect the “true” military spending of the selected eleven states? The deflator that has been used throughout the thesis comprises a simple combined wholesale and consumer price index.²⁸⁶ As was discussed in Section 1.3, it is also possible to construct alternate deflators according, roughly, to use. Would the use of these deflators change the results achieved here? As seen in Table 11, the deflator that has been used throughout this thesis was found statistically almost identical to the alternative one for most of these countries. For three (Finland, Spain, and Switzerland), the two deflators had different means and medians, yet the variance seemed to be the same. Thus, especially since it is practically impossible to replicate the procedure involved in constructing the alternative deflator for a wider sample of countries, the deflator chosen for these comparisons seems quite adequate. Figure 35 also displays the fairly close agreement between the two deflators for France, and the divergence between the two in the latter part of the period for Switzerland.

²⁸⁵ See Appendices, Appendix 2 for details on the sources. See also Eloranta 2002b.

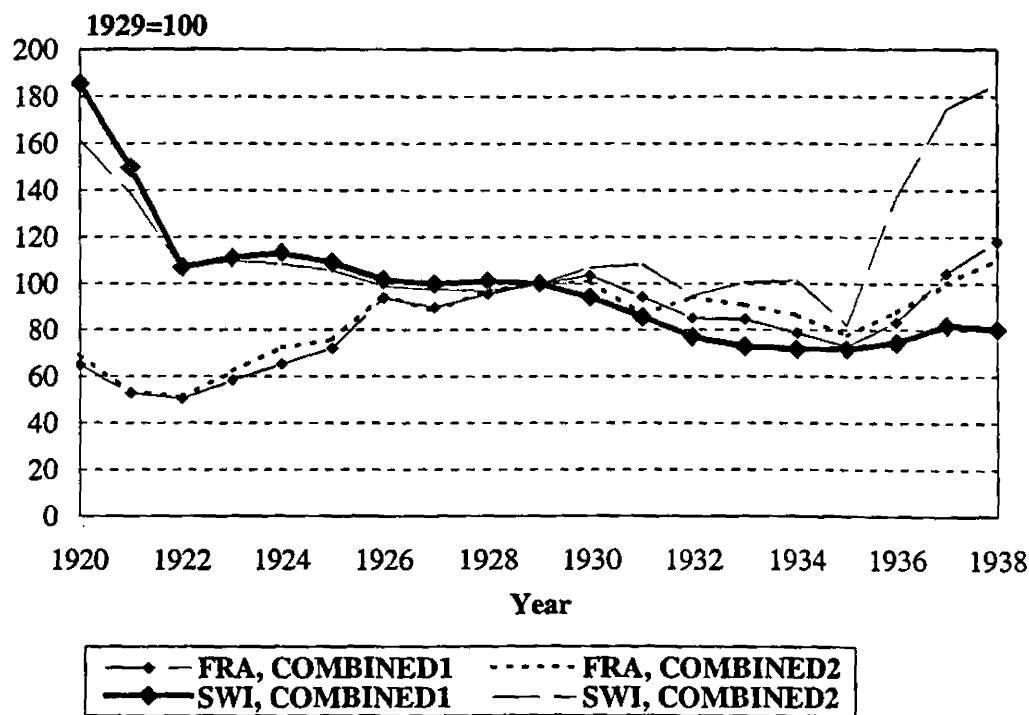
Table 11. Statistical Tests on the Means, Medians, and Variances of the Two Military Expenditure Deflators, 1920—1938

A.	B.	C.	D.
<i>BEL</i>	0/1	0/5	0/5
<i>DEN</i>	1/1	3/5	0/5
<i>FIN</i>	0/1	0/5	0/5
<i>FRA</i>	0/1	0/5	0/5
<i>NED</i>	0/1	0/5	0/5
<i>NOR</i>	0/1	0/5	0/5
<i>POR</i>	0/1	0/5	0/5
<i>SPA</i>	1/1	3/5	0/5
<i>SWE</i>	0/1	0/5	0/5
<i>SWI</i>	1/1	3/5	0/5
<i>UK</i>	0/1	0/5	0/5

Sources: see Appendices, Appendix 2 for details. A=country abbreviation; B=mean test between the two deflators; C=five median tests between the two deflators; D=five variance tests between the two deflators.

Note: here are shown the number of tests that reject the null hypothesis at 10 per cent level of significance. Null hypotheses = same mean; same median; same variance. See Appendices, Appendix 1B for details on the statistical tests.

Figure 35. Comparison Between the Two ME Deflators for France and Switzerland in the Interwar Period



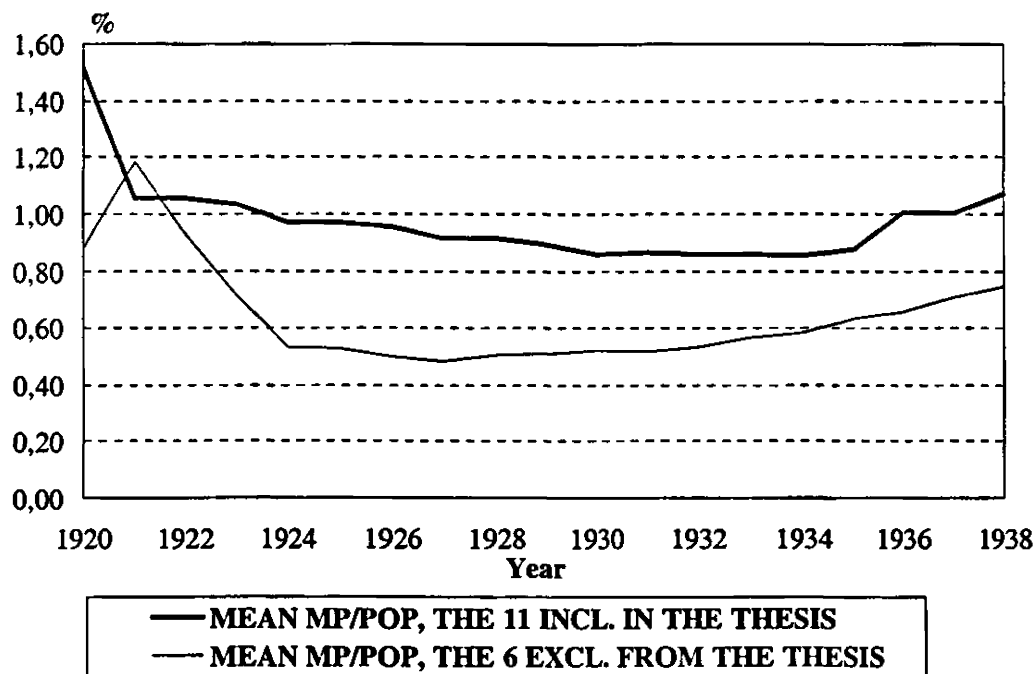
Sources: see Appendices, Appendix 2 for details.

Note: COMBINED1 is the deflator used in most of the comparisons here (=average of WPI and CPI); COMBINED2 is the alternate deflator, as explained in Chapter 1.

²⁸⁶ See Appendices, Appendix 2 for details.

How large were the armed forces of the eleven selected countries, again compared with the six excluded nations? As seen in Figure 36 below, the mean military personnel per capita share of the eleven was quite stable, with a declining trend until the mid-1930s. Furthermore, this share by the eleven was considerably higher for most of the period compared with the six excluded states. Thus, in relative terms, the eleven relied more on troops in their choices for armed security. If the authoritarian states spent more, were they then more inefficient in their military spending? Or, did the authoritarian states merely choose to maintain higher capital military expenditure?

Figure 36. Military Personnel (=MP) per Capita (POP=Population) Percentage Shares of the Selected Eleven European Countries Compared with the Six Other Countries, 1920—1938



Sources: see Appendices, Appendix 2 for details.

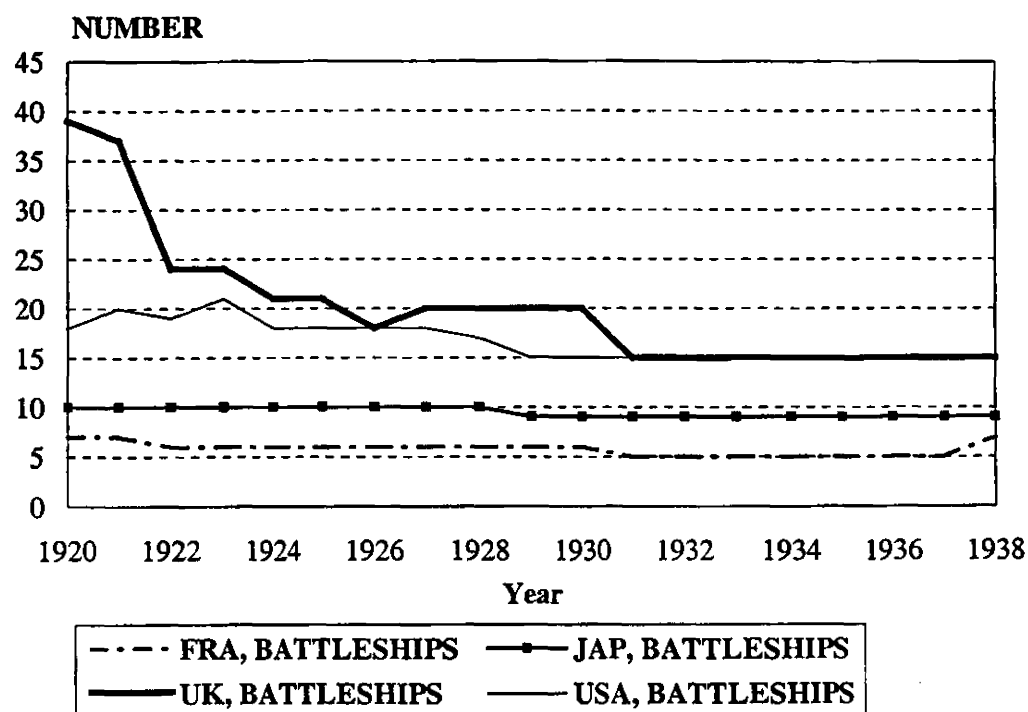
Note: for details on the countries included, see Figure 11.

These questions require some estimations of the available military stock by the states to be compared. One measure, advocated by George Modelski and William R. Thompson (1988)²⁸⁷, is the number of battleships, perceived by the aforementioned authors to reflect the ability of a

²⁸⁷ Modelski and Thompson also use somewhat scattered estimates of the Great Power naval spending to calculate world leadership shares as well as other variables. Their study is, in particular, to be commended due to its detailed explanations on the sources used and the weaknesses of the estimates. See Modelski-Thompson 1988, e.g. 38-48. Here I have chosen to define a battleship as a military capital ship other than an aircraft carrier with a tonnage of at least 15 000 tons.

state to assume a leadership position within a system. As seen below in Figure 37, the number of battleships reflects rather well the earlier discussion of naval limitation agreements by the Great Powers. By 1931, the United Kingdom and the United States seem to have achieved a balance with the other states also maintaining steady numbers of battleships. Was the rearmament of the 1930s an illusion, especially in the sphere of naval armaments?

Figure 37. Number of Battleships by France, Japan, the United Kingdom, and the United States, 1920—1938



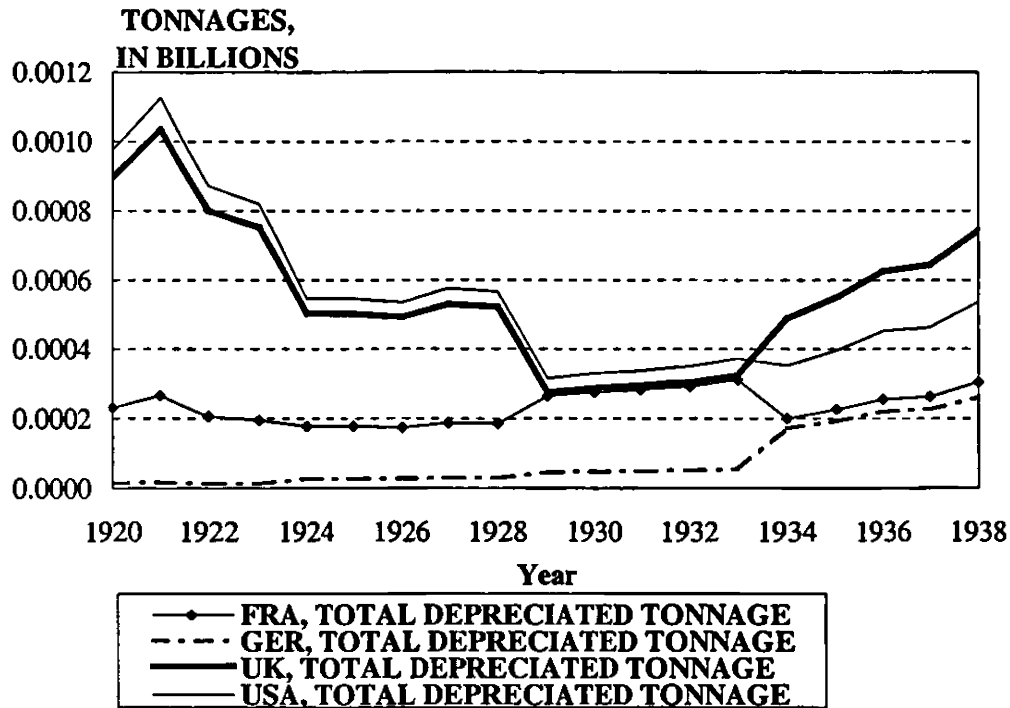
Sources: see Appendices, Appendix 2 for details.

It is argued here that this picture may be quite misleading as a representation of the naval competition, or the lack of it, in the 1930s. I have constructed figures on the depreciated total tonnages of the seventeen states (see Figure 11 on the countries chosen), using the guidelines of the League of Nations on the depreciation lengths of different kinds of ships. As this procedure is extremely labor-intensive, the depreciated tonnages were constructed only for the years 1923, 1928, 1933, and 1938. The totals were then interpolated using the indices explained in Appendices (Appendix 2).²⁸⁸ These figures should provide a better estimation of the “true” naval stock of these nations, especially in terms of naval competition, because: 1) Battleships

²⁸⁸ Thus, the whole period series display the changes between these interpolation periods. If these tonnage figures had been used as straightforward times series in the statistical exercises in this thesis, a smoothing procedure would have been employed.

represent perhaps merely the offensive capabilities of states, or the ability to maintain “leadership”; and 2) Outdated materials were indeed deemed to be useless in battle, as displayed by the British estimations that during the First World War an older standard German battleship would last no more than five minutes against a modern, British Dreadnought.²⁸⁹ Let us first examine the comparative depreciated naval tonnages of some of the Great Powers in this period (see Figure 38 below).

Figure 38. Total Depreciated Tonnages of France, Germany, the United Kingdom, and the United States, 1920—1938



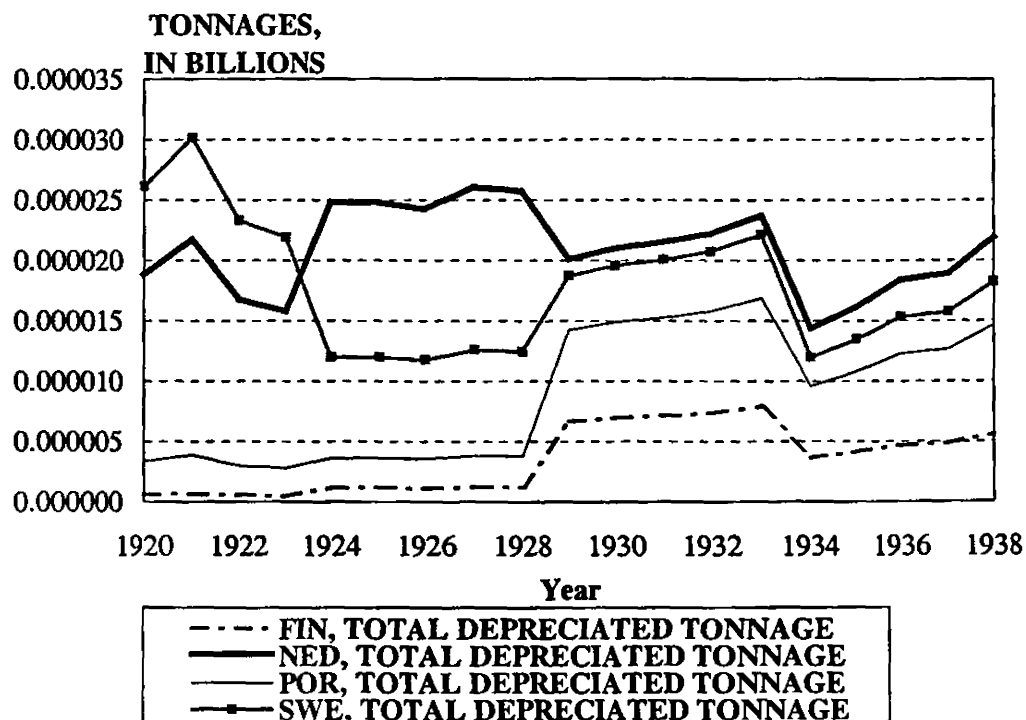
Sources: see Appendices, Appendix 2 for details.

The view provided by the number of battleships seems to, in fact, have been quite accurate for the 1920s. The naval limitation agreements indeed decreased the usable tonnages of the United Kingdom and the United States, while the tonnage held by France in effect increased, producing an actual parity between the three. This had not been the aim of the naval limitation accords discussed earlier. Nonetheless, quite divergent trends emerged after 1933. While the British rearmament programs, often in connection with depression-related employment efforts, produced a strong increase in the 1930s (with the U.S. effort somewhat more meager), the French actual naval stock declined, both due to lack of funding and the aging of the ships. The

²⁸⁹ Modelski-Thompson 1988, 76.

German fleet, practically nonexistent before the 1930s, was built up quite fast, at least to provide a significant threat to the French, yet the naval lead of the United Kingdom and the United States remained clear.

Figure 39. Total Depreciated Tonnages of Finland, the Netherlands, Portugal, and Sweden, 1920—1938

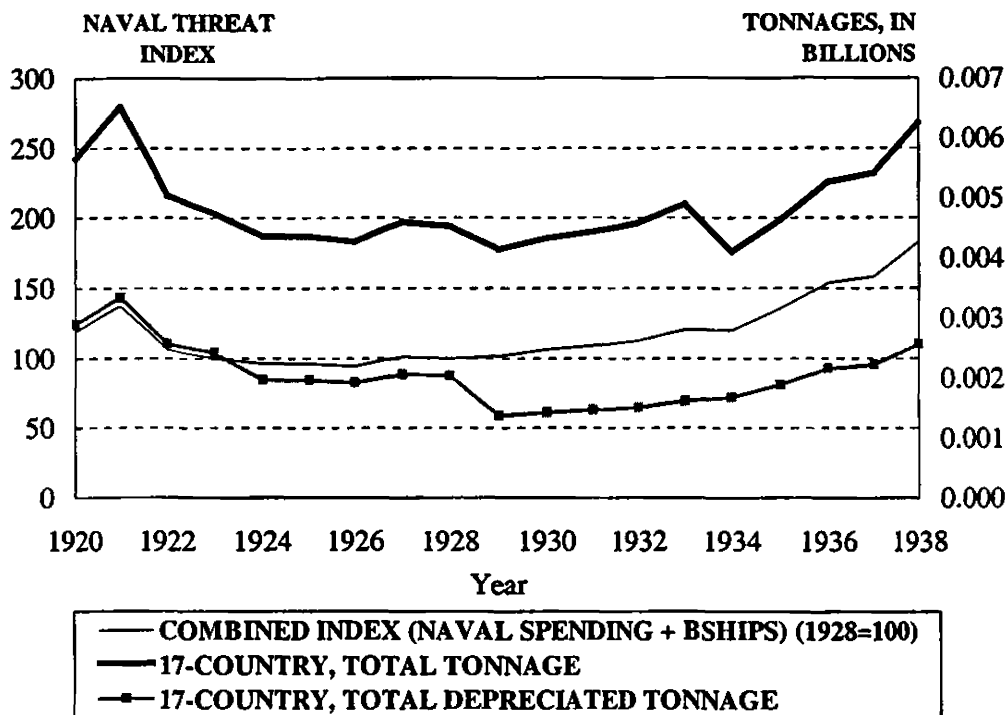


Sources: see Appendices, Appendix 2 for details.

A complete rundown of the naval capabilities of the seventeen states discussed here can be found in Appendices, Appendix 3, Table 1. Firstly, Great Powers that increased their *relative* depreciated tonnage among the 17 nations in this period included for example France, Germany, and Italy, whereas countries that seemed to experience a naval capability decline included Japan, the United Kingdom (the end of the 1930s notwithstanding), and the United States. Another interesting figure in the said table is the percentage of depreciated tonnage to nominal tonnage for these states. Countries with over 50 per cent share were: Finland (1933, 1938), Germany (1938), Italy (1928), Japan (1923, 1928), Portugal (1933, 1938), the United Kingdom (1923), and the United States (1923). These years usually also represented the peaks in their respective "real" tonnages and fighting power. One should not, nonetheless, draw too grave conclusions about, for example, the decline of the British and the American naval capabilities, as mentioned before: For most of the period, the combined tonnage of these two states accounted for over half of the 17-country combined depreciated tonnage.

And the “weak” states – how did they behave in general? As we have already seen, high-spending countries such as Finland and Portugal seemed to develop significant naval capabilities, of course only in relative terms, in the 1930s. Overall, it seems that of these countries Finland and Portugal did increase their naval capabilities, whereas for example the Dutch and the Swedish naval capabilities developed in a more erratic fashion (see Figure 39). There were two apparent growth phases during this period: one during the Great Depression and another in the late 1930s. From the late 1920s onwards, the “weak” states behaved quite similarly. What about on the whole, were there clear tendencies to be detected among the seventeen states on the aggregate?

Figure 40. Index of Naval Threat (1928=100), 17-country Total Nominal Tonnage, and 17-country Total Depreciated Tonnage, 1920—1938



Sources: see Appendices, Appendix 2 for details.

Note: for details on the countries included, see Figure 11.

Figure 40 includes three possible indicators of naval threats among seventeen states. The first is a volume index constructed from the figures provided by Modelski and Thompson (1988) as well as other sources (see Appendices, Appendix 2), the second is the total nominal tonnage of the seventeen states, and the third is the total depreciated tonnage of the said states. This third index seems to indicate most clearly a decline in the 1920s, and an emerging growth trend in the 1930s. The combined volume index of “threat” ignores some of the disarmament tendencies of

the 1920s, and the nominal tonnage indicates, for example, a more abrupt growth trend from the mid-1930s onwards. I would argue that the total depreciated tonnage confers a more accurate picture of this phenomenon. The emergence of systemic threats, for example, will be discussed in more detail and with more precise concepts in Chapter 4.

One could, of course, make certain inferences from such data. In Table 12 below, I have collected together various indicators of the relative military stocks and military spending of France and Germany, to compare their relative strengths and weaknesses in both respects. Column D indicates the French relative strength in military personnel in comparison with the German forces (with 100 equaling balance), column G displays the relative advantage of the French depreciated tonnage in comparison with the German equivalent (with 100 equaling balance), and column J designates the relative advantage of the French military spending in a common currency compared to the German ME (with 100 equaling balance). A combined index of the three can be found in column K.

Table 12. Comparison of the Relative Military Stock and Military Spending of France and Germany, 1920—1938

A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.
1920	0,001457	0,000114	1278,1	0,000231	0,000014	1597,4	0,654445	0,190237	344,0	1073,2
1921	0,000547	0,000114	479,8	0,000267	0,000017	1597,4	0,618050	0,192872	320,4	799,2
1922	0,000545	0,000114	478,1	0,000206	0,000013	1597,4	0,602181	0,024818	2426,4	1500,6
1923	0,000511	0,000114	448,2	0,000194	0,000012	1597,4	0,497505	0,000000	4,0E+8	1,3E+8
1924	0,000479	0,000114	420,2	0,000178	0,000028	635,4	0,447044	0,218314	204,8	420,1
1925	0,000475	0,000114	416,7	0,000178	0,000028	635,4	0,407725	0,253013	161,1	404,4
1926	0,000471	0,000114	413,2	0,000175	0,000027	635,4	0,359980	0,265086	135,8	394,8
1927	0,000494	0,000114	433,3	0,000187	0,000030	635,4	0,565893	0,275311	205,5	424,7
1928	0,000469	0,000114	411,4	0,000185	0,000029	635,4	0,459420	0,309566	148,4	398,4
1929	0,000411	0,000114	360,5	0,000264	0,000047	568,1	0,498073	0,256072	194,5	374,4
1930	0,000411	0,000114	360,5	0,000276	0,000049	568,1	0,697363	0,269950	258,3	395,7
1931	0,000441	0,000114	386,8	0,000283	0,000050	568,1	0,657798	0,270590	243,1	399,4
1932	0,000422	0,000114	370,2	0,000292	0,000051	568,1	0,722139	0,310487	232,6	390,3
1933	0,000449	0,000118	380,5	0,000312	0,000055	568,1	0,710263	0,368026	193,0	380,5
1934	0,000458	0,000315	145,4	0,000200	0,000172	116,3	0,653052	1,619759	40,3	100,7
1935	0,000548	0,000461	118,9	0,000225	0,000194	116,3	0,781891	2,478563	31,5	88,9
1936	0,000588	0,000596	98,7	0,000256	0,000220	116,3	0,811412	4,248703	19,1	78,0
1937	0,000613	0,000603	101,7	0,000263	0,000226	116,3	0,936582	5,089629	18,4	78,8
1938	0,000581	0,000782	74,3	0,000304	0,000262	116,3	1,117205	7,225170	15,5	68,7

Sources: see Appendices, Appendix 2 for details. A=year; B=France, military personnel, billions; C=Germany, military personnel, D=(French military personnel / German military personnel) x 100; E=France, total depreciated tonnage, billions; F=Germany, total depreciated tonnage, billions; G=(French depreciated tonnage / German depreciated tonnage) x 100; H=France, real military spending in 1929 quasi-USD (adjusted as explained in Appendices, Appendix 2), in billions; I=Germany, real military spending in 1929 quasi-USD (adjusted as explained in Appendices, Appendix 2), in billions; J=(French real ME in USD / German real ME in USD) x 100; K=unweighted mean of D, G, and J.

It seems that the French held at least circa fourfold lead in military personnel, over fivefold lead in depreciated tonnage, and circa twofold lead in military expenditures up until 1933. The French dominance eerily echoes the German diplomats' calls for a restoration of even a semblance of parity between the countries, as well as the impossibility of real disarmament to be undertaken by the League of Nations.²⁹⁰ Hitler's ascendancy began to crumble this lead quite rapidly, although the overall French lead index falls below 100 for the first time only in 1935. Germany's lead was the most pronounced in military spending in the late 1930s, which is consistent with historical accounts of the German rearmament: it was concentrated on the mechanization of the armed forces. Nonetheless, as Robert A. Doughty has said: "While the French military could always have used more resources, the major difficulties sprang not so much from inadequate funding as from how those funds were spent". This sentiment could actually be seconded for many European interwar polities.²⁹¹

Even "high", at least in comparative terms, military spending was not a guarantee of military success or the security of the borders. The importance of military spending in combination with a credible military stock cannot be underestimated in the maintenance of peace, yet how this stock would be wielded into action and maintained during a conflict are ultimately the determinants of military success. According to Samuel Huntington, military power has four dimensions: quantitative (men, arms, resources); technological (effectiveness of the equipment); organizational (discipline, training etc. of troops); societal (ability and willingness to apply military force in various situations).²⁹² In terms of military effectiveness, a nation's military effectiveness is defined through a process by which armed forces are converted into fighting power. Military activity, in turn, takes place at four different levels — political, strategic, operational, and tactical — of which the political sphere contains the funding dimension for the armed forces.²⁹³ The question of 'how much is enough' can be approached from these different perspectives, although the "final" answer always depends on the point of view adopted by the analyst. For example, the contemporary French policy-makers, as in all cases resulting from a complex compromise among various groups, were convinced that the French security required high military spending in the 1920s. On the other hand, the inability of the French to maintain competitive military spending in the 1930s may have contributed to the technological weaknesses of the French forces in the Second World War. Similarly, the Finnish military

²⁹⁰ See e.g. Northedge 1986; Ahmann 1993.

²⁹¹ See especially Doughty 1988, 43; Murray 1984; Messerschmidt 1988. On the Finnish case, see e.g. Eloranta 1997c; Eloranta 1998.

²⁹² Huntington 1997, 88.

²⁹³ Millett et al. 1988, 1—12

expenditures met most of the targets set for them by the various committees in the 1930s, yet some of the units of the Finnish armed forces were rather poorly equipped in the Winter War 1939—1940. Why? Because it was not a question of inadequate funding rather than how the funds were spent. In the Finnish case, the funds went for, among other things (see Chapter 7 for details), supporting the building of a domestic military-industrial base.²⁹⁴

All in all, we may distinguish certain overall features in the military spending patterns outlined in this section. Firstly, it seems that the military burdens of most states in the interwar period remained at similar levels as experienced before the First World War, whereas the military expenditures' budgetary role apparently decreased. Secondly, the military burdens and defense shares of the selected eleven European states were, on the average, remarkably stable during this period, suggesting budgetary path dependence in the post- First World War military spending. The Great Depression did not make too much of an impact, at least on the whole, perhaps due to the domestic market support strategies adopted by many governments. Yet, the military spending of the “authoritarian challengers” increased quite clearly from 1930 onwards. Thirdly, the eleven European states seemed to engage in rearmament quite late in the 1930s, certainly much later than the non-democratic regimes. This might have been due to their inability to adjust quickly because of their democratic institutions or their trust in the League of Nations and/or in each other. Or, other impurely public benefits affected their military spending demand functions, as explored in the subsequent chapters. Fourthly, the individual experiences of these countries differed greatly. Indeed, what were the “causal” factors behind these differences? Fifthly, even by a cursory analysis, it seems that the interwar international political climate was not very conducive for common security arrangements. For example, as discussed in connection with the League of Nations and economic development, the international “system” lacked leadership and credible commitment to cooperation. Respectively, for example the French completely dominated the Germans until Hitler in their military spending and effective military stock. These disparities were reflected on to the international diplomatic scene. Sixthly, it seems that the Great Powers, in general “high” military spenders, had different military spending strategies than the “weak” states (with Finland and Portugal as exceptions). Did the overall priorities of these eleven states differ? Can we say that the democracies were indeed “different”?

²⁹⁴ See e.g. Doughty 1988; Eloranta 1997c; Eloranta 1998.

4. THE DEMOCRATIC PEACE ARGUMENT, LACK OF INTERNATIONAL LEADERSHIP, AND SYSTEMIC FACTORS, 1920—1938

4.1. Military Spending and Regime Type — Exploring the Democratic Peace Argument

This chapter presents empirical evaluations of some of the hypotheses developed on the basis of theoretical framework outlined in Chapter 2; namely, whether the eleven democracies or transitional democracies developed in a different manner than for example authoritarian states (depending on the extent of authoritarian rule); whether there was an interdependence between military spending and economic development during this period as suggested by some; and whether certain systemic factors, measured by a pooled sample, were relevant for the development of the demand for military spending among the eleven. Firstly, the measurement of the levels of democracy is contingent on the utilization of relevant indices, which are discussed in this section, and the differentiation between regime types requires various kinds of statistical tools, which will form the basis for the hypotheses tested here. Secondly, the possible interdependence between military spending and economic development is explored by utilizing Granger non-causality tests, explained in Section 4.2. Thirdly, the systemic forces, forming the first phase of the more extensive evaluations of the pooled-sample military spending demand, will provide an indication which of the indicators developed in Section 4.3 should be relevant for the analyses in the subsequent sections. Additionally, the democracy and autocracy indices will be utilized to assess systemic changes.

As discussed in the previous chapter, the First World War introduced sweeping political changes for the Western European states. One of the most important reforms brought on by the war — due to especially the necessity of maintaining public support for the massive, usually not preplanned, government spending during the war — was the extension of the voting franchise, also to include women in many countries.²⁹⁵ As seen below in Table 13, the interwar period political climate of at least Denmark, Finland, the Netherlands, Norway, Sweden, and the United Kingdom was surely influenced by the existence or introduction of universal adult suffrage. Even in the other cases the extension of the franchise as a percentage, compared to the pre- First World War period, was quite apparent. The percentage of population over 20 allowed to vote remained, however, below 50 per cent in the countries that did not have universal adult

²⁹⁵ See e.g. Eichengreen 1992, 92; Simmons 1994; Webber-Wildawsky 1986, e.g. 430.

suffrage. In the Swedish case, the first election under the universal adult suffrage in 1921 brought 87,9 per cent of the age group the right to vote.²⁹⁶

Table 13. Extension of the Franchise, Eleven European States

A.	B.	C.	D.
BEL*	1948 (21)	3,7 (1870)	45,5 (1921)
DEN	1918 (29)	26,0 (1872)	70,0 (1920)
FIN	1907 (24)	..	73,4 (1922)
FRA α	1945 (21)	43,7 (1871)	39,9 (1924)
NED	1922 (25)	5,0 (1870)	80,7 (1922)
NOR	1921 (23)	8,5 (1870)	86,9 (1921)
POR	..	10,2 (1875)	9,6 (1925)
SPA	..	..	..
SWE	1921 (23)	9,8 (1872)	33,0 (1920)
SWI \bullet	1971 (20)	38,7 (1881)	40,3 (1922)
UK	1928 (21)	14,9 (1871)	74,5 (1922)

Source: Flora 1983, except POR data provided by Jaime Reis. A=country; B=date of introduction of universal adult suffrage (minimum voting age in parenthesis); C=first observation on the group 20 years or older allowed to vote per population, percentage, period 1870—1913 (year of observation in parenthesis); D= first observation on the group 20 years or older allowed to vote per population, percentage, period 1920—1938 (year of observation in parenthesis).

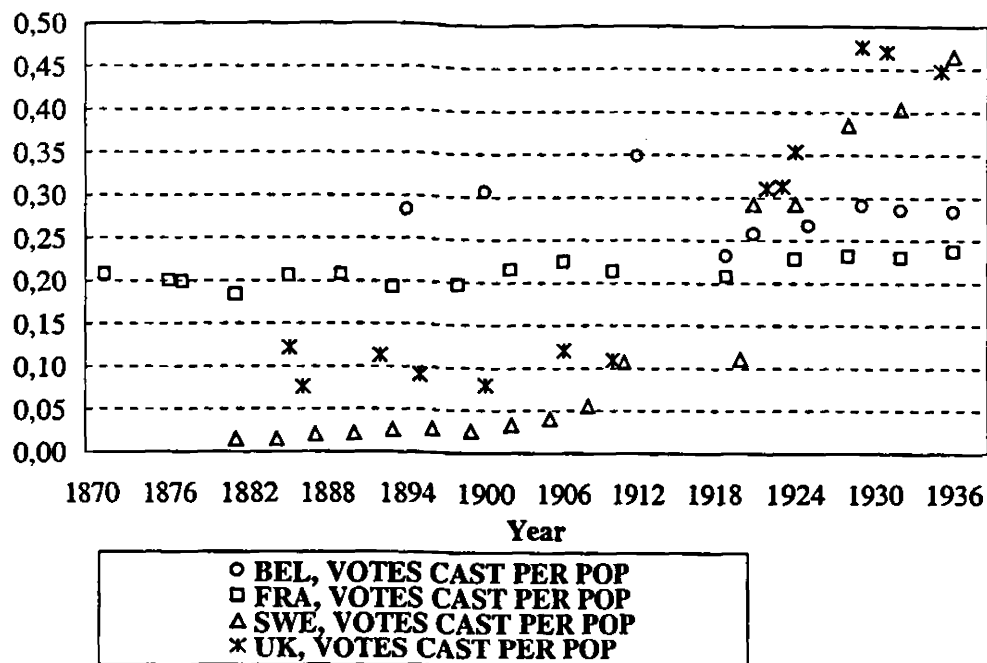
Note: The electorate refers to those eligible to vote in parliamentary elections, to the lower house if applicable. * = universal and equal manhood suffrage for men over 21 in 1919; α = universal and equal suffrage for all male citizens of 21 years and older in 1848; \bullet = universal and equal suffrage for male citizens of 20 years and over in 1848.

As discussed previously, the impact of the franchise was much less revolutionary in the cases where the universal suffrage did not include the whole adult population. This also applied to the actual voting behavior of the population: in France and Belgium, as seen for example in Figure 41, the number of votes cast per population hardly changed in the interwar period compared to the previous period. In turn, for countries like Sweden and the United Kingdom the extension of the franchise also translated into a drastic jump in the election participation rates. This encouraged the widening of the political field and the introduction of new political parties. Also, for practically the first time the left-wing parties entered the political arenas with considerable impact in Europe. Their support base was strengthened by the electoral reforms, and the emergence of unions as a quasi-corporatist force also encouraged their rise. Social Democratic parties in for example Sweden, Denmark, France, and Norway, as well as the British Labour party, made significant gains over the other parties in terms of membership. For example, France experienced its first moderate Left government in 1924, with many other installments to come in the 1930s.²⁹⁷

²⁹⁶ Flora 1983, 141.

²⁹⁷ See e.g. Eichengreen 1992; Simmons 1994, e.g. 23—27. See also Flora 1983 on the political parties and their electoral success. In the context of military spending, see Eloranta 1998.

Figure 41. Number of Votes Cast per Population (=POP) in Belgium, France, Sweden, and the United Kingdom, 1870—1938



Source: Banks 1976.

Yet, how can we define a democracy? Or, respectively, an authoritarian regime? Obviously, these concepts are far from being uncontentious. A fairly common definition, based on Robert Dahl's concept of polyarchy as the closest approximation of this elusive ideal, usually equates democracy with a voting franchise for a substantial fraction of the citizens, a government brought to power in contested elections, and a popularly elected executive controlled by an elected legislature. Often also certain civil liberties such as free speech are included, yet less frequently applied in the practical adaptations.²⁹⁸ For Gordon Tullock, to provide an even stricter definition, the term electoral system is more appropriate to describe a democracy, since he argues that universal adult suffrage is necessary for a country to be a democracy. Thus, as suggested by the tables above, most of these countries achieved the status of democracy, even in the strictest sense, in the interwar period.²⁹⁹ Robert Dahl has recently defined specific criteria for "a democratic process": 1) Effective participation; 2) Voting equality; 3) Enlightened understanding (meaning equal access to relevant information); 4) Control of the agenda

²⁹⁸ Russett 1993, 14. See also Dahl 1998. On comparative criteria, see Linz 2000.

²⁹⁹ Tullock 1987, 1—5. Regarding emphasis on civil rights and other freedoms, see especially Linz 1978, 5. On the remarkably short history of "democracy", see especially Dahl 1998.

(meaning that the policies are open to change); 5) Inclusion of adults.³⁰⁰ Even if we were to accept these notions as the starting point for the analyses here, how should we define the “other” forms of government, especially the ones lacking most of these characteristics?

One of the concepts immediately rejected here for both practical purposes and theoretical arguments presented by several authors is dictatorship. This term, with its origins in Ancient Rome, has changed meanings several times in history with such concepts as tyranny and despotism, and should be limited in use to describe *emergency rule* that suspends or violates temporarily the constitutional norms of accession to an exercise of authority.³⁰¹ Yet, as Juan J. Linz has argued convincingly, a simple dichotomy between democratic and authoritarian (or nondemocratic) regimes is not adequate, especially for empirical purposes. Here I will adopt the concept of totalitarianism — applied to some of the most oppressive regimes of the 20th century such as Nazi Germany and Stalin’s Soviet Union by Hannah Arendt initially — to describe certain types of extreme forms of authoritarianism in the interwar period. According to Linz, a *totalitarian state* requires certain characteristics to fit the bill: 1) Monistic center of power, being the center of legitimacy of political power; 2) Exclusive, autonomous and usually intellectually elaborate ideology used by the leader and/or leading group for identification and as a basis for practical rule; 3) Mobilization of the citizenry for collective purposes, channeled through a single party. Furthermore, such a regime would resort to brutal use of violence against real or perceived opponents.³⁰²

Authoritarian regimes (=autocracies) in turn, imply limited political pluralism, no elaborate or guiding ideology, lacking extensive ability to instigate political mobilization. This term is of course very generic, and the various types of authoritarian regimes include the autocratic-monarchic variants typical of the 19th century, military-bureaucratic regimes such as Japan in the 1930s, and various transitional authoritarian regimes.³⁰³ Here it is argued that depending especially on the degree of centralized rule, the variants of authoritarian influence on military spending decision-making should emerge. Quite similar to Linz, I would not refer to Fascist Italy as a totalitarian state, at least until Mussolini was able to consolidate his power in the late 1920s. Moreover, Fascist Italy never achieved such a degree of totalitarianism as for example Nazi Germany.³⁰⁴ Thus, a roughly three-way definitional scheme is adopted here to describe the

³⁰⁰ Dahl 1998, 37—38.

³⁰¹ Boesche 1996, 10—11; Linz 2000, 61.

³⁰² Linz 2000, 71; Boesche 1996, 419—421.

³⁰³ See e.g. Linz 2000, 54, 159. In addition, see Lee 1987.

³⁰⁴ Linz 2000, 7—8.

interwar regimes: democratic, authoritarian, totalitarian. Additionally, the three regime types were either stationary (more or less) or transitional (passing from one category to another) during this period.³⁰⁵ How can we measure the differences? Is it possible to do so quantitatively?

Table 14. Two Different Measurements on the Number of Democracies and the Number States on the Aggregate, 1870—1940

A.	B.	C.	D.	E.
1870	2	39	6	37
1880	3	41	8	37
1890	4	42	8	38
1900	6	43	8	42
1910	8	48	9	44
1920	15	51	26	59
1930	22	64	24	64
1940	19	65	12	62

Sources: Dahl 1998, 8; Polity IID 2000. A=year; B=number of democracies (Dahl); C=number countries (Dahl); D=number of democracies (based on Polity IID and the criteria outlined in the text below); E=number of countries (based on Polity IID and the criteria outlined in the text below).

Table 14 includes two estimations on the number of democracies in the period 1870—1940. Although there are some discrepancies between the two, certain common conclusions can be drawn from this. Firstly, it seems that there were less than ten democracies, in the modern sense of the word outlined above, in the world before the First World War.³⁰⁶ Secondly, the number of democracies either doubled or tripled, depending on the series used, by 1920. Thirdly, the 1920s seems to have been the zenith of the democratization process, at least until the latter part of the 20th century. Fourthly, the number of democracies declined again significantly in 1930s.³⁰⁷ Thus, roughly this outline seems to agree with the story emerging from the extension of the franchise and voting behavior. Yet, what do these indices include? How are they constructed?

The combined index used in this study, the Polity IID, stems from efforts by political scientists, especially Ted Gurr, to construct such indices on a broad basis to cover a long time period. Polity I was created already in the 1970s, in which the unit of analysis was polity or political system, describing six dimensions of authority patterns, in 1800—1971. Since then, there have been numerous updates and improvements, and the data therein can be deemed fairly robust. The Polity II indices, for example, were based on a ten-point scale inclusive of following

³⁰⁵ However, as Bruce Russett has said, there are always shades of gray between the categories of democracy and autocracy. See Russett 1993, 15.

³⁰⁶ Russett estimates circa 12 to 15 democracies in existence at the end of the 19th century. See Russett 1993, 20.

³⁰⁷ See also Gurr et al. 1993.

characteristics: competitiveness of political participation, competitiveness of executive recruitment; openness of executive recruitment; and constraints on chief executive.³⁰⁸ These essential parts also form the basis for the Polity IID dataset. The democracy score, as an aggregate, country-based index, indicates *the general openness of political institutions*. Thus, the ten-point index has been constructed additively on the basis of the sub-categories. Table 15 displays the breakdown of how both the democracy and autocracy scores were constructed in Polity IID.

Table 15. Composition of the Polity IID Democracy and Autocracy Indices

DEMOC (3-numeric) Range = 1—10 (0 = low; 10 = high)	AUTO (3-numeric) Range = 1—10 (0 = low; 10 = high)
PARCOMP	PARCOMP
(5) Competitive +3	(1) Suppressed +2
(4) Transitional +2	(2) Restricted +1
(3) Factional +1	
	PARREG
XRCOMP	(4) Restricted +2
(3) Election +2	(3) Factional/Restricted +1
(2) Dual/transitional +1	
	XRCOMP
XROPEN (only if XRCOMP=2 or 3)	(1) Selection +2
(3) Dual/election +1	
(4) Election +1	XROPEN (only if XRCOMP=1)
	(1) Closed +1
XCONST	(2) Dual/designation +1
(7) Executive parity or subordination +4	
(6) Intermediate category +3	XCONST
(5) Substantial limitations +2	(1) Unlimited authority +3
(4) Intermediate category +1	(2) Intermediate category +2
	(3) Slight to moderate limitations +1

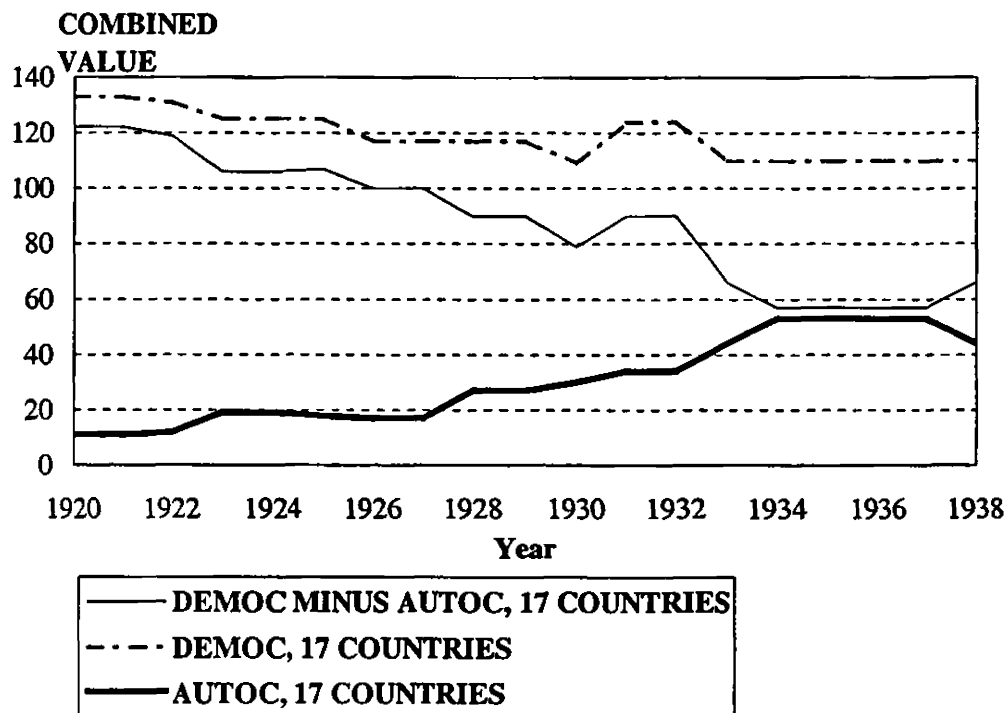
Source: Polity IID 2000. PARCOMP=competitiveness of participation; XRCOMP=competitiveness of executive recruitment; XROPEN=openness of executive recruitment; XCONST=constraints on the executive; PARREG=regulation of participation.

As such, the Polity IID can be criticized, for example, on the basis of its insensitivity to the issue of electoral franchise. As we have seen, Switzerland was half a century behind most Western states to award women the right to vote, yet it consistently scores a full ten on the democracy scale from 1848 onwards (i.e., the beginning of the universal adult male suffrage). Similarly, the United States scores ten on the democracy scale for most of the 19th century and throughout the 20th century despite the lack of access to political processes by the African-

³⁰⁸ Gurr et al. 1993.

Americans until the 1960s.³⁰⁹ An alternative index should certainly be weighted with a measure of the extensiveness of the franchise.

Figure 42. Aggregate Democracy (=DEMOC) and Autocracy (=AUTOC) Scores in the Larger Sample of Seventeen States, 1920—1938



Source: calculated from Polity IID 2000.

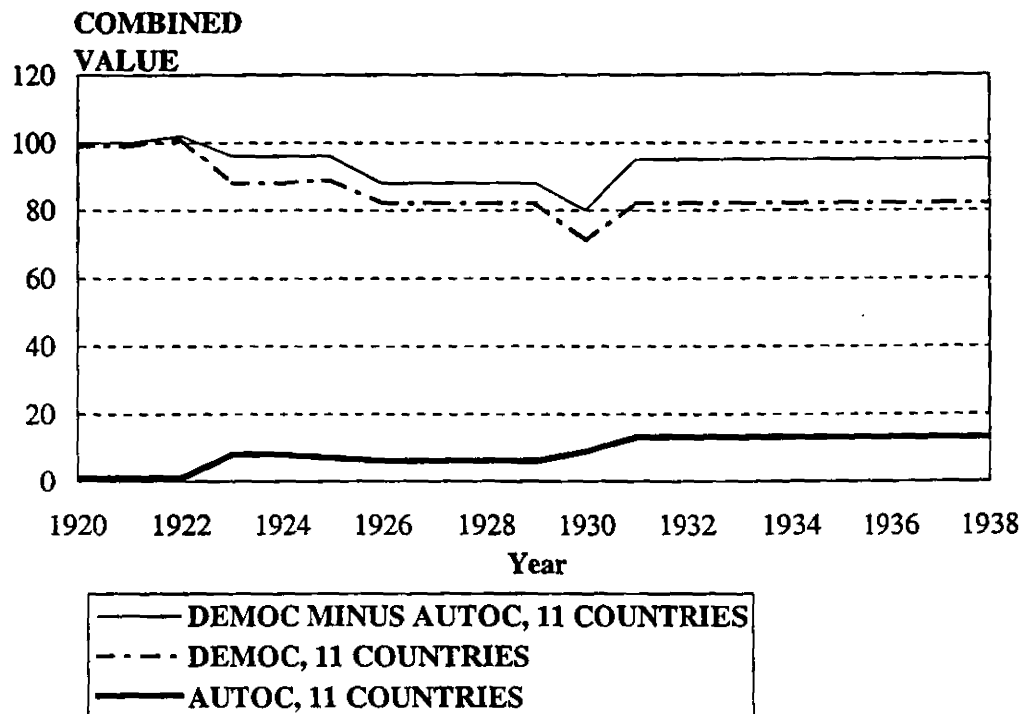
Note: all missing data and years of transition replaced with zeros in the individual country series. For a list of the states included here, see Figure 11.

These criticisms notwithstanding, the Polity indices can be used in quantitative applications to differentiate between the levels of democracy achieved — excluding such a weighted impact of the franchise as suggested above — and the types of regimes experienced by the countries in question. Here I will, for example, characterize the larger sample, used in some of the comparisons, in the following manner: ten *democracies*, defined as achieving at least a score of six out of ten in the Polity IID democracy index for the whole period 1920—1938 (**Belgium, Denmark, Finland, France, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the United States**); three *transitional democracies*, defined as fluctuating above and below the score of six in the democracy index in the period 1920—1938 (**Spain, Portugal, and Austria**); and four *transitional or stable autocracies* (defined as either maintaining their

³⁰⁹ See also Dahl's minor criticisms on the inclusiveness of the database. Dahl 1998, 196—199. On non-elite participation, see Ertman 1998.

levels of authoritarian or limited democracy regimes and/or becoming even more repressive), resulting in an autocracy score of at least three, in the period 1920—1938 (Germany, Italy, Russia/USSR, and Japan). Of the last mentioned, Germany under Hitler and the USSR under Stalin can further be distinguished as totalitarian states. As we can see in Figure 42, among the sample of 17 nations the comparative advantage enjoyed by the democracies dwindled throughout the period, especially in the early 1930s. Respectively, displayed in Figure 43, among the sample of eleven the relative advantage of democracies or, more precisely, the democracy-autocracy power ratio remained almost stable, which would suggest that they formed a uniform sample.

Figure 43. Aggregate Democracy and Autocracy Scores in the Sample of Eleven European States, 1920—1938



Source: calculated from Polity IIID 2000.

Note: all missing data and years of transition replaced with zeros in the series. For the list of states involved, see Figure 11.

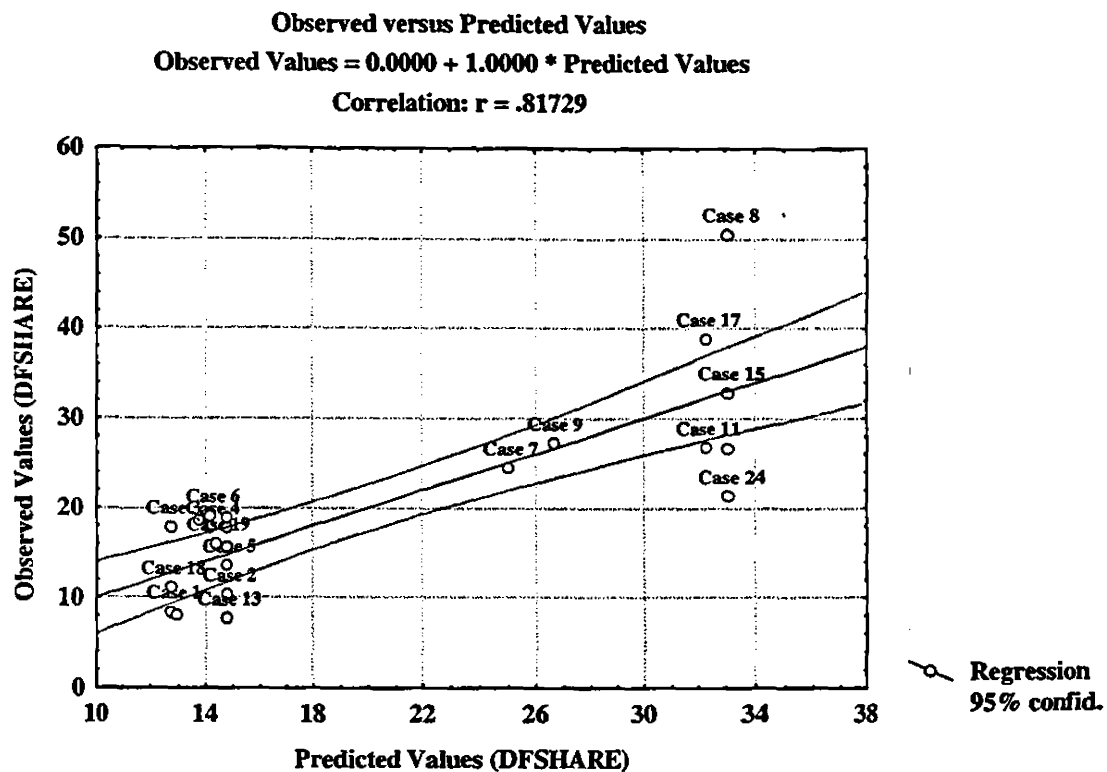
The basic premises of the democratic peace argument have already been presented in Chapter 2. In essence the argument here is, following the mainly empirical finding that democracies do not fight each other, that democracies should be more peaceful also in terms of their military spending behavior. This will also underline the choice of countries in this thesis. In this section I will test the so-called democratic peace hypotheses at the level of state, whereas the system level hypotheses will be revisited in Section 4.3. The hypotheses tested in this section are: 1)

The more democratic a regime is, the less of its economic resources, in relative terms, it should allocate for military purposes (=HYPOTHESIS 24); 2) The more democratic a regime is, the less of its central government expenditures, in relative terms, it should allocate for military purposes (=HYPOTHESIS 25); 3) The more authoritarian a regime is, the more of its economic resources, in relative terms, it should allocate for military purposes (=HYPOTHESIS 26); 4) The more authoritarian a regime is, the more of its central government expenditures, in relative terms, it should allocate for military purposes (=HYPOTHESIS 27); 5) Authoritarian states without totalitarian characteristics and centralized leadership should be unable to concentrate more resources for military purposes than democracies (=HYPOTHESIS 28); 6) A change in the form of government, resulting in authoritarian rule as well as enabling totalitarian and centralized leadership, should create a disruption in the relationship between military spending and economic growth (=HYPOTHESIS 29). The main tools involved in the testing of these hypotheses are simple quantitative methods, consisting chiefly of nonparametric statistical tests between samples as well as regression analyses.

Firstly, to see whether the eleven countries chosen for this thesis comprised a uniform sample, I regressed the individual country defense shares and military burdens in a similar manner as in Section 3.3, although this time against their respective levels of democracy measured by the Polity III indices. Here I will utilize a larger sample than before to facilitate the comparisons and generate more convincing results, and the data quality concerns should be considered the same as in the case of most of the authoritarian states. Of particular interest are the groupings for the cross-section year 1935³¹⁰, in the midst of the rearmament surge. Again, there seemed to be roughly two groups of countries based on their defense shares and the levels of democracy in 1935: the low-spending and the high-spending group. There was quite a bit of dispersion among the high-spending group (see Figure 44), which consisted of France, Germany, Greece, Rumania, Poland, Italy, and Yugoslavia. All but France were authoritarian regimes to some degree. The results on the military burdens were by and large similar. The high-spending group, however, was much more uniform and consisted of more nations. Included were Germany, Poland, France, Japan, the USSR, Czechoslovakia, Portugal, Greece, and Italy. Only France and Czechoslovakia represented democracies in this group. The five countries that were in the high-spending group in terms of both the military burdens and the defense shares were Germany, Poland, France, Greece, and Italy. Thus, clearly the impact of the German threat was paramount in explaining the French military spending patterns. Also, it seems likely that both Germany and Italy achieved the level of centralization of authority required to spend heavily on military

purposes.³¹¹ Nonetheless, the inferior quality of the data for some of these countries has to be taken into account.

Figure 44. Defense Shares of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1935



Sources: see Appendices, Appendix 2 for details. Case 1=Austria; Case 2=Belgium, Case 3=Bulgaria; Case 4=Czechoslovakia; Case 5=Denmark; Case 6=Finland; Case 7=France; Case 8=Germany; Case 9=Greece; Case 10=Hungary; Case 11=Italy; Case 12=Japan; Case 13=the Netherlands; Case 14=Norway; Case 15=Poland; Case 16=Portugal; Case 17=Rumania; Case 18=Russia/USSR; Case 19=Spain; Case 20=Sweden; Case 21=Switzerland; Case 22=the United Kingdom; Case 23=the United States; Case 24=Yugoslavia. Independent variable: individual level of democracy, measured by the Polity IIID index. Model: piecewise linear regression with breakpoint.

Thus, HYPOTHESIS 28 received some cautious support from this exercise. More convincing evidence must, nonetheless, be mustered to prove the validity of this notion. One could employ for example unit root tests on the appropriate series, with evidence of nonstationarity making it plausible that a change or a break affects the trend of the series. Or, one could resort to the use of the Chow-tests for structural breaks in the time series.³¹² Based on such exercises it might be

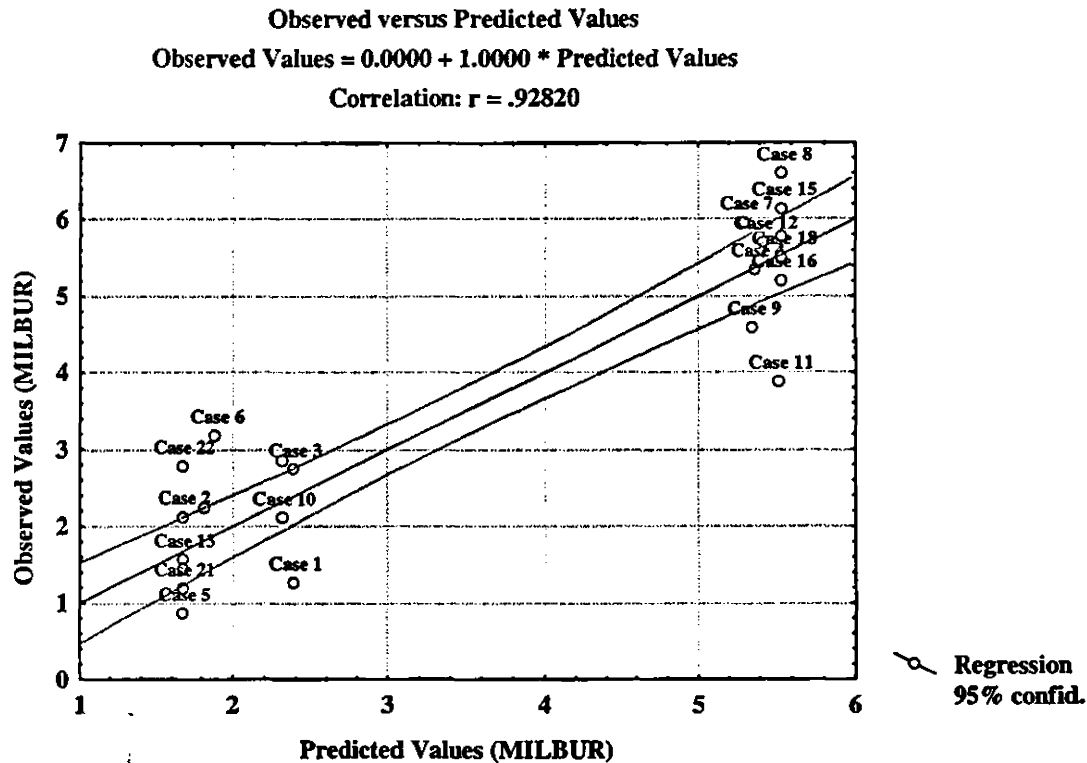
³¹⁰ The cross-section figures for years 1925 and 1930 can be found in Appendices, Appendix 4.

³¹¹ The case of the USSR does not fit the pattern in this manner, yet one has to take into account the unique structure of its central government spending behavior. Thus, the defense share may be poorly representative of its military spending capabilities.

³¹² Preliminary support for the notions developed here using these methods was found in Eloranta 2000a.

possible to detect structural changes, yet it is also essential to determine the kind of change that took place. Furthermore, it is possible to evaluate the structure of a sample and the impact of the change by employing standard statistical tests as well as the so-called dummy variable approach across a sample of states.

Figure 45. Military Burdens of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1935



Sources: see Appendices, Appendix 2 for details. Case 1=Austria; Case 2=Belgium, Case 3=Bulgaria; Case 4=Czechoslovakia; Case 5=Denmark; Case 6=Finland; Case 7=France; Case 8=Germany; Case 9=Greece; Case 10=Hungary; Case 11=Italy; Case 12=Japan; Case 13=the Netherlands; Case 14=Norway; Case 15=Poland; Case 16=Portugal; Case 17=Rumania; Case 18=Russia/USSR; Case 19=Spain; Case 20=Sweden; Case 21=Switzerland; Case 22=the United Kingdom; Case 23=the United States; Case 24=Yugoslavia. Independent variable: individual level of democracy, measured by the Polity IIID index. Model: piecewise linear regression with breakpoint.

Firstly, we should assess the structural qualities of the military spending series used in this thesis. Time series can be broadly divided into stationary (containing deterministic trends) and nonstationary (containing stochastic trends) time series. Nonstationarity involved in the time series to be analyzed can lead to the problem of spurious regressions, where the results might suggest that there are statistically significant relationships between contemporaneously correlated variables. Damodar N. Gujarati has provided a fitting definition of a weakly stationary stochastic process: "Broadly speaking, a stochastic process is said to be stationary if

its mean and variance are constant over time and the value of covariance between two time periods depends only on the distance or lag between the two time periods and not on the actual time at which the covariance is computed."³¹³ Furthermore, we may differentiate between trend-stationary (TS) time series and difference-stationary (DS) stochastic time series. In a TS process, the subtraction of the trend results in a stationary series. However, if the series has to be differenced (that is, converting time series Y_t to ΔY_t) by X times, it represents a DSP process, in which for example there can be several different trends or the trend can be increasing (=explosive) over time. Stochastic trends are characterized by unit root(s).³¹⁴

In a simple first-order autoregressive (AR) process, as shown by Dickey and Fuller (1979), for time series Y_t :

$$y_t = \rho y_{t-1} + u_t \quad (5)$$

if $|\rho| < 1$, the time series converges toward stationarity. If $|\rho| = 1$, the time series is not stationary rather than a "random walk". Further, if $|\rho| > 1$, the time series is not stationary and the variance of the time series grows exponentially as t increases.³¹⁵ If the time series of certain n th order autoregressive process has to be differenced once to achieve stationarity, only one unit root is present in the series. If it has to be differenced twice for it to be considered stationary, it has two unit roots (and so on).³¹⁶

As the presence of a unit root(s) indicates change(s) in the trend of the time series, I will use unit root tests as an *initial* indicator of short-term structural changes in the military spending time series selected here. How can we test for the presence of unit roots? Perhaps the most commonly used test in detecting unit roots is the Augmented Dickey-Fuller (ADF) test, which is an extension of a Dickey-Fuller test based on an AR(1) process. The original Dickey-Fuller test uses specific critical values in the statistical testing, calculated by Fuller, instead of a standard t -distribution. The autoregressive process can also be allowed to have an intercept as well as a trend component. The ADF test extends the Dickey-Fuller test to cover an AR(p) process:

³¹³ Gujarati 1995, 713. See also Harris 1995. Thus, the conditions for series Y_t are: 1) constant mean: $E(Y_t) = \mu$; 2) constant variance: $\text{var}(Y_t) = \sigma^2$; 3) covariance: $\gamma_k = E[(Y_t - \mu)(Y_{t+k} - \mu)]$.

³¹⁴ Gujarati 1995, 722—724; Hatanaka 1996. On more complex models trend stationarity not considered here, such as a broken trend model, see especially Noriega-Muro 1993.

³¹⁵ Dickey-Fuller 1979, 427.

³¹⁶ On the relevant derivations, see Harris 1995, e.g. 17.

$$y_t = \psi_1 y_{t-1} + \psi_2 y_{t-2} + \dots + \psi_p y_{t-p} + u_t \quad (6)$$

Another test commonly used is that suggested by Phillips and Perron (1988), which undertakes a nonparametric correction to the t -test statistics, rather than adding extra terms to a process that is not AR(1).³¹⁷ Here I will primarily employ the ADF-tests on the military spending time series; however, if they failed to reject the null of a unit root, Phillips-Perron tests would also be utilized to confirm the results. The results should be considered only tentative as to whether a unit root(s) exists. As has been shown, the ADF-tests tend to under-reject the null and the Phillips-Perron tests tend to over-reject the null, especially in *small samples*. Also, in small samples any unit root process can be approximated by a trend-stationary process.³¹⁸

Table 16. Unit Roots in the Defense Shares and the Military Burdens for Seventeen Countries, 1920—1938

A.	B.	C.
AUT	-27,65*** (L=2; C + TREND)	-44,27*** (L=2; C + TREND)
BEL	-2,74* (L=6; C)	-4,75** (L=3; C + TREND)
DEN	-4,59*** (L=7; C)	-3,82** (L=1; C + TREND)
FIN	-4,35*** (L=7; C)	-3,49* (L=1; C + TREND)
FRAU	-3,59* (L=1; C + TREND)	-3,93** (L=7; C + TREND)
GER	[I(1)] -6,41*** (L=1)	[I(1)] -3,66** (L=1; C)
ITA	-6,85*** (L=7; C + TREND)	-11,78*** (L=7; C + TREND)
JAP	[I(1)] -5,46*** (L=1; C + TREND)	-5,45*** (L=6; C + TREND)
NED	-3,77** (L=7; C)	[I(2)] -2,00** (L=1)
NOR	-4,02** (L=6; C + TREND)	-4,49** (L=2; C + TREND)
POR	-5,66*** (L=2; C + TREND)	-4,51** (L=2; C + TREND)
RUSSIA/USSR	-3,43** (L=7; C)	-5,04*** (L=1; C + TREND)
SPA	-8,00*** (L=7; C + TREND)	[I(1)] -3,86** (L=2; C + TREND)
SWE	-2,97*** (L=3)	-3,21** (L=7; C)
SWI	-2,84* (L=3; C)	-6,04*** (L=6; C + TREND)
UK	[I(2)] -2,00** (L=1)	[I(2)] -2,72** (L=1)
USA	-3,85** (L=3; C + TREND)	-5,91*** (L=1; C + TREND)

Sources: see Appendices, Appendix 2 for details. A=country; B=coefficient and other details on the unit root test, defense share; C=coefficient and other details on the unit root test, military burden. * = null hypothesis of a unit root rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. L = number of lags; C = constant; TREND = time trend in the series. All variables in logs.

Note: All test results are ADF.

Table 16 displays the results of the unit root tests for both the defense shares and the military burdens of seventeen countries. The unit root tests were conducted backwards from a maximum lag of seven years, including both an intercept and a trend to begin with, until the null of unit

³¹⁷ See more Phillips-Perron 1988; Harris 1995, 33.

³¹⁸ Harris 1995, 37—40.

root was rejected or the tests had to be continued to first- or second differences.³¹⁹ The results indicated strong evidence (=both ME series imply the presence of unit root(s)) for Germany and the United Kingdom, whereas moderate evidence (=one of the series indicated the presence of unit root(s)) was uncovered for Japan, the Netherlands, and Spain, indicating no distinct differences between democracies and the few authoritarian/totalitarian states in the sample. However, this preliminary result needs to be investigated further with structural stability tests and the dummy variable approach, since different kinds of structural changes have different types of impacts across such a small sample span.³²⁰

In Eloranta (2000a), the military spending data of fourteen states was first tested for a breakpoint — with nominal ME and military burden, separately, as regressands, and nominal GDP (or GNP) and GDP per capita as regressors —using the Chow breakpoint test for the years 1929, 1930, and 1931, with the assumption that the onset of the Great Depression and the disruptions in trade and international relations that followed caused changes in the military spending patterns of European democracies. The Chow breakpoint test is designed to fit the equation separately for each subsample and to see whether there are significant differences in the estimated equations.³²¹ A significant difference indicates a structural change in the relationship. The Chow breakpoint test is based on a comparison of the sum of squared residuals obtained by fitting a single equation to the entire sample with the sum of squared residuals obtained when separate equations are fit to each subsample of the data, using the standard F-distribution. Additionally, a log likelihood ratio statistic was calculated, based on the χ^2 distribution. Both have no structural change as the null hypothesis.³²²

The results of the Chow breakpoint tests pointed again to different directions, both among democracies and between the two different dependent variables. In the cases of Finland, France, Italy, Japan, Sweden, and the UK, it is feasible to suspect that the military spending series of the 1920s and 1930s were structurally different. However, it is likely that the sample size, specification errors, and unit roots in the equations also had an impact on the results. Thus, as we are especially interested in the differences between democracies and the non-democratic

³¹⁹ Here: $\alpha = 0.05$ preferred; $\alpha = 0.10$ taken as indication of weak stationarity. Also, as indicated, ADF-tests are preferred here, with PP-tests (with the said tendency to over-reject the null) conducted only after ADF-tests failed to reject the null. Critical values for the Dickey-Fuller π -statistic, one-sided test, were obtained from the revised critical values in MacKinnon 1991.

³²⁰ On the impact of different kinds of structural breaks, see in general Noriega-Muro 1993; Harris 1995.

³²¹ Note: here the regressions were corrected for autocorrelation and/or heteroskedasticity. Also, the variables were not differenced even if unit root tests failed to reject the null.

³²² On the Chow breakpoint test, see e.g. Gujarati 1995. Rejection of the null was accepted if both

regimes in the sample, one should try to estimate the possible timing of the break. One possibility is to use a one-step Chow forecast³²³ test, in which each recursive residual is the error in a one-step ahead forecast. To test whether the value of the dependent variable at a particular year might have come from the model fitted to all the data up to that point, each error can be compared with its standard deviation from the full sample.³²⁴ Here I am particularly interested in the possible dating of breaks in the military spending series of the non-democratic regimes. As it will be shown, there are also problems with using the military spending series contained under different definitions in the authoritarian and/or totalitarian cases, especially concerning Mussolini's Italy.

In the Italian case, there are several possible choices for the dating of the beginning of the Fascist period. The first is October 1922 when the Fascists marched to Rome under Mussolini's leadership (although he did not participate in person) and he was appointed prime minister. However, Mussolini did not ultimately win his fight with parliamentarism and the political parties until 1925—1926, to become *il Duce* of Italy. From the point of view of public finances, the budget year 1924—1925 marked the return to a balanced budget, after serious public spending cuts had been implemented.³²⁵ Thus, here I will compromise and follow Banks (1976) to consider the year 1924 (also the year of last elections) as the first year of authoritarian rule, especially from the perspective of public finances.³²⁶ Another problem is what series to choose to represent Italian military spending. For example, Répaci's (1962) figures on the "effective expenditure" exclude war expenditures, whereas Ercolani (1975) figures include war expenses and pensions as well. As discussed in the Appendices (Appendix 2), the Italian ME series chosen here is a composite series comprising three different sources, which is closer to the Ercolani variant.³²⁷ Needless to say, as in most cases dealing with authoritarian states in this period, the estimates are not as reliable as those compiled for the democracies. Here I will test

statistics indicated it ($\alpha=0.05$). See Eloranta 2000a for details on the results.

³²³ The Chow forecast test estimates the model for a subsample comprised of the first set of observations. The estimated model is then used to predict the values of the dependent variable in the remaining data points. A large difference between the *actual* and predicted values casts doubt on the stability of the estimated relation over the two subsamples. See e.g. Gujarati 1995.

³²⁴ On various possibilities of detecting structural breaks, see Fomby et al. 1984. The graphs for other countries (nominal ME) except the authoritarian regimes can be found in Eloranta 2000a. Others available from the author by request.

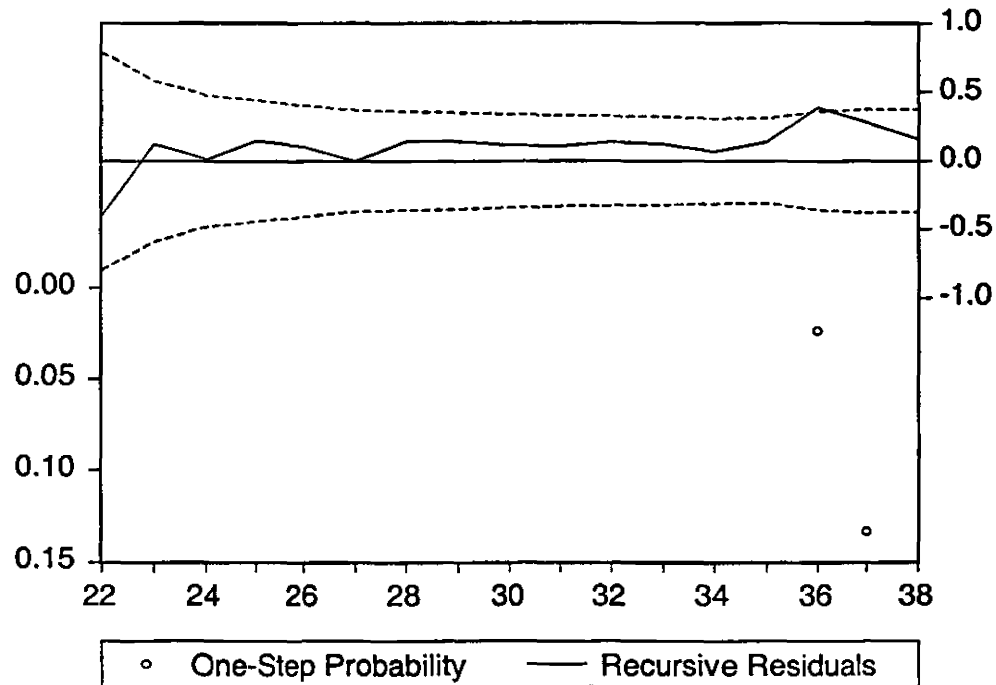
³²⁵ Cf. Di Palma 1982, 109—110; Farneti 1978; Zamagni 1993, 244.

³²⁶ Dummy variables, based on Banks 1976, were assigned to equal one for the years of non-parliamentary rule in the dummy variable regressions.

³²⁷ See Répaci 1962, 168—169, 354—355; Ercolani 1975, 400. On other sources of Italian military spending figures for parts of this period, see i.e. Covino et al. 1976; Ceva 1981. The best, detailed breakdown and discussion on the Italian military expenditures for the 1930s can be found in Zamagni 1998. Zamagni also criticizes Répaci's figures as "planned outlays", which reduces their reliability;

both Italian military spending series (defense share and military burden) for structural breaks and contemplate on the differences. Conversely, the same will be done for the Portuguese and the Spanish data.

Figure 46. One-step Chow Forecast Test on the Italian Military Burden (Independent Variable: Real GDP per Capita in 1929 Quasi-USD), 1920—1938



Sources: see Appendices, Appendix 2. Variables in logs.

One-step Chow tests on the Italian defense share and military burden pointed towards different conclusions.³²⁸ Whereas the defense share, respective of economic development, did not seem to reveal structural changes in the period, the one-step Chow tests on the military burden indicated breaks in 1936 and 1937. This result is not surprising for the mid-1930s, since the Italian military spending grew strongly as a result of Italy's colonial adventures. Although the results were not exactly the same for both series, it is possible to suspect that at least one structural break took place in the mid-1930s. These results have to be, of course, treated with a degree of caution. The choice of the military spending series to be used has a large impact on the findings.³²⁹ In comparison, for example in the Portuguese case, the results are not as straightforward to interpret. In Portugal, the period starting from 1926 until the 1974 could be

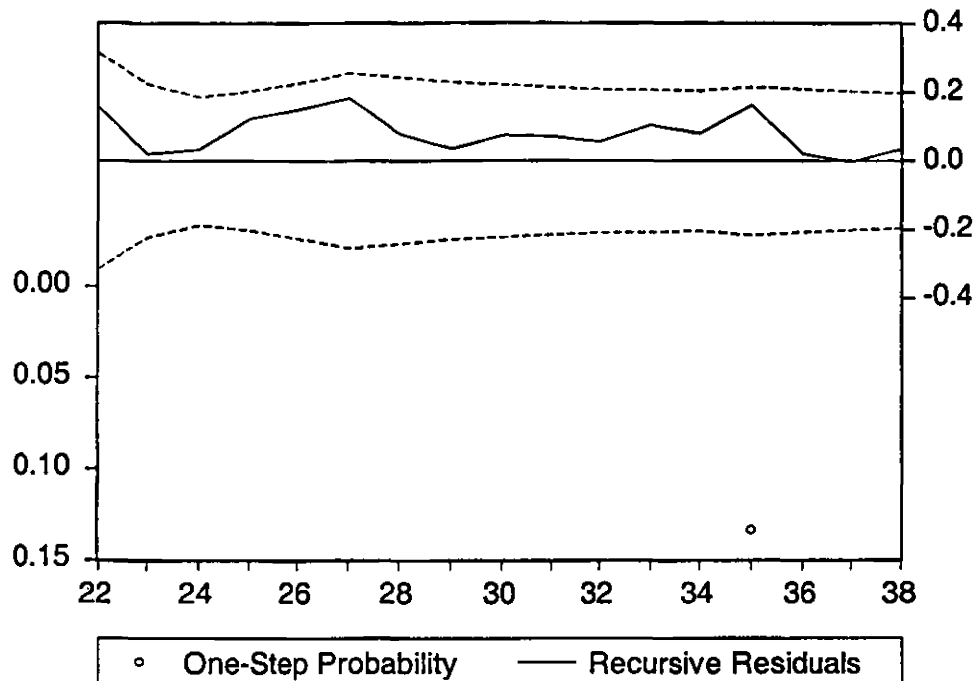
Zamagni 1998, 217 (note 36).

³²⁸ On the other figures, see Eloranta 2000a.

³²⁹ See e.g. Eloranta 2000a.

characterized as authoritarian period, with Salazar *gradually* becoming the dictator after his nomination as prime minister in 1932.³³⁰

Figure 47. One-step Chow Forecast Test on the Portuguese Military Burden (Independent Variable: Real GDP per Capita in 1929 Quasi-USD), 1920—1938



Sources: see Appendices, Appendix 2 for details. Variables in logs.

As we can see in Figure 47 (and in Eloranta 2000a), the one-step Chow tests implied structural breaks in 1927 and 1935 for the Portuguese series, suggesting a possible change in the statistical relationship. The latter year is more probable as a breakpoint, perhaps resulting from Portugal's rearmament and the changed international climate. In the Spanish case, Primo de Rivera's dictatorship 1923—1930 did not seem to have any structural effect on either of the military spending variables.³³¹ All in all, there is some evidence that the structural changes in these three countries' military spending behavior were not caused by the regime shift. Therefore, these authoritarian regimes, perhaps also including Fascist Italy, were not able to achieve such sweeping centralized powers required to undertake massive arms buildups. Compared to for example Germany and Japan, the Italian military burden in the late 1930s was quite meager, as seen in the previous chapter.

³³⁰ See Banks 1971; Porch 1977, 18—26.

³³¹ See Eloranta 2000a. See also Blinkhorn 1986, 1—3. Results on the Spanish case available from the author by request.

The results of these statistical tests are inconclusive, however, due to the small sample bias, yet suggestive nonetheless. Based on the unit root tests and breakpoint tests, it seems that some of the states endured structural changes in their military spending behavior during this time period. Most of those that did experience such changes in their spending behavior were authoritarian nations. All in all, they provide only very preliminary support for HYPOTHESIS 29. They do not, however, provide us with clues as to what these changes meant. For example, did the authoritarian regime shift increase military spending? Or, did authoritarian nations as a whole³³² spend more than democracies?

Table 17. Spearman Rank Correlations³³³ on the Relationship Between Military Spending Variables and Levels of Democracy Across a Cross-section of Twenty-four Countries, 1925, 1930, 1935

A.	B.	C.	D.	E.
1925	MILBUR, DEMOC	22	-0,45	0,04
1930	MILBUR, DEMOC	24	-0,43	0,04
1935	MILBUR, DEMOC	24	-0,56	0,00
1925	DFSHARE, DEMOC	24	-0,10	0,64
1930	DFSHARE, DEMOC	24	-0,08	0,71
1935	DFSHARE, DEMOC	24	-0,36	0,09
1925	MILBUR, DEMDUM	22	-0,42	0,05
1930	MILBUR, DEMDUM	24	-0,53	0,01
1935	MILBUR, DEMDUM	24	-0,45	0,03
1925	DFSHARE, DEMDUM	24	-0,17	0,43
1930	DFSHARE, DEMDUM	24	-0,26	0,22
1935	DFSHARE, DEMDUM	24	-0,30	0,16
1925	MILBUR, AUTOC	22	0,50	0,02
1930	MILBUR, AUTOC	24	0,50	0,01
1935	MILBUR, AUTOC	24	0,45	0,03
1925	DFSHARE, AUTOC	24	0,23	0,27
1930	DFSHARE, AUTOC	24	0,28	0,18
1935	DFSHARE, AUTOC	24	0,33	0,12
1925	MILBUR, AUTDUM	22	0,39	0,08
1930	MILBUR, AUTDUM	24	0,49	0,02
1935	MILBUR, AUTDUM	24	0,51	0,01
1925	DFSHARE, AUTDUM	24	0,24	0,25
1930	DFSHARE, AUTDUM	24	0,33	0,11
1935	DFSHARE, AUTDUM	24	0,43	0,04

Sources: see Appendices, Appendix 2 for details. A=cross-section year; B=pair of variables, cross-section; C=valid N; D=Spearman R; E=p-level. MILBUR=military burden; DFSHARE=defense share; DEMOC=level of democracy, measured by the Polity IIID scale; DEMDUM=democracy dummy, set to 1 when the level of democracy measured by the Polity IIID scale is six or more, otherwise 0; AUTOC= level of democracy, measured by the Polity IIID scale; AUTDUM=autocracy dummy, set to 1 when the level of autocracy measured by the Polity IIID scale is three or more.

³³² Preliminary evidence on the individual country series was already discovered in Eloranta 2000a.

³³³ See Section 5.1 (and Appendices, Appendix 1B) for details on the nonparametric tests utilized in this thesis.

It is possible to assess the size and significance of the impact of regime type on military spending better among a group of countries in a cross-section by utilizing nonparametric statistical tools. As seen in Table 17, there seems to be quite clear support for HYPOTHESIS 26 here, especially inasmuch the level of authoritarian rule increased the respective military burden for the country in question. The more repressive a regime was, the more of its economic resources it allocated for its defense throughout the period. Equally, a threshold level of authoritarian rule (here: three on the Polity III scale) seemed to be required for a country to behave in such a manner. Thus, some support is also provided for HYPOTHESIS 28; namely that the less oppressive autocratic regimes were unable to concentrate any more resources for military purposes than the democracies. This was confirmed with the democracy dummy results as well. Moreover, this was the conclusion emerging from the preceding analyses of the structural characteristics of the time series. Furthermore, the more democratic a regime was, the less of its economic resources it allocated for military purposes (=HYPOTHESIS 24). HYPOTHESIS 25 can be confirmed only for 1935, which complies with the review of the military spending patterns presented in the previous chapter: Democracies were slow to rearm in the 1930s, at least in comparison with the strongly authoritarian regimes.

In order to revisit HYPOTHESIS 29, we need to utilize the same cross-sections as above by using the dummy variable approach suggested by, among others, Gujarati (1995). The dummy variable approach is simple and intuitive. For estimating the relationship between military spending (for example, military burden as the dependent variable) and economic development (real GDP per capita as the independent variable), one would also include an intercept dummy D_1 and a slope dummy $D_1 \cdot INCOME$ in the regression.

$$ME_x = \beta_1 + \beta_2 D_{1x} + \beta_3 INCOME_x + \beta_4 (D_{1x} \cdot INCOME_x) + u_x \quad (7)$$

in which D_1 is either the democracy or autocracy dummy mentioned in Table 17. ME is either the defense share or the military burden; $INCOME$ equals real GDP per capita. β_1 is the intercept of the original equation (covering the whole time period); β_2 indicates the significance of the change in the intercept in the period affected by the dummy (i.e., the whole intercept, if both β_1 and β_2 are found to be statistically significant with standard t-tests, for the non-democratic period is $\beta_1 + \beta_2$); β_3 is the coefficient of the $INCOME$ variable for the whole period; and β_4 is the differential slope coefficient in the period affected by the dummy (i.e., $\beta_3 + \beta_4$ if they are both found to be statistically significant). Individual country cases discussed in Eloranta 2000a supported the idea that regime shifts towards more authoritarian rule occurring

in more authoritarian countries such as Italy and Japan produced structural changes in a different manner than for, for example, Portugal and Spain.³³⁴

Table 18. Impact of Regime Type on the Military Burden Across a Cross-section of Twenty-four Countries, 1925, 1930, 1935

A.	B.	C.	D.	E.	F.
1925	MILBUR	1,62**	AUTO: 0,15*	-0,39*	-
1925	MILBUR	2,77***	†AUTO: -3,67**	-0,72***	1,14***
1930	MILBUR	0,15	DEMOC: 2,31*	0,09	-0,72**
1930	MILBUR	-0,11	†DEMOC: 2,98**	0,17	-0,90***
1935	MILBUR	1,02	DEMOC: 3,73*	-0,13	-1,10*
1935	MILBUR	0,91	†DEMOC: 3,53**	-0,10	-1,04**

Sources: see Appendices, Appendix 2. Real GDP per capita from Maddison 1995. A=year; B=independent variable; C=intercept; D=dummy variable as in Table 17; E=real GDP per capita (in 1990 Geary-Khamis USD), log; F=slope dummy, D times E. * = null hypothesis of zero coefficient rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. All variables in logs. Differencing as in Table 16.

Note: †=Portugal and/or Spain included in the democracy group in the dummy, despite having a three or more in the Polity IIID autocracy index. Only the best outcome is listed in the table.³³⁵

For the three cross-section years utilized before — 1925, 1930, and 1935 — the results arising from the analysis are quite clear. Firstly, the inclusion of Portugal and/or Spain in the democratic “camp”, despite apparent authoritarian rule, seemed to improve the coefficient estimates. Thus, Portugal and Spain, as suspected also previously, should be included in the sample of eleven in this thesis. Secondly, HYPOTHESIS 29 seems to have merit on the basis of the dummy variable estimates. For example, whereas the regression line for autocracies (including Spain) in 1925 had, if we account only for statistically significant variables, an intercept of -0,91 and slope intercept of 0,42; thus, as economic resources increased also their military spending increased. In contrast, the intercept for democracies was 2,77 and the slope intercept was -0,72, indicating decreasing ME as the level of economic development increased. The same conclusions emerged from the other comparisons included in Table 18.

All in all, the results of the various inquiries in this section suggested the following: 1) Democracies were different from autocracies, relative of income, in their military spending behavior; 2) Less authoritarian regimes were more like democracies than autocracies in their military spending behavior; 3) Increased centralization and repression in an autocracy, emerging

³³⁴ Eloranta 2000a.

³³⁵ The results passed the LM serial correlation test. The Breusch-Godfrey LM serial correlation test is used to test the null hypothesis that there is no serial correlation up to lag order p , where p is a pre-specified integer. See Godfrey 1988 for further details. In addition, the so-called Q-statistics were used. See e.g. Gujarati 1995. Also, an AR(1) term was included in some of the equations. Details available from the author by request.

through the autocracy index, implied higher military spending; 4) A shift towards an authoritarianism had an impact on the country's military spending only when a centralized form of authoritarian rule was consolidated, resulting in a structural break in the time series; 5) The more democratic a regime was, the less of its economic resources it dedicated for military purposes; 6) The more repressive a regime was, the more of its economic resources it dedicated for military purposes; 7) Democracies spent less of their economic resources on defense as their level of development increased; 8) Autocracies spent more of their economic resources on defense as their level of development increased. These results have to be taken with a grain of salt, however, due to the small sample problems involved in these exercises. Furthermore, the systemic implications of the level of democracy and other such hypotheses at the systemic level will be investigated in Section 4.3. First, however, I will turn to examining the relationship between military spending and economic development in more detail.

4.2. Leader-Challenger-Follower? The Interdependence of Military Spending and Economic Development

The idea that economic leadership in a system is crucial to understanding foreign relations has been influential especially among political scientists in the post- Second World War period. For example hegemonic theorists, such as Robert Keohane, Joseph S. Nye, Paul Kennedy, Charles Kindleberger, and Robert Gilpin, are among those who claim a strong relationship exists between the pursuit of leadership and economic development. According to Keohane and Nye, a state is likely to provide hegemonial leadership in the international regime if there are benefits to be gained from such action, with the hegemonial power being able to change the rules of the game rather than having to adapt to changes imposed by others.³³⁶ The hegemon may use coercion (=stick) or positive incentives (=carrot) to achieve the goals that it seeks. This hegemon's economic/political leadership can erode due to crises or shifts in the overall balance of power between the states in the international regime. At such a time, the so-called secondary powers, the followers, respectively react by altering their goals to challenge the leader's position.³³⁷ Needless to say, this very abstract theoretical framework has attracted both criticism³³⁸ as well as further theorizing in regards to more precise applications. All in all, most historical studies utilizing these arguments have focused specifically on monetary markets and trade regimes (especially competing trade blocs).³³⁹ As far as historical instances of hegemonic

³³⁶ Keohane-Nye 1977, 44—45.

³³⁷ Keohane-Nye 1977, 45—46; North 1990, 147—149; Eichengreen 1990.

³³⁸ Rapkin 1990, 3—5; North 1990, 142—144; Kindleberger 1988; Eichengreen 1990, 273—275.

³³⁹ Kindleberger 1973; Eichengreen 1992.

leadership are concerned, there seems to be unanimous agreement that the post-1945 period has been one of American hegemony, and with considerable agreement on the 19th century having been one of British hegemony.³⁴⁰

The economic position of the United States was indeed dominant in the international system by the interwar period. Its position as the Western world's creditor nation was reinforced by the massive size of its economy and internal market. In terms of the 17-country system discussed in more detail in the next section of this chapter, the United States was the unambiguous economic leader of the interwar period; a position which had emerged in the late 19th century and was solidified by the First World War.³⁴¹ As seen in Table 19, the U.S. had already a three-fold real GDP lead in absolute terms over the United Kingdom in the interwar period, and it occupied a dominant position in the world iron and steel production. Despite the lack of political leadership by the U.S., its economic position was that of a hegemon.

Table 19. U.S. Leadership Position in Perspective in the Interwar Period

A.	B.	C.	D.	E.
1925	36,7	11,0	51,1	13,5
1930	34,8	10,6	42,9	13,0
1935	29,9	10,9	33,3	15,8

Sources: see Appendices and Section 4.1 for details on the system. A=year; B=real GDP percentage share (in 1929 quasi-USD) of the United States in the 17-country system; C=real GDP percentage share (in 1929 quasi-USD) of the United Kingdom in the 17-country system; D=iron and steel production percentage share (in tons) of the United States in the 17-country system; E=iron and steel production percentage share (in tons) of Germany in the 17-country system.

However, the American economic leadership did not extend easily to political leadership, as hegemonic theorists often presume. According to Charles Kindleberger, a significant feature of the 1920s was the absence of a particular military leader nation in the world. Consequently, after the disintegration of the world economy started in the early 1930s, economic cooperation turned into economic rivalry and military competition for leadership.³⁴² As Paul Kennedy too has noted, the 1919 American withdrawal, in addition to Russian isolationism, put the international system "more out of joint with the fundamental economic realities than perhaps at any time in the five centuries", thus suggesting a period of adjustment. The United Kingdom and France, although weakened, were at the center stage diplomatically until their position was

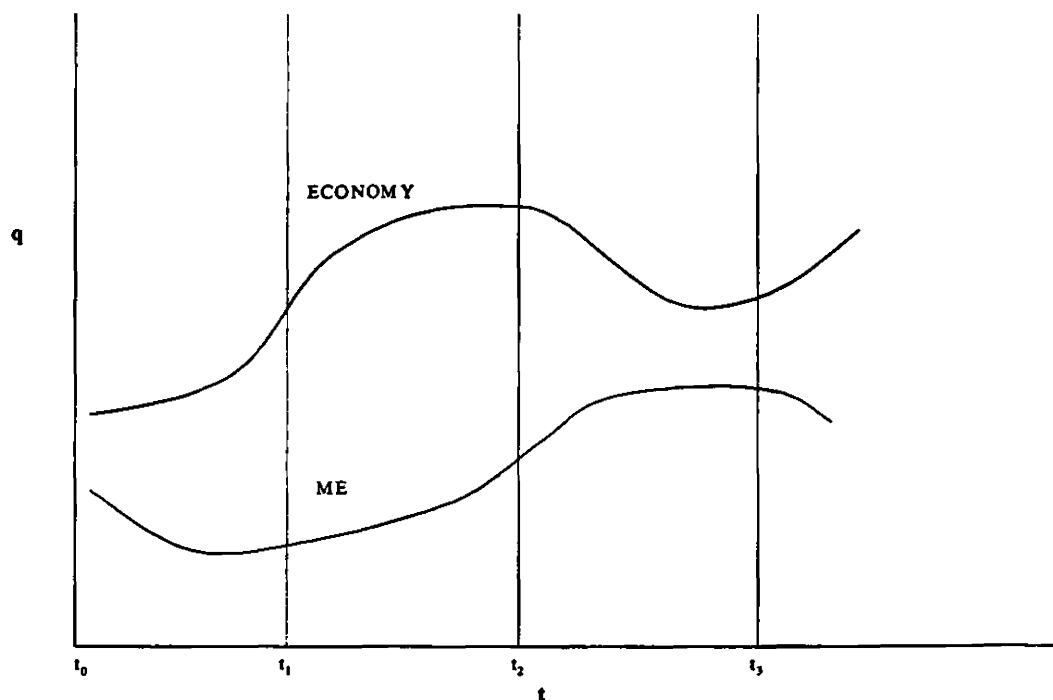
³⁴⁰ Rapkin 1990, 8—9. See also Kennedy 1989 — interpretations based on military might or trade dominance alone are more contested, such as the case of the Netherlands in the 17th century. Modelski-Thompson 1996 on leadership cycles in general; Modelski-Thompson 1988 on seapower. On criticism of the imperial overreach argument in the British case, see especially Hobson 1993.

³⁴¹ See Prados de la Escosura 2000.

³⁴² Kindleberger 1973.

challenged in the 1930s by “the militarized, revisionist states of Italy, Japan, and Germany”.³⁴³ Furthermore, as Robert Keohane and Joseph S. Nye have pointed out, in such a period of adjustment the “secondary nations” compete for leadership, and economic nationalism increases. This would implicate that the followers embark on higher military spending, naturally depending on their economic resources and market position.³⁴⁴

Figure 48. Possible Interaction Between Economic Development and Military Spending for the Economic Leader Nation(s)



Source: constructed by the author.

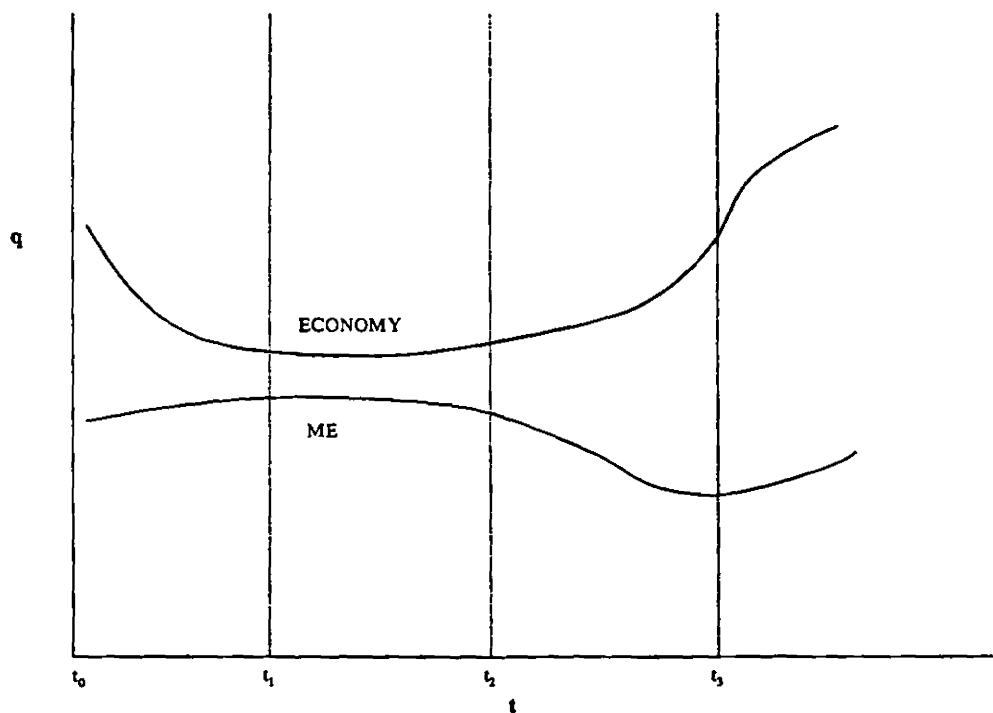
One of the less explored aspects in most studies of hegemonic patterns is the military expenditure component in the competition between the states for military and economic leadership in the system. According to Paul Kennedy, uneven economic growth levels cause nations to compete for economic and military prowess. The leader nation(s) thus has to dedicate increasing resources to armaments in order to maintain its position, while the other states, the so-called followers, can benefit from greater investments in other areas of economic activity. Thus, the follower states act as free riders in the international system stabilized by the hegemon. A built-in assumption in this hypothesis is that military spending eventually becomes harmful

³⁴³ Kennedy 1989, xxi.

³⁴⁴ Keohane-Nye 1977; Gilpin 1977, 47—54; Kindleberger 1973.

for economic development; a notion that has often been challenged.³⁴⁵ The development pattern implied, albeit cautiously, by Kennedy would have certain implications for both economic development and military spending. At the beginning of a “cycle” for a hegemon, the economy as a whole begins to grow much faster than military expenditures. During this time span, the hegemon also initiates ever higher ME in order to secure its economic position. However, in the middle of the cycle, economic growth has already begun to slow, due to the military exertions, whereas ME is still growing. At this point, the hegemon attempts to compensate for its economic losses by wielding even more political/military muscle. At the end of the cycle, the burden of military expenditures has also declined sharply, enabling a new period of growth.³⁴⁶ This pattern is of course only an approximation, which has been visualized in Figure 48.

Figure 49. Possible Interaction Between Economic Development and Military Spending for the Economic Challenger Nation(s)



Source: constructed by the author.

The reaction of the challenger and/or follower nations would, respectively, correspond to this pattern of development by the leader. The challengers comprise nations that aspire and have the resources to challenge the leader; i.e., existing Great Powers or emerging Great Powers. The

³⁴⁵ Kennedy 1989, xiii; Hodne 1992, 80—82. See also Maddison 1991; Kennedy 1991; Kindleberger 1973.

³⁴⁶ See a related article by this author: Eloranta 2001a.

challenge of the leader's economic/military position would begin when the hegemon has overreached itself (i.e., from t_2 - t_3). Followers are nations that would not be able to challenge the leader due to their limited resources or limited size; i.e., Medium and Small Powers (= "weak" states).³⁴⁷ An approximation of this pattern is presented above in Figure 49 for the challengers. The outline for development of these variables for the "weak" states should be similar, yet the military spending response would presumably be more muted. Overall, the assertion arising from this framework is that economic development and military spending are closely interdependent, with military spending being even the driving force behind economic cycles, among the Great Powers.

Moreover, based on this development pattern, it has been suggested that a country's poor economic performance can be linked to the "wasted" economic resources represented by military expenditures. However, as recent studies have shown, economic development is often more significant in explaining military spending rather than vice versa.³⁴⁸ One may refer to the latter effect as the so-called war chest hypothesis. As some of the hegemonic theorists reviewed above suggest, economic prosperity might be a necessary prerequisite for war and expansion. Thus, as Brian M. Pollins and Randall L. Schweller have indicated, economic growth would induce rising government expenditures, which in turn would enable higher military spending. Therefore military expenditures would be "caused" by economic growth at a certain time lag.³⁴⁹ The exact mechanism of this argument is rather obscure, and it actually would also fit the pattern described in Figure 48 above. Here I will, firstly, explore the idea (=HYPOTHESIS 30) that economic growth might be "caused" by military expenditures (also referred to as the Kennedy argument, yet only in the short run) and/or vice versa (=HYPOTHESIS 31; or the war chest hypothesis) by utilizing Granger non-causality tests on the economic development and ME variables for the selected countries in the period 1920—1938. Secondly, as a built-in notion in the hegemonic Kennedy framework, I will test to see whether this interaction had a negative (=HYPOTHESIS 33) or positive (=HYPOTHESIS 32) growth effect in the short run. For example, Alex Mintz and Chi Huang (1990) have suggested that an indirect, negative growth effect occurs via investment at a lag of at least five years. Does this hypothesized investment effect emerge from the statistical exercises?

³⁴⁷ See e.g. Handel 1981. See also Eloranta 2001a; Eloranta 2002a.

³⁴⁸ On criticism of this mechanism, see the references in Eloranta 2001a.

³⁴⁹ Pollins-Schweller 1999, e.g. 445—446.

Nonetheless, even though it has often been argued that the British leadership in the 19th century became too expensive to maintain, a reference to the so-called imperial overstretch argument, it is not a particularly convincing or empirically tested notion. At the heart of this argument lies the proposition that Great Britain simply had to devote too extensive military resources into defending the Empire. Nonetheless, it is equally often argued that the British army was simply too small compared to her continental rivals. In an illuminating analysis John M. Hobson has proven conclusively that the military expenditures incurred by Great Britain were small in relative terms compared to the other Great Powers of the period, with the exception of the United States, and that it is difficult to maintain that the British military commitments caused the decline of its hegemonial status.³⁵⁰ George Modelski and William R. Thompson perceive the roots of the British decline not only in the economic catch-up of its rivals, but also in the erosion of its lead in naval technologies, prompting a naval armaments race in the late 19th century and early 20th century. Thus, despite being able to maintain a strategic dominance in the naval standoff during the war, “Britain emerged from the First World War no longer the world power and too poor to maintain its long-standing naval leadership”.³⁵¹

The hegemonic framework, in the form advocated by Paul Kennedy, implies that military spending and economic growth are interdependent due to the “wasted” economic resources embodied by military expenditures, often presuming a causal influence of military expenditures on economic development. How much is too much? Although the preceding sections may provide us with some clues as to who might be overspending, they are certainly only indicative. For example, the American interwar military burden was, except for 1920—1922, between 0.6 and 1.3 per cent, whereas during the 1950s the American military burden was often over ten per cent.³⁵² Thus, it is not difficult to maintain that the meager burden imposed by the military spending of the interwar years could not have been very significant in the development of the American economy. The conclusion could be the exact opposite: military spending was, in fact, in line with the war chest argument, dependent on the development of the economy and economic rivalry in general. Firstly, we can attempt to verify the “causal” links between economic development and ME by applying the concept of Granger non-causality.³⁵³

Granger non-causality can be represented as:

³⁵⁰ See especially Hobson 1993 and the key studies scrutinized in it. Also, Offer 1993.

³⁵¹ Modelski-Thompson 1988, 210—211.

³⁵² See e.g. Stiglitz 1988, 41—42.

³⁵³ Granger non-causality tests have been applied to military spending analysis e.g. in Eloranta 2001a; Chowdhury 1991. For long run applications, see especially Rasler-Thompson 1991.

$$X_t = \sum_{i=1}^n a_i X_{t-i} + \sum_{j=1}^n b_j Y_{t-j} + e_{1t} \quad (8)$$

$$Y_t = \sum_{i=1}^k c_i Y_{t-i} + \sum_{j=1}^p d_j X_{t-j} + e_{2t} \quad (9)$$

where the possible causality between X and Y is verified by testing the following null hypotheses: $b_j = 0$ and $d_j = 0$, in addition to testing the validity of the lagged values of X and Y in predicting their performance. If, for example, the former hypothesis is rejected, Y Granger-caused X, and vice versa. If both X and Y are rejected, there was interaction between X and Y; the failure to reject both of the above hypotheses would imply independence between these variables. Here these relationships were tested for the following three pairs of variables for seventeen countries: the defense shares and real GDP per capita (in 1929 quasi-USD); the military burdens and real GDP per capita (in 1929 quasi-USD); the individual country real ME and individual country real GDP shares (in the 17-country system)³⁵⁴. Of these variables, the defense share can be expected to reveal a “budgetary response”, the military burden a “direct economic impact”, and the real ME share a “systemic response” to economic changes. In order to provide a consistent framework, I have applied the following rules to the analysis: 1) Two out of the three pairs of Granger-causality relationships would have to indicate the same direction of causation for the results to be deemed credible; 2) Granger-causality relationships found at more than one lag structure, especially since relationships at $t-1$ may be poorly representative, were deemed more reliable than others.³⁵⁵

Due to potential problems of autocorrelation and nonstationarity, the logarithmic forms of these variables were preferred. The assumption of stationarity, based on the ADF-unit root tests, holds

³⁵⁴ On the last-mentioned pair, see the next section for details.

³⁵⁵ The rating scheme is as follows: 1) ECONOMY → ME: 2 pairs of variables at more than one lag in the same direction = weak evidence; 2 pairs of variables at more than one lag in the same direction plus at least one of the p -values below 0,01 or 3 pairs at more than one lag in the same direction = strong evidence; 2) ME → ECONOMY: 2 pairs of variables at more than one lag in the same direction = weak evidence; 2 pairs of variables at more than one lag in the same direction plus at least one of p -values below 0,01 or 3 pairs at more than one lag in the same direction = strong evidence; 3) INTERDEPENDENCE: 2 (in one direction) + 1 (in the other direction) pairs of variables at more than one lag = weak evidence; 2 (in one direction) + 2 (in the other direction) pairs of variables at more than one lag = strong evidence; 4) INDEPENDENCE: 1 (in one direction) + 1 (in the other direction) pairs of variables at more than one lag = weak evidence; all other cases not meeting these minimum requirements = strong evidence. Thus, the ratings in Table 20 should be reviewed in connection with Appendices, Appendix 3, Table 2.

for most of the variables in this period, with the exception of a few of the time series.³⁵⁶ All of the Granger non-causality tests were applied to a maximum number of five lags, given the shortness of the period. The results are summarized in Table 20, whereas the detailed findings can be observed in Appendices, Appendix 3, Table 2.

Table 20. Results of the Granger Non-causality Tests for Seventeen States, 1920—1938: Summary of the Findings

ECONOMY→ME	ME→ECONOMY	INTERDEPENDENCE	INDEPENDENCE
FRA*, ITA**, AUT**	-	FIN**, SWE*	BEL**, DEN*, GER**, JAP**, NED**, NOR**, POR**, RUS*, SPA**, SWI**, UK**, USA*

Sources: See Appendices, Appendix 2 for details. All variables in logs.

Note: ** = strong evidence; * = weak evidence. For details on the countries included, see Figure 11.

The war chest hypothesis was supported only nominally by the interwar comparisons. The notion that these variables operated independently of one another (at least according to this rigorous rating scheme that requires, for example, at least two of the military spending variables to reject the null of no causality at more than one lag) has substantial support in the interwar case. These results cast considerable doubt on the idea that “high” military spending may have been the driving force in the economic development of the period, at least in the short term. If we were to accept the idea that military spending is not the primary “causal” influence affecting the economy, can we also determine the nature of its impact, whether positive or negative?

Here I have, in order to increase the representativeness of the estimates, pooled the three pairs of variables in GLS regressions, as seen in Tables 21 and 22, to see whether the lagged military spending variables had either of the proposed impacts on the economic development in this period. Furthermore, I would like to impose two restrictions on the results in order to improve their reliability. Firstly, if the sign of the coefficient remained the same for all of the statistically significant lags, it would be interpreted as weak evidence of either positive or negative impact. Secondly, in addition to condition one being applicable, if the sign of all the coefficients of the military spending variable in question remained the same, this would be interpreted as strong evidence of either positive or negative impact. These conditions were set on the basis of the Granger non-causality results and standard practices of performing regression analysis.

³⁵⁶ The results of the tests on the stationarity of the series can be obtained from the author by request. On other applications, see especially Harris 1995. The variables found to contain unit roots to the same level of integration used in the analyses of this paper were also tested for possible cointegration vectors using the so-called Johansen test, yet no cointegration was discovered. Results of these tests available from the author by request.

Based on this analytical scheme, it seems that there was strong evidence that economic development was influenced by the military burdens and the real ME shares of the 17 states included in Table 21. Equally, the budgetary ME variable produced weak evidence of a negative impact. Moreover, it seems that the military burden produced a positive growth impetus that was partially offset by the defense share. At the systemic level, the impact of military spending was small. For the core sample of eleven in this thesis (Table 22), the results were less clear. Again, the military burden invoked a positive economic growth response, yet the defense share seemed to produce an equal negative response. The systemic equation failed to produce a consistent relationship in these terms. Therefore, one should again make a distinction between the democracies and autocracies in these samples. Whereas for autocracies the economic growth impact in the short run seems to have been positive, in democracies this relationship was more obscure. Yet, a negative investment impact such as suggested earlier was hardly forthcoming.

Table 21. Generalized Least Squares (GLS) Estimates on the Short-Run Impact of Military Spending on Economic Development for Seventeen States, 1920—1938

A.	B.	C.	D.
<i>GDPCAP</i>	MILBUR(-1)	0,03***	N=153
	MILBUR(-2)	0,09***	S.E.=0,02
	MILBUR(-3)	0,14***	DW=1,61
	MILBUR(-4)	0,14***	F=179000
	MILBUR(-5)	0,09***	
	MILBUR(-6)	0,05***	
	MILBUR(-7)	0,00	
<i>GDPCAP</i>	DFSHARE(-1)	0,01	N=153
	DFSHARE(-2)	-0,02	S.E.=0,03
	DFSHARE(-3)	-0,07**	DW=1,53
	DFSHARE(-4)	-0,07***	F=223000
	DFSHARE(-5)	-0,04**	
	DFSHARE(-6)	0,01	
	DFSHARE(-7)	0,00	
<i>GDP SHARE</i>	MESHARE(-1)	0,01	N=187
	MESHARE(-2)	0,01*	S.E.=0,02
	MESHARE(-3)	0,01*	DW=1,73
	MESHARE(-4)	0,01***	F=34000
	MESHARE(-5)	0,01***	
	MESHARE(-6)	0,01***	
	MESHARE(-7)	0,00	

Sources: see Appendices, Appendix 2. A=dependent variable for the GLS (with cross-section weights); B=independent variables (with lags indicated in parenthesis) for the GLS; C=coefficients for the independent variables; D=GLS regression statistics. * = null hypothesis rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. Differencing as in Table 16. All variables in logs.

Note: AR(1) term included in the GLS equations, as well as fixed effect intercepts, yet they are not reported in the table. Details on these available from the author by request. For details on the countries included, see Figure 11.

It has also been implied in conjunction with the hegemonic literature reviewed earlier that the harmful economic impact of military spending may emerge at a long time lag, such as 30 years

or more. This idea was tested in a simplistic manner in Eloranta (2001b) by regressing the real GDP per capita on the military burden (and vice versa) at lags from 39—20 years for two Great Powers (the United Kingdom, the United States) and two small states (Denmark, Sweden). These countries were selected on the basis of reasonably uniform data. The period 1870—1990 was selected as representing the decline of the United Kingdom and the ascendancy of the United States; moreover, the starting year corresponds to our other samples, and the ending year seemed to, approximately, mark the beginning of a new type of military spending regime for most countries. The variables were tested for unit roots and differenced if necessary.

Table 22. GLS Estimates on the Short-Run Impact of Military Spending on Economic Development for the Selected Eleven European States, 1920—1938

A.	B.	C.	D.
<i>GDPCAP</i>	MILBUR(-1)	-0,08	N=99
	MILBUR(-2)	0,00	S.E.=0,02
	MILBUR(-3)	0,08*	DW=1,87
	MILBUR(-4)	0,07*	F=51200
	MILBUR(-5)	0,02	
	MILBUR(-6)	0,10***	
	MILBUR(-7)	0,07***	
<i>GDPCAP</i>	DFSHARE(-1)	-0,01	N=99
	DFSHARE(-2)	-0,07***	S.E.=0,02
	DFSHARE(-3)	-0,10***	DW=1,71
	DFSHARE(-4)	-0,10***	F=122000
	DFSHARE(-5)	-0,05***	
	DFSHARE(-6)	0,02	
	DFSHARE(-7)	-0,00	
<i>GDPSHARE</i>	MESHARE(-1)	0,04***	N=121
	MESHARE(-2)	-0,00	S.E.=0,02
	MESHARE(-3)	-0,028**	DW=1,91
	MESHARE(-4)	-0,01	F=13700
	MESHARE(-5)	0,04	
	MESHARE(-6)	0,00	
	MESHARE(-7)	0,00	

Sources: see Appendices, Appendix 2. A=dependent variable for the GLS (with cross-section weights); B=independent variables (with lags indicated in parenthesis) for the GLS; C=coefficients for the independent variables; D=GLS regression statistics. * = null hypothesis rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. Differencing as in Table 16. All variables in logs.

Note: AR(1) term included in the GLS equations, as well as fixed effect intercepts, yet they are not reported in the table. Details on these available from the author by request. For details on the countries included, see Figure 11.

Furthermore, the results had to pass the Breusch-Godfrey LM serial correlation test up to five lags to be accepted. Within the selected lag structure, the emerging statistical relationship had to occur at least three times, and the coefficient of the independent variable had to remain the same (either positive or negative) for the results to be considered robust.³⁵⁷

³⁵⁷ Additionally, the regressions were corrected with AR or MA error terms in order to eliminate autocorrelation. All regressions were corrected with the Newey-West covariance estimator, a covariance matrix estimator that is consistent in the presence of both heteroskedasticity and autocorrelation of

The results indicated, according to the criteria outlined above, that the military burden had a long-term impact on the economy in the cases of Denmark and the United Kingdom. However, the two countries exhibited the impact of military spending differently: in the Danish case the coefficient was negative, whereas in the British case it was positive. In both cases, the coefficient was small. In the Swedish case, these variables seem to have behaved independently of one another in the long run. Quite surprisingly, in the case of the United States, the earlier war chest hypothesis was confirmed in the long run, with a 100 per cent increase in the real GDP per capita inducing an almost identical rise in military spending. All in all, these results contradict one another, perhaps due to the size of military burden or other more complex reasons. It can, however, be said that the argument of military spending being harmful to economic growth is certainly not given much support by these findings. Furthermore, the conclusion, such as reported in the overview of numerous studies on this topic by Todd Sandler and Keith Hartley, that the impact of defense on growth is either small or non-existent, whether in the short or long run, seems to be supported by the analysis here.³⁵⁸

4.3. Systemic Characteristics of the Demand for Military Spending

As discussed so far in this thesis, it is essential to include the systemic dimension in the military spending analysis. And, on the basis of the earlier review, it is fairly apparent that the “West” in the context described by Samuel Huntington was the dominant political force in the world in this period. On the basis of data availability and the dichotomy between democracies and autocracies, I have further diminished the sample in many of the comparisons undertaken already to consist of 17 states, and, respectively the eleven states analyzed in more detail in this thesis. One could say that these 17 countries in fact represent the “world system” quite well, since they formed 84,8 per cent of the “world” ME in 1913 and 87,7 per cent of the “world” ME in 1929.³⁵⁹ They were naturally equally dominant economically as well.³⁶⁰ The purpose here, however, is not to estimate war proneness like for example conflict scientists have done rather than try to estimate their (joint) demand for military spending in this system, as responding (or not) to common systemic and/or individual indicators. In this section I will concentrate solely

unknown form. Details on the regressions available from the author by request.

³⁵⁸ See Sandler-Hartley 1995, Chapter 8 for further discussion. On a similar conclusion, see e.g. Alexander 1990; Eloranta 2001a. On the view that both 50- and 100-year (approximately) waves are crucial in this interaction, see Modelski-Thompson 1996.

³⁵⁹ Calculated using the most comprehensive military spending database (National Capabilities) available: Singer-Small 1993. The figure in 1929 includes also Finland, which was not separately in existence in 1913. Without Finland the figure for 1929 was 87,5 per cent.

³⁶⁰ See e.g. Maddison 1995; Prados de la Escosura 2000; Huntington 1997.

on the systemic level influences, whereas the following chapters will utilize the results achieved here to include the other analytical levels as well.

First, however, we should discuss the various types of systemic indicators that can be constructed to analyze the behavior of the actors in the system as well as the system as a whole. The method of achieving common currency estimates was already discussed in Chapter 1. In addition to the variables reviewed in this thesis so far, I have chosen, as is commonly done among conflict researchers³⁶¹, to calculate total resource shares and military resource shares for the individual countries. The total resource share, the so-called *CINC* (=Composite Index of National Capabilities), is usually calculated as an arithmetic average of six series: the share of military personnel, the ME share, the energy consumption share, the iron and steel production share, the total population share, and the urban population share. The sources of these series are listed in the Appendices, Appendix 2. As has been indicated throughout this thesis, these data are considerably less reliable for the following countries in the sample of seventeen: Austria, Germany, Italy, Japan, and Russia/USSR. The reasons include both source problems as well as conceptual problems involved with the data series, such as the inclusion of war expenditures. Here I have also decided to replace the energy consumption share commonly used in the COW CINC, which may be a poor proxy for economic stature in a system, with the real GDP share explained in Chapter 1.³⁶² Thus, the *military resource share* (=MILCINC) of a country is calculated as an average of only the military components in the CINC (the military personnel share and the real ME share). Table 23 displays a comparison with the original COW CINC and the new, modified CINC constructed here.

The comparison suggests, despite the samples not being the same, that the new CINC indicate a significant upwards adjustment for Russia in particular, as well as for Germany in 1935 and the United States in 1930, for example. The new, modified CINC make, in addition, the British decline seem more gradual, which also seems to more or less apply to the other cases as well. Quite surprisingly, the new CINC bestow the Soviet Union the "lead" in the total resources in 1938, whereas the old estimates indicated approximate parity between Germany, the United States, and the Soviet Union in the same year. Soviet data is, nonetheless, perhaps the most suspect in this sample due to, for example, lack of readily available exchange rates.

³⁶¹ See especially Singer 1990; Geller-Singer 1998.

³⁶² In addition, energy consumption appears to be highly correlated with economic growth (see Smil 1994, e.g. 206), yet it is hard to argue it would represent national economic resource levels better and more accurately than the concept of (real) GDP. Here also the ME shares are based on the PPP-adjusted figures as explained in Chapter 1.

Table 23. Original CINC's (Based on the Entire COW Database) and the Modified CINC's in a 17-country System for France, Germany, Russia/USSR, the United Kingdom, and the United States, 1920—1938

A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.
1920	5,92	9,08	7,22	7,99	10,21	18,19	12,79	11,81	28,47	29,20
1925	6,07	9,57	7,93	9,49	10,20	11,69	9,37	12,58	25,06	27,87
1930	6,13	9,84	7,33	8,81	14,95	14,31	7,63	11,39	22,36	26,13
1935	5,20	7,53	10,18	13,75	18,12	19,83	7,17	9,93	18,86	21,33
1938	4,55	6,28	15,34	15,78	16,61	21,22	7,54	9,43	16,46	18,63

Sources: see Appendix 1. Original COW-indices generated with the EUGene software and database 2000. A=year; B=original CINC, France; C=modified CINC, France; D=original CINC, Germany; E=modified CINC, Germany; F=original CINC, Russia/Soviet Union; G=modified CINC, Russia/Soviet Union; H=original CINC, the United Kingdom; I=modified CINC, the United Kingdom; J=original CINC, the United States; K=modified CINC, the United States.

Note: details on the countries included in the 17-country system can be found in Figure 11, whereas details on the COW database can be found in Singer-Small 1982; Singer-Small 1993.

The dilemma of Russia's strong showing in the CINC-scores and the military resource shares has been astutely addressed by William C. Wohlforth for the pre- First World War period. An important aspect in these measures is whether they mirror perceptions of, in this case Russia's, power potential among the Great Powers. As he argues persuasively, none of the others considered Russia as a superior power to Germany or Great Britain before the First World War. It seems, nonetheless, that Russia's allies actually possibly overestimated Russian power, whereas Germany and Austria underrated its potential. Wohlforth places the most explanatory value on the variables comprising the military resource share, although even for the military components several other aspects affected the credibility of Russia's (military) power: 1) Russia's political and military inefficiencies; 2) slow mobilization capabilities; 3) lack of internal societal cohesion; 4) Russia's difficulties of withstanding a long war (which was not thought to occur anyhow); 5) Russia's inability, due to many of the factors already mentioned, to wage an offensive war.³⁶³ The same qualities certainly plagued the interwar Soviet Union as well; i.e., how to mobilize its vast capabilities.³⁶⁴ On the other hand, it may be difficult to separate the perception of defensive and offensive capabilities in the macro-level estimations. And, to be certain, Russia possessed immense defensive capabilities that were displayed in the two World Wars and did engage in significant military reforms after its shocking defeat against Japan in 1905. This critique of the use of the CINC-scores notwithstanding (especially regarding the futility of trying to assess the probability of war with them), it may however be plausible that these countries reacted to such perceptions in their military spending decision-making. In

³⁶³ Wohlforth 1987. This article is an illustrative critique of the use of these aggregate indices of power distribution.

³⁶⁴ For further discussion, the reader is referred to Ziemke 1988; Harrison 1998.

addition, following Wohlforth, it is here expected that the military resource shares would be more significant than the aggregate CINC-scores in the system estimations.

In terms of evaluating the qualities and changes in the system in question, there are several variables available for military spending analyses. It has been suggested, for example, that the effect of system-level capability concentration, with capabilities concentrated mostly in the hands of major powers (or just one hegemon), might have an enhancing decision-making certainty effect, although there is no consensus on this. A standard way in the conflict research literature to measure capability concentration is:

$$CONC_t = \sqrt{\frac{\sum_{i=1}^{N_t} (S_{it})^2 - 1/N_t}{1 - 1/N_t}} \quad (10)$$

where S_{it} equals the proportion of the aggregate capabilities (=CINC) possessed by a major power in year t ; N_t =the number of major powers in the system in year t . This index takes a value from 0 to 1. Although many studies have indicated that system-level capability concentration is unrelated to the occurrence of a major power war, this system indicator has not previously been tested as a possible determinant of military spending.³⁶⁵ Thus, it is hypothesized here that a decline in the concentration of total resources (=CINC) should increase the polarity in the system, thus inducing higher ME by the states in the system (=HYPOTHESIS 3). Other indicators that will be utilized here, in addition to the ones already mentioned, include the CINC and military resource shares of the declining and prevailing systemic leaders (assumed to be the UK and USA), the total 17-country system military spending and its dispersion (measured by coefficient of variation), the CINC of democracies and respectively autocracies on the aggregate, the military spending shares of democracies and respectively autocracies, and individual country alliance effects.³⁶⁶ The hypotheses related to these indicators are: 1) An increase in the total system military spending should induce a positive threat response in the form of increased military spending by the individual states (=HYPOTHESIS 1); 2) An increase in the dispersion of military spending by the states in the system should represent mounting threats to the individual states, thus inducing higher military spending (=HYPOTHESIS 2); 3) A decline in the concentration of military resources (=MILCINC) should increase polarity in the

³⁶⁵ Geller-Singer 1998, 122.

³⁶⁶ See Appendices, Appendix 2 for details on the sources.

system, thus increasing uncertainty in the system, and should induce higher military spending among the individual states (=HYPOTHESIS 4).

Additionally, based on the section on the democratic peace argument as well as the discussion on the leadership effects, we can add the following hypotheses to be tested here: 1) An increase in the total resources held by democracies in the system should exert a spillover effect for the individual states, thus inducing a reduction in their military spending (=HYPOTHESIS 5); 2) An increase in the aggregate military spending of democracies in the system should exert a spillover effect for the individual states, thus inducing a reduction in their military spending (=HYPOTHESIS 6); 3) An increase in the total resources held by autocracies in the system should represent a threat for individual states, thus inducing an increase in their military spending (=HYPOTHESIS 7); 4) An increase in the aggregate military spending of autocracies in the system should represent a threat for individual states, thus inducing an increase in their military spending (at a lag) (=HYPOTHESIS 8); 5) Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the military spending behavior of the perceived systemic leader(s) (=HYPOTHESIS 9); 6) Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the total resources held by the systemic leader(s) (=HYPOTHESIS 10); 7) Individual nations in the system should respond, in the form of either challenger or follower behavior in their military spending, to changes in the military resources of the systemic leader(s) (=HYPOTHESIS 11). All of the hypotheses revisited here assume a time lag due to the slowness of the budgetary process.

Thus, our two dependent variables to be tested are the pooled defense shares and military burdens of the two samples (seventeen and eleven states respectively). Thus, the following equation was estimated based on the systemic hypotheses presented above, with a lag of one year on the independent variables as the starting assumption³⁶⁷:

$$\begin{aligned}
 ME_t = & \beta_0 + \beta_1 SYST\dot{O}TME_{t-1} + \beta_2 SYST\dot{O}TMECV_{t-1} + \beta_3 CIN\check{C}ONC_{t-1} + \beta_4 MILCIN\check{C}ONC_{t-1} \\
 & \dots + \beta_5 DEM\ddot{O}CCINC_{t-1} + \beta_6 DEM\ddot{O}CTOTME_{t-1} + \beta_7 AUTO\dot{C}CINC_{t-1} + \beta_8 AUTO\dot{C}TOTME_{t-1} \\
 & \dots + \beta_9 US\dot{A}ME_{t-1} + \beta_{10} UK\dot{M}E_{t-1} + \beta_{11} US\dot{A}CINC_{t-1} + \beta_{12} UK\dot{C}INC_{t-1} + \beta_{13} US\dot{A}M\dot{I}LCINC_{t-1} \\
 & + \beta_{14} UK\dot{M}\dot{I}LCINC_{t-1} + \varepsilon_t
 \end{aligned} \tag{11}$$

³⁶⁷ Details on the variable and other abbreviations can be found in Appendices, Appendix 1, Table 1A.

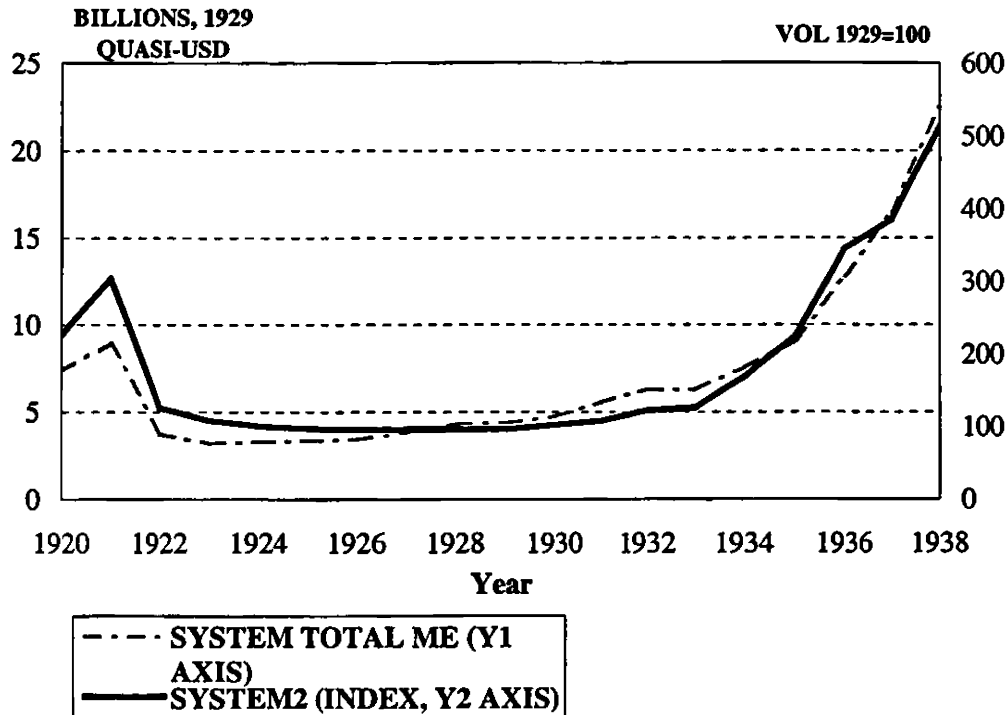
Based on these hypotheses, the following independent variables were expected to have a positive sign, at a lag: total system ME (=SYSTOTME); coefficient of variation in the military spending of the system countries (=SYSTOTMECV); total resources (CINCs) held by the autocracies (=AUTOCCINC), with countries scoring three or more in a given year in the Polity III scale qualifying as representing autocratic rule; and total ME by such autocracies (=AUTOCTOTME). Moreover, the following variables were expected to incur a negative coefficient at a lag: concentration of the total resources (CINCs) held by the system countries (=CINCCONC); concentration of the military resources (MILCINCs) held by the system countries (=MILCINCCONC); total resources (CINCs) held by the democracies (=DEMOCCINC), with countries scoring six or more in a given year in the Polity III scale qualifying as representing democratic rule; and total ME by such democracies (=DEMOCTOTME).

The rest of the signs would depend on an individual country's position — i.e., its importance in the international system — and thus Great Powers would be expected to behave differently than other states. Also, there should be differences among the Great Powers depending on their regime type. For example, Germany might be expected to engage in challenger behavior, resulting in either a large, negative coefficient respective of the economic leader(s), or in fact responding to their decline only at the systemic level. A democratic challenger such as France should also incur a negative, albeit a more moderate coefficient as a direct response to, for example, American military burden. Its challenge would be more in line with an attempt to keep Germany in check than as a move towards greater power in international politics. This would in turn reflect on the systemic military spending responses. “Weak” states could act like followers, “copying” the military spending behavior of the leader(s) at a lag, or ignore the behavior of the leader(s) altogether. It should be emphasized here that this approach ignores many of the fundamental structures usually “driving” military spending behavior in any state, especially dyadic threats and spillovers, as well as impure public good influences, which are added to the analysis in the later chapters.

Before moving to the statistical treatment of these hypotheses, we should peruse the systemic developments, the military spending behavior of democracies in comparison with autocracies, as well as the implications of the leadership qualities in the system. Additionally, a review of the military spending patterns in the system may be warranted, especially if a balance existed in the way that the economic resources and military resources were valued by the individual states. As seen in Figure 50, systemic “threats” at first glance seemed to decline after the early 1920s, only

to resurge from circa 1933 onwards. Both the total system ME and an approximate threat index indicate remarkable support for such an assessment. The increase of systemic military spending threat was dramatic and continuous for the rest of the 1930s.

Figure 50. Total System (Real) Military Spending and a System Threat Index in a System of Seventeen States, 1920—1938

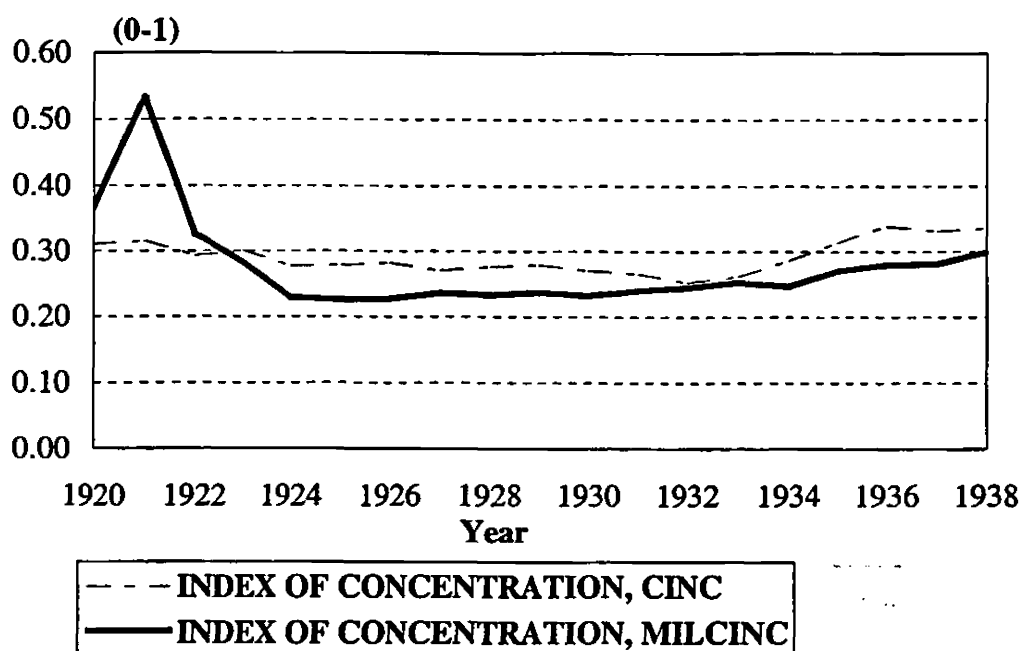


Sources: see the system state data sources in Appendices, Appendix 2.

Note: SYSTEM TOTAL ME calculated as the sum of the real ME figures of the seventeen states in 1929 quasi-USD. SYSTEM2 equals the combined mean military burden and military personnel index, weighted by the countries' share of total real ME in 1929 quasi-USD, for seventeen states. The volume index was set as 1929=100 for the individual states.

However, if we look at Figure 51, this preliminary appraisal of the period becomes more dubious. Especially based on the balance of power literature, the assumption usually is, similar to some of the hypotheses tested in this section, that decreasing concentration of power leads to systemic instability. The 1920s therefore was not only a period of decreasing total military spending, but also a period of new states evening the playing field in terms of military resources. This development is hardly visible in the development of the total resource concentration. This might suggest that the 1920s already provided the seeds of the systemic instability of the 1930s. The increasing concentration in the depression decade was the result of the new challengers, namely Great Powers, emerging on to the international scene. Did similar developments take place in the "power balance" between the democracies and the autocracies?

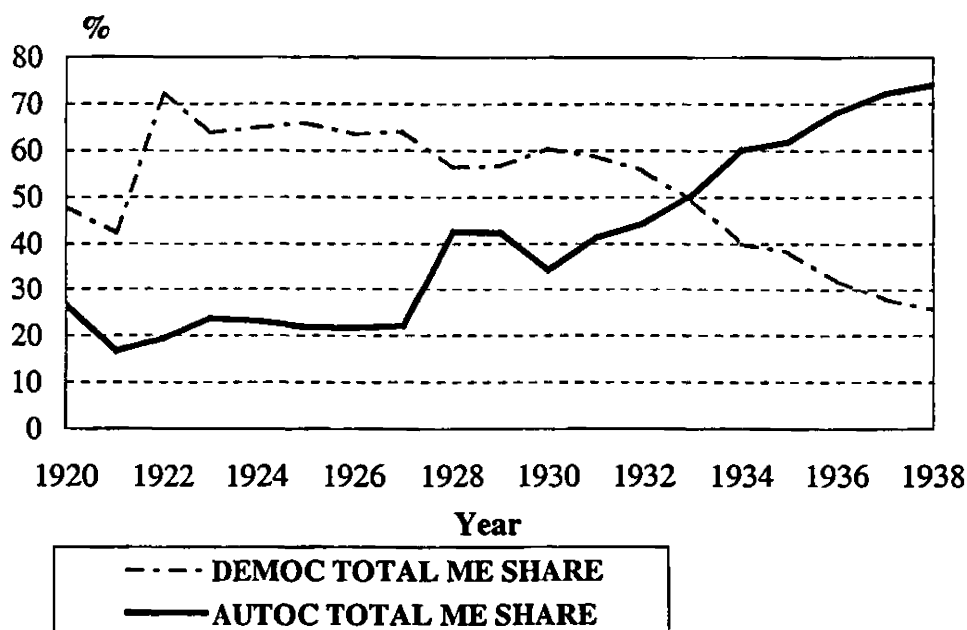
Figure 51. Indices of Concentration, for CINC and MILCINC, 1920—1938



Sources: see the system (seventeen states) data sources in Appendices, Appendix 2.

Note: indices of concentration calculated as indicated by Equation 10. Definitions of CINC and MILCINC provided in the text.

Figure 52. Total Real Military Spending Shares of the Democracies Versus the Autocracies in the 17-country System, 1920—1938

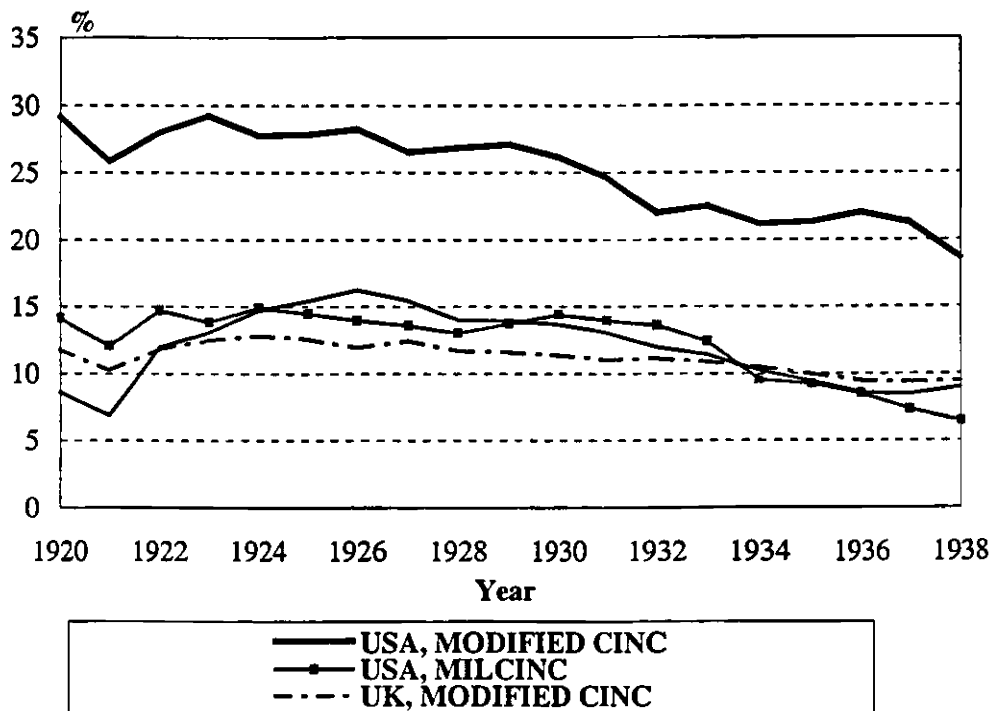


Sources: see the system state data sources in Appendices, Appendix 2.

Note: DEMOC (=democracies) defined as those scoring at least six in the Polity IIID (2000) democracy index; AUTOC (=autocracies) defined as those scoring at least three in the Polity IIID (2000) autocracy index. Real ME calculated as explained in other figures and in Appendices, Appendix 2.

The ascendancy of the authoritarian nations and their military spending role indeed began already after the mid-1920s, although the balance between the democracies and the autocracies did not shift until 1933, with especially Germany tipping the balance (see Figure 52). After that, the decline of democracies as a military force was a fairly rapid phenomenon. Thus, the 17-country system was at first destabilized by the deconcentration of military resources in the 1920s, with the rapid decline of democracies further fueling this process in the 1930s. The argument that the deconcentration of military resources was indeed destabilizing is closely linked to the absence of military leadership by the Western economic giants, especially the United States. This can be seen in Figure 53 below. Whereas the United Kingdom allocated even more for military purposes than its share of total resources would have warranted for some of the period, the U.S. MILCINC was far lower than its economic and political position "required". The absence of a credible military leader, not to mention an economic leadership broker, made this deconcentration a destabilizing force in the 1920s.

Figure 53. Modified CINC and MILCINC for the United States and the United Kingdom, 1920—1938



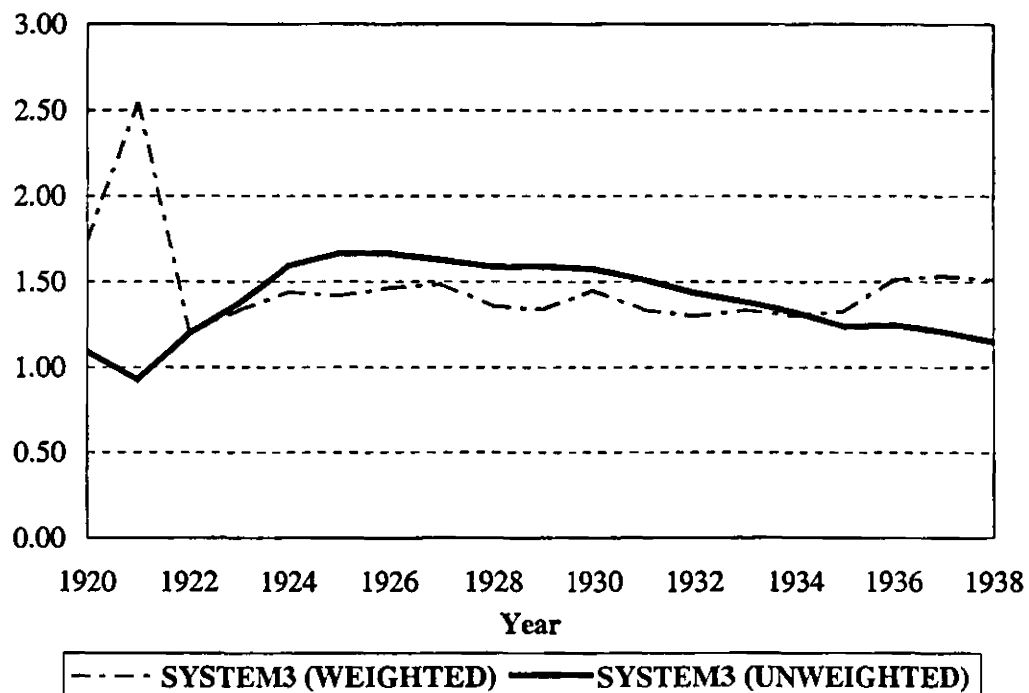
Sources: see the system state data sources in Appendices, Appendix 2.

Note: CINC and MILCINC calculated as explained in the text and in Appendices, Appendix 2.

Finally, it is possible to approximate a way of estimating whether states as a whole or individually spent more than their other resources would have necessitated. One way of doing

this is to calculate the following ratio: the total average military resource share (MILCINC), weighted by the real ME shares of countries, divided by the total average economic resource share (the four other components in the modified CINC=*ECONCINC*), again weighted by the real ME shares of countries, (=SYSTEM3, weighted). Alternatively, an unweighted measure was calculated as well (SYSTEM3, unweighted). These would give an indication, on the aggregate as in Figure 54, of whether military resources were overextended (a value above one) or vice versa (a value below one). As we can observe from Figure 54 below, as a whole these countries overextended their military resources during the interwar period. The late 1930s induced a rise in the weighted index. Of the individual countries, the clear military “overachievers” included, Finland, France, Switzerland, and Spain during this period. Conversely, the clear military “underachievers” included, among others, the United States, Austria, Sweden, Denmark, and the Netherlands.

Figure 54. Mean Military Resource Shares (MILCINC)s Divided by Mean Economic Resource Shares (ECONCINC)s, Both Weighted and Unweighted, 1920—1938



Sources: see the system state data sources in Appendices, Appendix 2.

Note: SYSTEM3 (WEIGHTED) equals the ratio of mean MILCINC)s to ECONCINC)s, weighted as explained in the text; SYSTEM3 (UNWEIGHTED), the same but not weighted.

In order to estimate Equation 11, I will first apply simple GLS with cross-section weights to estimate the parameters of the 17-country system, utilizing White heteroskedasticity-consistent

standard errors and covariance. As Todd Sandler and Keith Hartley have noted, the SUR technique may be appropriate when a nation is a member of an alliance and demand equations are estimated for multiple allies.³⁶⁸ Although this was not technically the case, common responses could be expected to systemic changes. However, to make a preliminary assessment on the significance of the explanatory variables in the pooled samples, I decided to use the GLS to begin with. Furthermore, in order to verify whether the inclusion of the countries with more dubious data (1920—1938: AUT, GER, RUS/USSR) influenced the underlying SUR system, I also estimated the pooled GLS regression for the eleven European sample states separately. As indicated previously, one lag was the beginning assumption, yet the optimum lag structure was tested up to three lags. The equations were corrected for autocorrelation if needed, with AR(1) arising as the most common additional variable. The ME variables of the “leaders” — the United States and the United Kingdom — were their defense shares and military burdens, depending on the dependent variable. Although the estimated systems were expected to display certain joint responses, one would have to be careful not to place too much emphasis on these estimates alone, due to the forcing of common response coefficients for most of these variables. Also, the absence, based on the theoretical framework developed in this thesis, of other significant independent variables will certainly influence the results somewhat, and therefore these results will be revisited in the subsequent estimations in the later chapters.

Overall, as we can discern from Tables 24 and 25, it is possible to draw some general conclusions from the results achieved: 1) Both the military burden and the defense share equations were by and large different between the two samples; 2) The military burden equations displayed less specification errors as well as higher *F*-values and were thus deemed more reliable; 3) The parameter estimates in these equations were volatile, switching their signs at different lags, and therefore these results should be considered only preliminary; 4) System variables are obviously relevant for the military spending analysis of this period, yet the more precise impacts would have to be evaluated in connection with other theoretically relevant independent variables; 5) The sample of eleven displayed less specification errors and thus formed a more uniform sample, confirming the earlier analyses on the differences between the samples.

³⁶⁸ Sandler-Hartley 1995, 62. On an application of this method, see e.g. Murdoch-Sandler 1986.

Table 24. GLS Estimates of the Systemic Influences on Pooled Defense Share and Military Burden in the 17-state System, 1920—1938

A.	B.	C.
<i>SYSTOTME</i>	-0,03*** (t-2)	-0,18*** (t-2)
<i>SYSTOTMECV</i>	0,57*** (t-3)	0,58*** (t-3)
<i>CINCCONC</i>	-0,74*** (t-2)	0,09*** (t-2)
<i>MILCINCCONC</i>	-0,34*** (t-3)	-0,11*** (t-3)
<i>DEMOCCINC</i>	1,06*** (t-2)	0,62*** (t-2)
<i>DEMOCTOTME</i>	-0,16*** (t-3)	0,18*** (t-3)
<i>AUTOCCINC</i>	-0,02*** (t-2)	-0,17*** (t-2)
<i>AUTOCTOTME</i>	-0,02*** (t-1)	-0,19*** (t-1)
<i>USAME</i> □	0,28*** (t-1)	-0,12*** (t-1)
<i>UKME</i> □	0,53*** (t-1)	0,09*** (t-1)
<i>USACINC</i>	-1,00*** (t-1)	0,63*** (t-1)
<i>UKCINC</i>	-0,03*** (t-1)	-0,32*** (t-1)
<i>USAMILCINC</i>	0,34*** (t-1)	0,65*** (t-1)
<i>UKMILCINC</i>	-0,40*** (t-1)	-1,01*** (t-1)
<i>AR(1)</i>	†	†
N	255	255
S.E.	4,77	0,50
D.W.	1,99	1,87
F	31055	3,83E+22

Sources: see Appendices, Appendix 2 for details on the system. A=independent variable names and names of regression statistics reported here; B=coefficients and other details on the independent variable (dependent variable: *defense share*); C=coefficients and other details on the independent variable (dependent variable: *military burden*). * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. □ = for B, the independent variable is defense share; for C, the independent variable is military burden. Lag length indicated in parenthesis. All variables in logs.

Note: † = cross-section specific, coefficients not listed here. No differencing undertaken to ensure uniformity with the SUR estimations.

Table 25. GLS Estimates of the Systemic Influences on Pooled Defense Share and Military Burden in the 11-state System, 1920—1938

A.	B.	C.
<i>SYSTOTME</i>	-0,34*** (t-3)	-0,35*** (t-3)
<i>SYSTOTMECV</i>	0,53*** (t-3)	0,79*** (t-3)
<i>CINCCONC</i>	0,30*** (t-1)	-2,34*** (t-1)
<i>MILCINCCONC</i>	0,46*** (t-1)	1,80*** (t-1)
<i>DEMOCCINC</i>	0,38*** (t-2)	2,48*** (t-2)
<i>DEMOCTOTME</i>	0,21*** (t-2)	-0,25*** (t-2)
<i>AUTOCCINC</i>	0,23*** (t-3)	-0,33*** (t-3)
<i>AUTOCTOTME</i>	-0,08*** (t-1)	0,34*** (t-2)
<i>USAME</i> □	-0,09*** (t-1)	1,05*** (t-1)
<i>UKME</i> □	0,21*** (t-2)	-0,18*** (t-2)
<i>USACINC</i>	0,79*** (t-1)	2,84*** (t-1)
<i>UKCINC</i>	-0,26*** (t-3)	0,08*** (t-3)
<i>USAMILCINC</i>	-0,05*** (t-1)	-2,78*** (t-1)
<i>UKMILCINC</i>	0,19*** (t-1)	1,47*** (t-1)
<i>AR(1)</i>	†	†
N	165	165
S.E.	0,07	0,23
D.W.	2,29	2,00
F	24836	1,34E+9

Sources: see Appendices, Appendix 2 for details on the system. A=independent variable names and names of regression statistics reported here; B=coefficients and other details on the independent variable (dependent variable: *defense share*); C=coefficients and other details on the independent variable (dependent variable: *military burden*). * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. □ = for B, the independent variable is defense share; for C, the independent variable is military burden. Lag length indicated in parenthesis. All variables in logs.

Note: † = cross-section specific, coefficients not listed here. No differencing undertaken to ensure uniformity with the SUR estimations. The common intercept for column C not listed here.

As far as the individual hypotheses pursued in this section are concerned, it seems that HYPOTHESIS 1 — inasmuch increasing total system ME was perceived as a threat — is not supported by the results here (4/4 of the signs disagree with the hypothesis), as in fact the exact opposite is suggested. HYPOTHESIS 2 — implying a positive ME response to increasing dispersion in the system's military spending — has clear support (4/4 of the signs agree with the hypothesis), and its impact varied in the equations. HYPOTHESIS 5 — indicating that a decline in the total resources held by democracies would promote the free-riding tendencies of these states — is clearly rejected (4/4), and it seems that the impact was the exact opposite. This is not surprising considering the “false” security environment of the 1920s and the increasing threats brought on by the 1930s' power concentration. The performance of democracies may have been a benchmark of sorts in the system. The nature of this process was obviously important. Furthermore, for example HYPOTHESIS 7 and 8, pertaining to the threat qualities of autocracies, seem to have support exactly in the opposite direction (3/4 in both cases). Moreover, HYPOTHESIS 3 and 4 seem poorly supported by the analyses here.

HYPOTHESIS 9, implying a response to the military spending of the declining democratic leaders (especially UK), seems to apply. As discovered already elsewhere³⁶⁹, the European democracies appeared to respond mostly to the British (and perhaps the French) military spending changes in their own spending behavior. This occurred in the form of follower behavior (positive sign). HYPOTHESIS 10, implying a response to the total resources held by the economic, democratic leaders (USA, UK), also has considerable merit. It seems that the United States was structurally important for the system at the level of total resources, attracting a positive ME response from both samples of states in both equations. The declining British CINC also induced an opposite ME response as a whole. HYPOTHESIS 11, implying a ME response to the changes in the military resources held by the economic and democratic leaders (USA, UK), was not forthcoming through this initial analysis. Yet, the response of most states, especially to declining American economic and military might (at least until the mid-1930s), was to engage in cautious follower behavior. All in all, these results suggest that most of these systemic variables are relevant for the subsequent analyses, yet they need to be revisited in connection with other key variables. Furthermore, the sample of eleven European democracies or transitional democracies indeed seemed to form a structurally more uniform group than the alternative 17-state sample that included also strongly autocratic states.

³⁶⁹ Eloranta 2001a; Eloranta 2001b.

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5. MILITARY SPENDING BEHAVIOR OF THE SELECTED ELEVEN EUROPEAN STATES, 1920—1938: Responding to External or Internal Variables?

5.1. The Demand for Military Spending as a Pure Public Good in an "Alliance": The League of Nations as an Alliance?

This chapter represents an effort to assess the importance of the pure and impure public good characteristics in the demand for military spending among the selected eleven European states: Belgium, Denmark, Finland, France, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. First I will explore further the idea that the League of Nations might have failed to produce a public good in the form of collective security, and what this failure would have entailed for the military spending decision-making of these nations. The military spending framework under the superficially strong League of Nations in the 1920s did not provide encouragement for meaningful spending cuts, which fits well within the proposed arms race model introduced in this section. Furthermore, the reasons behind the disarmament failure of the League are explored in this chapter, and especially the role of the "weak" states is re-evaluated. Secondly, I will move towards analyzing the demand for military expenditures in a more comprehensive fashion, combining both pure and impure public (although in essence pure public good influences are nested in the impure public good models) good variables at the level of the system, alliance(s), and the state in the analysis as suggested in Chapter 2. The impure public good characteristics of ME within states are also brought into the analysis in the next section.

As the discourse on the League of Nations in Section 3.3 implied, the League of Nations can be argued to have formed an alliance of sorts, even militarily. An attempt was certainly made to provide a framework for collective security in the League Covenant, which consisted of various measures meant to force states into arbitration over disputes. Furthermore, for example Article 16 provided measures, such as the assembly of a collective military force, for the enforcement of these principles. Bruce Russett has qualified the League of Nations as a "quasi-global collective security arrangement... which bind[s] all members to coalesce against any aggressor, even one of their own number".³⁷⁰ Despite the fact that the structure of the League and the different views of its members on these commitments rendered these ideals quite unreachable³⁷¹, the League certainly on paper filled the requirements of a military alliance. And, as such, it can

³⁷⁰ Russett 1971, 263.

³⁷¹ See e.g. a seminal article by Roland Stromberg: Stromberg 1956.

be investigated as providing a possible pure public good deterrence to its members, in the fashion described in Chapter 2.³⁷² The maintenance of collective security, i.e. at least some form of lasting peace, was indeed “the one great object of the whole organization”, to be pursued through institutionalized collective action.³⁷³

Figure 55. Arms Race Game Dynamics Among Nations in the Interwar Period

		NATION 1	
		LIMIT ME	ESCALATE ME
NATION 2	LIMIT ME	4,4	-16,8
	ESCALATE ME	8,-16	-12,-12

● **DOMINANT STRATEGY: ARMS RACE, GIVEN THE ABSENCE OF TRUST (REPEATED INTERACTIONS) AND/OR COMMON SYSTEM OF SECURITY GUARANTEES (I.E., LEAGUE OF NATIONS)**

Source: adopted from Sandler-Hartley 1995, 75.

The military spending choices of the League members can be described with a rather simple Prisoner’s Dilemma arms race framework, similar to the Richardson model outlined in Chapter 1. One possible realization of this is presented in Figure 55. The two participating nations have two strategies: either to limit or escalate one’s military spending. The hypothetical payoffs presented arise from four strategy combinations: 1) Both countries limit their ME; 2) Nation 1 limits while nation 2 escalates; 3) Nation 2 limits while nation 1 escalates; 4) Both countries escalate their military spending. The first number in a cell indicates the payoff to nation 1, whereas the second the payoff to nation 2. The matrix shows that each nation is best off when it escalates and the other limits ME. The worst outcome for any nation, for example within the

³⁷² Other organizations can of course be studied in a similar fashion, as providing a pure public good in a fashion other than militarily. See Olson-Zeckhauser 1966; Sandler-Hartley 1999.

³⁷³ The League of Nations Starts 1920, 26; Steiner 1993, 38.

League of Nations, would be to limit military spending while another, especially a rival, escalates.³⁷⁴ However, given the absence of trust or some type of guarantee, the escalate-escalate strategy would prevail, producing the worst outcome in terms of the maintenance of peace between the two nations.

In the 1920s, the League of Nations framework provided only a semblance of collective security, amply revealed in the 1930s. Although in general the 17-country system ME remained quite stable after its sharp reduction in 1920—1922 until 1933, systemic stability was undermined by the decreasing ME share of democracies. Also, whereas the eleven European states analyzed here kept their military spending shares, on the average, very stable throughout the 1920s and 1930s, their authoritarian challengers increased their relative spending strongly in the 1930s, thus tipping the balance between the democracies and autocracies after 1933. Moreover, not all states were willing to disarm in the 1920s, given the League's vague collective security enforcement guarantees. Only the naval disarmament seemed to produce more concrete results, although even this process produced results that were not entirely beneficial for the power balance; namely, the strong emergence of France in terms of real tonnage.³⁷⁵ Thus, the "disarmament equilibrium" achieved in the 1920s was a tenuous one. The dominant strategy of the League members, which emerged in the 1930s, was to escalate military spending again within the constraints placed upon them by their respective political economies. The absence of successful repeated interactions that would foster trust between the key states (such as in achieving comprehensive disarmament measures) and the impotence of the central arbiter, the League and the United States,³⁷⁶ were among key reasons for the escalation of military spending in the 1930s.

The failure of the League to include all the important world powers was of course in itself of paramount importance for its effectiveness. The isolationism of the United States; the distrust of the Soviet Union towards the League; Germany's at first externally imposed exclusion in the 1920s and then its own decision to abandon the League in the mid-1930s; and Japan's exit from the League on the heels of the Manchurian Incident were all huge blows to the collective peace aspirations. After all, a key idea in the League structure was, contrary to the wishes of France and Eastern European states, that the enforcement of peace should be left to the hands of the members themselves. Especially the British were in favor of this interpretation of the League

³⁷⁴ Sandler-Hartley 1995, 74—76, which also presents the ordinal version of this game.

³⁷⁵ See Sections 3.3 and 4.3 of this thesis.

³⁷⁶ On the comparison between the pre-war arbitration movement and the more extensive League of

commitments. A comment attached to the presentation of the original League Covenant to the Parliament in June 1919 is quite illustrative: "It is true that, in default of a strong international striking force, ready for instant action in all parts of the world, the Members of the League must make their own arrangements for immediate self-defence against any force that could be suddenly concentrated against them, relying on such understandings as they have come to with their neighbours previously for this purpose."³⁷⁷

The French, however, firmly believed that an international military force, preferably on permanent basis, or at least extensive military cooperation would be necessary in order for the League to function properly. The British and the Americans obviously did not want to make such binding arrangements. The British wanted to minimize their involvement in continental matters, especially in military affairs³⁷⁸. France was perhaps the most ardent advocate of collective security guarantees among the Great Powers, yet it mainly viewed the League as a system of force directed against real or imagined German aggression. Their views on disarmament differed drastically as well, since for example the British were not willing to commit to extensive collective security arrangements, and the French were not willing, in the absence of such commitments, to disarm. Both were at best sceptical of the chances of the League to provide real security solutions.³⁷⁹ While the accession of Germany to the League seemingly fostered the "spirit of Locarno", in fact very little changed in terms of the League's credibility. Good diplomatic relations between the European "Big Three" (France, the United Kingdom, and Germany) did facilitate the everyday functions of the League, yet these superficial improvements were undermined by the representatives of their respective governments in their nationalistic domestic appearances. The "Big Three" only really turned to the League as an instrument of last resort. According to George Scott (1973), "Britain's influence was often the most decisive in keeping the League out of things."³⁸⁰

The role of the "weak" states, carrying the connotation of limited political and/or economic importance, was not quite as weak as their economic position in the international system would suggest. This was guaranteed by the very structure of the League organs. Both the Assembly and the Council ensured the Small and Medium Powers³⁸¹ practically equal say in the matters of

Nations, see Egerton 1974.

³⁷⁷ The League of Nations Starts 1920, 234—235.

³⁷⁸ This was hardly a unanimous view held by British officials, especially those serving in the League of Nations. See Towle 1993.

³⁷⁹ Northedge 1986, 44; Stromberg 1956, 252—253; Egerton 1974; Steiner 1993, 37.

³⁸⁰ Scott 1973, 161—166. See also Towle 1993.

³⁸¹ See e.g. Ray-Singer 1973 for discussion on how to construct indices, based on diplomatic

the League. Moreover, as Ronald Stromberg has pointed out, the “small” states were not necessarily any more virtuous than the Great Powers in international politics.³⁸² They also pursued their own interests and agendas within the League. There were also many types of “weak” states, even within Europe, representing a heterogeneous array of views. For example, the Scandinavian states — consisting of Denmark, Norway, and Sweden — felt that because of their geographic and political positions they were not willing to even entertain sanctions as a coercive tool, let alone military force. They attached, on the basis of their small populations and military weakness, very little value to armaments as the basis for security, and they were ready to implement general disarmament, even unilaterally, without further guarantees. The position adopted by these states maintained that general disarmament itself would constitute an important guarantee for international security.³⁸³

Thus Sweden, for example, a member of the League of Nations from the beginning, was an active pursuer of disarmament policies in the League of Nations. All of the interwar Swedish governments worked for international disarmament vehemently, like the other Nordic governments did as well. The goal of the Swedish disarmament policy was to persuade other nations in the League to adopt radical disarmament measures, such as reductions in the tonnage of war ships, prohibition of chemical and biological warfare, and so on. The Swedish governments of the 1930s (until 1936) continued to put their faith in the League despite the increasing tensions. The main motivation behind the Swedish disarmament efforts was a commitment to humanitarian and democratic policies, as well as belief in the League as the only means of maintaining peace in the world. The basic principles in the Swedish interwar foreign policy were the maintenance of neutrality and non-commitment.³⁸⁴

The Swedish disarmament began with the Defense Act of 1925, a result of the recommendations of the parliamentary Defense Revision committee appointed in 1919 and motivated by the League of Nations standards. Although the reductions in military expenditures were still modest and were not met for the most part, they still represented a significant effort towards conscious disarmament. The Swedish government strove actively to achieve disarmament measures both domestically and in the League conferences in the 1930s.³⁸⁵ Of the other Nordic countries Norway and Denmark made similar commitments: Norway passed acts reducing the size of its

representation, to measure power status. See also the discussion in Chapter 6 of this thesis.

³⁸² Stromberg 1956, 263, footnote 14.

³⁸³ Jones 1939, 217—225; van Roon 1989. See also Salmon 1997.

³⁸⁴ Trönberg 1985; Paasivirta 1987, 194—195. See also Agøy 1996.

³⁸⁵ Trönberg 1985, 33—73; Böhme 1988; Paasivirta 1987.

armed forces and the officer corps in 1927 and again in 1933; Denmark in 1922 and 1932. Norwegian interwar governments felt secure and beyond military threats, which limited their foreign policy interests to foreign trade issues. Danish governments, however, were convinced that even large military outlays would not secure their country against an invader.³⁸⁶

The Nordic front was not uniform in this respect, however. Finland did not follow the example set by the other Nordic countries, both in military build-up as well as foreign policy. The aim of the Finnish foreign policy in the 1920s was largely to attempt to unite forces with other potentially or actually "weak" nations such as the Baltic states and Poland, thus providing security against a Soviet invasion. The Tartu peace agreement in 1920 with its massive although temporarily weakened eastern neighbor had not created a consistent basis for functioning foreign relations with the Soviets. The approach of forming an alliance with the aforementioned neighbors of the Soviet Union failed in 1922.³⁸⁷ Until the mid-1920s, the Finnish foreign policy could be described as a passive policy of "non-alliance".³⁸⁸ The policy of relying on the League of Nations gained more ground from 1924 onwards, yet a clear turning point in this was the Finnish membership in the Council of the League of Nations in 1927. In 1927—1931, the Finnish government participated actively in the League of Nations functions.³⁸⁹ Faith in the League of Nations in upholding the peace, however, was relatively scarce among the political parties.³⁹⁰ In the late 1930s, the Finnish foreign policy was centered around achieving an alliance with Sweden, which turned out to be impossible.³⁹¹ In the League of Nations Finland was often closer to the views of France and such Eastern European states as Czechoslovakia, which wanted to implement collective security guarantees.³⁹²

There were also other constellations among the "weak" states that served as the basis for their activities in the League of Nations and beyond. For example, the so-called Oslo states — a group which came into existence in 1930 and lasted until 1940 — consisted of Sweden, Norway, Denmark, the Netherlands, Belgium, Luxembourg, and Finland. The principal aim of this group

³⁸⁶ Agøy 1996, 478; Paasivirta 1987, 194—195, 225—227. On the Danish "faith" on the League of Nations, see Wiberg-Jensen 1992, 353—354.

³⁸⁷ Paasivirta 1984, 256—258, 262, 265—267; Kallenaatio 1985, 63—67, 86—91; Roiko-Jokela 1996; Tervasmäki 1964, 23—24. See also Paasivirta 1987.

³⁸⁸ Paasivirta 1984, 267—269, 272—273.

³⁸⁹ Kallenaatio 1985, 105—107, 113; Paasivirta 1984, 272—273.

³⁹⁰ Kallenaatio 1985, 113, 123; Hietanen 1989, 75; Defense Revision 1926, 12—14; Parliamentary Minutes/1927, 375—377, 386—387. On the Finnish League of Nations policy, see also Selén 1974.

³⁹¹ Soikkanen 1984; Turtola 1984. On the Finnish defense cooperation plans with Estonia, see Leskinen 1997.

³⁹² See e.g. Jones 1939, 217.

was to promote economic and political cooperation, mainly under the auspices of the League of Nations. In reality, most of the cooperation took place directly between the Oslo states. However, since the core of this group consisted of the three neutral Scandinavian states, there were many disagreements over policies between them. For example, whereas Belgium and the Netherlands were in favor of extending political cooperation to the so-called Group of Eight — which in addition to the Oslo states (not counting Luxembourg) comprised Czechoslovakia, Spain, and Switzerland — the Scandinavian states were in favor of forming an entity based around the former neutral states. Similar difficulties plagued the actions of the Group of Eight, which was mainly aimed at promoting the disarmament process within the League. Differences between the positions adopted by these states, for example in disarmament, were often irreconcilable. For example, Finland and Czechoslovakia were strongly in favor of security guarantees, whereas the Scandinavian states were willing to undertake unconditional, unilateral disarmament. The Scandinavian policy of non-involvement actually extended to denying automatic assistance to the victims of aggression, thus going against the proposal made by Finland in the League.³⁹³

The ambiguous foreign policy of the southernmost member of the Group of Eight, Spain, was not particularly helpful for the cause of disarmament either. Primo de Rivera's authoritarian regime, lacking fascist-style state control, maintained an ambiguous dualism in its foreign policy, alternating between a revisionist stance and a traditional policy of accepting the status quo. Rivera considered success abroad to be vital for the survival of his regime. It maintained a lukewarm diplomatic courtship with Italy as an ongoing process while attempting to make headway in Northern Africa, mainly at the expense of the French. Despite some modest successes due mainly to luck, its biggest challenge was to obtain greater recognition from the League. Since the beginning, Spain's seat in the Council had been a nonpermanent one, which was a source of irritation for the regime. As Germany acceded to the League in 1926 and obtained a permanent seat, Rivera began a campaign to get Spain a permanent seat as well, which after numerous twists and turns resulted in Spain's withdrawal from the League for two years in the late 1920s. When Spain rejoined, it did so under the same conditions as before, having achieved practically nothing except a political embarrassment and ending up undermining the League.³⁹⁴

³⁹³ van Roon 1989, e.g. 128, Chapter IX; Jones 1939, 238; Salmon 1997.

³⁹⁴ Saz 1999a, 53—64. See also Lee 1987, 227—231.

During the Second Republic, the foreign policy reversal of the regime was quite extensive. The Republican government relied on international cooperation and the promotion of pacifist ideas. It was actually Spain's initiative that led to the establishment of the Group of Eight. Spain demanded the greatest possible disarmament compatible with a guarantee of internal public order and the fulfillment of international obligations. Yet, although Ismael Saz claims otherwise, this group was far from uniform and imposed its own difficulties to the disarmament process. Thus, it was a combination of competing visions among the Great Powers and the other states that ultimately made the disarmament compromise impossible.³⁹⁵ Neutrality was not really a choice that Spain embraced willingly rather than a continuous descent towards "a hesitant and frequently shameful neutrality", as the cooperation with the other "weak" states failed to produce results.³⁹⁶

If we think in terms of Figure 55, the near impossibility of the disarmament becomes apparent. When the participants in the game had, broadly speaking, either the goal of obtaining comprehensive collective security guarantees (like France) or, at the other end of the spectrum, were willing to accept disarmament without any agreement at all, the disarmament process certainly faced an uphill battle in order to be a success. At the level of individual countries' foreign policy, the aims and motivations of the participants differed even more drastically. Furthermore, when repeated negotiations failed to produce results and centralized military leadership — either by the League of Nations or the leader nations — was not forthcoming, an arms race ensued in the 1930s. Even the disarmament process of the 1920s was most likely a phenomenon that had more to do with individual state public finances and other domestic factors. The response by the autocracies, encouraged by their populist leaders, was to achieve revisionist aims (like Germany) or simply take advantage of the existing power vacuum. The response of the democracies was a more protracted one; i.e., they retained the strategy of non-escalation until the mid- or late 1930s, which of course meant that the strategic payoff for the autocracies from the rapid arms buildup was even greater.

Why did the League of Nations ultimately fail to achieve widespread disarmament? Maurice Vaïsse (1993) has summarized the explanations in the following manner: 1) It failed because it was an imperfect instrument for achieving disarmament; 2) It failed because the League was not universal; 3) It failed because of the confrontation between Great Britain and France; 4) It failed

³⁹⁵ Cf. Saz 1999b, 77—99. On competing visions of the reasons behind the disarmament process, see Vaïsse 1993.

³⁹⁶ Saz 1999b, 83—91. In addition, see Lintz 1978.

because there were domestic forces inside the countries hostile to disarmament; 5) It failed because the Disarmament Conference was convened too late, under hostile conditions; 6) It failed because of the confrontation between France and Germany at the Disarmament Conference; 7) It failed because of the overly ambitious aims and the practical problems involved in the reduction of armaments.³⁹⁷ And, as Northedge has argued, the League failed because it was seen as the defender of the status quo, the infamous Versailles settlement.³⁹⁸ As argued here, all of these explanations have merit, yet the list is hardly exhaustive. Firstly, contrary to Vaïsse, I would maintain that the disarmament that took place contemporaneously in the 1920s and the early years of the Great Depression did not offer a real window of opportunity for disarmament.³⁹⁹ Secondly, the role of the “weak” states was not as constructive as is often perceived, since they could not offer a unified front on most issues. Nor were they all pacifist in the vein of the Scandinavian countries. Thirdly, as argued in Chapters 6 and 7, the domestic opposition among economic interest groups to, for example, arms trade regulation was quite formidable. Finally, the rigid negotiation stances of the key states in the disarmament process prevented a more favorable outcome, since far-reaching compromises were required from all participants. Thus, the states tended to pursue their own interests, which were not the same for each state nor were the means that they were ready to use to achieve their aims. The way that these interests emerged in the foreign policy of a particular state, which is the argument in this thesis, was a combination of external (systemic, alliance-specific, dyadic) and internal (economic, political, actor-specific) factors.⁴⁰⁰

It also is possible to test the notion whether the League actually produced a pure public good deterrence. First, however, the representativeness of the sample must be discussed. The eleven European states can hardly be said to represent the whole of the League of Nations, yet they could be argued to represent the European dimension of the organization quite well. Finland, Spain, and Portugal represented the periphery of Europe, the Scandinavian countries formed their own, fairly distinctive group, whereas the others could be viewed as belonging to the European core in terms of geography and level of economic development. Such countries as Germany and Japan, for example, did not belong to the organization during the whole period. In this fashion, Spain perhaps is the least fitting of the group. Nonetheless, Spain’s position in the League or its military spending were hardly affected by its short absence. Moreover, France and

³⁹⁷ Vaïsse 1993.

³⁹⁸ Northedge 1986, 288—289.

³⁹⁹ Cf. Vaïsse 1993, 185—186.

⁴⁰⁰ On this type of argument, see Rosecrance-Stein 1993; Rosecrance-Steiner 1993, 124—125. More specific tests of this argument, in relation with military spending demand and the relevant variables, are

the United Kingdom were most certainly the leading states in the League, so perhaps the representativeness of the sample of eleven is better than one might at first expect. Certainly this sample should reveal the effectiveness or inadequacy of the League of Nations as a provider of collective security.

As briefly explored in Chapter 2, it is possible to perform relatively simple tests to see whether military spending was a pure public good among the selected sample states. If it actually was, then the League of Nations obviously was more important for these nations than the previous discussion indicates. Beginning with Mancur Olson and Richard Zeckhauser's pathbreaking work on NATO, there have been many testable hypotheses relating to the idea of collective security provision in an organization and the implications of this provision on military spending.⁴⁰¹ Given the free riding tendency in a pure public good alliance, military burdens are anticipated to be shared unevenly in an alliance; thus, large wealthy allies (measured by real GDP) should shoulder more of the common defense than the smaller, poorer allies (=HYPOTHESIS 14). The logic outlined by Olson and Zeckhauser maintained that a nation with a large area, long frontiers, and a higher population density, in addition to a higher share of vulnerable resources and ideological tendencies, would lead to a more aggressive military spending policy.⁴⁰² Of course, as I have argued in this thesis, the explanation resting on the foundation of the public goods theory and the suboptimality of defense provision via the spillover effect has sound theoretical foundations.⁴⁰³ Indeed, Olson and Zeckhauser found a significant positive correlation, using Spearman rank correlation tests⁴⁰⁴, between the NATO allies' GNP and their military burdens in 1964, indicating clear free-riding behavior by the small allies.⁴⁰⁵ Later studies specified the pure public good alliance to describe the NATO until 1966, when the positive rank correlation between the variables ceased to be statistically significant.⁴⁰⁶ Here I will perform the Spearman rank correlation tests between the military burdens and the real GDP levels⁴⁰⁷ among the selected eleven European states for three cross-section years (1925, 1930, 1935).

presented in the subsequent sections.

⁴⁰¹ See Olson-Zeckhauser 1966 as well as Sandler-Hartley 1999 on NATO.

⁴⁰² Olson-Zeckhauser 1966, e.g. 371.

⁴⁰³ See Chapter 2 of this thesis.

⁴⁰⁴ Spearman R assumes that the variables under consideration were measured on at least an ordinal (rank order) scale, that is, that the individual observations can be ranked into two ordered series. It is a nonparametric test, which is well suited for the analysis of small samples in particular. The null hypothesis is a zero coefficient.

⁴⁰⁵ See Olson-Zeckhauser 1966.

⁴⁰⁶ Sandler-Hartley 1999, 44 and the studies listed in it. Some years in the 1980s did produce a similar pure public good impact as the yearly years of the NATO.

⁴⁰⁷ Utilizing the modified GDP data used in most statistical exercises in this thesis. See Appendices,

Furthermore, defense spending should be allocated inefficiently from an alliance standpoint, as the sum of marginal benefits from defense provision should not equal the marginal costs of this provision (=HYPOTHESIS 15). This follows from the argument that the military burdens in an alliance yielding joint products should be shared based on the benefits received — the greater the ratio of excludable benefits to total benefits, the larger should be the agreement between the benefits received and burdens shared (=HYPOTHESIS 17). For example Todd Sandler and Keith Hartley (1999) used the mean of three benefit shares (ally's share of NATO population; ally's share of NATO's GDP; and ally's share of NATO's exposed borders) to measure the sum of benefits, whereas the cost variable was the military burden. Using the Wilcoxon test⁴⁰⁸ that indicates whether the two measures are statistically the same, they found matching cost-benefit shares for most of the post-1966 period, indicating the presence of joint products (i.e., impure public good benefits).⁴⁰⁹ Here I will first perform the Spearman rank correlation tests between the real ME share and the ECONCINC, as explained in Chapter 4, for the same three cross-section years as indicated above. Furthermore, I will perform the Wilcoxon tests to see whether the cross-section variables were statistically the same.

Thus, if the results indicate the presence of joint products, we may deduce that a central authority in an alliance (here: the League of Nations or at least its European core) is required to coordinate spending to overcome the suboptimal provision and ensure the functionality of the cooperation (=HYPOTHESIS 16). As we have seen, no such leadership was forthcoming either from the League itself or outside this organization. Thirdly, relating to the arguments presented in the previous chapter as well as the exploitation hypothesis, I will investigate whether the level of economic development, measured by real GDP per capita, might be an important explanatory variable in the burden sharing. Thus, we may hypothesize that the more developed the nation is economically, with more established institutions and political markets, the lower the military spending (=HYPOTHESIS 43). Spearman rank correlation tests between the adjusted GDP per capita and the military burdens of the eleven should reveal a positive relationship if this assumption holds at the level of development. As a confirmation, I will utilize the Wilcoxon test again. Moreover, I will also test this notion for the extended sample of twenty-four utilized earlier in Section 3.3, to see whether the behavior of these democracies was unique.

Appendix 2.

⁴⁰⁸ This procedure assumes that the variables under consideration were measured on a scale that allows the rank ordering of observations based on each and that allows rank ordering of the differences between variables; i.e., it is a nonparametric test like the Spearman rank correlation test. The null hypothesis is that the two samples have the same median.

The results of the statistical tests relating to HYPOTHESES 14, 15, and 17 can be seen in Table 26. The conclusions arising from these exercises are clear. First of all, there was no evidence of free riding by the “small” in this sample, which is one of the basic characteristics of an “alliance” producing a pure public good in the form of deterrence. This also indicates a negative answer to the hypothesis of inefficiency in the alliance, especially since we already discovered in Section 4.3⁴¹⁰ that the general tendency of these states was to overallocate their economic resources for defense. Furthermore, there was a high level of correlation between the military spending shares and the economic resources, and the null hypothesis of the same median cannot be rejected. Thus, they were statistically the same; i.e., the costs and the benefits of defense provision matched, indicating the presence of joint products. Moreover, HYPOTHESIS 16 was further reaffirmed by the results here. Military spending was an impure public good among these eleven European States.

Table 26. Nonparametric Tests on the Exploitation and Joint-Product Hypotheses for the Selected Eleven European States, 1925, 1930, 1935

A.	B.	C.	D.	E.
1925	MILBUR, GDP	11	0,26	0,43
1930	MILBUR, GDP	11	0,35	0,28
1935	MILBUR, GDP	11	0,46	0,15
1925	MESHARE, ECONCINC	11	0,73	0,01
1925*	MESHARE, ECONCINC	11	25,00	0,48
1930	MESHARE, ECONCINC	11	0,77	0,01
1930*	MESHARE, ECONCINC	11	30,00	0,79
1935	MESHARE, ECONCINC	11	0,85	0,00
1935*	MESHARE, ECONCINC	11	27,00	0,59

Sources: see Appendices, Appendix 2 for details. A=cross-section year; B=variables tested, with systemic variables defined (on the basis of the 17-country system) as in Chapter 4; C=N; D=either Spearman R or t value in the Wilcoxon test; E= p -level.

Note: *=Wilcoxon test. GDP equals the modified real GDP of the state in question in 1929 quasi-USD.

What about the impact of the level of development? It seems that HYPOTHESIS 43 held only in the larger sample of twenty-four countries (see Table 27), since clear negative correlation and statistical dissimilarity between the series was indeed displayed. In the smaller sample, this relationship became more obscure, although the two cross-section variables clearly were not statistically the same. Apparently the European democracies, at least as a whole, did not reduce their military spending according to their level of development. One might suspect that countries like France had an impact on this end result. Thus, the overall tendency of interwar states was to reduce their military burden with economic development, yet income was evidently not enough on its own to explain the changes in the military burdens.

⁴⁰⁹ Sandler-Hartley 1999, 46—48.

Table 27. Nonparametric Tests on the Level of Development Hypothesis for the Selected Eleven European States and the Sample of Twenty-four States, 1925, 1930, 1935

A.	B.	C.	D.	E.
1925	MILBUR, GDPCAP	11	-0,52	0,10
1925*	MILBUR, GDPCAP	11	0,00	0,00
1930	MILBUR, GDPCAP	11	-0,53	0,10
1930*	MILBUR, GDPCAP	11	0,00	0,00
1935	MILBUR, GDPCAP	11	-0,45	0,17
1935*	MILBUR, GDPCAP	11	0,00	0,00
1925 π	MILBUR, GDPCAP	22	-0,59	0,00
1925 π *	MILBUR, GDPCAP	22	0,00	0,00
1930 π	MILBUR, GDPCAP	24	-0,56	0,00
1930 π *	MILBUR, GDPCAP	24	0,00	0,00
1935 π	MILBUR, GDPCAP	24	-0,54	0,01
1935 π *	MILBUR, GDPCAP	24	0,00	0,00

Sources: real GDP per capita from Maddison 1995 for the larger sample; for other variables, see Appendices, Appendix 2 for details. A=cross-section year; B=variables tested; C=N; D=either Spearman R or t value in the Wilcoxon test; E= p -level.

Note: *=Wilcoxon test; π =based on the sample of twenty-four countries utilized in Chapter 4, e.g. Figure 45.

We can also utilize the basic military spending demand model (Equation 3) introduced in Chapter 2 to estimate the impact of the interwar security environment on the military spending patterns of the eleven European states.⁴¹¹ If the *SPILLINS* variable (=contributions of other states) is not statistically significant and the full income ($FULL=INCOME+SPILLINS$) variable is, this would mean that defense is purely public in this particular "alliance". As indicated, if defense is purely public in an alliance, *SPILLINS* should be perfectly substitutable. In essence, Equation 3 is the simplest form of the joint product model, with joint products being quite unspecified as to their origins, and the pure public good model with the full income variable is nested within Equation 3. It might also be that both the *FULL* variable and *SPILLINS* variable are found statistically significant, indicating the presence of joint products. As Todd Sandler and James Murdoch have shown⁴¹², it is possible to use multiple regression analysis to distinguish whether the coefficient of the *SPILLINS* variable was different from zero (=HYPOTHESIS 18). Here I will adhere to their method of analysis and utilize very simplistic versions of the independent variables. Thus, *ME* will be represented by either the defense shares or the military burdens of the eleven states; *INCOME* refers to their respective adjusted real GDP in 1929 quasi-USD; *PRICE* is the real European unit price of arms and armaments⁴¹³; *SPILLINS* will be represented by the real *ME* in 1929 quasi-USD of the states in the sample of eleven other than

⁴¹⁰ See e.g. Figure 54.

⁴¹¹ In the simplest form: $ME=f(PRICE, FULL \text{ or } INCOME, SPILLINS, THREATS, STRATEGY)$.

⁴¹² See Sandler-Murdoch 1990 — they also attempted to distinguish between Nash and Lindahl behavior by using two different models and the so-called J-test to measure which was superior.

⁴¹³ Thus, essentially this tests for the responsiveness to a *common* price variable. Details on this series can be found in Chapter 6.

the state in question; *FULL* as explained above; *THREATS* will be formed by a combined threat index representing the most probable threats to these states, explained in the next section and utilized in Chapter 6 with the arms trade analyses⁴¹⁴; and finally I will attempt to capture *STRATEGY* with dummy variables ranging from year 1929 to 1936, although the actual impact and nature of these dummies will be discussed in connection with the results. The method utilized here is straightforward GLS, since none of the independent variables seemed to be correlated with the error term. Thus I will not utilize 2SLS, like Sandler-Murdoch (1990) did, which does entail the notion that a Nash equilibrium or several Nash equilibria were the fundamental processes behind the data. It is not clear in this sample whether this indeed was the case for all of the included states.

Table 28. GLS Estimates on the Spillins as an Independent Variable in Representing Either Pure and/or Impure Public Good Characteristics of Military Spending for the Selected Eleven European States, 1920—1938

A.	B.	C.
CONSTANT	†	2,88***
PRICE	-0,23***	-0,09*
INCOME	4,85***	3,43**
FULL	-5,46***	-4,75**
SPILLINS	0,40**	0,63***
THREATS	-	1,65 (t-1)
DUMMY	0,37*** (1933)	-
AR(1)	0,69***	0,99***
N	187	176
S.E.	0,74	0,21
D.W.	1,93	1,89
F	14854	884

Sources: see Appendices, Appendix 2 for details on the system. A=independent variable names and the regression statistics reported here; B=coefficients and other details on the independent variable (dependent variable: *defense share*); C=coefficients and other details on the independent variable (dependent variable: *military burden*). * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. All variables in logs.

Note: † = cross-section specific, coefficients not listed here. Lag length indicated in parenthesis; for the dummy, the number indicates the year the relevant dummy is set to 1.

The results listed in Table 28 once again clearly reject the idea that military spending could have been a pure public good among these eleven European states as a whole. The *SPILLINS* variable was statistically significant in both equations, and the size and sign of the coefficients were similar in both cases. Also the *INCOME* variable was significant in these estimations, as was the *FULL* income variable. This would indicate some type of a mix of pure and impure public good characteristics for the military spending of these countries as a whole. Most likely in a system comprising these states the *FULL* variable would be redundant. However, the presence of some

⁴¹⁴ Again, assuming a common threat, which is a fairly untenable assumption. See the next section for further discussion.

autocorrelation and the theoretical foundations presented in Chapter 2 would suggest that this specification cannot be considered as conclusive. Many relevant independent variables are still missing from the equation. Also, the form and content of especially the threat and spillover variables need to be addressed in more detail. The dummy variable indicating a change in 1933 suggests that the change in the international threat scenarios and the failure of the “peace process” does have an impact on the military spending policies of these nations. Whether this embodies a change in their strategy remains doubtful. As discussed in the next section, the strategic changes that took place in this time period, as far as it is possible to quantify them, did not take place at the same time in every country. On the contrary, individual responses varied, which need to be taken into consideration in the estimation.

5.2. The Demand for Military Expenditures as an Impure Public Good among the Individual Countries

This section represents an effort to, firstly, concentrate on the types of variables one could utilize in the analysis of the demand for military spending as an impure public good in the interwar period. As the previous section of the thesis has shown, military spending cannot be understood solely in terms of pure public good characteristics in this period. Military spending is determined through a combination of forces emanating from the various explanatory levels (system, alliance, state, within state) explored in this thesis. Accordingly, suitable variables have to be found to represent the influences arising from all of these levels. In addition to the efforts to introduce systemic level variables, as well as variables consistent with the hypotheses on leadership and regime type, here I will discuss how to measure the spillins and threats more credibly. Furthermore, political market proxies, representing the influences and structure of the political system within state, will be explored and developed. Secondly, this section brings forth the results of the estimations using all of the independent variables hypothesized to be relevant. These results will then be discussed in connection with the results achieved in earlier chapters.

There are almost limitless possibilities of how to measure the “actual” impact of spillovers and threats on a country. In terms of the *SPILLINS* variable, I have already introduced one possible spillin term in the previous section. It is based on utilizing the eleven state “alliance” as a possible source of spillovers, measured by the real ME (in 1929 quasi-USD). However, as argued in Chapter 1, it is very likely that countries react to changes in either their own military stock or the relative strength of their military stock compared to other states. The first effect, implying that a state makes its adjustment on the basis of its standing in the (17-state) system, could perhaps be proxied by the concept of MILCINC introduced earlier. The second is more

difficult to approximate. Here I will make the assumption that the United Kingdom and France were the main sources of spillovers among the eleven states. Thus, for example the following kind of a spillin variable was calculated:⁴¹⁵

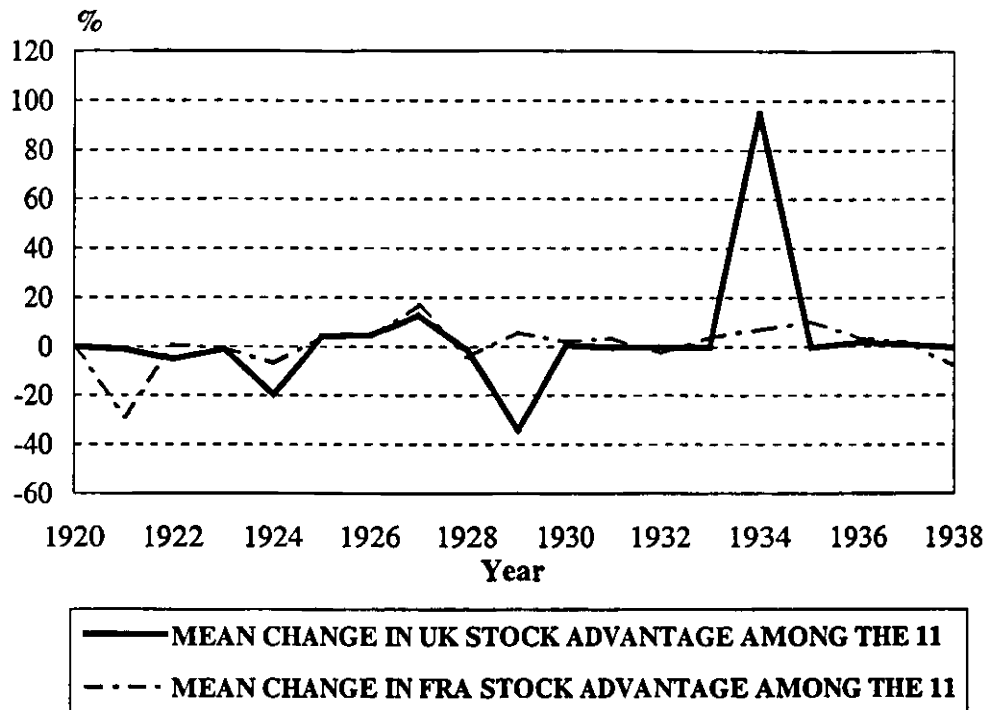
$$SPILLINS_i = \frac{\left(\frac{\frac{MP_{UK} + RT_{UK}}{MP_i + RT_i}}{2} + \frac{\frac{MP_{UK,t-1} + RT_{UK,t-1}}{MP_{i,t-1} + RT_{i,t-1}}}{2} \right)}{\left(\frac{\frac{MP_{UK,t-1} + RT_{UK,t-1}}{MP_{i,t-1} + RT_{i,t-1}}}{2} \right)} \times 100 \quad (12)$$

in which *MP* represents the number of military personnel and *RT* represents the real tonnage of a nation *i* in comparison with the United Kingdom. In essence, Equation 12 measures the change (from *t-1* to *t*) in the comparative stock advantage for the United Kingdom over country *i* as a mean percentage (calculated also for France). The same variable was calculated to measure the influence of France over these countries (calculated also for the United Kingdom). Since Switzerland had no sea borders and thus no effective tonnage, only the *MP* variable was used in this case. The use of this variable presupposes almost perfect knowledge on these two military stock variables by these nations, which is not in fact all that an untenable assumption. The information on these was within the reach of all of these nations via the League of Nations publications, especially the Armaments Year-Books. As Figure 56 below displays, the mean relative military stock advantage of the United Kingdom plummeted especially in the late 1920s, only to recover strongly in the mid-1930s, which means that the behavior of the Great Powers and the “weak” states was not entirely similar at this time. France’s advantage, in comparison, developed in a more stable manner. The “weak” states were less willing to compromise on their military stock at the height of the European disarmament illusion in the late 1920s.

⁴¹⁵ The spillin variable can also be expressed as: $SPILLINS = \left(\frac{\left(\frac{MP_{UK}}{MP_i} \right) + \left(\frac{RT_{UK}}{RT_i} \right)}{\left(\frac{MP_{UK,t-1}}{MP_{i,t-1}} \right) + \left(\frac{RT_{UK,t-1}}{RT_{i,t-1}} \right)} - 1 \right) \times 100$

I would like to thank Mark Harrison for clarifying my thinking on this.

Figure 56. Mean Annual Change in the Relative Military Stock Advantage of France and the United Kingdom in the Sample of Eleven European States, 1920—1938



Sources: see Appendices, Appendix 2 and Section 3.3 of this thesis.

Note: military stock advantages calculated according to Equation 12.

As far as the threat variables are concerned, I have already utilized previously a combined threat index without explaining exactly how it was constructed. The combined threat index (COMBTHRT), a German-weighted threat index (GERTHRT), or a German-Soviet-weighted threat index (GERSOVTHRT) all attempt to approximate the main threats felt by these eleven states. Threats were thus calculated as combined indices with different weighting schemes. The individual countries representing threats were assumed to be Germany, the Soviet Union, Italy, and Austria (on the basis of the First World War). Thus, individually, the development of these countries' defense shares and the number of their military personnel were both turned into volume indices (1931=100), and then combined with equal weights for a particular country to form the threat index. If a value was missing from one of these series, only one of the indicators was used for that particular year. Next, a combined index was formed with the following weights: 2/7 for others, 1/7 for Austria (the weakest of these countries). This index could initially be tested for Portugal and Spain⁴¹⁶, as well as for the two Great Powers in the sample. A German-weighted index (the combined aggregate index of all countries 1/2, Germany's threat

⁴¹⁶ Also, in the case of these two countries, their respective defense shares or military burdens were tested as possible sources of threats due to their occasionally uneasy political relationship.

index 1/2 of the weighting) could initially be used for Belgium, the Netherlands, Norway, and Switzerland. A German-Soviet-weighted index (the combined aggregate index of all countries 1/3, Germany's threat index 1/3, and the Soviet Union's threat index 1/3 of the weighting) could form the starting point for the statistical testing in the cases of Finland and Sweden. These weighting choices were chosen due to geographic proximity and strategic threat (Austria developed similar to Hungary, which is not included due to limited data). The sources used are listed Appendices, Appendix 2.⁴¹⁷

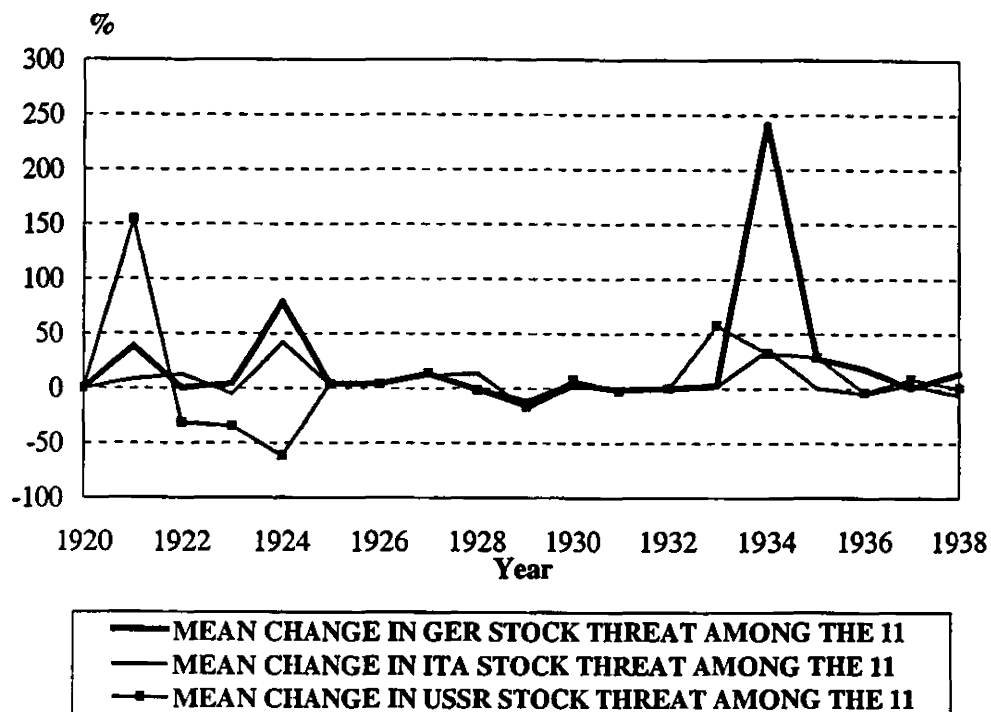
In addition, I also calculated a stock adjustment variant of the threat, in the vein done for the spillover effect of the United Kingdom above, to measure the stock advantage (or disadvantage) of Germany, Italy, and the Soviet Union. One must emphasize two things, however: 1) The data for these states is, similar to the military spending data, less satisfactory than for the eleven states analyzed in detail; 2) It is unclear how much knowledge the eleven countries actually possessed especially on the size of the armed forces of the authoritarian states. Nonetheless, I will also test the statistical significance of these threat indices against the competing representations described above. As Figure 57 below shows, the change in the relative military stock threat imposed by Germany in this period remained almost stable until 1934, when the buildup of German armed forces and military stock compelled this indicator to rise sharply. In the late 1930s, the German military threat increased slower respective of the eleven selected states. In the Italian case, most of the interwar period revealed efforts to increase its military readiness, yet the threat impact posed by these efforts remained meager. In the Soviet case, the delayed impact of the Civil War and the chaotic early 1920s can be seen clearly in Figure 57. The Soviet Union did increase its potential military stock threat in the 1930s, although not as much as Germany especially in the closing years of the decade.

Also, it is possible to represent the relevant prices in military spending decision-making in many ways. Moreover, the problems involved in constructing such price indices have already been discussed at length. Here the first price variable to be tested is the real European price of arms and ammunition described in Chapter 6 and the Appendices (Appendix 2). Yet, the use of this variable assumes sensitivity to European "market" prices of armaments, whereas the domestic purchases of durable and nondurable goods formed the biggest spending item. Thus, the use of the alternate military spending deflators may be warranted as well. Again, it is unclear how

⁴¹⁷ Japan, which could possible have formed a threat against especially British colonial interests, is not included in the calculations. The emphasis here is to investigate the European dimension of threats in particular.

much knowledge the decision-makers had on the price of “defense”. This effect may be alleviated by the fact that, as we discovered in Section 3.3, these price indices behaved very similar to the combined indices based on wholesale and consumer price indices.

Figure 57. Mean Annual Change in the Relative Military Stock Threat Felt by the Eleven European States from Germany, Italy, and the USSR, 1920—1938



Sources: see Appendices, Appendix 2 and Section 3.3 of this thesis.

Note: military stock threat calculations based on Equation 12.

What about the impact of the political markets? How can we measure the influences arising from the actions of different groups in the political economy? Here I will first consider bureaucrats as a potential interest group in the military spending decision-making process. If they are to behave in a fashion predicted by public choice theorists, they tend to overextend the budget beyond the “required” limits and favor producers more than consumers.⁴¹⁸ The latter assumption seems particularly reasonable in the interwar period, since voters/consumers, unlike the other groups mentioned by Keith Hartley previously, were rarely organized as an interest group in Western countries until after Second World War. Even though it is difficult to find descriptive variables to represent bureaucratic influences, especially in a comparative fashion,

⁴¹⁸ See e.g. Sandler-Hartley 1995, 119. As William Niskanen has hypothesized, most bureaus, unless constrained by the aggregate demand, have a budget-maximizing incentive in the short run. Most of this spending also tends to be capital-intensive by nature. Niskanen 1971, Part IV, section 12.

here I will attempt to see whether military expenditures were influenced by the preceding year's military spending (ME_{t-1}). Thus, it would reveal whether the previous year's budget was the basis for either similar or differing levels to come.

Competition within the political economy, especially among officials selected for a limited term, can also have a profound effect on a nation's military spending policy. As explored in Chapter 2, electoral uncertainty associated with such competition between the political parties may impart a negative bias on the military spending of a particular state. The myopic bias of the legislators, inasmuch they feel the burden of military expenditures in lower current consumption, can be the functional mechanism for this impact. The incumbent legislator is interested in maximizing his or her own immediate interest, which is ensuring re-election.⁴¹⁹ Here I will test whether increased party fragmentation, implying more electoral confusion and increased political competition, lowers military spending levels. I will utilize the so-called *party fractionalization index* to proxy this effect:

$$F = 1 - \sum_{i=1}^n (t_i)^2 \quad (13)$$

where t_i is the proportion of members associated with the i th party in the lower house of the legislature. Thus, the higher the F , the more fragmented the political field is.⁴²⁰

As the analysis of war initiation by democratic states has shown, military spending might be linked to election cycles in the political markets, perhaps due to preceding weak economic performance.⁴²¹ Here I will investigate this hypothesis in a crude format by employing election year dummies as possible explanatory variables. Additionally, I will concentrate on measuring the impact of one producer group in the economy, the industries as an interest group, by testing the development of real industrial value added as an omitted variable. The reason for not including this variable in many of the subsequent estimations is that the data on real industrial value added was not found for all of the sample states (missing: BEL, SWI). This latter perspective, industries as an interest group, is also linked to the archival analysis of the industrial federations in Sweden and Finland during this period, undertaken in Chapter 7.

⁴¹⁹ Garfinkel 1994, e.g. 1294—1295.

⁴²⁰ This type of data can be found e.g. in Banks 1976.

⁴²¹ Gaubatz 1991; Geller-Singer 1998.

It is difficult to proxy the influence of different groups in military spending decision-making. The quantitative proxies suggested above are by no means perfect for measuring the suggested impacts nor do they form an exhaustive list of possible proxies. Furthermore, the interest groups in a particular political economy exert their influence in a multitude of ways and the “rents” that they receive cannot always be measured quantitatively. Therefore, any credible effort to assess the importance of political markets in the decision-making over public goods has to include qualitative analysis as well. In general, one should attempt to incorporate a wide variety of variables in order to explain interest-group influence, in relation to the structure of the economy and the polity in question, including proxies such as the median income, the aggregate number of interest groups, the political fractionalization, the degree of enfranchisement, the size of bureaucracy, the start of modernization, the level of industrialization, and so on.⁴²² It is also likely that the impact of interest-group activity is less pronounced at the level of economic development; rather, it emerges more strongly at the level of various economic sectors, based on their performance and relative strength in the political markets.⁴²³

Thus, the hypotheses that I intend to test in this section include already explored HYPOTHESES 1—11, which represent the systemic level. Secondly, at the level of an alliance — which here pertains to include all defensive, offensive, neutrality, nonaggression, or consultation obligations — alliance dummies were constructed on the basis of the ATOP (2000) database to see whether the feeling of security for an individual state was increased by any type of alliance (=HYPOTHESIS 12). In addition, it is plausible that the nature and conditions of the alliance were crucial in this respect (=HYPOTHESIS 13). At the level of state, military expenditures can be expected to be positively correlated with income (here: real GDP per capita in 1929 quasi-USD=HYPOTHESIS 19), negatively correlated with the price variables presented above (=HYPOTHESIS 20), negatively correlated with the spillins variables introduced earlier (=HYPOTHESIS 21), and positively correlated with the threat variables discussed above (=HYPOTHESIS 22). Also, the possibility of military spending being influenced by strategy changes is explored by the use of dummy variables, and the possible interpretations of these dummies are discussed in connection with the results. Moreover, HYPOTHESES 24—27 are revisited in the following estimations.

In the context of the political markets within states, I will first explore the possibility that armed forces and bureaucracies will attempt to maximize the level of military spending

⁴²² See e.g. Lamberg et al. 2002; Mueller-Murrell 1985; Grant 2000; Gray-Lowery 1988.

⁴²³ See Mueller-Murrell 1985 for further discussion.

(=HYPOTHESIS 44), respective of the lagged ME. Secondly, I will attempt to verify whether industries as an interest group would attempt to maximize the level of military spending in times of economic hardship (=HYPOTHESIS 45). Thirdly, as argued above, an increase in the fragmentation of the parliament in a democracy should result in lower military spending levels, due to the myopic bias on the part of the legislator (=HYPOTHESIS 49). And finally, military spending within a state should respond to election cycles, with an election year bringing a negative adjustment to military spending (=HYPOTHESIS 50). The relevant proxies relating to these hypotheses were discussed earlier.

Thus I will estimate the following equation, which is an extension of Equation 11:

$$\begin{aligned}
 ME_t = & \beta_0 + \beta_1 SYST\dot{O}TME_{t-1} + \beta_2 SYST\dot{O}TMECV_{t-1} + \beta_3 CIN\dot{C}ONC_{t-1} + \beta_4 MILCIN\dot{C}ONC_{t-1} \\
 & \dots + \beta_5 DEM\dot{O}CCINC_{t-1} + \beta_6 DEM\dot{O}CTOTME_{t-1} + \beta_7 AUT\dot{O}CCINC_{t-1} + \beta_8 AUT\dot{O}CTOTME_{t-1} \\
 & \dots + \beta_9 US\dot{A}ME_{t-1} + \beta_{10} UK\dot{M}E_{t-1} + \beta_{11} US\dot{A}CINC_{t-1} + \beta_{12} UK\dot{C}INC_{t-1} + \beta_{13} US\dot{A}MILCINC_{t-1} \\
 & \dots + \beta_{14} UKMILCINC_{t-1} + \beta_{15} ALLI\dot{A}NCEDUM_t + \beta_{16} P\dot{R}ICE_t + \beta_{17} IN\dot{C}OME_t + \beta_{18} SPILLINS_{t-1} \\
 & \dots + \beta_{19} TH\dot{R}EATS_{t-1} + \beta_{20} STR\dot{A}TEGYDUM_t + \beta_{21} M\dot{E}_{t-1} + \beta_{22} F_t + \beta_{23} IND\dot{U}STRY_t + \\
 & \dots + \beta_{24} ELE\dot{C}TIONDUM_t + \epsilon_t
 \end{aligned} \tag{14}$$

The hypothesized signs of the independent variables are displayed above the respective variables, based on the premises explored in earlier sections. In addition to the abbreviations already discussed, *ALLIANCEDUM* represents an alliance dummy (denoting a particular alliance) for country *i* in time *t* (set to 1 for each year of any of the alliances listed above); *PRICE*, *SPILLINS*, and *THREATS* represent one of the possible alternates for the said variable; *STRATEGYDUM* represents a possible change in strategy, captured by a dummy (set to 1, starting with one of the following years: 1929—1936); *F* equals the party fractionalization index introduced earlier; *INDUSTRY* corresponds to the real value added of industries as whole (not included in the initial estimations due to missing data for some countries); and *ELECTIONDUM* represents the election year dummies (set to 1 for each year of parliamentary election). The preferred method of estimation here is the SUR, which allows a correction for heteroskedasticity and contemporaneous correlation in the errors across equations. If endogeneity were to arise as a possible problem, 3SLS would be employed to improve the coefficient estimates. The possibility of multicollinearity is also taken into account by examining the correlation matrix of the variables while carrying out the estimation procedures. Finally, the results were tested for autocorrelation up to three lags.

What do the results tell us? Here I will interpret the results as conclusive for a particular hypothesis if the coefficients of independent variables in both the defense share and military burden equations are in agreement. If only one of them is significant, this will be regarded as weak support for a hypothesis, especially since the demand behavior for these two dependent variables, based on earlier analyses, seems to have differed somewhat. If both are significant yet the signs are opposite, the variable is deemed relevant for the equation but its impact may be uncertain. The common responses to these variables can be seen in Table 29, whereas the individual responses can be found in Table 30.

Firstly, it seems that the lagged systemic variables had a large, destabilizing impact on the military spending of these states. The coefficients of the systemic variables were in many cases quite large and the signs were often the opposite in the two estimations. They were, all in all, relevant for these equations, but the actual impacts were difficult to determine. Also, many of these variables were highly correlated with each other, which suggested that factor analysis might be more suitable for distinguishing the effects of these variables. Of these, the concentration of MILCINCs had a large, negative, and consistent impact on the dependent variables. Thus, HYPOTHESIS 4 received strong support by the results here. Also, the total ME by authoritarian states seemed to have had the hypothesized (lagged) threat effect, hereby confirming HYPOTHESIS 8.⁴²⁴ The impact of the "leadership vacuum" also emerges from the results; the lack of military leadership by the United States and the United Kingdom, by and large, produced "challenger" behavior among these states. This may be the wrong term for the behavior of these European states, since they were not (with the exception of perhaps France) in a position to exert any challenge. They simply turned to their own devices in regards to their defense needs. This was partially confirmed by the results on the spillins, which indicated strong free riding for the military burdens in particular. Furthermore, the impact of the American military spending caution seems to have had a lagged impact, whereas the British influence was perhaps more immediate. The declining U.S. modified CINC incurred a positive correlation with the military spending variables investigated here at a lag of one year.

The alliance dummies did not turn out significant for any of the specifications, which reinforces the general impression outlined earlier on the lackluster nature of these alliances. The price variables produced the expected negative adjustment coefficients in most cases, and the relevant price variable seems to have been the alternate price index. The income variable produced a

⁴²⁴ In contrast, see Chapter 4 of this thesis, which underlines the importance of including all (or as many as possible) theoretically important variables in the statistical analyses.

Table 29. Common Responses to the Theoretically Relevant Independent Variables in the Demand for Military Spending Among the Selected Eleven European States, 1920—1938

A.	B.	C.
CONSTANT	0.94*	17.70***
SYSTOTME	-	-2.30*** (t-1)
SYSTOTMECV	1.44*** (t-2)	-9.03*** (t-1)
CINCCONC	-	33.23*** (t-2)
MILCINCCONC	-0.98*** (t-2)	-12.17*** (t-2)
DEMOCCINC	-	-
DEMOCTOTME	-	5.64*** (t-2)
AUTOCCINC	-	1.68***
AUTOCTOTME	0.35*** (t-2)	1.40*** (t-2)
USAME ₁	-0.19*** (t-1)	3.09*** (t-2)
UKME ₁	-0.61***	-0.66***
USACINC	1.19*** (t-1)	3.02*** (t-1)
UKCINC	-	-
USAMILCINC	-0.31*** (t-2)	-2.78*** (t-1)
UKMILCINC	0.14**	-
BEL ALLIANCE DUM	-	-
DEN ALLIANCE DUM	-	-
FRA ALLIANCE DUM	-	-
NED ALLIANCE DUM	-	-
NOR ALLIANCE DUM	-	-
POR ALLIANCE DUM	-	-
SPA ALLIANCE DUM	-	-
SWE ALLIANCE DUM	-	-
SWI ALLIANCE DUM	-	-
UK ALLIANCE DUM	-	-
EUROPEMEPRICE	-	-
ALTERNATE PRICE INDEX	†	-0.32***
INCOME	†	-2.16***
SPILLINS1	-	-2.52***
SPILLINS2	-	-
SPILLINS3	-0.00***	-
COMBTHREAT	-	†
GERTHREAT	-	-
GERSOVTHREAT	-	-
THREATS1	-	-
THREATS2	-	-
THREATS3	0.00***	-
STRATEGYDUMMY	-0.09*** (1930)	-0.35*** (1930)
ME _{t-1} ¹	0.40***	0.44***
F	†	-1.02***
INDUSTRY	-	†*
ELECTIONDUMMY	-	-
N	173	173
LOG LIKELIHOOD	410.63	297.77
S.E.	0.06	0.12

Sources: see Appendices, Appendix 2 for details on the system. A=independent variable names and names of the regression statistics reported here; B=coefficients and other details on the independent variable (dependent variable: *defense share*); C=coefficients and other details on the independent variable (dependent variable: *military burden*). * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. All variables except SPILLINS2—3 and THREAT1—3 in logs. SPILLINS1=the nonstock variant used in earlier sections; SPILLINS2=stock variant as explained in text, respective of U.K. military stock; SPILLINS3=stock variant as explained in text, respective of French military stock; THREATS1—3=stock variant of threats as explained in text, with 1=GER, 2=ITA, 3=USSR. ₁=DFSHARE and MILBUR respectively.

Note: † = cross-section specific, coefficients listed in Table 30 except for the constant. Lag length indicated in parenthesis; for the dummy, the number indicates the year the relevant dummy is set to 1.

negative coefficient in most cases, which provides support for earlier (albeit cautious) findings that the level of development had a negative impact on ME (=HYPOTHESIS 43). Thus, military spending was not an income-normal good among these states as a whole. As indicated above, the various spillins variables produced contradictory results. The threat responses were, all in

all, as expected. The COMBTHREAT variable produced a lagged positive response from these states, similar to the response to the total ME by the authoritarian states. None of the individual country threat variables were found significant for these countries. As in the case of the spillins, the stock threat variables did not improve the estimation process. The approximate threat indices seemed to explain the responses of these states better.

Table 30. Individual Country Responses to the Theoretically Relevant Independent Variables in the Demand for Military Spending Among the Selected Eleven European States, 1920—1938

A.	B.	C.
BEL ALTERNATE PRICE INDEX	0,42*	-
FRA EUROPEME PRICE	0,92***	-
NOR ALTERNATE PRICE INDEX	-0,19**	-
SPA ALTERNATE PRICE INDEX	-0,54*	-
SWE ALTERNATE PRICE INDEX	0,86***	-
UK ALTERNATE PRICE INDEX	-0,40***	-
BEL INCOME	-0,61***	-
DEN INCOME	-0,72***	-
FIN INCOME	-0,80***	-
FRA INCOME	-0,87***	-
NED INCOME	-0,49***	-
NOR INCOME	-0,34***	-
POR INCOME	-0,47***	-
SWE INCOME	-0,82***	-
SWI INCOME	-0,49**	-
UK INCOME	-0,33***	-
BEL COMBTHREAT	-	0,55*** (t-1)
DEN COMBTHREAT	-	0,58*** (t-1)
FIN COMBTHREAT	-	0,52** (t-1)
FRA COMBTHREAT	-	0,52** (t-1)
NED COMBTHREAT	-	0,94*** (t-1)
NOR COMBTHREAT	-	0,57*** (t-1)
POR COMBTHREAT	-	0,42** (t-1)
SPA COMBTHREAT	-	1,07*** (t-1)
SWE COMBTHREAT	-	0,57*** (t-1)
SWI COMBTHREAT	-	0,60*** (t-1)
DEN F	-8,72***	-
FIN F	-5,04***	-
NED F	-5,16***	-
POR F	1,40**	-
SPA F	-0,93***	-
SWI F	-3,30**	-
FIN INDUSTRY•	-	-0,22***
FRA INDUSTRY•	-	-0,30***
NED INDUSTRY•	-	-0,33*
NOR INDUSTRY•	-	-0,00***
SPA INDUSTRY•	-	-1,31***
SWE INDUSTRY•	-	-0,35***
UK INDUSTRY•	-	-1,36***

Sources: see Appendices, Appendix 2 for details on the system. A=independent variable; B=coefficients and other details on the independent variable (dependent variable: *defense share*); C=coefficients and other details on the independent variable (dependent variable: *military burden*). * = null hypothesis of no correlation rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. Based on the equations presented in Table 29, except those marked with • (slightly different form of the MILBUR equation; results available from the author by request).

Note: Lag length indicated in parenthesis. Only statistically significant variables reported here.

The so-called strategy dummy was definitely an unfitting title for this dummy, since the most significant year of adjustment (negative coefficient) seems to have been 1930, underscoring the importance of the Great Depression. This was not, by and large, a year of major strategic

adjustments by these states.⁴²⁵ The downward adjustment brought on by this crisis also highlights the *ad hoc* nature of the disarmament efforts at this pivotal juncture (such as the armaments truce discussed earlier). The ME_{t-1} also produced the expected positive correlation, which provides support for the notion of bureaucratic forces having had a strong influence in the budgetary process (=HYPOTHESIS 44); although technically this does not measure budgetary path dependence rather than military spending path dependence. And, as expected, an increase in the party fractionalization index produced a strong, negative military spending response for both ME variables (with only POR as the exception in the defense share equation with a positive coefficient). Thus, HYPOTHESIS 49 can be deemed confirmed by these results. Election dummies displayed a negative coefficient in most equation variants, yet they did not improve the estimates as a whole. In addition, the notion that industries as an interest group might have an impact on military spending during times of economic hardship was confirmed in a separate estimation sample. This provides support for examining the actual mechanism through which they might exert this influence, which is indeed undertaken in Chapter 7. All in all, the domestic market variables were highly significant in explaining the demand for military spending among these eleven European states.

5.3. Conclusions

On the basis of two chapters of statistical endeavors, it is possible now to take stock of how the theoretical framework has met the empirical challenges posed by the data. First of all, it seems that systemic forces indeed played a role in the demand for military spending among these eleven European states. Whereas often the exact impact of these forces was difficult to ascertain precisely, for example the concentration of military resources in fewer hands seemed to inspire greater confidence among these states. Yet, as we have seen in earlier chapters, this concentration did not occur in the same lines in the 1930s as after the First World War. The new authoritarian challengers represented a new systemic threat to which the democracies on the aggregate responded slowly. Clearly the maintenance of balance of power was important, yet the disparity in military resources, for example between France and Germany during both decades (at first in favor of the French, then in favor of the Germans), undermined systemic stability in the absence of security leadership. No such leadership was forthcoming from the League of Nations, which was unable to act as the guardian of the status quo sealed in Versailles, and thus the selected eleven states did not consider military spending as a public

⁴²⁵ On the military strategy aspect in comparative terms, see for more e.g.: *The Domestic Bases of Grand Strategy*. Ed. by Richard Rosecrance and Arthur A. Stein. London 1993; *Military Effectiveness*. Volume

good in such an alliance framework. Also, other alliances failed to inspire any more confidence. In such an environment the democracies acted more cautiously to the new challenges, and the decision-making systems embodied by the various types of interwar democracies seemed to provide support for the idea of democratic peace even at the level of military spending. Finally, the leadership vacuum left by the two leading democracies, the United States and the United Kingdom, destabilized the international system even further, thereby rendering disarmament almost impossible to achieve. These factors contributed to the strengthening of other forces, especially within states, in the military spending decision-making.

Thus, it seems that the demand for military spending among these eleven European states was impurely public in the interwar period, influenced by forces arising from the four explanatory levels discussed in this thesis. Military spending was also impurely public, yielding joint products, at the level of state and within state. Military expenditures were not an income-normal good at the state level; instead, the level of economic development seemed to exert a downward pressure on military spending among European democracies. This meant that more developed countries tended to spend less on defense in this period. An increase in the price of "defense" in general decreased their relative military spending. There were quite contradictory spillover effects felt by these states, yet they responded to increasing threats by increasing their ME at a lag. Also, democracies as a whole clearly spent less for military purposes than authoritarian regimes, and it seems that the level of authoritarian rule was important in determining the comprehensiveness of the military spending efforts. In terms of the interaction between military spending and economic growth, the short-run dynamics of the comparisons suggest that: 1) Military spending was Granger-caused by economic development rather than vice versa; 2) The short-run impact of military spending on economic growth was almost negligible due to offsetting tendencies.

The domestic political markets clearly are more important in the analysis of military spending than earlier studies have indicated. One of the problems has been to be able to find quantifiable, credible proxies measuring the impact of, for example, domestic market interest groups. Here it seems that: 1) Increased political competition in the legislature tended to decrease military spending; 2) Election years might have exerted a downward pressure on military expenditures, yet this impact was not stable enough to surface in the pooled sample as a whole; 3) Military expenditures tended to be quite path dependent in terms of previous year's spending levels; 4) Industries as a whole, due to their level of organization and lack of competition from consumer

groups, were able to increase military spending during times of industrial slowdown, to compensate for their losses. Finally, it seems that there are some indications that the Great Powers and the "weak" states differed in certain respects in their military spending behavior (thus, indicating some support for HYPOTHESIS 35 again). How and why did they do so? Why were there not more apparent distinctions between these groups of states? These questions will be examined in the next chapter by analyzing the actual allocation of capital military investments, the domestic and international markets for arms, and the externality effects of the arms trade in the interwar period from the perspective of these "weak" states.

6. THE “WEAK” STATE PERSPECTIVE: Implications of the Interwar Arms Trade and the Domestic Political Markets

6.1. Theoretical Implications of the “Weak” State Perspective and the Interwar Arms Trade

This chapter focuses on the small and medium size arms trade behavior of “weak” — implying limited capabilities of influencing the political and economic system — European states (Belgium, Czechoslovakia⁴²⁶, Finland, the Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland) in the interwar period. I will especially focus on how the ratio of military exports and, respectively, military imports of military expenditures, indicators of military trade behavior respective military spending, responded to external and internal variables. The key questions in this chapter are whether these countries were merely dependent on their military imports or were actually important players in the armaments markets, whether they acted differently due to strategic and geographic limitations in particular, and whether they encountered significant domestic constraints on their behavior.

The military trade behavior of these nations is here analyzed with previously largely ignored data from the League of Nations on the interwar arms trade, the latest historical macroeconomic data, as well as with the few studies that have touched upon the subject. As such, the League of Nations’ arms trade data includes only small and medium size armaments, without listing such large-scale items as warships, aircraft, and internal arms purchases.⁴²⁷ Also, as Milan Hauner has pointed out, the figures were usually updated throughout the publication series. However, as a comparison between the League of Nations military spending figures and the current figures used by this author indicate, it seems that the League of Nations statistics in general, with the exception of Germany in the 1930s, were relatively reliable, especially for the “weak” states.⁴²⁸ What can these figures tell us? Firstly, they can demonstrate the relative strengths of these nations in the small and medium size arms trade in this period, although it must be noted that

⁴²⁶ Here also Czechoslovakia is included since it was perhaps the most important player among these “weak” states in the international armaments markets. This chapter is mostly based on Eloranta 2002a.

⁴²⁷ In the series the armaments included small arms (such as rifles, pistols, revolvers), artillery (heavy artillery, mountain artillery, mortars), explosives (dynamite, gunpowder, torpedoes etc.), as well as tanks and armored vehicles. See e.g. *League of Nations, Statistical Information on the Trade in Arms, Ammunition and Material of War*. A. 30. 1924. IX. Geneva 1924. Thus regular vehicles, even if intended for military purposes, were not included.

⁴²⁸ See Hauner 1973, 6; *League of Nations, Statistical Information on the Trade in Arms, Ammunition and Material of War*. A. 30. 1924. IX. Geneva 1924. Here the figures used were also updated backwards in three-year intervals. Comparison between the League of Nations Armaments Year-Books’ figures and the figures collected here, same as was done in Eloranta 2000a for another set of figures, found statistical tests supporting the same median and same variance assumption in most of the cases. See also Chapter 1 of this thesis for a similar approach.

their aggregate role in the military trade was more meager due to their smaller share of the heaviest equipment trade. Secondly, they enable us to arrive at guesstimates, since for many of these countries also quantities are listed, at how the unit prices of these military goods may have developed as a whole. Thirdly, they provide us with data to test how much the military trade dependence of the selected states changed in the 1930s and whether this was due, for example, to more extensive reliance on the domestic markets.

The military-economic impacts and implications of the interwar period have rarely been studied from an arms trade perspective, let alone the military spending behavior of the European nations as a whole.⁴²⁹ Especially analysis of the "weak" European nations as arms exporters and importers has been missing thus far.⁴³⁰ With a European focus in this chapter, due mostly to the availability of reliable military spending and economic data, the selected "weak" states represented both the periphery (such as Portugal, Finland, and perhaps Spain⁴³¹) and the core (for example, Belgium, the Netherlands) of Europe, as well as different political systems. Using Angus Maddison's data (see also Chapter 1), it is possible to divide them, albeit arbitrarily, into low-income (Finland, Portugal, Spain), middle-income (Belgium, Czechoslovakia, Norway, Sweden), and high-income "weak" states (the Netherlands, Switzerland).⁴³²

What exactly are "weak" states? As for example Olle Krantz has argued recently, there are several characteristics that separate the small countries from the larger, apparently more influential ones. For example, small countries possess fewer possibilities of influencing the international system, their economies are often highly specialized and export-dependent, and they suffer from diseconomies of scale in production. Conversely, they can also have potential advantages over their bigger rivals. Depending on international politics and trade rivalries, they may have room to maneuver between the bigger nations, possess comparative advantages in certain commodities, and have more flexible and unified domestic markets.⁴³³ Quite similarly,

⁴²⁹ See e.g. Eloranta 1998 and Eloranta 2002a for further details.

⁴³⁰ On a foreign policy perspective of the small nations during the interwar period, see e.g. Paasivirta 1987.

⁴³¹ For a similar classification, see e.g. Myllyntaus 1998. Although by geographic size Spain was comparable to e.g. France or Italy, its economy was considerably smaller. Its real GDP level, based on Maddison 1995, was only 56 per cent of the Italian equivalent and less than 30 per cent of the British one in 1930. For example Denmark, a perfect candidate according to the criteria, is excluded due to the lack of uniform quantity data in the League of Nations records. On other selection and data concerns, see Chapter 1 of this thesis for details.

⁴³² Based on Maddison 1995. Here the 1929 real GDP per capita figures were used to divide the countries into the three groups as follows (in 1990 Geary-Khamis USD): 1) 0—3000 USD; 2) 3000—5000 USD; 3) 5000+ USD.

⁴³³ Krantz 2000.

Patrick Salmon has argued in the Nordic interwar context that the small countries were constrained by their geographic position, their limited resource bases, the international environment, and the (lack of) diplomatic skill. While the Nordic countries clearly had some control over their respective “destinies” in this period, they were constrained especially by their export-dependence and the intense trade competition between the United Kingdom and Germany in the 1930s.⁴³⁴

As Michael Handel has pointed out, “small power” and “smaller state” can be misleading terms to describe such states. They usually embody the connotation of small geographic size. A more fitting definition can perhaps be found in the use of the term “weak state”. According to Handel, this concept can be applied not only to small, weak states but also to countries of considerable area (such as Spain in this period), which were nonetheless weak players in the international system.⁴³⁵ He has also presented an interesting “ideal type” of a weak state, which he admits to be an abstraction. This “ideal type” contains the following key characteristics: 1) a small population; 2) a small area; 3) a low GNP in absolute terms; 4) a high degree of specialization and small domestic market; 5) a high dependence on foreign military protection and military imports; 6) limited chances of influencing the international system. Handel thus uses a plethora of indicators to assess a country’s power status. However, he also has strong reservations about the validity of the notion that weak states are merely passive and reactive participants in such a system, which raises equal doubts about the validity of the term weak state.⁴³⁶ Indeed, how “weak” were these states?

Based on Handel’s observations presented above, it is possible to construct some testable hypotheses to analyze the behavior of the “weak” states in the international arms transfer system of this period. Firstly, there should be fewer domestic constraints on the foreign and trade policy decision-making of a “weak” state (=HYPOTHESIS 34), implying that external variables such as market prices or perceived threats ought to have primacy in explaining the military trade behavior of these nations.⁴³⁷ Secondly, “weak” states should be highly dependent on military trade and military imports in particular (=HYPOTHESIS 36). Thirdly, “weak” states should

⁴³⁴ Salmon 1997, 4—19.

⁴³⁵ Handel 1981, 10—20. He divides states into super powers, great powers, middle powers, weak states, and mini-states. The three last-mentioned can be understood as weak states here. All definitions are, however, arbitrary by necessity. Based on the results achieved in Eloranta 2002a, I will utilize quotation marks on the word weak when referring to these states. See also Ray-Singer 1973.

⁴³⁶ Handel 1981, 37—46, 52—53.

⁴³⁷ This notion has been challenged by e.g. Patrick Salmon (1997) and this author as well. See e.g. Eloranta 1999.

differ from one another mostly due to factors such as their geographic and/or strategic location, the level of industrialization, the type of foreign policy tradition, and the size of the economy (= HYPOTHESIS 37). Thus, for example, the military trade behavior of states either close to the center (such as Belgium and Czechoslovakia) or holding strategic importance to a Great Power (such as Finland) should differ, due to vulnerability, from the military trade behavior of relatively safe and/or peripheral countries (such as Portugal, Switzerland, and Sweden).⁴³⁸ Fourthly, — a point shared by Krantz, Salmon, and Handel — “weak” states may be influential in the international system when a balance of power exists between the Great Powers (=HYPOTHESIS 38), especially in the bargaining game between trade blocs. Another possibility is that “weak” states are influential in the international system when the balance of power is in flux; i.e., there is hegemonic competition among the Great Powers for economic and/or military leadership (=HYPOTHESIS 39). Here I will argue that this may indeed apply to the trading behavior of the European states. It may also be possible that the Great Powers were more influenced by the changes in the balance of power in their military spending behavior (=HYPOTHESIS 35), for which we have already gathered some sporadic evidence. Finally, the military trade behavior of the “weak” states should be affected by the various structural systemic shocks of the period, such as the Great Depression and the disarmament process featured in the preceding analysis.

The research on arms trade has largely ignored the “weak” states as players in the international system. Nonetheless, for example Robert E. Harkavy’s study *The Arms Trade and International Systems* (1975) focused also on the interwar period, with a comparative, systemic emphasis. Also, Keith Krause’s *Arms and the State: Patterns of Production and Trade* (1992) had a similar emphasis.⁴³⁹ As Krause maintains, the so-called strong customers obtain and use the most modern weapons, and weak customers (=states) either obtain modern weapons without the ability to use them, or are unable to obtain them at all.⁴⁴⁰ In the interwar period, there were three kinds of states evident among the arms producers: the dominant producers of heavy armaments (such as the UK and France); the alternate producers of heavy armaments (Germany, the United States, the Soviet Union, and Italy); and the numerous “weak” states who were often dependent on the arms trade with the dominant group, but also established themselves as major producers of small and medium size arms, especially in the 1930s. These countries formed the players

⁴³⁸ Handel 1981, 72—74.

⁴³⁹ Harkavy 1975; Harkavy 1994; Krause 1992.

⁴⁴⁰ Krause 1992, 26—32.

(sellers, buyers, or a combination of the two) in the “game” for profits and national security⁴⁴¹, to be constrained by both formal (such as limitation efforts and sales zones) and informal (such as moral compulsions) regulations, both internationally and domestically. Yet, as Harkavy has argued, this was a period in which alliances were not stable and did not form significant obstacles for the arms trade. Arms trade was also mostly privatized and unregulated, at least up until the mid-1930s.⁴⁴²

Although business historians have studied the interwar arms trade, they have mostly concentrated on the large countries and big firms of the period. Most efforts have focused on firms such as Armstrong Ltd., Vickers Ltd., Schneider, and Krupp, already well-established arms producers by the 1920s. One of the more prominent works in this field has been Clive Trebilcock's *The Vickers Brothers. Armaments and Enterprise 1854—1914* (1975).⁴⁴³ Another feature in the current scholarship seems to be the emphasis placed on the economic imperialism of the 1930s, especially by Great Britain and Germany. As for example Christian Leitz has pointed out in the German case, it seems that the big arms producers, especially Germany, exported weapons in vast amounts even to potentially hostile countries.⁴⁴⁴ These studies notwithstanding, the interwar arms trade as a whole or its implications for the countries selected here have not been analyzed in a comprehensive fashion.

As we have seen, many of the member states attempted to achieve disarmament measures in earnest at least until the mid-1930s under the auspices of the League of Nations and beyond it. Mostly these efforts took place between diplomats within the various structures of the League of Nations' political machinery. Among the many difficulties in achieving concrete results were the heterogeneous expectations of the participants. These expectations made the arms trade limitation negotiations just as difficult as those concerning overall disarmament. Usually the agreements that were reached were very difficult to ratify in the individual countries' legislatures, which doomed for example the quite broad agreement following the Conference for the Supervision of the International Arms Trade in 1925. Interestingly enough, the participants, especially the smaller (military) import dependent states, attached various conditions to the ratification process, which effectively destroyed its chances of success. All in all, as emphasized by David Stone, these “weak” states, even proponents of general disarmament, were often the

⁴⁴¹ See also Eloranta 1998 on the application of such a typology.

⁴⁴² Harkavy 1994, 16—19.

⁴⁴³ Trebilcock 1975. For a narrative on the actions of these companies, see e.g. Collier 1980. A good analysis of the role of Vickers abroad (this case: Italy) can be found e.g. in Segreto 1997.

⁴⁴⁴ See especially Leitz 1997; Leitz 1998.

most outspoken opponents of arms trade regulation efforts.⁴⁴⁵ For example, the Scandinavian states were not willing to support any forms of sanctions. Similarly, most of these states were less than enthusiastic about the plans to abolish private manufacture of arms, even though a lot of the “merchants of death” literature that emerged after the First World War blamed private profiteers directly for the mass onslaught of the war.⁴⁴⁶ Especially the domestic industries as an interest group were strongly against any regulation measures.⁴⁴⁷ The main accomplishment that emerged from the 1920s arms trade limitation negotiations was the establishment of a licensing and statistics gathering system among the League members and other nations.⁴⁴⁸

Of course, as we have seen, the security policy strategies of the “weak” states differed broadly. They did not form a uniform front in most foreign policy issues, albeit at a moral level. For example, the basic principles in the Swedish interwar foreign policy were the maintenance of neutrality and non-commitment.⁴⁴⁹ Similarly, for example the Norwegian governments relied on the geographic proximity of Great Britain for protection, which limited their foreign policy interests to mainly trade issues.⁴⁵⁰ Finland, as indicated earlier, did not follow the example set by its Nordic neighbors, but instead followed the example of certain Eastern European countries like Czechoslovakia in seeking alliances, due to geopolitical disadvantages.⁴⁵¹ In the case of Czechoslovakia, threatened both from the East and the West, its security policy was based on a bilateral treaty with France, similar to other Eastern European countries. Consequently, an agreement with Romania and Yugoslavia concluded the so-called Little Entente in the 1920s, a loosely knit alliance aimed against Hungary. In addition to a pro-West foreign policy, Czechoslovakia experienced favorable economic performance and managed to become a dominant producer of small arms in the 1930s.⁴⁵² These factors exerted a strong incentive for the maintenance of a high military burden, for both Finland and Czechoslovakia.

The real military spending of these “weak” states increased slightly during the course of the 1930s, following the mainly flat spending curves of the 1920s. However, their respective military burdens, on the average, remained flat even for most of the 1930s, with *active*

⁴⁴⁵ Stone 2000.

⁴⁴⁶ See e.g. Harkavy 1975; Koistinen 1980, on the so-called Nye Committee in particular: 55—58; Sloutzki 1941; Jones 1939.

⁴⁴⁷ See Chapter 7 of this thesis, especially concerning the Swedish case.

⁴⁴⁸ Krause-MacDonald 1993, 713—717. See also Krause 1992.

⁴⁴⁹ Trönberg 1985; Paasivirta 1987, 194—195; see also Agøy 1996.

⁴⁵⁰ Agøy 1996, 478; Paasivirta 1987, 194—195, 225—227. See also Handel 1981 on the geopolitical advantage of Portugal (and perhaps Spain).

⁴⁵¹ Paasivirta 1984, 256—258, 262, 265—267; Tervasmäki 1964, 23—24. See also Paasivirta 1987.

⁴⁵² See e.g. Hauner 1973; Teichova 1988.

rearmament taking place during the last few years of the decade. Among these countries, Czechoslovakia, Finland, Portugal, and Spain maintained high military burdens (column C, Table 31), with the Czech and Portuguese shares being over five per cent in 1935. As seen in Table 31, many of these countries were highly dependent on foreign trade, especially in the 1920s, yet most of them relied increasingly on their domestic markets in the 1930s. Only Belgium's trade dependence share (column B, Table 31) remained, and barely at that, over fifty per cent. The development of military trade, respective of total foreign trade, world arms trade, and military spending, display that many "weak" states developed their arms trade very rapidly. In military exports, respective of almost any indicator, Czechoslovakia and Sweden, trailed by Belgium and Norway, emerged as the growing military exporters in the 1930s.

Table 31. Characteristics of the Aggregate Trade, Military Trade, and Military Spending for the Nine "Weak" European States (%): 1925, 1935

A.	B.	C.	D.	E.	F.	G.	H.	I.
1925								
<i>BEL</i>	79,09	1,75	0,12	0,12	2,22	2,68	3,09	2,53
<i>CZE</i>	54,54	4,28	0,16	0,16	1,87	1,67	1,54	1,41
<i>FIN</i>	51,13	2,82	0,00	0,15	0,00	0,43	0,00	1,36
<i>NED</i>	75,55	1,63	0,05	0,15	0,73	4,86	3,91	0,95
<i>NOR</i>	43,09	0,86	0,18	0,15	2,15	0,73	3,80	4,15
<i>POR</i>	29,70	3,26	0,01	0,15	0,01	0,49	0,02	1,00
<i>SPA</i>	17,72	3,15	1,02	0,04	7,00	3,67	2,33	0,14
<i>SWE</i>	33,95	2,14	0,73	0,24	3,24	1,11	5,65	1,98
<i>SWI</i>	52,57	0,96	0,31	0,04	2,52	0,47	7,32	1,38
1935								
<i>BEL</i>	50,91	1,77	0,83	0,31	5,75	5,56	12,38	4,23
<i>CZE</i>	31,80	5,34	5,36	0,35	24,46	2,73	15,82	0,87
<i>FIN</i>	42,09	3,18	0,12	0,14	0,23	0,46	0,87	0,87
<i>NED</i>	34,83	1,57	0,17	0,13	1,43	6,86	1,72	1,61
<i>NOR</i>	32,78	0,86	0,80	0,18	1,64	1,06	12,79	4,05
<i>POR</i>	21,51	5,20	0,02	0,72	0,01	2,23	0,03	2,12
<i>SPA</i>	13,21	2,23	0,09	0,02	0,58	0,54	0,17	0,07
<i>SWE</i>	29,35	1,45	1,69	0,30	7,67	3,13	14,62	2,92
<i>SWI</i>	26,32	1,22	0,28	0,08	1,03	0,90	2,41	1,03

Sources: see Appendices, Appendix 2 for details. A=country and year; B = Total trade (exports + imports) of GDP; C = Military burden (nominal ME (=military expenditures) of nominal GDP); D = Military exports of total overall exports of the country; E = Military imports of total overall imports of the country; F = Military exports of total world arms exports; G = Military imports of total world arms imports; H = Military exports of nominal ME of the country; I = Military imports of nominal ME of the country.

Based on Table 32 below, it is possible to evaluate further the hypothesis of whether these countries were specifically dependent on their military imports. It seems that Finland, the Netherlands, and Portugal were clearly dependent on their military imports and had less developed military export industries respectively. Secondly, Belgium, Czechoslovakia, Spain, and Switzerland were moderately dominated by the military exports in their military trade, with Czechoslovakia being poorly representative of this group with its rapid emergence in the world

markets in the 1930s. Thirdly, Sweden and Norway were extremely dominated by military exports in their military trade behavior (as measured by columns C and H). None of the countries selected here could top the high British value for ratio 2 in Table 32 (see column D). Also, as seen in columns D, E, and F, for four countries (BEL, CZE, FIN, NED) this period seemed to amplify the role of military exports, for three countries this tendency clearly decreased (POR, SPA, SWI), and for two (NOR, SWE) there was moderate evidence of movement towards military export dominance. By and large, these groupings do not seem to coincide with the income groupings presented earlier, nor can we say that these countries were particularly dependent on military imports rather than, in fact, on military exports.

Table 32. Structural Developments in the Military Trade of the Nine "Weak States", 1925, 1935

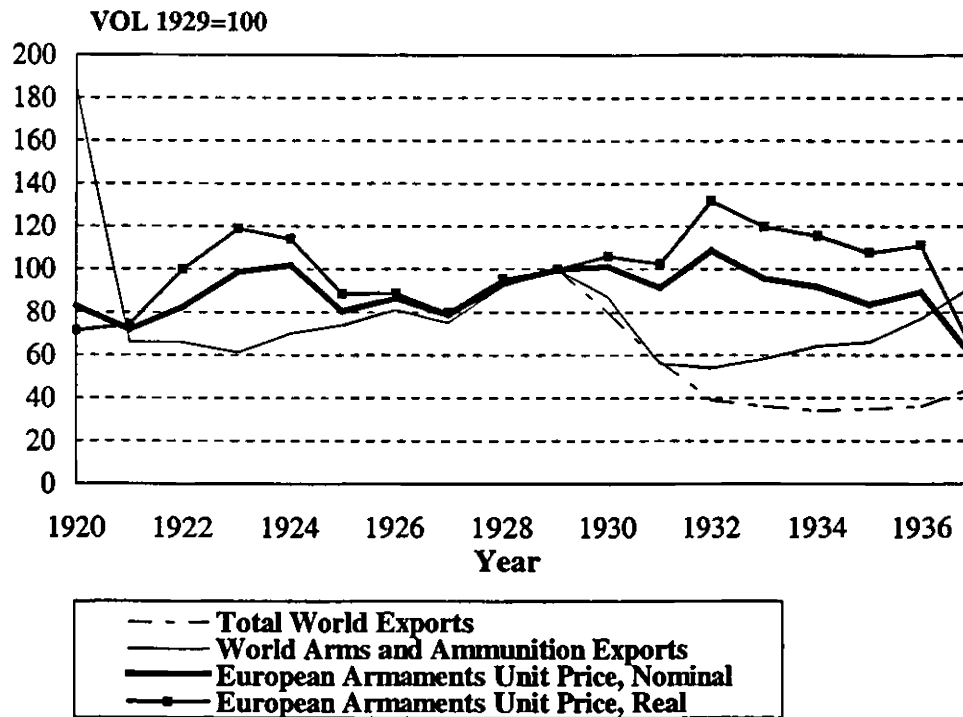
A.	B.	C.	D.	E.	F.	G.	H.
<i>BEL</i>	1925	MILIMP	↑	↑	↑	LESS	LESS
	1935	MILEXP				LESS	LESS
<i>CZE</i>	1925	BALANCE	↑	↑	↑	LESS	LESS
	1935	MILEXP				LESS	MORE
<i>FIN</i>	1925	MILIMP	↑	↑	↑	LESS	LESS
	1935	BALANCE				LESS	LESS
<i>NED</i>	1925	MILIMP	↑	↑	↑	LESS	LESS
	1935	MILIMP				LESS	LESS
<i>NOR</i>	1925	MILEXP	↑	↑	↓	LESS	MORE
	1935	MILEXP				LESS	MORE
<i>POR</i>	1925	MILIMP	↓	↓	↓	LESS	LESS
	1935	MILIMP				LESS	LESS
<i>SPA</i>	1925	MILEXP	↓	↓	↓	LESS	MORE
	1935	MILEXP				LESS	LESS
<i>SWE</i>	1925	MILEXP	↑	↑	↓	LESS	MORE
	1935	MILEXP				LESS	MORE
<i>SWI</i>	1925	MILEXP	↓	↓	↓	LESS	MORE
	1935	MILEXP				LESS	SAME

Sources: see Appendices, Appendix 2 for details. The UK calculations based on the same sources as listed therein. A=country; B=year; C=dominance (or roughly the balance between them) of either military exports (MILEXP) or imports (MILIMP), calculated as the following ratio (1): MILEXP of a country divided by the MILIMP of a country; D=change in ratio (1), from 1925 to 1935; E=change in the ratio (2): MILEXP of a country divided by the total domestic exports, from 1925 to 1935; F=change in the ratio (3): MILIMP of a country divided by the total domestic exports, from 1925 to 1935; G=ratio (2) compared with the British equivalent; H = ratio (3) compared with the British equivalent.

The world arms exports, as seen in Figure 58 below, rebounded after the early 1920s' saturated markets and economic adjustments to resume growth up until the beginning of the Great Depression era. However, comparatively, the world arms exports recovered much quicker from the depression than the aggregate world exports, with recovery taking place as early as 1931—1932. This period of adjustment introduced more and more new exporting nations as worthy contenders in the international markets, which can also be seen in the decline of the European unit price of arms, both in nominal and real terms. However, this competition additionally took

place in a trading environment dominated by Great Power competition for informal allies, which provided the smaller players more room to maneuver in the markets, thus these prices may not adequately reflect the military trade environment of the late 1930s. The traditional dominant producers (such as the U.K.), however, did maintain their hegemonic control in the trade of heavier equipment, for example naval armaments.⁴⁵³

Figure 58. Total World Exports (Nominal), World Arms and Ammunition Exports (Nominal), and European Armaments Unit Prices (Nominal and Real), 1920—1937, Volume Indices (1929=100)



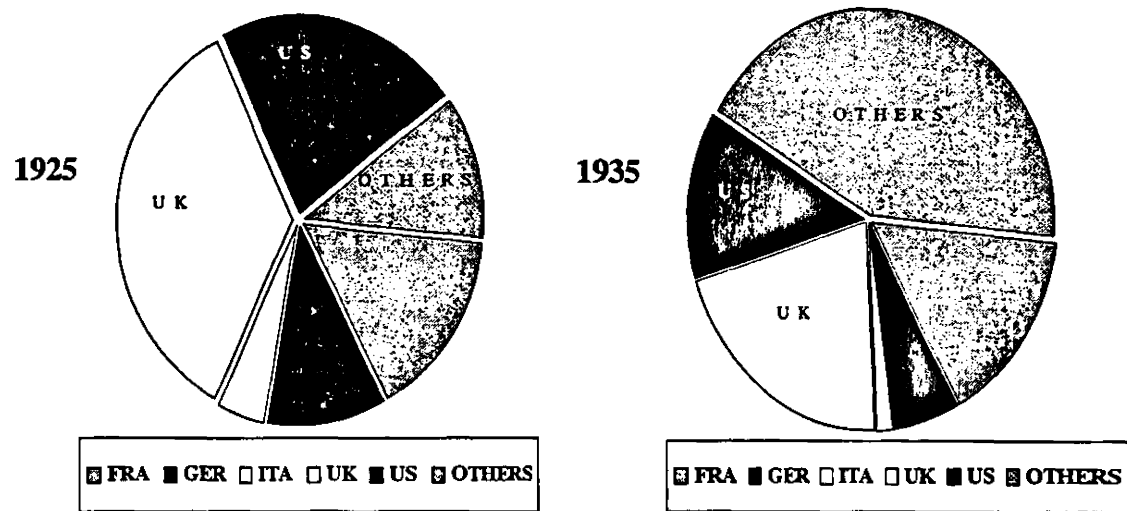
Sources: The aggregate nominal unit prices calculated from *Statistical Year-Books of the Trade in Arms and Ammunition 1924—1938*, with the combined arms trade data (=arms exports + arms imports, divided by the quantity in metric tons) of Belgium, Czechoslovakia (incl. until 1936), Finland (also France to make the data more robust), the Netherlands, Norway, Sweden, Switzerland, and Spain (incl. until 1935), for which there was information on quantities; world arms exports also from this source. Real aggregate unit prices derived by deflating the aggregate nominal unit price series with a combined, weighted (by the real GDP shares among the nine, derived from Maddison 1995) average wholesale price index (individual country WPIs derived from Mitchell 1992). Total world exports from *League of Nations, Statistical Year-Book of the Trade in Arms and Ammunition*. C. 263. M. 156. 1938. IX. Geneva 1938, 206.

As we can observe in Figure 59, the market shares of the “weak” states increased dramatically from 1925 to 1935. Czechoslovakia even assumed the top position in the world (small and medium size) armaments markets with its 24,5 percent market share in 1935. According to Hauner, this figure is even understated. For the *Škoda* concern, an estimated 55,2 per cent of its

⁴⁵³ Krause 1992, 74.

entire armaments production between 1936—1938 went abroad. The Czech government policy encouraged strongly the growth of military exports, regardless of the destination.⁴⁵⁴ The importance of Sweden also increased substantially in the 1930s, with *Bofors* as the largest Swedish arms trading company.⁴⁵⁵ In military imports, in terms of absolute volume, the biggest importers in this period were the Netherlands and Belgium, whereas the big military exporters Czechoslovakia and Sweden were far behind these two in terms of volume of military imports. The lowest military importers in terms of absolute volume were consistently Spain and Finland.

Figure 59. Market Shares of the Major Arms Trading Countries in Small and Medium Size Armaments, 1925, 1935



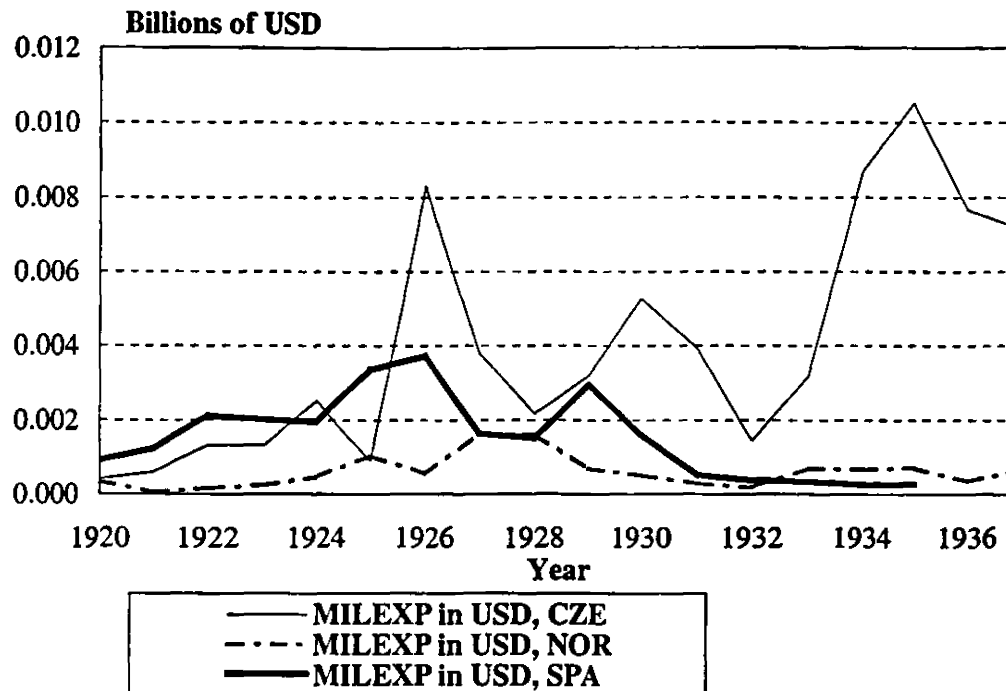
Sources: see Appendices, Appendix 2.

Czechoslovakia's rise to become one of the premier arms exporters of Europe really took place after 1932 following the League of Nations' first signs of real weakness after the Manchurian Incident and the subsequent rise of Hitler. In the 1920s, as seen in Figure 60, Czechoslovakia had enjoyed a brief but strong period of growth, but all in all did not distinguish itself from other "weak" nations. However, the tough trading climate of the 1930s definitely produced winners and losers in the international arms trade, with Czechoslovakia and Sweden emerging as victors in these types of armaments. Spain and Norway, in turn, were examples of countries whose armaments industries failed to "take off" in the 1930s (see Figure 60).

⁴⁵⁴ Hauner 1973, e.g. 15.

⁴⁵⁵ For more, see Chapter 7.

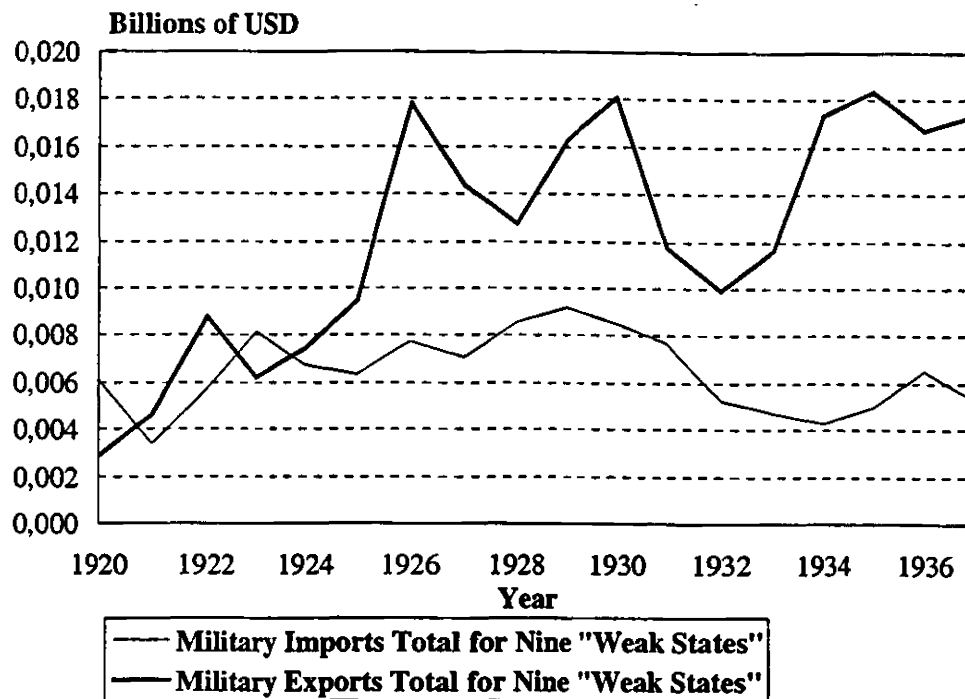
Figure 60. Small and Medium Size Arms Exports of Czechoslovakia, Norway, and Spain, 1920—1937



Sources: see Appendices, Appendix 2.

As we can see in Figure 61, the overall military imports of these nine “weak” states increased moderately in the 1920s only to decline again in the 1930s. The aggregate military exports, in turn, increased strongly until the Great Depression. This disruption in military trade lasted only until 1932, which is when a major resurgence in the arms exports of these nations ensued. The growth trend of the late 1930s was steeper than the one that surfaced in the 1920s. Can we explain the individual export and import patterns of these states by statistical means as was done in the previous chapters for the demand for military spending? Were there differences between these states according to the criteria outlined earlier, for example due to geopolitical advantages and disadvantages? Let us first examine the development of military exports, especially as providing important externalities for the domestic market arms manufacturers and domestic armed forces.

Figure 61. Small and Medium Size Arms Imports and Exports of the Nine "Weak" States, 1920—1937



Sources: see Appendices, Appendix 2 for details.

6.2. Arms Exports and Imports of the "Weak" States

Were military exports an important determinant of military expenditures or vice versa? Or, consequently, can we measure the externality impacts of military exports on military expenditures? In this section the ratios of military exports of nominal military expenditures will be regressed against several variables in order to test whether this ratio was affected by external and/or internal factors, as explained below. This ratio should indicate whether the military exports of a country were developing differently from the military expenditures of the said country. Changes in this ratio should point towards either positive or negative externalities vis-à-vis domestic military spending, to be reviewed in conjunction with the said country's military importing behavior. Thus, the following equation was adapted from a standard equation used by defense economists to explain military spending patterns⁴⁵⁶, with an additional, military spending variable⁴⁵⁷ tested as an omitted variable:

⁴⁵⁶ Military expenditures are often explained by the aforementioned price, income, spillin, and threat variables in the simplest adaptations. See Sandler-Hartley 1995. Following Smith et al. 1985, I will attempt to uncover the military spending impacts upon military exports. Smith et al., achieving contradictory results, estimated weapons exports on the basis of oil prices (dummy), aggregate weapons exports, military expenditures of the said country, and the changes in the military expenditures of the said

$$\frac{MILEXP}{ME}_i = \beta_{10} + \beta_{11}EUROPEPRICE_i + \beta_{12}GDPCAP_i + \beta_{13}THREAT_i + \beta_{14}TRADEOFGDP_i \dots \quad (15)$$

$$\dots (+ \beta_{15}DUMMY_i) + \varepsilon_i$$

Here *MILEXP/ME* (log) equals the ratio of nominal military exports to nominal military expenditures in the said country *i* in year *t*; *EUROPEPRICE* corresponds to the real European unit price of military goods as presented in Figure 58 (log, external variable); *GDPCAP* equals the income variable in real terms (log, internal variable); *THREAT* (either COMBTHRT=combined threat; GERTHRT=German-weighted threat; or GERSOVTHRT=German-Soviet-weighted threat; as defined earlier) equals the threat faced by the country, expressed by a combined index (log, external variable); *TRADEOFGDP* (log) equals the ratio of total exports and imports of GDP. *DUMMY* (*DUMMY1*=1 after 1929; *DUMMY2*=1 after 1933; *DUMMY3*=1 after 1935; *DUMMY4*=1 after 1932, added later as a potential dummy) variable indicates a structural change in the equation in a given year. An additional variable, *MILBUR* (log, internal variable), the military burden of the country, was tested with an omitted variable test in cases where specification errors were indicated by the regressions statistics. Before the regression was run, the variables were tested for unit roots and differenced if necessary.⁴⁵⁸ The results had to pass the Breusch-Godfrey LM serial correlation test to be accepted. The complete rundown of the results can be found in Table 33. Equally, since these individual country regressions suffered from small sample problems, the equation was also estimated as a pooled sample using the SUR method explained earlier (Table 34).⁴⁵⁹

The price variable was expected to have a positive coefficient, implying a rational supply-demand response. The income variable's coefficient was more difficult to anticipate: if it was positive, the chosen country's military exports coincided with economic development; if it was

country.

⁴⁵⁷ On the choice of possible explanatory variables, see especially Pearson 1989. Note that here the differences in productivity are largely ignored.

⁴⁵⁸ The results of the tests on the stationarity are available from the author by request. These tests on stationarity of the series (hampered by the sample size) were either ADF or, in case they indicated nonstationarity, Phillips-Perron. All regressions were adjusted with the Newey-West covariance estimator. Regression sample years were adjusted to fit the country data in question. Cointegration tests, equally problematic in small samples like the unit root tests, were not carried out here. Instead, the individual regression results were checked against the pooled sample results (undertaken with the nondifferenced series).

⁴⁵⁹ As mentioned before, the SUR is a feasible GLS estimator when the residuals are both cross-section heteroskedastic and contemporaneously correlated, due to e.g. common shocks in the political system. Here the panel data was first estimated using OLS, yet the residual matrix indicated cross-section correlation.

negative, the situation was reversed. The threat variable was expected to yield a negative coefficient, meaning that the said country decreased military exports with rising threats (allocating limited military resources for domestic purposes).

Table 33. Military Export Patterns of the Nine "Weak" European States: Individual Country Regression Results, 1920—1937

A.	B.	C.	D.
<i>MILEXPBEL</i>	EUROPEMEPRICE***	-2.31	$\bar{R}^2=0.79$
	GDPCAPBEL***	9.99	
	TRADEOFGDPBEL***	-1.99	
	MILBURBEL*	-1.37	
<i>MILEXPcze</i>	GDPCAPCZE*	-4.76	$\bar{R}^2=0.72$
	GERSOVTHRT**	-1.86	
	MILBURCZE***	-1.80	
	DUMMY2***	0.83	
<i>MILEXPFIN</i>	GDPCAPFIN**	10.75	$\bar{R}^2=0.71$
	MILBURFIN***	-19.42	
	DUMMY1**	2.28	
<i>MILEXPned</i>	EUROPEMEPRICE***	1.06	$\bar{R}^2=0.66$
	GDPCAPned***	4.28	
	DUMMY1***	-0.26	
<i>MILEXPnor</i>	GDPCAPnor***	6.41	$\bar{R}^2=0.55$
	GERTHRT***	1.05	
	DUMMY1***	-0.55	
<i>MILEXPpor</i>	MILBURpor**	-1.49	$\bar{R}^2=0.31$
	DUMMY4**	-0.45	
<i>MILEXPspa</i>	EUROPEMEPRICE**	-1.69	$\bar{R}^2=0.69$
	GDPCAPSPA*	4.19	
	MILBURSPA*** (t-1)	2.38	
	DUMMY2**	-0.48	
<i>MILEXPswE</i>	GDPCAPswE***	4.55	$\bar{R}^2=0.85$
	GERSOVTHRT***	-1.53	
	TRADEOFGDPswE***	-1.82	
	DUMMY4***	0.10	
<i>MILEXPswI</i>	GERTHRT*** (t-1)	-1.18	$\bar{R}^2=0.35$
	DUMMY3***	0.63	

Sources: see Appendices, Appendix 2 for details. A=dependent variable; B=independent variables; C=coefficients of the independent variables; D=regression fit. All variables are in logs. Lags in parenthesis. Differencing: EUROPEMEPRICE, all threat indices, and MILEXPswI are $I(1)$. On variable definitions, see the text for details. Only statistically significant independent variables were listed in the table (intercepts omitted from the table): * = significant at the ten per cent level; ** = significant at five per cent level; *** = significant at the one per cent level.

The spillin variable, the aggregate trade share, was anticipated to exert a positive externality effect on the development of military trade. The additional spillin variable, the military burden, could be expected to have a negative coefficient, since this would indicate domestic (or other military spending) preference in military spending increases in comparison with military exports. The possible dummies are analyzed briefly below. Furthermore, coefficients having different signs as the ones outlined above are offered alternative explanations.

Table 34. Military Export Patterns of the Nine "Weak" European States: SUR Estimation Results, 1920—1937

A.	B.	C.	D.
<i>MILEXPBEL</i>	EUROPEPRICE**	-0.40	SE=0.24
	GDFCAPBEL***	1.33	
	GERTHRT*** (t-1)	0.86	
	TRADEOFGDPBEL**	0.55	
	MILBURBEL***	-1.74	
	DUMMY4**	0.06	
<i>MILEXPcze</i>	GDFCAPCZE***	2.10	SE=0.56
	MILBURCZE***	-1.74	
	DUMMY4**	0.06	
<i>MILEXPfin</i>	GDFCAPFIN***	1.49	SE=1.55
	MILBURFIN***	-1.74	
	DUMMY4**	0.06	
<i>MILEXPned</i>	GDFCAPNED***	1.62	SE=0.27
	DUMMY4**	0.06	
<i>MILEXPnor</i>	EUROPEPRICE**	-0.40	SE=0.33
	GDFCAPNOR***	2.40	
	COMBTHRT*** (t-1)	-1.71	
	TRADEOFGDPNOR**	0.55	
	DUMMY4**	0.06	
<i>MILEXPpor</i>	EUROPEPRICE**	-0.40	SE=0.69
	GDFCAPPOR***	1.94	
	COMBTHRT*** (t-1)	-1.71	
	GERTHRT*** (t-1)	0.86	
	TRADEOFGDPFOR**	0.55	
	MILBURPOR***	-1.74	
	DUMMY4**	0.06	
<i>MILEXPspa</i>	GDFCAPSPA***	2.55	SE=0.52
	COMBTHRT*** (t-1)	-1.71	
	DUMMY4**	0.06	
<i>MILEXPswE</i>	EUROPEPRICE**	-0.40	SE=0.23
	GDFCAPSWE***	2.40	
	COMBTHRT*** (t-1)	-1.71	
	GERTHRT*** (t-1)	0.86	
	TRADEOFGDPSWE**	0.55	
	DUMMY4**	0.06	
<i>MILEXPsw</i>	EUROPEPRICE**	-0.40	SE=0.39
	GDFCAPSW**	1.23	
	GERTHRT*** (t-1)	0.86	
	TRADEOFGDPSWT**	0.55	
	DUMMY4**	0.06	
<i>N=139</i>	<i>Log likelihood(weighted)=13.50</i>	\bar{R}^2 (unweighted)=0.81	<i>SE aggregate (unweighted)=0.46</i>

Sources: see Appendices, Appendix 2 for details. A=dependent variable; B=independent variables; C=coefficients of the independent variables; D=individual country equation S.E.s. Only statistically significant independent variables were listed in the table: * = significant at the ten per cent level; ** = significant at the five per cent level; *** = significant at the one per cent level. Lags in parenthesis.

Note: common intercept or common AR(1) term not reported here. Residuals not exhibiting serial correlations up to three lags.

In the individual country regressions, the price variable was statistically significant only for three countries, implying that either the military export decisions of the others were not influenced by the European market prices or that these prices are not adequately captured by the data. These conclusions are supported by the negative common coefficient incurred in the respective SUR-system. Individually, the income variable was found to be relevant in all of the cases except Portugal and Switzerland. And in all cases, with the exception of Czechoslovakia,

the coefficient of this variable was positive. Again, the pooled estimation results support the conclusion that economic development exerted an externality effect upon the military exports. The threat variables appeared to be significant in four of the cases in the individual regressions, yet the signs conflicted with the pooled results. The SUR-system analysis, however, revealed a distinction: the German threat seemed to produce profit-seeking behavior, whilst a rise in the aggregate threat decreased relative military exports.

The aggregate trade share turned out to be a significant variable for only two countries (BEL, SWE), with a negative coefficient. In the pooled sample, it produced the expected positive spillover effect for some of the countries. However, the military burden variable⁴⁶⁰ was statistically significant in five of the individual cases, with only the Spanish regression incurring a positive coefficient. Especially in the case of Finland, an import-dependent country, the coefficient was strongly negative (-19,42). The negative coefficients were also strongly supported by the SUR-system for four countries (BEL, CZE, FIN, POR). Thus, a domestic preference effect, implicating a significant role for the Great Depression, seems to emerge from both the analysis of the income and the military burden variables. This, however, needs to be confirmed with the analysis of the military import behavior of these nations. Most of these nations also displayed some sensitivity to structural changes occurring in this period, especially after 1932 (DUMMY4).

It should also be noted that the destination countries and market “zones” of these countries differed broadly. For example Czechoslovakia, which experienced a tremendous growth of arms exports in the 1930s, exported 48 million USD worth of arms to foreign countries. The biggest destination countries in the 1930s were Romania (circa 10,9 million USD), China (circa 9,3 million USD), Iran and Afghanistan (circa 5,4 million USD), Turkey (circa 3,9 million USD), and Yugoslavia (almost 3 million USD). Czechoslovakia even exported over two million USD worth of arms to the Soviet Union in 1938, signifying that the Czech military export industries attempted, quite successfully, to capture markets in possible troubled areas and regardless of possible adverse consequences later.⁴⁶¹ The military export destinations of Sweden and Finland, for example, illustrate the differences and similarities in their respective positions. Sweden’s principal European destinations included Poland and Belgium, as well as China and Argentina

⁴⁶⁰ As discovered by e.g. Pearson 1989, military imports are often significantly related to military spending, not military exports. It seems, however, that military exports were also tied into efforts to boost domestic defense industries.

⁴⁶¹ Sloutzki 1941, 76—77; Hauner 1986, e.g. 54, 58—67. As Hauner points out, other emerging arms producer nations, such as Poland, behaved similarly.

outside Europe, displaying similarities to the Czech case. In the Finnish case, one has to point out that Finland barely had any military exports to speak of until the early 1930s. Military exports and imports did not reach approximately the same size until 1935. Finland's primary arms export markets were the Baltic states. Nonetheless, both Finland and Sweden were drawn closer to the German orbit in their military imports in the late 1930s.⁴⁶²

Can we confirm or challenge the results presented in the previous section by analyzing military imports? In this section the ratios of military imports of nominal military expenditures are regressed against the same variables as in the case of military exports, in order to test whether this ratio was affected by external or internal factors, as explained previously. Thus, we can analyze the impact and timing of domestic preferences in military spending in a similar fashion as before (with MILBUR as the predicted source of spillins):

$$\frac{MILIMP}{ME}_t = \beta_{10} + \beta_{11}EUROPEMEPRICE_t + \beta_{12}GDPCAP_t + \beta_{13}THREAT_t + \beta_{14}MILBUR_t \dots \quad (16)$$

$$\dots (+\beta_{15}DUMMY_t) + \varepsilon_t$$

Here $MILIMP/ME$ (log) equals the military import ratio of nominal military expenditures in the said country i in year t ; the rest of the variables are the same as in the previous equation.

The European prices of arms were expected to yield a negative coefficient, indicating rational market behavior for the said country. On the other hand, highly import-dependent countries might have been forced to ignore price developments, thus producing a positive sign. The income variable was, again, more problematic as far as the expected sign is concerned. If the sign was positive, the said country favored domestic production during an economic downturn, such as the Great Depression. If it was negative, the situation was reversed. The threat variable was expected to be positive, indicating that military imports increased in the face of mounting threats. The expected sign of the military burden variable was perhaps more ambiguous (as a ratio), with a positive sign indicating increases in military spending inducing also an increase in military imports. In the opposite case, domestic military goods would be preferred. In addition, trade was again assumed to exert a positive spillover effect. Analyses of the regressions are carried out below. A complete presentation of the individual country results can be found in Table 35, whereas a rundown of the SUR-system can be found in Table 36.

⁴⁶² Sloutzki 1941, 93—95; *Statistical Year-Book of the Trade in Arms and Ammunition 1938*.

Table 35. Military Import Patterns of the Nine "Weak" European States: Individual Country Regression Results, 1920—1937

A.	B.	C.	D.
<i>MILIMPBEL</i>	GDPCAPBEL**	4.25	$\bar{R}^2=0.55$
	GERTHRT***	0.71	
	ARC2)*	-0.59	
<i>MILIMPCZE</i>	EUROPEMEPRICE**	-2.75	$\bar{R}^2=0.38$
	GDPCAPCZE***	5.06	
	MILBURCZE***	1.58	
	GERSOVTHRT**	0.76	
<i>MILIMPFIN</i>	EUROPEMEPRICE**	0.33	$\bar{R}^2=0.93$
	GDPCAFFIN***	-0.92	
	COMBTHRT***	-0.47	
	MILBURFIN***	-1.81	
	DUMMY3**	0.15	
<i>MILIMPNED</i>	GDPCAPNED**	3.75	$\bar{R}^2=0.09$
	GERTHRT*(t-1)	-0.51	
	MILBURNED**	-3.26	
<i>MILIMP NOR</i>	TRADEOFGDPNOR**	1.08	$\bar{R}^2=0.34$
	MILBURNOR**	1.21	
<i>MILIMPPOR</i>	EUROPEMEPRICE***	1.28	$\bar{R}^2=0.23$
	GERTHRT***	-1.27	
	DUMMY4***	0.49	
	EUROPEMEPRICE*	-1.05	
<i>MILIMPSPA</i>	GDPCAPSPA***	-9.83	$\bar{R}^2=0.60$
	MILBURSPA***	-3.87	
	DUMMY1***	-0.37	
	GERTHRT*** (t-1)	0.42	
<i>MILIMP SWE</i>	MILBURSWE***	-1.21	$\bar{R}^2=0.60$
	GERTHRT*** (t-1)	-0.57	
<i>MILIMP SWI</i>	TRADEOFGDP SWI***	-0.77	$\bar{R}^2=0.78$
	DUMMY3***	0.34	

Sources: see Appendices, Appendix 2 for details. A=dependent variable; B=independent variables; C=independent variable coefficients; D=regression fits. Differencing: as in Table 32. Additionally, MILIMPNED and MILIMPSPA are $I(1)$. Only statistically significant independent variables were listed in the table (intercepts omitted from the table): * = significant at the ten per cent level; ** = significant at the five per cent level; *** = significant at the one per cent level. Lags in parenthesis.

The European unit prices were found to be statistically significant in four individual regressions out of nine. For the stronger (higher income and/or geographically larger) "weak" states, the coefficient was negative, whereas for Finland and Portugal the positive coefficient implied military-import dependence. The pooled analysis also indicated a common negative coefficient. It seems that the bilateral trade environment of the 1930s allowed most of these countries to make a rational adjustment in their military imports to changes in market prices, yet they did not have to do so in terms of their military exports as the Great Powers attempted to define their circles of influence. Nonetheless, in the Czech case for example, we should point out that the Czech arms production was primarily aimed for exports, and the domestic military forces were often faced with quite severe material shortages.⁴⁶³

⁴⁶³ See Hauner 1973 for details.

Table 36. Military Import Patterns of the Nine "Weak" European States: SUR Estimation Results, 1920—1937

A.	B.	C.	D.
<i>MILIMPBEL</i>	EUROPEPRICE***	-0.33	SE=0.16
	GDPCAPBEL***	1.06	
	GERTHRT***	0.13	
	DUMMY4***	0.08	
<i>MILIMPCZE</i>	EUROPEPRICE***	-0.33	SE=0.26
	GDPCAPCZE***	1.06	
	GERTHRT***	0.13	
	DUMMY4***	0.08	
<i>MILIMPFIN</i>	EUROPEPRICE***	-0.33	SE=0.10
	GDPCAPFIN***	1.06	
	DUMMY4***	0.08	
<i>MILIMPVED</i>	EUROPEPRICE***	-0.33	SE=0.34
	GDPCAPVED***	1.06	
	GERTHRT***	0.13	
	DUMMY4***	0.08	
<i>MILIMPVED</i>	EUROPEPRICE***	-0.33	SE=0.24
	GDPCAPNOR***	1.06	
	MILBURNOR*	-0.22	
	DUMMY4***	0.08	
<i>MILIMPPOR</i>	EUROPEPRICE***	-0.33	SE=0.35
	GDPCAPPOR***	1.06	
	GERTHRT***	0.13	
	MILBURPOR*	-0.22	
<i>MILIMPSPA</i>	EUROPEPRICE***	-0.33	SE=0.26
	GDPCAPSPA***	1.06	
	GERTHRT***	0.13	
	MILBURSPA*	-0.22	
<i>MILIMPSWE</i>	EUROPEPRICE***	-0.33	SE=0.22
	GDPCAPSWE***	1.06	
	GERTHRT***	0.13	
	MILBURSWE*	-0.22	
<i>MILIMPSW</i>	EUROPEPRICE***	-0.33	SE=0.18
	GDPCAPSW***	1.06	
	DUMMY4***	0.08	
<i>N=147</i>	<i>Loglikelihood(weighted)=111.91</i>	\bar{R}^2 (unweighted)=0.79	<i>SE of regression(unweighted)=0.19</i>

Sources: see Appendices, Appendix 2 for details. A=dependent variable; B=independent variables; C=coefficients of the independent variables; D=individual country equation S.E.s. Only statistically significant independent variables were listed in the table: * = significant at the ten per cent level; ** = significant at the five per cent level; *** = significant at the one per cent level. Lags in parenthesis.

Note: common intercept or common AR(1) term not reported here. Residuals not exhibiting serial correlations up to three lags.

The income variable was positive in the individual regressions for Belgium, Czechoslovakia, and the Netherlands. Only Spain and Finland formed marked exceptions. The pooled sample indicated a positive coefficient as a whole for these countries, confirming that military imports declined during the Great Depression.

The threat variable was significant in six of the nine individual cases here, with both negative and positive coefficients. In the SUR-system, respectively, the German threat seemed to produce a positive coefficient for most countries, indicating a rational adjustment. The two

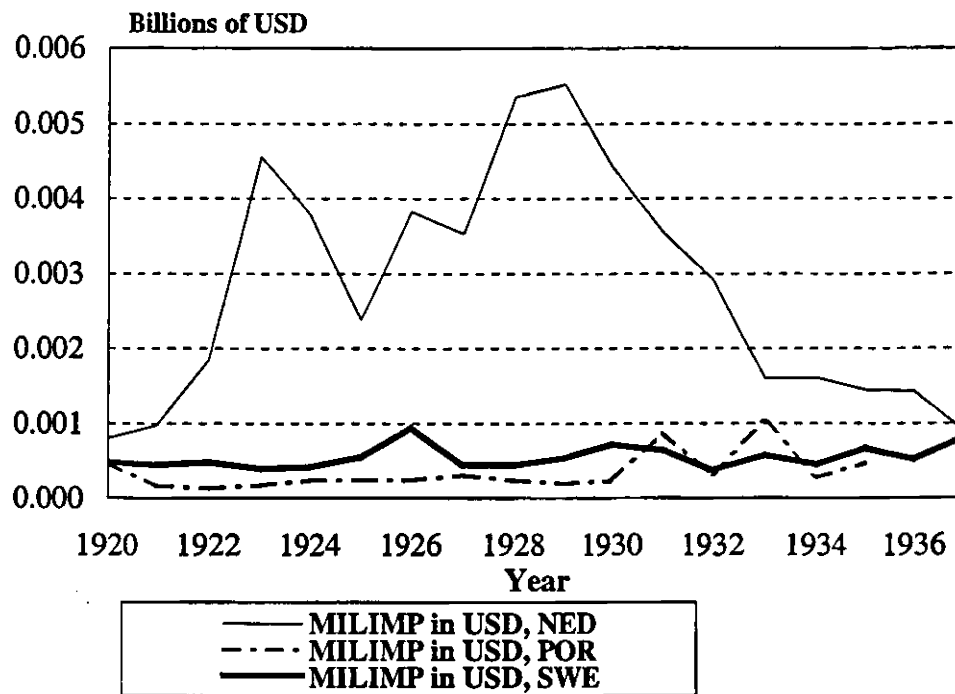
significant trade variable coefficients in the individual cases were not supported by the panel results. The military burdens of the individual countries were found to be statistically significant for Czechoslovakia, Finland, the Netherlands, Norway, Spain, and Sweden. For Finland, the Netherlands, Spain, and Sweden this variable suggested domestic market preference during military spending increases. A reverse relationship was found instead for Czechoslovakia and Norway. Moreover, the pooled sample suggested domestic market preference for four countries (NOR, POR, SPA, SWE) in the 1930s. Dummy variables produced somewhat conflicting results, yet DUMMY4 was again found significant in the pooled system.

All in all, the results of the equations warrant some conclusions. It seems that many of these states failed to respond to changes in the (real or nominal) European arms unit prices in their military exports, which may be explained both by the quality of the data as well as the altered trading environment of the 1930s. The opposite applied, for many of the countries, in their military imports. Also, it seems clear that they adopted a strong domestic military production preference in the 1930s, especially during the Great Depression, yet they also continued to expand their arms exports, with duality to be seen in the choice over externally or internally produced military goods. There also seem to have been differences in the strategies adopted by these states, mostly relating to their different perceptions of increasing threats either as a market opportunity or as a reason to exercise caution. This coincided with an overall trend among these "weak" European nations to rely more extensively on the domestic markets during the downturn of the early 1930s.

One could argue, of course, that it was not the capital expenditures in the total military expenditures (=purchases of durable military goods) that drove down the military import share rather than for example the wage component. This, however, does not seem to be the case. For example, the Finnish and Belgian cases tell us that the share of capital expenditures in the total military expenditures increased strongly in the 1930s, coinciding with the phenomenon of domestic preference described above. In Finland, nominal capital military expenditures increased 27 per cent from 1929 to 1937, whereas the military import share actually declined over ten per cent. In the Belgian case, the nominal capital military expenditures increased 247 per cent in the same time period, whereas the military import share increased only circa seven per cent. Furthermore, the military spending of Great Powers such as the UK and France was

also very capital intensive, and in both cases capital-intensive branches such as the Navy and the Air Force gained in shares of total military expenditures, especially in the 1930s.⁴⁶⁴

Figure 62. Small and Medium Size Arms Imports for the Netherlands, Portugal, and Sweden, 1920—1937



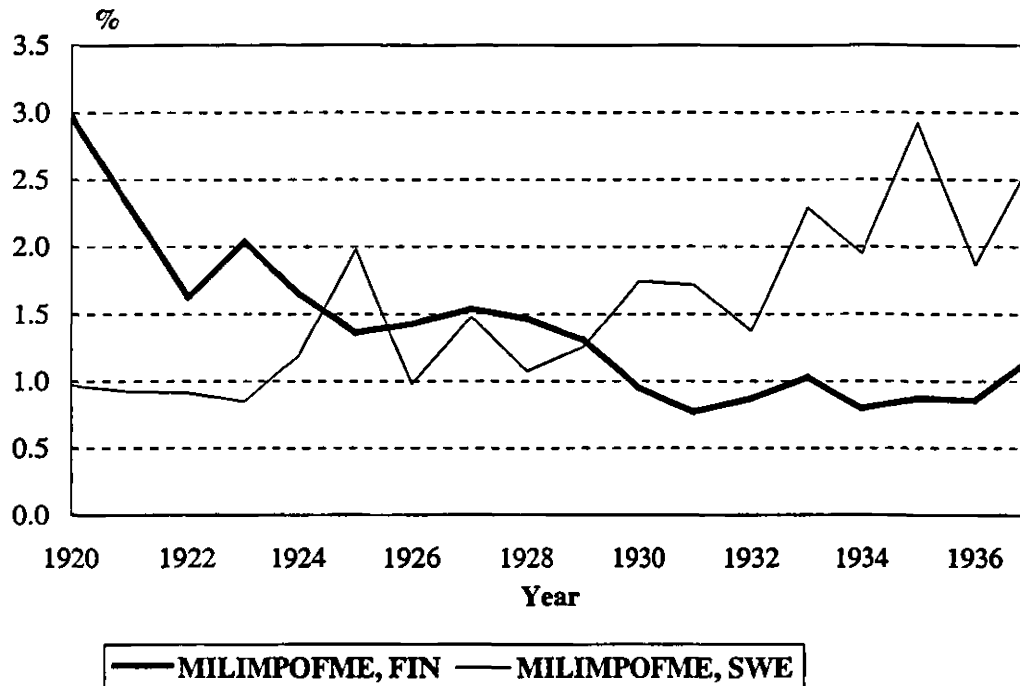
Sources: see Appendices, Appendix 2.

The turn towards domestic market preferences emerges quite distinctly for these “weak” states. As seen previously in Figure 61, the total military exports of these countries exceeded their military imports for almost all of the period and continued to grow after a short-lived depression impact. Their total military imports, on the contrary, declined for a longer time and recovered only modestly at the end of the 1930s. However, as seen in Figure 62, the individual experiences of these countries varied greatly. Portugal and Sweden, for example, did not alter their volume of military imports greatly throughout the period. The cases of Sweden and Finland illustrate the diversities in the way these preferences surfaced. The impact and success of the domestic market interest groups varied greatly in these two countries, due to different historical and economic environments. As observed earlier, Finland was an import-dependent country and did not develop military exports until the 1930s, and even then only modestly.

⁴⁶⁴ See Eloranta 1998 for further details. For further sources, see Chapter 1 of this thesis.

Sweden, in turn, developed into a major military exporter especially in the 1930s. Sweden's dependence on its military imports was more limited.⁴⁶⁵

Figure 63. Small and Medium Size Arms Imports as a Percentage of Nominal ME for Finland and Sweden, 1920—1937



Sources: see Appendices, Appendix 2.

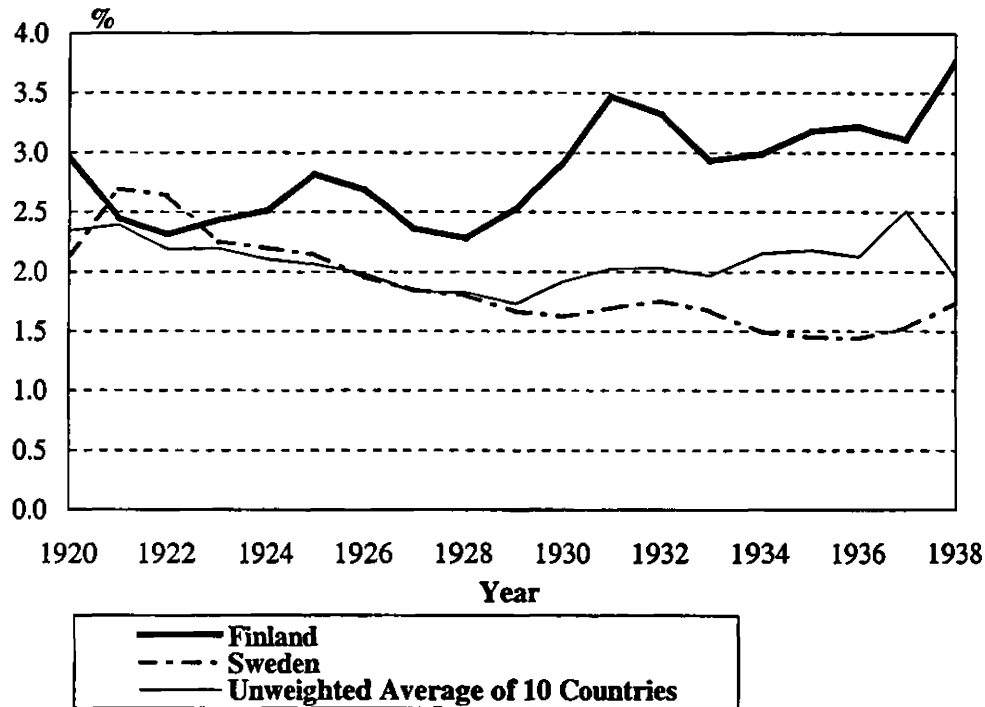
Correspondingly, the Swedish military import share (see Figure 63) remained fairly steady, owing to the mature level of Swedish arms production and the relatively fixed institutional “playing field”. Swedish military exports, however, increased steadily up until the mid-1930s and the beginning of the hectic international rearmament. Contrasts to the Finnish case are copious. Finland was a newly independent country that had to develop many key organizations, such as the armed forces, from scratch during the interwar period. Thus it is initially quite surprising that the Finnish military import share declined up until the mid-1920s, leveled off, and then began to decrease again. The main reasons for this development include the unsettled institutional game situation between for example the domestic pressure groups, the large investments in domestic, government-owned military production, and certain trade policy constraints.⁴⁶⁶ The same features emerge from Figure 64 on the military burden levels. Whereas both Sweden and Finland maintained similar levels as other Western small states in the

⁴⁶⁵ Krantz 1995, 91—99; Olsson 1982.

⁴⁶⁶ See Chapter 7 of this thesis for further discussion of the Swedish and Finnish cases.

beginning of the period, the Finnish level was significantly higher for the rest of the period than the ten-state average or the Swedish military burden. It is also noticeable that the Swedish military burden dropped considerably below the mean level in the 1930s, especially after the middle of the decade.

Figure 64. Military Burdens of Sweden, Finland, and Ten “Weak” States on the Aggregate, 1920—1938



Sources: see Appendices, Appendix 2 for details. The ten countries: Belgium, Czechoslovakia, Denmark, Finland, the Netherlands, Norway, Portugal, Spain (“weak” state as defined in Eloranta 2002a), Sweden, and Switzerland.

6.3. Conclusions

There were several competing forces that contributed to the disarmament framework, or rather its failure, mainly taking place under the auspices of the League of Nations: the abhorrence of war and the ensuing efforts at disarmament, including various efforts to regulate arms trade; the persistent continuation of the pre- First World War system of arms transfers and the market position defended by the key sellers; the distrust and broadly differing goals of the negotiating countries, including the new suppliers of arms; the altered threat and trading framework emerging in the 1930s; and the strong resurgence of domestic market preferences in the production of military goods.

Although there are no simple general historical laws to be found governing arms trade, time-period specific insights can be discovered with the analysis of individual states and/or systems of states.⁴⁶⁷ For the interwar period, we can say that the somewhat limited data on military trade can be utilized in order to arrive at conclusions about, among others, the market preferences perceived by these European states. As outlined in the introduction, consistent with most of the contemporary approaches in explaining military spending behavior, these attempts must take into account both external and internal variables.

As such, the results of the quantitative tests suggest that these countries, by and large, reacted to fluctuations in the European prices of arms only in their military imports. Three proximate groups of countries can perhaps be discerned from their midst, mostly based on their military export behavior. The first group, including Belgium, Sweden, and Norway, were military export dominated countries influenced by the rising incomes and the increasing German threat, even as an opportunity to increase military exports as a whole. The second group, Finland, and Portugal, comprised countries that were mostly lower income states with a need to keep importing key military goods. The third and the most heterogeneous group, consisting of Czechoslovakia, the Netherlands, Spain, and Switzerland, were countries experiencing a rapid structural change in their military trade during this period. In military imports, it is even more difficult to divide these countries into groups. It seems, though, that at least Czechoslovakia and Spain (and all of the sample countries in the aggregate panel) responded with a negative adjustment to rising prices, and with a positive adjustment to increasing threats. Most of these countries seemed to acquire their capital military goods increasingly from the domestic markets in the 1930s.

Thus, these "weak" states did not display clear differences in their military trade behavior in the lines of, for example, strategic and/or geographic differences, as hypothesized in the introduction, and only partially due to differing income levels (=HYPOTHESIS 37). They were, on the whole, dependent on their external trade (=HYPOTHESIS 36), although this dependence declined significantly during the 1930s. They were not, however, as dependent on military imports as seemingly suggested by this hypothesis, rather than on military exports. Mostly they attempted to extend their military export market shares, often successfully, by selling military goods even to countries potentially hostile to them. Therefore, they did indeed, in addition to their dual role in the League of Nations, act assertively in the balance-of-power system of the interwar period (=HYPOTHESIS 38), yet some of these states found the best opportunities for

expanding their market shares during the 1930s, in the climate of intense competition for political and economic leadership in the system (=HYPOTHESIS 39). Here we must also acknowledge the limitations of this inquiry, such as failing to take into account the complex ownership structures of the armaments industries in this period. The large arms-producing firms owned significant shares in the armaments industries of the "weak" states, and often licensed their products.⁴⁶⁸ Thus, the distinction between domestically or foreign-produced military goods became blurred in many instances. However, the results achieved here confirm that also the arms producers of the "weak" states had room to maneuver in the international markets without significant strategic constraints.

Nonetheless, these "weak" states were constrained by the domestic actors, contrary to the hypothesis of Michael Handel presented in the introduction, in their military trade behavior (=HYPOTHESIS 34). The results achieved here suggest that many of these countries developed strong domestic military production in the 1930s, during the Great Depression in particular, or at least their military import shares grew slower than capital expenditures in general after the height of the depression. This coincided with a general trend of more extensive reliance on the domestic markets among European nations, along with the trade dependence figures dropping drastically compared to the 1920s. The reasons for this behavior include efforts to support domestic production during the depression, the influence of domestic market interest groups, the changing trading climate, and perhaps an underestimation of the new, emerging threats of the 1930s.

⁴⁶⁷ See e.g. Maddock 1990, 1—2.

⁴⁶⁸ A good example is the Swedish company Bofors and its extensive ties to the German Krupp until 1935. See especially Nordlund 1989, 173—178.

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7. THE POLITICAL ECONOMY OF MILITARY SPENDING: The Cases of Sweden and Finland, 1920—1938

7.1. Theoretical and Empirical Considerations in Comparing Sweden and Finland

The various theoretical variants of neoclassical economics and history have often led economic history explanations towards many competing directions. Among the more recent attempts at a "dynamic" and comprehensive theory, the institutional framework introduced by Douglass C. North — one of the key figures in the re-emergence of institutional economics in recent decades (NIE, New Institutional Economics) — has proved persuasive in calling for a greater recognition among economists of the institutional features of historical events and time periods. The analysis of historical constraints — in addition to the aforementioned public choice and NIE research — has gained some momentum in economics in the 1980s and 1990s, especially in the context of re-evaluating technological development. Explaining technological change and its effects on economic development seems to be a crucial part of the new growth economics. An essential tool in this may be the path dependence hypothesis, advocated as an alternative framework in the recent years as a tool in explaining certain features of technological change, which should be understood, as North applies it, as the dependence of economic development on historical preconditions. Path dependence was developed into a research concept by W. Brian Arthur and Paul David in the late 1970s and early 1980s. The first specific inquiry to utilize this hypothesis exclusively was Paul David's study on the success of the QWERTY-keyboard system, which was regarded as inefficient, in the mid-1980s.⁴⁶⁹

Path dependence has also been applied to explaining the historical development of economies. In this respect, North's interpretations of explaining economic development from an institutional dependence on history are indeed interesting efforts.⁴⁷⁰ He, however, applies this concept at a rather general level, and he does not attempt to define exactly how it should be used in explaining economic progress. There are two important basic factors in North's institutional framework, which are crucial for applying path dependence: increasing returns and inefficient markets (which embody large transaction costs). He assumes quite implicitly that institutions

⁴⁶⁹ Lamberg et al. 1997; North 1994, 93—94. On criticism of David's conclusions, see Liebowitz-Margolis 1990. For David's recent defense of the QWERTY-case as an example of path dependence, see David 1998. On applying path dependence into researching technological change, see Rosenberg 1994. On evolutionary framework similar to the idea of path dependence, see Mokyr 1990.

⁴⁷⁰ See North 1994, 93—95 — W. Brian Arthur's research, published at the end of the 1980s, possesses a much more narrow and technologically oriented perspective than North's does. North, however, fails to define path dependence as e.g. Liebowitz and Margolis have attempted; see Liebowitz-Margolis 1997; Eloranta 1997c.

have no significance in economies in the absence of these factors. For example, he maintains that perfectly functioning markets explain economic growth perfectly. According to North, with these factors in effect, organizations develop and function in order to attempt to increase their gains within an institutional framework.⁴⁷¹ Institutional economic history, as represented by North, offers us a chance of adopting a limited version causality, as in path dependence, into economic explanations; within this framework, the interaction between organizations — be they a family, village, nation, corporation, and so on — defines the development of polities. The strength of the factors mentioned above, combined with historical "accidents", define the strength of the path dependence in a given situation, respectively.⁴⁷²

North used in his 1990 study *Institutions, Institutional Change and Economic Performance* the different economic paths experienced by the Anglo-American and the Spanish-Latin worlds from the Middle Ages to the present as an example of path dependence. As far as institutions are concerned, he considered the centralization and decentralization of power as crucial pieces of the puzzle: for England, he emphasized the role of the Parliament and the strong property rights; in the Spanish case, the birth of a strong governmental bureaucracy was highlighted. In North's opinion it was essential for the functioning of organizations that the English banking system became stable, due to for example the creation of the Bank of England and prudent state finances, whereas Spain experienced numerous state bankruptcies as well as bureaucratic favoritism of certain groups — for example the military, the clergy, the judiciary. His example could be criticized for many reasons, but how does he define path dependence in practice in his example? He is somewhat cautious in applying path dependence into these types of cases, and he does not attempt to analyze what kind of concrete evidence could be found to support this hypothesis. He is well aware of the weaknesses of such conclusions:⁴⁷³

"To make the contrasting brief stories convincing illustrations of path dependence would entail an account of the political, economic, and judicial systems of each society as a web of interconnected formal rules and informal constraints that together made up the institutional matrix and led the economies down different paths."

Here path dependence is utilized as a conceptual tool in order to complement the perspective offered by the systemic and state-centered approaches. Path dependence is also closely related to the analysis of various groups in the formation of military budgets and the allocation of

⁴⁷¹ North 1994 (reprint of the 1990 study), 94—96. See also Eloranta 1998.

⁴⁷² Of course, like in public choice, the difficulty in NIE is how to measure, especially quantitatively, this interaction. Also, it is practically impossible to recognize all of the multiple constraints in a historical process. On empirical applications, mainly focusing on property rights, see for example Alston et al. 1996.

military expenditures in Sweden and Finland. As more empirical applications emerge, the significance of path dependence is likely to increase as a common tool for economic historians and economists. However, the application of these quite different theoretical frameworks poses a problem for the researcher: How can we reconcile the different theoretical premises in order to create a more comprehensive explanation of a phenomenon? The approach adopted here consists of complementing the quantitative findings achieved through comparisons of military expenditures among the Great Powers as well as the “weaker” democracies with qualitative analysis — employing the tools prompted by Olson’s group behavior analysis as well as path dependence — of a country’s decision-making structures and the impact of the “political markets”. Also, the somewhat incoherent body of research developed within the NIE offers us a possibility of explaining phenomena from the perspective of formal and informal constraints. Thus, I will approach the research problem from different angles, which should yield more convincing results in return.

Thus, here path dependence should be understood as a way of analyzing structural development, which is constrained by the economic factors and historical continuities, as well as discontinuities, of the initial observation year and its institutional framework. In economics path dependence is centered around the idea that even small changes in initial conditions may have a significant impact on the outcome of a process. The end result is intricately related to the events leading up to it. I would argue that in terms of time series analysis, the conditions in the beginning of a “process” may result in a linear or a non-linear development path for a particular variable. Essentially, however, this process may be incomprehensible or at least difficult to explain without the analysis of the initial conditions, which continue to exert their influence over time. Another interesting aspect of this concept relates to the idea that static equilibrium analysis may be inadequate in certain kinds of economic analysis. Path dependence, as applied in this chapter, consists of two essential parts: 1) Historical constraints created by the different institutional development, for example cultural constraints affecting the decision-makers’ disposition towards military establishments; 2) Organizations’ activities in order to maximize their utility. Different types of historical conditions and structures create different types of preconditions for the actions of the various organizations. The interaction of organizations and institutions, formal and informal, shape the evolution of economic polities.⁴⁷⁴ Paul David also refers to the dynamic properties of an allocative process, and as such the path dependent

⁴⁷³ North 1994, 113—116.

⁴⁷⁴ Eloranta 1998; North 1994, 93—94; North 1996. For applications of path dependence in historical sociology, see Isaac 1997. See also Griffin et al. 1997. On military power application, see Isaac-Leicht

qualities of an economic phenomenon are sometimes studied from a purely quantitative angle, emphasizing the non-linear statistical qualities of time series.⁴⁷⁵ Here I will investigate quantitatively, in the short term, only the possibility of *linear* path dependence in military spending, as well as the underlying decision-making structures in such development “paths”.

In economics the path dependence hypothesis has mainly been applied to explaining technological development.⁴⁷⁶ It has been aptly characterized by the phrase “lock-in by historical events”. The processes in question can usually be termed as self-enforcing or self-re-enforcing, cumulative events. In such processes small differences in initial conditions, such as the formal or informal institutions or the pool of players involved in the game, become magnified in time, producing multiple stable equilibria.⁴⁷⁷

Recent research in economics has defined three stages of path dependence in technological development. In the first degree, the initial conditions in the observation point influence the development, but actual inefficiency cannot be found. In the second degree of path dependence, information in the initial observation point is incomplete, and once the inferiority of the chosen “path” is revealed, the required change would be too great to undertake. Due to incomplete information the choice, however, cannot be “judged” as inefficient. For example, if a certain country decides to manufacture all the rifles its armed forces need domestically, perhaps even in government-owned facilities, and later they discover this to be economically unsound, we might refer to this as an example of second degree path dependence. The third degree involves again choosing the inefficient option, even though there would have been a more efficient and readily apparent alternative available in the initial observation point. These degrees of path dependence also mean that the dependence on the chosen path strengthens from the first to the third degree. Only the third degree path dependence — according to Stanley Liebowitz and Stephen Margolis almost impossible to pinpoint — when a conscious, inefficient choice is made as a result of political pressure action, to protect domestic production for example, differs from the rationality expectation of the neoclassical economic theory.⁴⁷⁸

1997.

⁴⁷⁵ David 1998, 7—8. David defines stochastic processes as possessing a quality to be able “eventually to shake free from the influence of their past state(s)”. On nonlinear econometrics, a good introduction can be found in Granger-Teräsvirta 1993 (see e.g. Chapter 5). A good effort in this direction can be found in Durlauf 1991, which discusses many aspects of technological path dependence and economywide shocks in a quantitative manner.

⁴⁷⁶ See e.g. Rosenberg 1994. See also Eloranta 1998.

⁴⁷⁷ David 1993, e.g. 19.

North has been the first to attempt to apply this concept to economic history on a broader scale by performing comparisons between two, differing development paths. He does not, however, attempt to define what path dependence might actually mean and how it could be applied to historical research, for example as I have previously undertaken as a sum of the "game", or interaction, between historical constraints and organizational utility-maximization.⁴⁷⁹ However, path dependence is not necessarily merely a long-term research tool; it may consist of small events or shocks that can lead to "smaller paths", or they may simply not have long-term economic (or political) consequences. Also, it is important to analyze such factors in a path dependent process which *re-enforce* the process or, respectively, weaken the path dependence in a particular historical process. As I have defined path dependence here, it relates especially to the study of groups, as well as continuities and discontinuities in processes over time.⁴⁸⁰

How can we apply this concept into explaining a particular historical problem? One of the most difficult aspects of applying path dependence is the problem of quantification, which is common for most institutional applications. For example, the measurement and quantification of transaction costs may indeed be impossible on a larger scale.⁴⁸¹ What other problems does the researcher face? It is difficult to make a value judgment on the efficiency or perhaps even the irrationality — if there indeed can be any irrational acts in the analysis due to the acceptance of the comprehensive bounded rationality — of different kinds of historical choices. For example, a certain nation's defense acquisitions may be consciously directed towards significantly more expensive domestic production in a certain year, which would make it tempting to classify this situation and its consequences as the third degree path dependence. The analysis must, on the other hand, take into account the personal motives of the decision-makers (which form the collective whole), the social and political incentives created by the group dynamics, as well as other ideological and cultural constraints.⁴⁸² Most likely the outcome is a combination of several causal factors, which are often inseparable. For example, favoring domestic production may also be positive for the entire economy, even though at first it might appear to be economically inefficient. Thus, path dependence should first and foremost be considered as a research tool, a way of rationalizing the research problem with the help of institutional theory.

⁴⁷⁸ Liebowitz-Margolis 1997. On rationality contemplations, see Lamberg et al. 1997.

⁴⁷⁹ North attempts to avoid defining path dependence in a specific manner. See also Lamberg et al. 1997.

⁴⁸⁰ See e.g. Eloranta 1998. In addition, Olson 1982.

⁴⁸¹ See e.g. Ojala 1997; Menard 1997. On quantitative empirical solutions, see especially Alston et al. 1996.

⁴⁸² The application of different degrees of path dependence to e.g. political and economic phenomena should include an element of caution. The starting point for the analysis must be the different views of the world by the individuals and their effect on the group, however large, behavior and dynamics.

Another way to rationalize the study of the security interests and needs of a nation would be to re-evaluate the term security policy, as for example Juhani Mylly has done. He has approached the study of security needs, similar to this thesis, by conceptualizing the security of a nation as a result of the internal and external constraints, or security factors, as he refers to them. Mylly has divided the internal constraints further into defense policy and domestic policy factors, and the external constraints into foreign relations and the effect of the international system.⁴⁸³ In this study path dependence relates essentially to the developments within the fields of defense policy and domestic politics, as well as their complex interaction processes. The path dependent aspects of Swedish and Finnish military spending should emerge clearly, for example, from the analysis of the internal division in both the public political sphere as well as from within the military establishment. As such, the term power politics here relates to the power struggle and balance of power between the political parties and the interest groups in these two societies, which is an important part of any explanation of a country's security needs.⁴⁸⁴ Thus, following the preceding interpretation of path dependence, I will attempt to analyze the political economy of military spending in these two countries on the basis of: 1) The relevant institutional, formal and informal, constraints and opportunities affecting their military spending decision-making; 2) The composition and role of the relevant players in the military budgeting and military contracting processes.

However, in order to analyze the impact of organizational interplay in the formation and allocation of military expenditures we need to identify the "players". As Hans Sjögren has noted, the impact of institutions such as state policies and capital structures can not take away altogether the responsibility of the actors in the outcome, as rules also evolve during the game.⁴⁸⁵ Furthermore, one should also distinguish between the players that are part of the "public sphere" — i.e., that belong to a public organ and, at least claim to, act in their interest — and those who are trying to influence public sector decisions. The different formal political organizations capable of influencing the size and the nature of military expenditures were the military establishment and the Ministry of Defense, the cabinet, and the parliament in the Nordic context.⁴⁸⁶ The parliament of course had the ultimate power in budgetary matters. It is also important to analyze the armed forces' internal disputes and power struggles, since they also formed an interest group as defined in Chapter 2, in order to comprehend the military's role

⁴⁸³ Mylly 1978, 16—18.

⁴⁸⁴ See Mylly 1978, 16. Also, see Eloranta 1997c.

⁴⁸⁵ Sjögren 1999.

⁴⁸⁶ The Swedish King and the Finnish Presidents would have been able to influence military budgets, but in practice usually did not choose to do so.

in funding decisions. Therefore we need to inspect the functions of the official political organs, from the issue of budget suggestions by the Ministry of Defense to the parliamentary decision-making. A key question is, following the application of path dependence, how much it was actually possible to fundamentally change the level of military expenditures. For example, did the bureaucrats attempt to maximize their discretionary budgets, with or without the influence of the armed forces (=HYPOTHESIS 44)? Also, how effective were the activities of the various factions and individuals in the military budgeting process and by what means did they achieve their goals?

In addition, as I discussed in Chapter 2, there were also quite a few political and economic interest groups that had a stake in the allocation of public goods. The most important of these in the case of Nordic interwar military funding were the federations of industries and the various naval lobbies. The ideas presented in Chapter 2 on the behavior of groups are directly applicable into analyzing the actions of these groups and individuals. In the political markets — which is how I would define the fairly abstract sphere in which such decision-making processes take place — access means everything, and it is easier for organized groups to get their voices heard than for a single voter. Accordingly, there are many kinds of interest groups: social and apolitical (weak participation rate in political decision-making), potential groups (which have not yet organized themselves systematically), as well as political (usually to further someone's economic interests) interest groups. As such, they are separate entities from those organs that are mandated to make decisions in a polity, although I will argue here that both will attempt to maximize their own complex utility and that their roles often get blurred in the context of various forms of public-private interaction.⁴⁸⁷

Membership in an interest group may offer an individual or a sub-level organization three kinds of benefits: 1) Material, advancing one's own economic activities; 2) Benefits related to a certain purpose or ideology, namely concerning some of the aims of the group; 3) Solidarity benefits, such as rewards, honorary titles, as well as other awards aimed at raising one's self-esteem. The selective incentives offered by these groups are also commonly matched by a punishment system, which will make the option of not joining costly to maintain. The pressure strategies of interest groups include campaign funding, offering voluntary assistance, direct pressure, using the media either directly (via the group's own information agency) or indirectly, as well direct involvement in the decision-making sphere. In such pressure activities, as Mancur Olson has shown, small, homogeneous groups are more effective than large, heterogeneous

groups, for example due to their greater ability to exert social control. As Jonathan Pincus (1977) has emphasized, the size of aggregate economic interests of a group may be a poor guide to the strength of its action. He postulates, firstly, that the fewer the individuals who enjoy the benefits and, for any group size, the more concentrated the benefits. Secondly, the intensity of the pressure-group activity also depends on the dispersion, physical or otherwise, of the individuals as well as the costs of acquiring information.⁴⁸⁸

In modern societies economic interest groups have been almost without exceptions organizations dominated by elites. For example, firms attempt to anticipate and benefit from institutional changes, therefore they form complex cooperative networks and coalitions. The goal of influencing decision-making puts these interest groups in a competitive situation, in which the so-called insider groups are able to participate in various public-private forms of cooperation, such as different types of committees. These cooperative networks between the public and the private spheres, especially the representatives of the elites, are formed also because the public sector needs the expertise of the private sector (especially during crisis situations) as well as its political support.⁴⁸⁹ This activity, however, is not considered criminal activity, so-called white collar crime, if: 1) The justice system does not recognize it as crime; 2) The perpetrators are not brought to justice; i.e., they are not caught or are not convicted due to their personal networks.⁴⁹⁰ Why would this interaction between the public and private sectors increase? The concept of corruptive contact surface describes this collision of interests. It refers specifically to the increase in corruptive opportunities due to increasing contacts between the economic life and the political-administrative organs, for example due to mutual interests. The widening of this corruptive surface can occur, for example, due to institutional crises and/or abrupt economic changes (see HYPOTHESIS 47). As emphasized in Chapter 2, rent-seeking behavior is said to occur when the profits exceed the opportunity costs for the owners of resources in the political markets, with the costs of these actions entailing a waste of social resources. Here it will be hypothesized that most of this rent seeking by economic interest groups should target capital ME, due to the tangible benefits available from the military contracts (=HYPOTHESIS 41).⁴⁹¹

⁴⁸⁷ See e.g. Lamberg et al. 2002; Wilson 1990, 8—9.

⁴⁸⁸ Hrebenar-Scott 1982, 4—5, 18—19; Lamberg 1997, 150; Olson 1965; Pincus 1977, e.g. 2—3..

⁴⁸⁹ Colli-Rose 1999, 27—28; Smith 1993, 4—7, 60—61; Grant 2000, 19—20.

⁴⁹⁰ Cf. Isaksson 1997, 31.

⁴⁹¹ North 1994; Hrebenar-Scott 1982, 9—12; Isaksson 1997, 130; Tullock 1967; Lamberg et al. 2002.

It is essential to make a distinction between different forms of rent seeking (entailing profit maximization) and actual collusion between the agents involved. Collusion entails that this contact surface has provided extensive opportunities for rent seeking and that the interests of certain economic and public sphere groups have coincided. Collusion can also take place not only between the public and private organizations, but also between various state agencies such as the Ministry of Defense and the armed forces. If the agent in the military contracting relationship is a domestic market industry, repeated transactions are likely to occur in countries with less developed armaments production capabilities and/or military trade constraints. This relationship also reflects the scarcity of information and the ensuing transaction costs. In short, the government as the principal has to choose the contractor or agent, and to ensure that the agent pursues the goals of the principal. Of the two countries, Sweden had a mature military industrial base, whereas Finland had barely any military industrial capabilities in the beginning of this period. Thus, the Finnish military acquisition policy should have been more prone to collusion among the actors involved, leading to price disadvantages and social waste (see HYPOTHESIS 47). The Swedish case, in turn, should turn up evidence of "regular", albeit specifically constrained rent-seeking behavior by the private agents. Will, for example, industries attempt to maximize the level of ME in times of economic hardship (=HYPOTHESIS 45), as the quantitative evidence presented before suggests, or will their rent seeking be more qualified, for example to focus on maximizing the benefits arising from advantageous military procurement policy by attempting to formalize such procurement rules (=HYPOTHESIS 46)?

How would the Nordic federations of industries attempt to pursue their goals? How can we ascertain their effectiveness? As Lamberg et al. (2002) have argued, it is somewhat difficult to actually measure this influence or gauge its effectiveness. Interest groups often favor targeted public goods, which either benefit the interest group via direct investments or by lowering their taxes. Thus, they wish to: 1) Minimize their costs, namely specific taxes, and also usually lower the level of government spending in general; 2) Maximize their share of the targeted public goods, such as military acquisitions. Interest groups favor the introduction of goods into the public budget inasmuch some of the benefits will be targeted to their members.⁴⁹² A change in the relative importance and influence of an interest group in a polity will thus have an effect on its taxes and subsidies, as well as those experienced by other groups, subsequently increasing the deadweight costs (=tax distortions) in the said polity. It should also be noted that sunk costs, indicating path dependence, are also important in the political sector and reduce the short-run elasticity of supply of human and/or physical capital. An investment in the political markets by

a firm is thereby contingent on various preconditions, such as its previous success in pressure activities, the relative importance of the pressure organization (for example, the national peak association), the phase of its industrial life cycle, the availability and composition of public goods decided upon in the past, and so on.⁴⁹³

In this chapter we will also link the formal (i.e., political actions) and informal (i.e., private sector interest groups) spheres of influence by analyzing not only their direct functions but including also analysis of their contact surfaces in different kinds of committees. This perspective in this thesis is analyzed through a review of the workings of various committees, for example the Defense Revision committees, designed to alter the premises of the entire military establishment, both funding and organization, in these two countries. It is equally beneficial to analyze the workings of more permanent committees, especially relating to the allocation of military outlays.

Thus, next I will attempt to analyze and recognize the institutional factors that might have contributed to the formation of path dependent processes in the Swedish and Finnish interwar military spending. Also, I will assess the economic factors that instigated constraints, in connection with the institutional framework, for their military spending. Finally I will review the actions of certain economic interest organizations, as well as committees, in the creation of specific military spending development "paths". In this thesis I will follow quite explicitly the public choice notion that central government decisions, thus the formal legislative structure, are the sum of actions taken by both the large (for example, Parliament) and the small (for example, committees) organizations as well as private sector actors in the political markets. Therefore, governmental bodies and bureaucracies are also considered as possible "players" in the political markets. Informal constraints and opportunities, referring to moral standards and other such factors, are also the results of this pluralistic game structure, yet their evolution or change usually takes a longer time than in the case of formal rules.⁴⁹⁴

Here I will first want to evaluate certain hypotheses concerning simple, linear path dependence in military spending. As discussed in the previous chapter, the military spending of the European states in the sample that we have information on became more capital intensive during the interwar period. How could we relate the division between consumption and capital ME to

⁴⁹² Lamberg et al. 2002; Mueller-Murrell 1985, 13—17.

⁴⁹³ Becker 1983, 372—382; Lamberg et al. 2002.

⁴⁹⁴ See Johnson 1991, e.g. 4—13. On the basic principles in public choice research, see Buchanan 1990

the notion of path dependence? First, we can hypothesize that consumption ME should be more path dependent than capital ME due to the difficulties in changing the laws concerning conscription. Moreover, this path dependence may influence the level of military expenditures themselves (=HYPOTHESIS 40). As I have already discovered earlier, lagged (by one year) military spending exerted a consistent, positive growth influence on the military spending of the selected eleven European states, so the latter half of this hypothesis seems to hold. Secondly, partly also supported by some of the previous findings, military expenditures as a whole may be path dependent, yet more so in terms of central government spending patterns — measured by the percentage of central government expenditures to GDP — in general (=HYPOTHESIS 42).

Table 37. GLS Estimates on the Short-Run Linear Path Dependence Imposed by Consumption ME on the Aggregate ME of Five European Countries, 1920—1938

A.	B.	C.	D.
<i>CONSME</i>	CONSME (t-1)	1,30**	N=55
	CONSME (t-2)	-0,07	S.E.=0,05
	CONSME (t-3)	0,07	DW=1,97
	CONSME (t-4)	-0,32	F=18333
	CONSME (t-5)	0,18	
	CONSME (t-6)	-0,30	
	CONSME (t-7)	0,11	
<i>DFSHARE</i>	CONSME (t-1)	0,10	N=60
	CONSME (t-2)	0,07	S.E.=0,06
	CONSME (t-3)	-0,45**	DW=1,69
	CONSME (t-4)	-0,49***	F=767,74
	CONSME (t-5)	0,43	
	CONSME (t-6)	-0,21	
	CONSME (t-7)	-0,11	
<i>MILBUR</i>	CONSME (t-1)	-0,08	N=55
	CONSME (t-2)	0,19	S.E.=0,05
	CONSME (t-3)	-0,22	DW=1,95
	CONSME (t-4)	-0,23	F=102,01
	CONSME (t-5)	-0,29	
	CONSME (t-6)	-0,15	
	CONSME (t-7)	-0,56***	

Sources: see Appendices, Appendix 2. A=dependent variable for the GLS (with cross-section weights); B=independent variables (with lags indicated in parenthesis) for the GLS; C=coefficients for the independent variables; D=GLS regression statistics. * = null hypothesis rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. All variables in logs. Differencing as in Table 16; in addition, FRA CONSME is $I(1)$. CONSME=consumption military expenditures.

Note: AR(1) term included in the GLS equations, as well as fixed effect intercepts, yet they are not reported in the table. Details on these available from the author by request. For details on the countries included, see the text.

I will test the first notion by regressing the lagged values of consumption ME for the five states (BEL, FIN, FRA, SWE, UK) that I have this data on consumption ME at t . Then I will test the statistical significance of the lagged consumption ME in explaining the military spending

for details. On formal and informal rules, see especially North 1994; Lamberg et al. 1997.

variables (defense shares, military burdens) for the same five countries. Finally, relating to the second hypothesis, I will test this notion by regressing the lagged central government spending on the ME variables of the selected eleven European states. Thus, non-linear forms of path dependence are not pursued here. As argued later, these linear forms will mainly represent the first and second degrees of path dependence, since the inefficiency evaluation may be difficult to undertake. The method of analysis is once again cross-section weighted GLS in the pooled samples, and lags are tested up to seven years.

The results concerning the path dependence of consumption ME (see Table 37) seem quite consistent. Within an equation, the signs of the statistically significant variables remained the same. Previous year's consumption ME had a large, positive impact on the current year ME. The impact of consumption ME on the military spending variables was negative, which would suggest that as this share decreased during the 1930s, the overall spending levels increased due to intensive capital investments. Consumption ME was clearly path dependent in the linear sense in this time period.

Table 38. GLS Estimates on the Short-Run Linear Path Dependence Imposed by the Central Government Expenditures (=CGE) on the Aggregate ME of the Selected Eleven European States, 1920—1938

A.	B.	C.	D.
<i>DFSHARE</i>	CGE (t-1)	-0,26***	N=119
	CGE (t-2)	0,07	S.E.=0,06
	CGE (t-3)	-0,09	DW=2,19
	CGE (t-4)	-0,05	F=7027,1
	CGE (t-5)	0,16***	
	CGE (t-6)	0,14**	
	CGE (t-7)	0,09**	
<i>MILBUR</i>	CGE (t-1)	0,07	N=119
	CGE (t-2)	0,18***	S.E.=0,05
	CGE (t-3)	0,02	DW=2,09
	CGE (t-4)	-0,00	F=369,29
	CGE (t-5)	0,11*	
	CGE (t-6)	0,09	
	CGE (t-7)	-0,04	

Sources: see Appendices, Appendix 2. A=dependent variable for the GLS (with cross-section weights); B=independent variables (with lags indicated in parenthesis) for the GLS; C=coefficients for the independent variables; D=GLS regression statistics. * = null hypothesis rejected at 10 per cent level; ** = null rejected at 5 per cent level; *** = null rejected at 1 per cent level. All variables in logs. Differencing as in Table 16. CGE=central government expenditures to GDP, percentage.

Note: AR(1) term included in the GLS equations, as well as fixed effect intercepts, yet they are not reported in the table. Details on these available from the author by request.

In terms of linear budgetary path dependence, this notion seems supported by the data for these eleven European states as well. For both military spending variables the lagged impact of central government spending share was positive and consistent. Thus, linear path dependence

certainly emerged through both exercises. HYPOTHESES 40 and 42 were, in addition to the results achieved already earlier, therefore confirmed. This type of simplistic approach, however, does not address the reasons behind this phenomenon or other possible cumulative equilibria via non-linear econometric analysis. The “stickiness” of certain types of institutions, namely conscription laws, will be addressed in the following sections. The argument here is that unless the political field is dominated by a single party — i.e., a significant consensus exists between the parties, or a minority party holds the balance in the parliament — it is difficult to introduce changes to existing legislation. The turbulence of the interwar politics has already been discussed in this thesis, and the vote-maximizing behavior of political parties (see Chapter 5) exerted a clear downward bias on military spending. This tendency was counterbalanced only partially by the economic interest groups, since they were not in favor of rising central government spending levels and, respectively, higher taxes. And, respectively, these tendencies should once again be viewed neutrally from the complex utility-maximization perspective of the historical actors, which makes the inefficiency determination practically impossible.

Table 39. Structure of Finnish and Swedish Industry, Percentage, by Branches, 1920—1940

A.	B.	C.	D.	E.	F.	G.	H.	I.
1920 FIN	15,5	5,1	17,6	22,3	15,9	16,7	1,6	5,4
1920 SWE	24,7	5,1	12,3	14,5	12,6	23,3	5,1	2,5
1930 FIN	16,5	3,4	12,9	22,1	16,0	17,1	1,7	10,4
1930 SWE	31,2	5,8	9,3	12,5	13,3	19,6	3,3	5,0
1940 FIN	29,6	3,9	8,5	12,1	16,3	20,3	2,1	7,1
1940 SWE	40,4	3,9	7,1	8,4	11,4	19,0	3,9	5,9

Sources: Hjerppe et al. 1976; Heikkinen-Hjerppe 1986; Schön 1988. For details on methods, see Eloranta 1997b. A=year; B=FIN: mining, metal, and other industry, SWE: mining and metal industry; C=FIN: clay, glass, and rock refinement, SWE: earth and rock industry; D=FIN: wood, furniture, and construction carp. industry, SWE: wood industry; E=FIN: paper and graphic industry, SWE: paper and graphic industry; F=FIN: foodstuffs industry, SWE: foodstuffs industry; G=FIN: textile, footwear, clothing, leather, and rubber industry, SWE: textile, clothing, leather, bristle, and rubber industry; H=FIN: chemical industry, SWE: chemical industry; I=FIN: electricity, gas, and water main industry, SWE: power, lighting, and water depts. SWE=Sweden; FIN=Finland.

Before moving onto the analysis of the Swedish and Finnish political economies, we should discuss the historical differences and similarities between these two polities. As seen in Table 39, they were first of all quite different as far as the structure of their economies was concerned. As Riitta Hjerppe, among others, has stressed, Finland was still largely an agriculturally dominated country during the interwar period, even though services became for the first time the largest productive sector at the end of the 1920s. This slow structural change was halted by the Great Depression. The 1930s was characterized by an increased dominance of the domestic markets, especially due to the tightening protectionism, as well as greater government

involvement in, for example, military production.⁴⁹⁵ The Swedish situation was quite different. The fairly rapid industrialization in the late 19th century had produced a mature industrial base by the interwar period. Did the different ownership structures yet similar tendencies to concentrate on domestic production affect the structure of their industrial production? In general, the performance of the Finnish industry was more than adequate during the interwar years. The textile, metal, and engineering industries, which had suffered from the loss of export markets in Russia (see Table 39), reoriented their production to the domestic markets in the beginning of the independence. For example, the metal industries in Finland grew strongly in the 1930s, especially due to the large acquisition programs and new capital investments. Also, as Riitta Hjerppe has pointed out, the 1930s was a time of concentration and growth among the Finnish industries, partly due to government acquisitions.⁴⁹⁶ In Sweden, the situation was largely similar. Metal industries grew even faster than in Finland during the depression decade.

The archival sources include various public and private archives in Sweden and Finland. These will be utilized critically in conjunction with the existing literature and earlier efforts by this author. A great deal of this material has not been used in linking the military spending decision-making with interest group influences, which will provide a fresh outlook on the processes more traditionally covered by political and military historians.⁴⁹⁷ Moreover, the private archives of federations of industries in these two countries have not been utilized previously, excluding efforts by this author, to study military expenditure decision-making. These two sample countries, Sweden and Finland, offer both commonalities and dissimilarities for the analysis of their political economies. Similarities between these nations arise from a joint political heritage, institutions, and similarly structured economies. Dissimilarities are equally abundant: whereas Finland perceived itself to be severely threatened by the Soviet Union, the Swedish position was geographically more advantageous. Also, Sweden's industrial base by the 1920s was well developed, whereas Finland was a newly independent, agrarian nation with a need to develop key armaments industries and the armed forces in general. These factors had a profound impact on their respective military spending decisions and especially for the game between the different actors. Finally, it is noteworthy that parliamentary fractionalization seemed to be an important explanatory variable in the Finnish case, yet not so in the Swedish context. Next I will first discuss the overall features of the Swedish "path", and then I will move towards analyzing the public and private spheres, and their interaction in the political markets, in Swedish military

⁴⁹⁵ Hjerppe 1988; Korpela 1967. On domestic industries, see also Vehviläinen 1967.

⁴⁹⁶ Hjerppe 1979.

⁴⁹⁷ See especially Eloranta 1998 on the historiographical trends of (Finnish) military history.

spending decision-making. Section 7.3 will feature similar discussion on the Finnish case, and this chapter will be concluded with a set of conclusions.

7.2. The Swedish Path: Disarmament Compromises and Persistent Private Military Production

The impact and success of the domestic market economic interest groups varied greatly in these two countries, due to the described different historical and economic environments. As observed earlier, Finland was an import-dependent country and did not develop military exports until the 1930s, and even then only modestly. Sweden, in turn, developed into a major military exporter especially in the 1930s. Sweden, nevertheless, like Finland was dependent on military imports as well. Firstly, it must be emphasized that Sweden had a long tradition of producing arms domestically, and Bofors was a large company even by international standards. Secondly, in Sweden the industrial breakthrough took place significantly earlier than for example in Finland, thus providing the country with a functioning industrial base. Especially the engineering industry was quite advanced and versatile in Sweden by the 1920s.⁴⁹⁸ Equally, even though the industries had potential to expand their production volume and content, there were significant hindrances to such developments. For example, the role of the state in armaments production remained ambiguous. The industrial interest groups were strong enough to resist Social Democrats in order to change the ownership status of this type of production. Only in a case like the aircraft production, and even that just before the war, the government and the interest groups managed to come to an agreement. The ratio of state to privately-owned armaments production remained at ten percent throughout the 1930s. Further difficulties to efficient rearmament were caused by disagreements between the Armed Forces and the domestic producers in armaments acquisition policy.⁴⁹⁹

The most important bodies in determining the Swedish military expenditures were the governments and related organizations that prepared the budgets and the *Riksdag* (=Parliament) that ultimately made the budget decisions. As far as material funding was concerned, the Defense Plans of the 1920s and 1930s set a fixed plan for defense expenditures: every year the Riksdag could either accept it, reduce it, or increase it. Moreover, the minority governments during 1925—1935 were reluctant to increase military funding and the Social Democrats wanted the level of funding established in the 1925 plan to be maintained or reduced (which had not included all items of expenditure and had been measured in fixed prices). This resulted in a

⁴⁹⁸ Krantz 1995, 91—99; Olsson 1982.

compromise that provided the military establishment with steady funding; a declining military burden yet a higher per capita share of military expenditures than in most “weak” states.⁵⁰⁰

The Parliament was fundamentally dominated by two “political equilibria” in this period: 1) The equilibrium of the 1920s, when minority governments had to walk a tightrope in military spending policy; 2) The equilibrium of the 1930s, when the Social Democrats assumed control of government policy, yet they had to adapt to the prevailing political practices by giving up the notion of comprehensive nationalization. Social Democrats were continuously in power either alone or in a coalition with other parties from 1932 to 1976. Since the 19th century, the primary division in the Swedish party system was between the Conservatives on the right, the large Liberal Party, and the growing Social Democratic Party on the left. In the 1920s in particular, the Liberal Party held the balance, since the Conservatives wanted higher defense spending and the Socialists better social services. As a balancing force, the Liberals were able to hold government spending at bay.⁵⁰¹ The two new parties that emerged after the electoral reforms undertaken during and after the First World War, similar to those undertaken in other Western European states, were the Agrarian Union and the Communists. By the interwar period a stable committee system had also emerged in Swedish politics, although often appointed at *ad hoc* basis, which placed the important party politicians and the various experts in common committees.⁵⁰²

The Depression of the early 1920s and the enlargement of the franchise produced nine governments in 1920—1933. In the election of 1921, for example, the Conservatives were supported by approximately 25 per cent of the vote, and the main themes in their campaign were the economy, defense, and warnings of the dangers of socialism. The Social Democrats also did well, gathering 36 per cent of the vote, only to increase it up to 40 per cent in the next elections. The leader of the Social Democrats, Hjalmar Branting, was an ardent supporter of the League of Nations. Though the Social Democrats made important headway in the parliamentary elections in the 1920s, the minority governments formed by the Social Democrats were not very effective in pushing through their ideas in the Parliament. Usually, due to the aforementioned power balance, agreements and compromises were made in the numerous parliamentary committees. One of the most controversial issues debated at the level of governments and in the Parliament was the issue of reorganizing national defense. For example, the Edén Government of the early

⁴⁹⁹ Olsson 1982, 63—64; Månsson 1976.

⁵⁰⁰ Böhme 1988, 46—47; Eloranta 1998.

⁵⁰¹ Eichengreen 1992, 96.

1920s found it necessary and natural to attempt a reduction in military spending, yet difficulties arose when it came to making a decision what to cut. As usual, this question was mulled over in the Defense Commission in the Parliament, which was dominated by the Liberals' Carl Gustaf Ekman in the 1920s. His ability to play both the right and the left usually turned out to be decisive. Ekman began to support the left in making cuts in military spending as the decade wore on, wanting to keep government spending in check. The defense question first speeded the fall of the Branting Government in 1923 and then the Trygger Government in 1924, following tactical battles in the Parliament. In the end, the 1924 elections did not really bring much clarity to the issue of defense, which was featured prominently in the major party platforms.⁵⁰³

The next Prime Minister, Social Democrat Rickard Sandler wanted to resolve the issue of reforming the military, but he also needed the support of the Liberal Party in order to achieve this aim. As many towns faced the loss of an active regiment and a source of income, and other interest groups were also actively involved in the process, the Liberals were not interested in backing down from their demands. Thus, the Social Democrats had to reign in their demands for greater social spending, for example, and the new Defense Policy of 1925 was decided in the way that the Liberals and Ekman preferred. This resolution came to be known as a disarmament decision, although it did not go nearly as far as the Social Democrats would have wanted it to go. It also met with the indignation of the Conservatives. This plan was based on the proposals put forth by various parties in 1923—1924, and it for example shortened the conscription period to 140 days. Spending cuts hit all sectors of the armed forces, yet relatively speaking the cavalry was the hardest hit. These cuts were meant to bring the Swedish military spending down to 107,6 million SEK within a few years time, yet Swedish ME was still at 143,4 million SEK in 1933. The reforms were meant to be carried out by the end of 1927.⁵⁰⁴

The Defense Policy of 1925 was based on the work of the first post-war Defense Committee, which was appointed in 1919 to solve the structural problems facing Sweden in the new security

⁵⁰² Sternquist 1987, 223—245.

⁵⁰³ Sternquist 1987, 253—256; Trönberg 1985. See also the following failed disarmament motions in the Parliament: Parliamentary Protocols (*protokoll med bihang*), First Chamber motion 89, handled in the First Chamber 12:59d, 1922, concerning Scandinavian, Baltic, or general disarmament; First Chamber motion 90, handled in the First Chamber 12:66d, 1922, limited international disarmament. The heated parliamentary debate in 1924 focused on many aspects of defense reform, such as new the conscription law and the acquisition policy, not just disarmament per se; see e.g. Parliamentary Documents, His Royal Majesty's proposals or letters 20, 21; First Chamber motions 175—177, 205—206, 224—225, 227—251; Second Chamber motions 4, 347—356, 361—400.

⁵⁰⁴ Böhme 1988, 14; Sternquist 1987, 257; Trönberg 1985, 34—37; Lundkvist 2000, 10—11. See also Parliamentary Protocols, His Royal Majesty's proposal 50, 51; First Chamber motions 201, 202, 205—209, 211—221, 225—248; Second Chamber motions 279—280, 283—297, 300—319, 326—368.

environment. The work was completed finally on 15.3.1923. The members of the committee comprised many important politicians of the time and several future stars, such as Ekman, Per Albin Hansson, and Ernst Wigforss, as well as many representatives of the armed forces. Its work was centered on: 1) bringing forth motions to reduce the length of time of military service; 2) "...to produce a study and give a proposal on the revision of Sweden's military establishment".⁵⁰⁵ According to the committee, Sweden could easily be drawn into a conflict in the Baltic region, between the south (Germany) and the east (the Soviet Russia). Nonetheless, it considered the introduction of new states such as Finland and the Baltic states, the League of Nations, as well as Germany's weakening as factors that would make military spending cuts plausible. It also reminded its readers that military budgets had exceeded all estimates since 1914, and that it now recommended a yearly spending level of circa 194,4 million SEK. One of the reasons behind the cuts was the need to economize in a difficult economic situation.⁵⁰⁶

The political environment in which the Defense Committee of 1919 had to submit its recommendations was difficult to say the least, and it faced criticism from many fronts. The Social Democrats, quite naturally, did not consider the proposals extensive enough. The committee also did not want to meddle with the inner organization of the Army or the Navy, due to effective opposition from within the armed forces. Thus, it tended to make its saving proposals in more general terms.⁵⁰⁷ The Air Force was also made an independent arm of the armed forces by these reforms from 1.7.1926 onwards; nonetheless, the Air Force remained largely an auxiliary service in the Swedish defense structure. All in all, the Defense Policy of 1925 fixed the Swedish military expenditure for a ten-year period, and it was based on the rather untenable assumption of fixed prices. The politicians followed the very loose calculations of the military experts and usually had no real knowledge of how the budgets were structured.⁵⁰⁸ As we have seen, even Swedish consumption ME and military spending in general tended to be path dependent. The reasons include the long time frame it takes to implement any changes

⁵⁰⁵ *Betänkande och förslag rörande revision av Sveriges försvarsväsende, avgivet den 15 mars 1923 av den av Kungl. Maj:t den 12 november 1919 tillsatta försvarsrevisionen. I-III.* Stockholm 1923. SOU 1923: 15, 40. See also Wedin 1983, 11. For more details, see National Archive (*Riksarkivet*), Committee concerning the revision of Sweden's military establishment. Defense Revision 1919. Case documents. Registries. Protocols (*Kommittén ang revisionen av Sveriges försvarsväsende. Försvarsrevisionen 1919. Diarium. Registratur. Protokoll*). YK 167, Vol. 1—5, see especially Protocols 10.1.1920, 21.2.1920, 1.11.1921, 2.11.1921, and 2.12.1922 on the issue of conscription; on proposals to reduce the time of service, see *Försvarsrevisionen 1919. Inkomna handlingar 1920, 1921*, Vol 3.

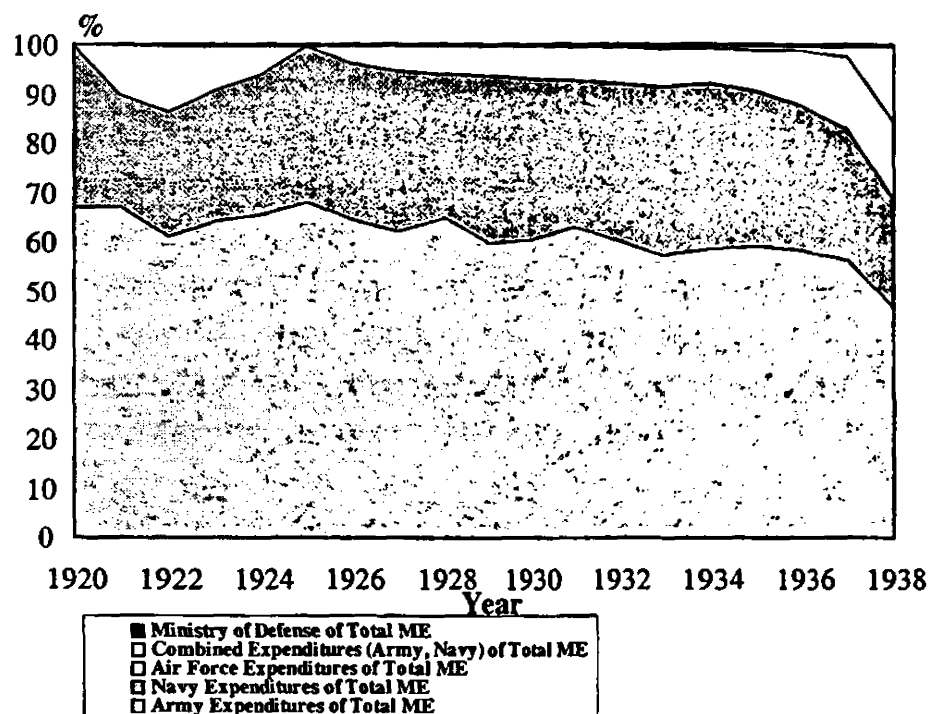
⁵⁰⁶ SOU 1923:15, 70—73, 87—91, 98—100.

⁵⁰⁷ See e.g. Wedin 1983 regarding the Navy. In general, see National Archives, *Kommittén ang revisionen av Sveriges försvarsväsende. Försvarsrevisionen 1919. Diarium. Registratur. Protokoll*. YK 167, Vol. 1—5, especially Protocols in 1922.

⁵⁰⁸ Böhme 1988, 25, 46.

(such as the reductions in the number of Swedish active troops and garrisons), the resistance of the military establishment to spending cuts, the limited information that the MPs possessed on the actual structure of the military budget, and the underestimation of the real costs of defense in the period 1925—1935. The resistance of the economic interest groups to changes in acquisition practices, as discussed later, will also be of importance. Also, as seen in Figure 65, the spending shares of the different branches of the armed forces remained fairly steady, the brief increases in administrative costs in the beginning of the 1920s and the late 1930s notwithstanding.

Figure 65. Swedish Military Spending by Branches, Percentage, 1920—1938



Sources: Statistisk Årsbok för Sverige 1919—1941.

No significant changes were introduced to the spending practices in the period 1925—1935, despite numerous efforts. For example, in 1927 Carl Ekman's Liberal coalition government put together an extensive disarmament program together with economic and military experts. The following Conservative government that came to power in 1928 kept this proposal, which was meant to be introduced at the League of Nations Disarmament Conference, more or less intact. The proposed reductions were meant to apply to all branches, to limit the number of personnel and the stock of armaments alike. The Swedish reaction to the lack of progress and concrete proposals on the eve of the Disarmament Conference in 1930—1931 was a pessimistic one. All the major parties were brought together to make these proposals to ensure their success, and to

incorporate them into the work of the new Defense Committee that was appointed in 1930. This Committee came into being as a result of an agreement between the Liberals under Ekman and the Social Democrats under Hansson. Its purpose was to preserve the results achieved in the 1925 Defense Policy, and to perhaps introduce even a reallocation of priorities within expenditure categories.⁵⁰⁹

The working environment of the new committee was also influenced by a major shift in political power as the Social Democrats regained their momentum in the parliamentary elections. Although they had increased their percentage of votes to 41,1 per cent in 1924, their tally had decreased to 37,0 per cent in 1928. In 1932, however, their share of the votes increased to 41,7 per cent, only to grow further to 45,9 per cent in 1936. Finally, in 1940, they garnered an outright majority of the votes cast in the parliamentary elections (53,8 per cent). Also the Agrarian Party increased its share of the votes from 10,8 per cent in 1924 to 14,1 in 1932.⁵¹⁰ Thus, the Social Democrats and the Agrarian Party began to cooperate with one another, which created a formidable force in the Parliament. The first formal coalition government was formed in 1936. With Hansson as the Prime Minister, the Social Democrats were now able to push through some of their social equality principles, although the actual creation of the welfare state only saw its beginnings in the 1930s. The new policies included state employment creation programs, subsidies to voluntary trade union unemployment benefit societies, a housing program for families with many children, maternity benefits, and so on. Spending on public works, due to the impact of the Great Depression, was also increased. Social Democrats in turn abandoned their support of free agricultural trade to placate the Agrarian Party. With the Agrarian Party's fiscal caution and the Social Democrats' pacifism, the stage was set for another adjustment in the Swedish military spending. This adjustment came to be based on the work of the 1930 Defense Committee, which finally (after heavy criticism from the press for the delays) submitted its report on July 30, 1935. This report was preceded by numerous disarmament (often suggesting unilateral disarmament) proposals submitted especially by the Social Democrats in the Parliament, which were steadily defeated.⁵¹¹

⁵⁰⁹ Trönberg 1985, 38—45; Böhme 1988, 17—18; *Betänkande med förslag till ordnande av Sveriges försvarsväsende, avgivet den 30 juli 1935 av 1930 års försvarskommission*. Stockholm 1935. SOU 1935: 38—43; National Archives, 1930 Year's Defense Commission (*1930 års Försvarskommission*). YK 933, BII: 1. See also the previous committee on the organization of the economic defense plans, including the organization of the industries on war footing, which consisted of representatives of various interest groups (such as the Federation of Swedish Industries): *Betänkande rörande den ekonomiska försvarsberedskapens organisation, avgivet den 28 okt. 1926 av särskilt tillkallade sakkunnige, utsedda på grund av Kungl. Maj:ts beslut den 16 april 1926*. Stockholm 1926. SOU 1926: 22.

⁵¹⁰ Flora 1983, 143.

⁵¹¹ Sternquist 1987, 260—262; Olson 1986, 5; SOU 1935: 38—43; Parliamentary Protocols, defeated

As the Defense Committee noted in its report, the goals of the Defense Policy of 1925 were realized only partially, and a new effort was required to reach those goals. The goals of the committee included: 1) to strengthen the legislation concerning the military establishment; 2) to reorganize the military establishment within the proposed reduced spending framework; 3) to make a separate proposal for the disarmament process pursued under the auspices of the League of Nations. The committee expressed some doubts about the League's ability to preserve the peace and the status quo, and once again emphasized the volatile nature of the Baltic area as a threat to Swedish security. In comparing the military spending figures for the period 1925—1933, it also underlined the disparity between the spending totals aspired in the 1925 decision and the real figures. According to the figures provided by the committee, however, the Swedish defense share declined from circa 25,8 per cent in 1925 to 17,6 per cent in 1933.⁵¹² The committee also wanted to introduce organizational changes in the Swedish military establishment, especially in the high command, to improve the cooperation between the branches. The keyword characterizing the changes was centralization, even beyond what the committee had recommended.⁵¹³ This tendency was undoubtedly strengthened by the Social Democrats' electoral success in the late 1930s. At the outbreak of the Second World War in 1939, the Social Democratic/Agrarian Government was replaced by a broad coalition government, with the Social Democrats and Per Albin Hansson in charge nonetheless. The late 1930s was also characterized by a greater recognition of the new threat environment, especially Germany's hectic rearmament, and subsequently two increases of 70 million SEK were introduced into the defense budgets before the war.⁵¹⁴

In Sweden, the rearmament in fact began in the middle of the 1930s. The new Defense Plan of 1936 increased Swedish military expenditures considerably. The emphasis in the rearmament

motions (First Chamber motion 189, Second Chamber motion 242, First Chamber 6:4d, 13:4d, Second Chamber 13:3d) on the assistance from the Swedish side regarding Soviet government disarmament proposal in the League of Nations, 1931; defeated motion (First Chamber motion 217, First Chamber 11:15d, Second Chamber 13:16) on a referendum on disarmament question, 1932; defeats the motion of entirely separate disarmament, (First Chamber motion 214, First Chamber 14:37d), 1932; motions relating to the disarmament "question" (First Chamber motion 211, First Chamber 33:27d, Second Chamber 36:19d), 1933. On Swedish policy in the League of Nations, see Trönberg 1985.

⁵¹² SOU 1935: 38, 36—37, 56, 65—81, 177—178; National Archives, *1930 års Försvarskommission*. YK 933, BII:1. *P.M. rörande Sveriges försvarspolitiska läge ur ekonomisk synpunkt, utarbetad inom Rikskommissionens för ekonomisk försvarsberedskap kansli. Del I och Del II, Maj 1930, hemlig*. The committee also performed extensive comparisons between European countries, their military spending, conscription practices, and their political structures; see National Archives, *1930 års Försvarskommission*. YK 933, BII: 1, 11—63

⁵¹³ See e.g. Wedin 1983, 34—37.

⁵¹⁴ Olson 1986, 5—6; 1988, 20; Trönberg 1985.

was on the acquisition of more modern and more mechanized equipment, as Ulf Olsson has pointed out. He regards the mid-1930s as a "qualitative turning point in the history of Swedish rearmament". The rearmament drive was mainly met with domestic production, which was an important trend among the other Nordic countries as well. The biggest arms manufacturer in Sweden at the time, Bofors, was placed almost entirely to serve the purposes of the Swedish rearmament. The most important importers, focusing on heavy armaments, before the outbreak of the Second World War were the continental European countries (Great Britain, France, Holland, Belgium), and afterwards, Germany.⁵¹⁵

The Swedish interwar military establishment, however, maintained quite a high material readiness by European standards, even with the disarmament measures in place. For example, the fixed limits set by the Defense Plan of 1925 did not prove too much of a hindrance for the short-term material development plans of the Swedish military establishment. Due to state-owned small arms and ammunition production and the availability of a strong supply of privately produced military goods, the material status of the Swedish defense forces remained adequate at least in the 1920s.⁵¹⁶ Also, in the early 1920s Sweden could be characterized even as being one of the key naval powers in the Baltic Sea with her three battleships, four battle cruisers, seven torpedo boats, and 16—18 U-boats.⁵¹⁷ Even though these armaments acquired in the 1920s aged quickly, they still provided a solid basis for the Swedish defense. Its fleet aged mainly in terms of credible offensive potential, namely in terms of its battleships that were small by international standards anyway.⁵¹⁸

However, the continuity in the naval buildup was seriously dampened by the new austerity measures of the 1920s. For example, based on the new plans introduced in 1919, only one new defensive vessel (a U-boat) was constructed. As seen in Figure 66, the total depreciated tonnage of Sweden declined drastically in the early 1920s, even in comparison with the rather slowly developing Finnish case, only to recover in the late 1920s and early 1930s. This was partially due to successful efforts by the Navy Department chief to argue that the building of new destroyers domestically would have beneficial economic repercussions. Two more destroyers and a couple of U-boats were in fact commissioned in 1928—1931, on the basis of the new

⁵¹⁵ Olsson 1982, 59—62; Olsson 1973. For comparative figures on the Swedish military expenditures just before and during the war, see Olsson 1973, e.g. 21—23. On the Swedish economic defense readiness, see Månsson 1976.

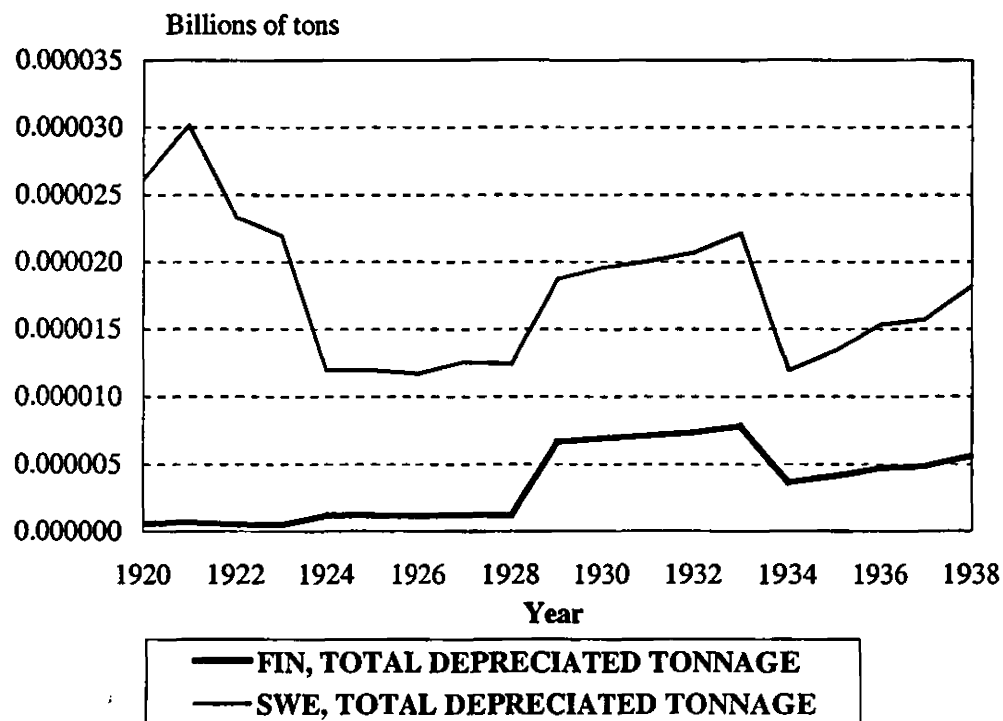
⁵¹⁶ Böhme 1988, 25; Olsson 1982, 59—61.

⁵¹⁷ Niklander 1996, 33.

⁵¹⁸ See the database included with this thesis on the naval tonnages. See also Appendices, Appendix 2 on the sources used.

1927 naval building plan. The steadily declining funding in the 1930s also began to have an effect on the naval readiness. The building of a fourth battleship was debated throughout the 1930s, yet concrete results were not forthcoming due to disagreements on the type of ship to be built. For example, the Defense Committee of 1930 chose not to support the government's proposal issued in 1934.⁵¹⁹ Thus, the tenuous political equilibrium provided by the Liberal Party's position as the balancing influence in the political markets, despite the prevailing disarmament tendencies, seemed to foster greater military capital investments, even though at the same time the number of troops was being reduced.

Figure 66. Total Depreciated Tonnages of Finland and Sweden, 1920—1938



Sources: see Appendices, Appendix 2.

The Swedish private aircraft industry practically disappeared after the First World War. Attempts were made to initiate state production as well as state-supported private production, but no real results were achieved in this sector in the 1920s. Finally, in 1930, an agreement was concluded to start the manufacture of aircraft in Linköping, Stockholm, and Gothenburg by various producers. However, these efforts still met with only modest successes. As a result of the collaboration between the political leaders and the leading financial groups, the aircraft industry began to expand after the 1936 rearmament measures. *Svenska Aeroplanaktiebolaget*

⁵¹⁹ See especially Wedin 1983, 47—59.

(SAAB) was established with the government's cooperation, and thus a monopoly of aircraft production came into existence in Sweden just before the Second World War.⁵²⁰ The organizational disputes and a well-established political system with considerable interest group influence, as well as a political compromise between the most influential parties, provided Sweden with its distinct armaments production "path": strong privately-owned domestic armaments production, based on the robust industrialization of the 19th century, and a steady flow of government funding. Moreover, the Social Democrats were not able to achieve their goals regarding the nationalization of certain industries, and had to accept the path dependence evident in the military acquisition policy. In return, the rent seeking of the economic interest groups was curtailed in other respects.

The organization of trade unions and respective employers' groups in Sweden dates back to the end of the 19th century, when the rapid industrialization and the changes it brought began to shape the political institutions and organizations. The first modern trade unions emerged in the 1880s, and the Social Democratic Party was the central organization of the labor movement until founding of the *Landsorganisationen* (LO) in 1898. For example in 1920, the LO had 31 member unions and circa 280 000 members, whereas by 1940 it had grown to encompass 46 unions and circa 971 000 members.⁵²¹ There were similar developments on the employers' side, although somewhat later. *Verkstadsföreningen* and *Svenska arbetsgivareföreningen* came into existence in 1902, and they united as SAF in 1919. The labor market conflicts of the interwar period were often violent encounters in Sweden, and the rapprochement that took place between the LO and the SAF in Saltsjöbaden on 20.12.1938 created the basis for the future corporatist, three-way negotiations between the two and the government. The foundation for this was created already in the late 1920s.⁵²²

In the Swedish case, the role and the impact of the domestic producers and their representatives were constrained by the Swedish "path" mentioned earlier. The Federation of Swedish Industries (*Sveriges Industriförbundet*, FSI), one of the Swedish national peak interest associations, was established in 1910 to represent the interests of domestic producers and export industries in "areas which were not represented by the employers' federations".⁵²³ The members of the board of the Federation participated actively during the First World War years in managing government acquisitions, especially the imports of war materials. Thus, a basis for

⁵²⁰ Böhme 1988, 63—64, 116—118; Olsson 1982, 62—63.

⁵²¹ Johansson-Magnusson 1998, 29—31.

⁵²² Johansson-Magnusson 1998, 17—21, 31; Sternquist 1987. See also Olson 1986.

government-industry cooperation was established during the critical war years.⁵²⁴ The structure of the Federation was, similar to the SAF, based on sub-organizations and member organizations, and it held one general meeting as well as several board and working committee meetings a year. The most important industries were represented by this organization, and it was influential, to say the least, also politically. Whereas in 1910 it represented only 234 industrial firms, comprising 72 000 workers, by 1920 it had grown to cover 1376 industrial firms that employed circa 240 000 employees. Its appeal declined somewhat in the late 1920s, and the number of its member organizations dropped to 1100, comprising 218 000 workers. The Great Depression taxed the membership further as the membership fees turned out to be too heavy, especially for some of the smaller firms. In 1934, the Federation consisted of 964 industrial firms that employed 197 000 workers respectively. The reintegration of the economic life that paced the concentration of political power in the 1930s fared well for the FSI, since they had 1044 firms with 260 000 workers as their members in 1937.⁵²⁵

The FSI took an active role in promoting government acquisitions to domestic producers for the first time in 1921, which eventually resulted in a Royal Circular Letter to the government authorities stating that Swedish products should be awarded preference in government acquisitions. After that, the Federation insisted upon its renewal yearly and also obtained it until 1935. In the interim, they made numerous proposals in order to improve the preferential status of domestic producers. These attempts, however, failed. Subsequently, the Federation pursued the establishment of more permanent acquisition rules throughout the depression years (consistent with HYPOTHESIS 46), but in vain. In the absence of more encompassing acquisition rules, one of the main ideas of this interest group was to tie the domestic preference-rule to the aggregate performance of the economy — thus, in the event of an economic downturn, stronger measures of domestic preferences would be introduced. Therefore, the Federation attempted the restoration of the Royal Circular Letter after 1935 perhaps with less enthusiasm than before; after all, business was booming anyhow.⁵²⁶

⁵²³ Sveriges Industriförbund 1910—1920, 8—9, 42; Ullenhag 2000.

⁵²⁴ Sveriges Industriförbund 1910—1920, 43—47; Sveriges Industri 1948, 76—79.

⁵²⁵ Industrihuset (Infocenter), Archive of Sveriges Industriförbundet, Board Protocols 1920, general meeting 20.4.1920; Board Protocols 1929, general meeting 23.4.1929; Board Protocols 1935, general meeting 7.5.1935; Board Protocols 1938, general meeting 26.4.1938.

⁵²⁶ Industrihuset, Archive of Sveriges Industriförbundet, Board Protocols 1923, work commission 8.3.1923 and its appendices; Protocols 1928, board meeting 28.2.1928; Protocols 1929, work commission 23.2.1929 and its appendices; board meeting 18.12.1929 and its appendices; Protocols 1930, work commission 23.1.1930 and its appendices; Protocols 1933, work commission 19.10.1933 and its appendices; Protocols 1936, work commission 28.2.1936 and its appendices; Protocols 1937, work

As the Federation pointed out in the meeting of its working committee on February 23, 1929, the preferential treatment given to the Swedish domestic market producers was not an unusual arrangement considering other European countries. Preferences awarded to domestic producers were common, and only the extent and the formality of these arrangements varied. The investigations of the Federation produced the following, albeit seemingly biased evidence considering its source: 1) A price advantage of up to 15 per cent on domestic goods in Great Britain; 2) A price advantage of up to 25 per cent in government acquisitions in Germany; 3) No specific price advantages in government acquisitions in Denmark, although similar preferential treatment was utilized in principle as in the Swedish case; 4) No specific price advantages in the French case, although similar preferential principle was in use as in Sweden; 5) A price advantage of up to 20 per cent in the Finnish case. The Finnish price advantages were indeed real and are discussed in the next section. In fact, the data contained in these confidential minutes could be considered quite reliable. Thus, in certain countries there were actual formal arrangements to award price advantages to domestic producers, whereas in other countries only vague principles existed.⁵²⁷

A study by the Swedish Commerce Department that the Federation commented upon in its board meeting on 18.12.1929 provided actual data on the Swedish government's military acquisitions. Foreign purchases represented circa 14,1 per cent of the total Army acquisitions in 1927—1928, whereas this share increased to 20,1 per cent in 1928—1929. The actual cost increase paid by the government for Army's capital goods can be calculated to have been circa 0,2 per cent in the former budget year and 0,5 per cent in the latter. The Navy's figures were, as the Department acknowledged, less comprehensive and thus less representative. In the former budget year the Navy supposedly had no foreign purchases, whereas the foreign acquisitions amounted to 53,1 per cent in the latter. In 1927—1928, the additional cost incurred by the Navy due to domestic purchases was circa 7,9 per cent, whereas it dropped to 0,7 per cent during the next budget year.⁵²⁸ Thus, the argument of the Federation was that the cost increase incurred by the domestic purchases was small and that the tendency towards more foreign purchases during the ongoing economic difficulties was harmful for the Swedish economy.⁵²⁹

commission and its appendices.

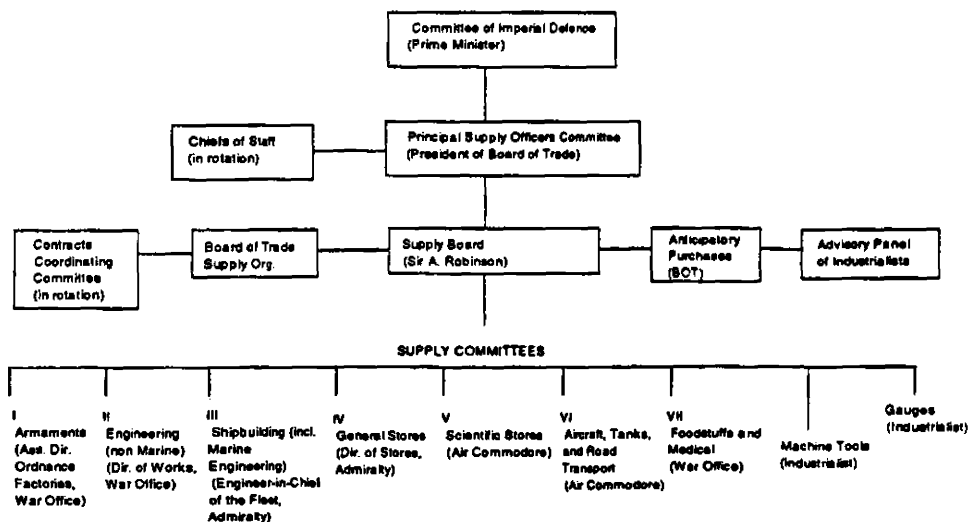
⁵²⁷ See Industrihuset, Archive of Sveriges Industriförbundet, Board Protocols 1929, work commission 23.2.1929. On the Finnish case, see also Eloranta 1998. On Norway, see Espelin 2000.

⁵²⁸ Industrihuset, Archive of Sveriges Industriförbundet, Board Protocols 1923, board meeting 18.12.1929, appendices. The percentages calculated from the data in the protocol appendix.

⁵²⁹ *Idem*.

In order to assess the structure and the significance Swedish system, we should compare it to, for example, the British equivalent. The organization that evolved in 1927 in Great Britain (see Figure 67) was the result of intra-service struggles to reach a compromise on the matter after the First World War. The organization was headed by the *Committee of Imperial Defense* (CID) and supported by the *Principal Supply Officers Committee* (PSOC), which had been established in 1924 for the formidable task of coordinating inter-service acquisitions.⁵³⁰ The *Contracts Coordinating Committee* (CCC), which had been founded as early as December 1920, is perhaps the best comparative reference as far as the influence of the interest groups is concerned due to the confusion in the British acquisition organization in the early 1920s. The purpose of the CCC was: 1) to view comprehensively markets and sources of supply as well as maintain up-to-date data on national production capacities; 2) to prepare the productive resources of government-owned and private factories in the case of sudden crisis; 3) to coordinate methods of purchase and contract policies; 4) to develop contract mobilization arrangements for a time of crisis. In short, the CCC was aimed at "securing by agreement economy on purchases".⁵³¹

Figure 67. Organization of the British Supply Decision-making in 1927



Note! Committee Chairmen in Brackets.

Source: Gordon 1988.

⁵³⁰ Gordon 1988, e.g. 19—47, 61—64.

⁵³¹ PRO (Public Records Office), War Office, WO 221/1: Proceedings of the Contracts Coordinating Committee, Meetings 1—9, 1921.

The most significant difference compared to for example the Finnish case was the absence of significant domestic industries' involvement in acquisition matters, for example directly in the CCC, in the 1920s and early 1930s. The *Federation of British Industries* (FBI) and the CCC had several disagreements over acquisition issues. The British producers' position in the British political economy was already well established by this time, which coincides with the Swedish case also.⁵³² However, the continuance of contracts and connections established already earlier was secured in the CCC. Especially after the mid-1920s, the committee even took a tighter attitude towards domestically produced goods that were based on foreign materials. The only noticeable, clear opposition emerged on the issue of monopolies, or "rings", which also displays the high level of organization among the British defense suppliers.⁵³³ The price advantages alluded to by the FSI in 1929 in the British case were a result of institutional path dependence from the pre- First World War era. Interestingly enough, similar to the Finnish case, there were complaints issued by the Treasury in the early 1920s that officers sometimes acted in dual roles in the military acquisitions, which did not surface in the Swedish case.⁵³⁴

Another aspect of military acquisition matters in which the FSI was active concerned private production and its protection. For example, the Federation was strongly opposed to the less than competitive nature of the Army Barracks Administration (*Arméns Kasernbyggnadsnämnd*), a government-owned unit, which in the Federation's opinion was favored in the government contracts concerning the Armed Forces' building projects. In the early 1920s, they opposed the activities of this Administration by accusing them of sub-standard workmanship and quality.⁵³⁵ Another example of the Federation's ardent support of private production surfaced in 1925—1926, when they were asked for their opinion concerning the League Nation's efforts to ban the private manufacture of arms and ammunition. At first, the Federation simply viewed this disarmament measure as impossible to accept before assurances were given by the bigger

⁵³² PRO, War Office, WO 221/1: Proceedings of the Contracts Coordinating Committee, Meetings 1—9, 1921: 2.5.1921, 14.7.1921, 20.2.1921; WO 221/3: Proceedings of the Contracts Coordinating Committee, Meetings 16—22, 1923: 22.1.1923; WO 221/4: Proceedings of the Contracts Coordinating Committee, Meetings 23—28, 1924: 10.7.1924, 6.10.1924. FBI was actually against protective tariffs in order to protect domestic production in the 1920s, which in turn made the domestic production interests somewhat weaker in e.g. military acquisitions. The situation was not altered until the onset of the Great Depression. See Rooth 1997, e.g. 192—195.

⁵³³ PRO, War Office, WO 221/5: Proceedings of the Contracts Coordinating Committee, Meetings 29—33, 1925: 11.2.1925, 22.6.1925; WO 221/6: Proceedings of the Contracts Coordinating Committee, Meetings 34—38, 1926: 22.2.1926, 18.10.1926; WO 221/7: Proceedings of the Contracts Coordinating Committee, Meetings 39—43, 1927: 24.1.1927, 19.7.1927.

⁵³⁴ PRO, War Office, WO 221/1: Proceedings of the Contracts Coordinating Committee, Meetings 1—9, 1921, 6.1.1921.

⁵³⁵ Industrihuset, Archive of Sveriges Industriförbundet, Protocols 1922, work commission 10.8.1922; Protocols 1923, work commission 13.2.1923 and its appendices.

armaments producing countries on ratification. When asked for their opinion, the member export firms complained that such measures would hurt the activities of Swedish firms, especially in terms of relative competitiveness with the large countries and more versatile big firms. In 1926, the Federation took a stronger, opposing stance in the matter: They viewed such restrictions on private entrepreneurship as “alien” for Sweden and Swedish laws. As in other matters, the Federation acted in cooperation with other organizations to block such measures, especially in the Parliament. Eventually this measure, similar to other attempts of controlling the arms trade in the interwar period, failed in the League of Nations.⁵³⁶

The main official access to the political sphere, besides various forms of pressure activity, for the FSI were the various committees. As we have seen, however, the Defense Committees were mainly dominated by the major political parties and military experts, which forced the economic interest groups to pursue other avenues as well. They were, for example, amply represented in the *Rikskommissionen för ekonomisk försvarsberedskap* (=Royal Commission for Economic Defensive Readiness), which functioned from 1915 to 1946. The aim of this commission was to make sure that the Swedish economic life would be ready for the possibility of mobilization of resources for a war. The major private armaments companies such as Bofors were prominently featured in the crisis plans, which displays the importance of these companies in the Swedish military supply schemes. The Social Democrats, for example, could not extend the public sphere to take over the industries in the 1930s or voice very loud support for the regulation of the arms trade, since the country was essentially dependent on these companies for its wartime needs. The issues discussed in this commission included the need for centralization in economic mobilization, the need for information on the productive capabilities of Swedish industries, and the need for information on which companies would form the core of the Swedish crisis management potential. The importance of viable domestic production capability also came up in the discussions more and more frequently in the 1930s, and the commission’s secret files indicate that the members recognized well the dangers of relying too much on foreign imports when a crisis occurred.⁵³⁷

⁵³⁶ See especially *Industrihuset*, Archive of Sveriges Industriförbundet, Protocols 1925, work commission 15.10.1925 and its appendices; Protocols 1926, work commission 9.6.1926 and its appendices.

⁵³⁷ Military Archive, (Stockholm) Royal Commission for Economic Defensive Readiness (*Rikskommissionen för ekonomisk försvarsberedskap*) 1915-1946, Protocols AI. Vol. 1, 1929-1939. *Protokoll m.m. från sammanträden med representanter för de militära förvaltningsmyndigheterna 1930-1938*, meeting 8.11.1930, meeting 29.11.1930, meeting 25.7.1931, meeting 26.3.1934, meeting 23.4.1934, 14.5.1934, *Hemliga handlingar till sammanträde 1937-1939*, meeting 8.6.1937, see also *Rikskommissionen: P6/1937, (Rikskommissionen för ekonomisk försvarsberedskap; und:st, ang.*

In the Parliament in particular, the success of the FSI was limited in promoting direct measures, such as the domestic purchasing quotas. The pressure activities of this group met with a difficult political climate for most of this period. Even in the 1930s, despite the depression — or indeed because the depression had been relatively mild in the Swedish case — the Federation was unable to push through its agenda on domestic purchases. For example, the Parliament defeated a motion, which would have given an advantage in all government purchases of fuel to domestic producers in 1931. Another motion aimed at giving preferential treatment was again turned down in the Parliament in 1936.⁵³⁸ And, as seen earlier, the Swedish military import share remained fairly steady, underlining the earlier observations on the mature level of Swedish arms production and the relatively unremarkable performance of the FSI in its activities in this area. Swedish military exports, however, increased steadily up until the mid-1930s and the beginning of the hectic international rearmament.⁵³⁹ Therefore, the Swedish path was distinguished by a duality in the rent seeking for military contracts: 1) The political climate and the mature economic base left comparatively little room for extensive rent seeking in the dwindling military contracts (although military spending as a whole was dwindling much faster); 2) The same political climate and the compromises that were necessary between the political parties ensured that the Swedish industries were not nationalized and that they were able to pressure the governments on protecting their viability in the international armaments markets. In addition, Swedish capital ME decreased much slower than the consumption component in the aggregate ME. Differences with the Finnish case were, as discussed in the next section, abundant.

7.3. The Finnish Path: Domestic Political Divisions and Early Institutional Rent-seeking Opportunities

The material status of the Finnish armed forces before the Winter War has been criticized quite often. The answers to possible material shortcomings must, however, be sought beyond the choices of the political decision-makers and the demands of the armed forces: mainly, in the decision-making structure behind the military expenditures, as well as how these funds were actually spent. Are there historical/institutional constraints to be found behind the development of the Finnish military expenditures? Can a specific "path" be detected in the military spending of Finland in the 1920s and 1930s? And what was the role of the various types of organizations

åtgärder för anordnande av reservlager av vissa varor).

⁵³⁸ Parliamentary Protocols, First Chamber motion 149, Second Chamber motion 238, First Chamber 16:84d, Second Chamber 16:10d, 1931; Second Chamber motion 195, Second Chamber 20:85, 1936.

⁵³⁹ See also Eloranta 2002a.

in this process? First we should take a closer look at the development of military legislation and the ensuing political constraints.

The years 1924—1931 represented a time of particularly restless domestic politics as well as social and political division in Finland. The Civil War of 1918 divided the country sharply, both politically and socially, which had its impact especially on the Diets of the 1920s. Parliamentary politics involved often deliberation on military issues throughout the decade. A typical feature of the 1920s was a kind of a "power balance", which resulted in dissension and indecisiveness.⁵⁴⁰ The disquiet of domestic politics also resulted in rapid succession of cabinets in this period. Most of these cabinets also faced difficult military issues, and some even had to resign due to some of these issues, and defense was one of the most explosive political issues, same as in the Swedish case, in the 1920s.

The amount of military establishment's consumption expenditures was more difficult to change through legislation than the capital component, because the consumption ME was based on statutes on wages and conscription. During the interwar period, the length of military service was particularly hard to alter in the Parliament. The size of capital military allocations, on the other hand, was also affected by the deadlock in domestic politics between the major parties: Laws concerning the military establishment were often stuck in the Diet for several years. A descriptive example of this was the process of allocating funds for establishing an effective Navy in the 1920s. The delays in military legislation were mainly caused by the deep division of the political field into the right and the left due to the Civil War of 1918.⁵⁴¹

For example, the most difficult problem dealt with by Cajander's II Cabinet in 1924 was the so-called officer-conflict⁵⁴². The State Council did not wish to take a stance in the military personnel issue, yet other reform plans were executed quickly.⁵⁴³ The attempt to solve the personnel crises within the military establishment centered around a quicker pace of reforms,

⁵⁴⁰ On the division of political parties in relation to national defense issues, see e.g. Tervasmäki 1964, i.e. 275—279; Mylly 1978. This division can be seen especially well in the functions of the Military Affairs Committee of the Diet (*sotilasasiainvaliokunta*, from 1926 on it was called the Defense Affairs Committee of the Diet, (*puolustusasiainvaliokunta*). See e.g. PA (Parliamentary Archive, *Eduskunnan arkisto*), The Military Committee of the Diet, MF 1 (1928—1927); MF 2, i.e. 14.9., 15.9., 16.9.1927.

⁵⁴¹ The purpose of this thesis is not to attempt to describe the entire development of military legislation or political debates on military issues, merely the decisive and central features corresponding to the military funding. On adequate, comprehensive narratives of the policy developments, see e.g. Tervasmäki 1964; Juottonen 1997. On the formation of the so-called spirit of Winter War, see e.g. Soikkanen 1984; Mylly 1989.

⁵⁴² This issue will be reviewed in more detail later in this chapter.

⁵⁴³ Jääskeläinen 1977, 363—365.

although the actual personnel changes were left to future cabinets. Subsequently, Tulenheimo's Cabinet ended up in difficulties in 1925 over the issue of establishing a Navy and was forced to resign after a loss of credibility.⁵⁴⁴ Kallio's II Cabinet had clear aims of at least attempting to improve the military establishment's financial status, since the international political climate was not yet favorable for peace efforts. This Cabinet's ran into difficulties over the issues of the Swedish language in the Army as well as the unveiling of certain inconsistencies in military acquisitions in 1926.⁵⁴⁵

Tanner's Social Democratic minority Cabinet in 1926—1927 formed, at least in principle, a new episode in the politics of the 1920s dominated by the Agrarian Union and the right-wing parties. Tanner's Cabinet aimed at reducing military expenditures by, among other means, shortening the military service and decreasing the size of the active forces. The Cabinet nonetheless recognized the necessity of a functioning national defense due to external threats.⁵⁴⁶ It also pursued an active participation in the League of Nations and continued the policies of the previous bourgeois cabinets: The Diet of 1927 approved the laws on the establishment of a coastal Navy, the posts in the Ministry of Defense and the military establishment were legalized on a permanent basis, and the position of the Civic Guards was made official by law.⁵⁴⁷ The Social Democrats had changed their views gradually to a more moderate stance towards military issues, which became even more evident in the handling of the large basic acquisition programs in the 1930s.⁵⁴⁸

⁵⁴⁴ Jääskeläinen 1977, 403—405; Jääskeläinen 1973. The Navy issue caused difficulties and internal conflicts for the previous Cabinets as well, see e.g. MA (Military Archive, *Sota-arkisto*), Archive of the Ministry of Defense, minutes of the State Council, introduced by the Ministry of Defense (*Valtioneuvoston pöytäkirjat puolustusministeriöstä tapahtuneista esittelyistä*), Ca 11. Minutes 1923, 25 November; Ca 12. Minutes 1924, 22 April. These internal disagreements within the Cabinet worsened during Tulenheimo's Cabinet, see e.g. MA, Archive of the Ministry of Defense, minutes of the State Council, introduced by the Ministry of Defense, Ca 13. Minutes 1925, 26 February, 9 March.

⁵⁴⁵ MA, Archive of the Ministry of Defense, minutes of the State Council, introduced by the Ministry of Defense, Ca 13. Minutes 1925, 26 May; 11 June — an indication of other problems in the military came to fore when the Diet actually told the Cabinet to investigate the mistreatments "which had emerged in the military establishment in relation to the staff's treatment of the personnel". There had been other instances of the Diet's concern, e.g. concerning spending malpractices, see MA, Archive of the Ministry of Defense (*Puolustusministeriön arkisto*), the Minister and Adjutancy (*Ministeri ja adjutantuuri*) 1918—1937. Other documents arranged by their content 1920—1923. Hc 3. See also Jääskeläinen 1977, 407, 409, 414—416; Jääskeläinen 1973, 67—69. Kallio's II Cabinet ended the cooperation between the Agrarian Union and the National Coalition. For details, refer to Mylly 1978. On the issue of Swedish language, see also Mylly 1978, 191—197.

⁵⁴⁶ Jääskeläinen 1977, 424. On the functioning of the Social Democratic minority Cabinet, see e.g. MA, Archive of the Ministry of Defense, minutes of the State Council, introduced by the Ministry of Defense, Ca 15. Minutes 1927.

⁵⁴⁷ Jääskeläinen 1977, 427—428, 432; Jääskeläinen 1973, 81; Statute Collection (*Asetuskokoelma*) 1927.

⁵⁴⁸ Tervasmäki 1964, 275—279; Soikkanen 1984, e.g. 8—11, 16—23. On the ideologies of the political parties on national defense, see Tervasmäki 1964 for details. The basic acquisition programs will be

Conscription was one of the most avidly debated laws in the 1920s. The only Diet between 1919 and 1932 not to debate on this Act or factors relating to its execution was the Diet of 1923.⁵⁴⁹ The Diet of 1922 approved, after the provisional arrangements of the first years of independence, the previous years' motion on the conscription.⁵⁵⁰ The Conscription Act was complemented in 1924 with MP Manner's proposal, yet the essence of the law was kept intact.⁵⁵¹ The conscription issue was debated again in the Diet of 1926, when the members of several parties suggested shortening the length of the military service. Most of these proposals supported 6—9 months length for the service. The justifications for these measures included savings on military expenditures, the significance of consumption expenditure cuts for basic acquisitions and employment, as well as other economic reasons.⁵⁵² The suggestions were unsuccessful, but the Cabinet was instructed to issue a proposal on the matter⁵⁵³. Yet, conscription was not dealt upon next until the year 1929, when the left-wing parties made some futile attempts to achieve results. A concrete solution was not forthcoming until 1931, when the Diet accepted the Cabinet's proposal for a new Conscription Act with only minor amendments.⁵⁵⁴

The different political parties made so many proposals concerning the shortening of the military service during 1926—1932 that even a majority of the parties — especially the Agrarian Union and the left-wing parties — seemed to support the notion, although they could not agree as to how long the period of service should be. According to Vilho Tervasmäki, the reasons for the failure of these proposals include also the gradual change towards a more favorable attitude on military issues among the parties, as well as the weakened status of the military

reviewed in more detail later. See also Terä-Tervasmäki 1973.

⁵⁴⁹ Parliamentary Minutes (*Valtiopäivien pöytäkirjat*) 1919—1932; PA, The Military Affairs Committee of the Diet, MF 1 (1918—1927).

⁵⁵⁰ Jääskeläinen 1973, 136—137. On the provisional conscription measures and their handling, see e.g. Parliamentary Minutes II/1919, 1976; Parliamentary Documents I:1/1921; Parliamentary Minutes II/1920, e.g. 1739—1775. On the Cabinet's proposal, see MA, Archive of the Ministry of Defense, Minutes of the State Council, introduced by the Ministry of Defense, Ca 7. Minutes 1921, 18 March. The general length of military service was defined to be one year, except for the Special Forces, officers in the Reserve, and the noncommissioned officers it amounted to 15 months. On divisions between parties, see PA, The Military Affairs Committee of the Diet, MF 1 (1918—1927), e.g. 21.11., 22.11., 26.11., 27.11., and 13.12.1918, as well as 9.2.1920, 25.2.1920.

⁵⁵¹ Parliamentary Appendices/1924, 585, Diet's proposal n:o 52, Parliamentary Documents. V:1/1924.

⁵⁵² Parliamentary Appendices /1926 X: 1, 2, 3, 4, 5. See also Jääskeläinen 1973, 137.

⁵⁵³ Parliamentary Documents V:1/1926; Jääskeläinen 1973, 137. The Cabinet, however, did not issue a proposal on the matter to the parliament.

⁵⁵⁴ Jääskeläinen 1971, 37, 351. The legislation proposal defined the length of service as 350 and 440 days.

establishment.⁵⁵⁵ Equally, the division in the domestic politics and the ensuing difficulties in formal decision-making must have been influential factors. The right-wing radicalism of the late 1920s and the early 1930s, and the potential threat to the democratic system changed especially the Social Democrats' security policy principles. Moreover, the new Conscription Act of 1931 did not differ in the end from the minimum service length of one year defined by the earlier Defense Revision committee; thus, "the ability to wage war was not weakened".⁵⁵⁶

In order to analyze the different ways that the contemporaries assessed the national defense needs, it is enlightening to take a closer look at one key political party's, the Agrarian Union, security policy orientations. A basic assumption in the Agrarian Union's security policy stance was that the Soviet Union formed a continuous and, in fact, the only external threat to Finland. The Social Democrats, for example, felt that the Soviet threat was overrated and demanded friendly relations to be the basis for a lasting peace. However, the Agrarian Union, which was the second largest political party in interwar Finland and strengthened its position especially in the 1920s, was also a strong advocate of the idea of thrift in government finances as well as the fact that a small nation's defense capabilities were not going to hold against a Great Power. Thus, the party favored forming some sort of an alliance with other nations to compensate for this. The disappointments in foreign policy prepared the party for a more favorable disposition towards increased military spending in the mid-1930s. Also, the great influence of the younger Jaeger officers within the party kept the admiration of an armed response in crises intact.⁵⁵⁷ The path dependence observed quantitatively earlier was strongly influenced by the political forces described above. The division of the political field did not make it possible to make compromises, even to be carried out slowly, such as in the Swedish case. However, the dominance of the Agrarians did further spending cuts in central government finances. Thus, the path dependence in consumption ME in the Finnish case was even stronger and persisted at a longer time lag.

How coherent then was the Finnish military establishment during the interwar period? Did it contribute to the political standoff of the period? The Finnish military was established on the basis of the so-called White Army, almost out of nothing. The problems and debates within the military establishment received, compared to other political issues, a great deal of attention in

⁵⁵⁵ Tervasmäki 1964, 146—147, 149, 150—151; PA, The Military Affairs Committee of the Diet, MF 1 (1918—1927), e.g. 8.10.1924. See also Mylly 1978.

⁵⁵⁶ MA, DRArch (*Puolustusrevisionin arkisto*), roll 2, folder 13: *Puolustusrevisionin mietintö*, sections I and II, 1. part, 6. chapter, 122, 133—137. This committee will be reviewed in detail later.

⁵⁵⁷ Mylly 1978, 154—156, 207—210, 223—227, 252—269.

the newspapers. Especially the power struggle of between the so-called Czar's officers, educated in the imperial Russia's Army, and the German-trained Jaeger officers drew a lot of public attention to the problems in the armed forces.⁵⁵⁸ This officer-conflict led to a change in leadership in the Finnish interwar armed forces: From the mid-1920s on, officers holding the highest posts were only Jaeger officers.

The impact of the new Jaeger dominance was noticeable in the high command, especially in the strategic thinking. The Jaeger officers initiated a change from the more defensive plans of Major General Carl Enckell towards clearly offensive thinking in the Finnish defense planning. The first sign of this was the new Defense Plan of 1927 (the so-called Russian Concentration 27), which was based on the idea of defeating the superior Soviet forces with a quick, decisive strike.⁵⁵⁹ This defense plan was later admitted to be confusing and ostentatious, and the new, amended plan of 1931 already represented a more cautious effort in the Finnish defense planning. In the 1930s, the Finnish military strategists slowly began to realize that the Soviet Union possessed almost infinite reserves of fighting units which could not be defeated decisively or at least easily.⁵⁶⁰

An actual fully functional defense plan was not achieved until the new mobilization system, the Regional System (*aluejärjestelmä*), was introduced in 1934. The Cadre System of the 1920s was centered on the idea that the peacetime armed forces were to assist in the mobilization in a few key cities — thus they would have to travel to their mobilization locations — which caused this system to be extremely slow and tie the peacetime forces to this process. The new Regional System was based on utilizing the Civic Guards in the regional mobilization, which enabled the peacetime forces to concentrate on their function as a protective force on the border.⁵⁶¹ The Jaeger high command actually returned in the 1930s to the defensive thinking and plans already created by Enckell in the 1920s.⁵⁶²

Yet, how were the threats to the national security assessed by the military experts? What kind of threat scenarios were felt to be plausible? As we discovered in earlier chapters, the Finnish foreign policy relied —after the failure of the border states treaty — on the League of Nations in

⁵⁵⁸ Arimo 1986/1987, part I, 4, 36—42, 145—149; Paasivirta 1984, 238—239.

⁵⁵⁹ Kronlund 1990, 288—290; MA, DRArch, roll 2, folder 13, 1. part, 5. chapter, 73—74, 77, 79—81.

⁵⁶⁰ MA, Document T 2861/27, 40; Document T 2861/34, 1—2. See also Kronlund 1990, 289—292; Arimo 1986/1987, part III, 374—375.

⁵⁶¹ Selén 1980, 31—34.

⁵⁶² See e.g. Mikola 1989, 233. For more details on the defense planning, see Arimo 1986/1987, part III.

the 1920s, although a well-organized national defense was considered to be necessary. The military-geographic location of Finland placed it in the middle of a possible conflict in the Baltic Sea. The primary aggressor was predicted to be, from the beginning of the independence, the Soviet Union. Also, the geography of the border suggested that the primary path of the enemy would be via the Karelian Isthmus due to the favorable terrain and the proximity of Leningrad.⁵⁶³ As the Jaeger-dominated high command became more cautious, also the threat assessment on the Soviet troops was re-evaluated. In the 1930s, the Soviet Union was estimated to be able to concentrate 15—17 divisions (14 000 men each) against Finland, whereas Finland would be able to gather nine divisions (instead of the thirteen suggested, for example, by the Defense Revision committee in the 1920s).⁵⁶⁴ In the beginning of the Winter War (1939), the Soviets began their attack with 28 divisions against the nine Finnish divisions.⁵⁶⁵

As Toivo Nygård has pointed out, the Jaegers formed a coherent group or a society which influenced both the political and the military development of Finland during the interwar years. They pursued their own interests, for example the altering of the command structure, actively and were in general not satisfied with the political developments in the country. The Jaegers were also closely connected to the emerging right-wing radicalism, which gained strength especially at the end of the 1920s. Their foreign policy interests, as perhaps the change in the defense plans indicates, were related to the idea of a "Greater Finland" (*Suur-Suomi*), an expansion of the Finnish territory to the neighboring, kindred areas. The opposition, however, of the Jaegers towards the Soviet Union was not only based on its communist system, but also on the bitter memories of the last decades of the Period of Autonomy.⁵⁶⁶

How do the Jaegers fit to the theoretical framework of Anthony Downs introduced earlier? The Jaegers are a typical example of how real actors rarely match ideal types of any kind, although the analysis of a person or a group by using such tools can be highly descriptive. Jaegers were both self-interested and exhibited more complex motives in their actions. They were essentially climbers, since they actively sought promotions as well as the prestige and power associated with the new status. Moreover, they were also zealots for wanting to promote certain key

⁵⁶³ MA, DRArch, roll 2, folder 13, 1. part, 1—18; Tervasmäki 1964, 26—31; Soikkanen 1989, 32.

⁵⁶⁴ Kronlund 1990, 398; Tervasmäki 1964.

⁵⁶⁵ Manninen 1989, 88.

⁵⁶⁶ Nygård 1982, 30—45. However, as Vesa Saarikoski has pointed out, the Jaegers were also divided within due to differences in language orientations, political affiliations etc. See Saarikoski 1997 for details. On Finnish right-wing radicalism, see also Jääskeläinen 1977; on military aspects, see Kronlund 1990. On group behavior, see Olson 1965 — the homogenous nature of the Jaegers was indeed a key aspect in their ascendancy to power.

policies — such as a change in the defense plans — aggressively in order to achieve changes. Finally, they also saw themselves as statesmen, which by Downs' definition are loyal to the society as a whole. Their ideological disposition strongly emphasized the "needs" of the nation; yet, these needs were of course in their opinion met best by the changing of the structure of the officer corps and the high command.⁵⁶⁷

This change in the high command had thus both positive and negative implications for the Finnish "military preparedness". Even though the Jaegers brought with them new ideas and initiatives to the strategic thinking, the overall impact was perhaps negative after all. The level of education and competence among the new officers was still quite poor, and the entire organization of the Finnish high command was compromised by the introduction of new disagreements on top of the old ones.⁵⁶⁸ The absence of educated officers strengthened the internal divisions of the military establishment and the Ministry of Defense. The lack of planning also slowed down material acquisitions. The division of the civil-military profession made possible the strong influence of small groups within the military establishment (for example in the naval acquisitions) as well as the exertion of the interests of the private economic groups (for example in the allocation of acquisitions) in the military acquisition policy.

These disputes, including also the struggle to re-organize the high command⁵⁶⁹, had significant consequences for the material status of the Finnish military establishment. The Finnish armed forces were created almost out of nothing on the basis of war booty material after the Civil War of 1918. Mostly this material was confiscated from the occupying Russian troops during and immediately after the Civil War. They consisted of solid defense barriers, forts and barracks, artillery, rifles, and other basic equipment. These materials were either adapted to use by the peacetime armed forces or stored in mobilization storage depots. The handling of the storage and issues relating to the worth of the war booty materials caused many disagreements between the Ministry of War and the Diet in the 1920s. Also, these materials aged quite quickly and were less valuable than the contemporary politicians thought them to be.⁵⁷⁰

⁵⁶⁷ For further description of these ideal types, see Downs 1967 for details.

⁵⁶⁸ Grandell 1963, 55—56; Kronlund 1990, 288—289; Arimo 1986/1987, part III, 174—175. The view of some researchers that the impact of the ascendancy of the Jaegers was mainly positive is most likely correct for the late 1930s, but not for the 1920s and the confusion that ensued. See e.g. Turtola 1988, 103—104.

⁵⁶⁹ For more, see Eloranta 1998.

⁵⁷⁰ Terä-Tervasmäki 1973, 72—76; Hietanen 1989, 82; Tirronen-Huhtaniemi 1979, 238.

The Ministry of War, from 1922 onwards the Ministry of Defense, was created after the Civil War on the basis of German example in order to deal with the military establishment's funding needs as well as matters relating to the organization and the means of supplying the armed forces. The organizational problems of the interwar armed forces reflected the fact that the high command structure was not defined strictly to begin with. This situation was similar to the organization of foreign trade during and after the Civil War. The official public machinery needed to undertake military decision-making and administrative tasks was relatively divided, which in turn left room for other organizational influences. For example, in the case of foreign trade such Civil War organizations as The Staff of Engineers created a natural continuum for private groups' involvement in decision-making.⁵⁷¹

The Finnish military budget proposals were based on the requests of the specific units and departments, which in turn informed the Central Section of the Ministry of Defense of their needs. These requests by the specific sections of the military establishment needed to be quite detailed. For example, the different material acquisition proposals had to include precise quantities and estimated price levels in current prices, as well as whether they would be purchased from Finnish producers or foreign suppliers. The different production facilities of the military establishment were required to issue their own budgets. The Ministry of Finances ultimately controlled, especially during the Great Depression, the funding requests of the armed forces by, for example in 1929, "urging economy in financial matters".⁵⁷² Finnish military expenditures during the interwar period consisted of roughly consumption expenditures and capital expenditures. Consumption expenditures included, among other things, the expenses from the maintenance of conscripts and the wage expenditures of the officers. Capital expenditures consisted mainly of basic acquisition expenditures. They also included the expenses for the construction and maintenance of barracks, fortification expenses, and the costs resulting from the business activities of the military establishment.⁵⁷³

The military establishment's consumption expenditures (see Table 40 below) formed nearly three fourths of the total military expenditures in 1920—1938. For example, the aims of the Defense Revision committee, which performed detailed calculations on the personnel and

⁵⁷¹ Terä-Tervasmäki 1973; Kronlund 1990; Lamberg 1999.

⁵⁷² MA, Archive of the Ministry of Defense, The Central Section, General Letters 1929, F 107. 51. The compilation of the budget. See also MA, Archive of the Ministry of Defense, The Minister and Adjutancy 1918—1937. Documents relating to the budgets 1922—1923, 1934. Hc 4; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1930, F 114. 51. The compilation of the budget; 52. The regular budget; 55. Special budgetary items; 56. Budget proposals to the Diet; 57. The issuing of funds.

material needs concerning national defense, for 1927—1936 were exceeded considerably. Consumption military expenditures were 1,4 times as large in 1936 as in 1927. The growth in capital military expenditures was even more rapid during 1927—1936: They were 2,2 times larger in 1936 compared to 1927. Thus, the growth in the capital military expenditures was both relatively and absolutely stronger than in consumption military expenditures: The growth in capital expenditures was 193 million FIM whereas the growth in consumption expenditures was 164 million FIM.⁵⁷⁴ If consumption ME in the Finnish case had clear path dependent tendencies due to the political situation, what about the capital ME and the underlying supply system?

Table 40. Structural Composition of the Finnish Military Expenditures, 1920—1938, Millions of FIM in Current Prices

A.	B.	C.	D.	E.	F.
1920—1924	1652	81,1	386	18,9	2038
1925—1929	2157	72,6	815	27,4	2972
1930—1934	2400	70,3	1012	29,7	3412
1935—1938	2454	58,3	1757	41,7	4211
Total/Average 1920—1938	8663	71,5	3970	28,5	12633

Source: Terä-Tervasmäki 1973, 202. A=year; B=consumption ME; C=percentage share, consumption ME to total ME; D=capital ME; E=percentage share, capital ME to total ME; F=total ME.

As a matter of fact, one of the most significant aspects in this respect was the establishment of state-owned production units, at high cost. Several government defense factories, despite the reigning *laissez faire* ideology, were established in the 1920s and 1930s. The ordnance section of the Ministry of War estimated as early as 1918 that the most important supplies and materials for military readiness should be manufactured mainly domestically. The first plans to be realized concerned the idea of a gunpowder factory. The required machinery for the factory were acquired from Germany in 1920, but soon enough the costs were discovered to rise too high to receive the Diet's blessing. Private factories offered to establish the factory with the condition that the government would support the enterprise. The Cabinet issued a proposal to the Diet in order to establish a gunpowder factor on March 21, 1922. One important aspect of the proposal changed in the Diet: The military committee of the Diet supported the founding of the factory as a government venture. The Diet followed the advice of the committee and decided on May 29, 1922 to justify the State Council to proceed in the matter of establishing the State Gunpowder Factory. The factory commenced its production at Vihtavuori in 1926.⁵⁷⁵

⁵⁷³ Tervasmäki 1964; Terä-Tervasmäki 1973, 140—142, 200—203.

⁵⁷⁴ Eloranta 1998.

⁵⁷⁵ Terä-Tervasmäki 1973, 126—129; MA, The Archive of the Ministry of Defense, Minutes of the State

Next, a private cartridge factory — *Oy Suomen Ampumatehdas Ab* (SAT), which was established in 1918 — ended up technical and financial difficulties in the beginning of the 1920s. The Ministry of Defense proposed an entirely new and solely government-owned cartridge factory to be established at the end of 1922. The Cabinet issued a proposal on the matter on February 9, 1923. Within the Diet, a majority of Social Democrats supported the founding of another government factory and funds were granted during 1923—1925. The production of cartridges started in Lapua in 1924.⁵⁷⁶ In the establishment of domestic governmental production the Social Democrats, in fact, held the key position in the Diet. They favored domestic defense production to be initiated by the government, even though they were in general opposed to laws relating to military acquisitions.⁵⁷⁷

The next step in this rather spontaneous program of establishing government-owned military production came when the Cabinet proposed the founding of a State Rifle Factory. The Diet granted the required funds in 1925. The bulk of the production in the factory consisted of the light machine guns designed by a Finnish gunsmith A.J. Lahti. The last of the interwar military production efforts by the government occurred in 1938, when the State Cannon Factory finally started its production in Jyväskylä. The cannon factory, in addition to private factories, was aimed at fulfilling the needs of the large basic acquisition programs of the 1930s.⁵⁷⁸ These factories, as well as other business costs, actually caused quite a strain on the Finnish military establishment: 881 million FIM were directed for this purpose in 1932—1939, which was over 25 percent of the capital military expenditures of these years. The founding of domestic, government-owned defense factories also caused most of the military acquisitions to be concentrated in these facilities. As the international tensions heightened towards the end of the 1930s, war materials were more and more difficult to come by in the international markets; thus some of the funds reserved for this purpose were actually not even spent before the Winter War.⁵⁷⁹

Council, introduced by the Ministry of Defense, Ca 1—9; on these, see years 1919—1923, e.g. 21.3.1922. See also Parliamentary Documents III/1921:1; on the discussion, Parliamentary Minutes III/1921, 2288—2311.

⁵⁷⁶ Terä-Tervasmäki 1973, 131—132; Tervasmäki 1964; MA, Archive of the Ministry of Defense, Minutes of the State Council, introduced by the Ministry of Defense, Ca 11. Minutes 1923, e.g. 25.1.1923, 9.1.1923; Parliamentary Documents I/1923.

⁵⁷⁷ See e.g. Tervasmäki 1964; Tiihonen-Tiihonen 1984, 181. See also Mylly 1978.

⁵⁷⁸ Kronlund 1990; Terä-Tervasmäki 1973, 192—193. Of the private production facilities especially *Tampereen Pellava- ja Rautateollisuus Oy*, *Oy Syrytin*, and *Lokomo Oy* need to be mentioned. The naval construction concentrated mainly on facilities of *Crichton-Vulcan* and *Hietalahden Telakka ja Konepaja*.

⁵⁷⁹ Terä-Tervasmäki 1973, e.g. 200—203. See also Nummela 1993.

The depression of the early 1930s reflected on the funding of the Finnish military establishment as well. The material deficiencies in the armed forces were attempted to be compensated with the first of the so-called Emergency Programs (*häätäohjelma*) in 1930. The Diet appropriated only a portion of the funds that were asked — 75 million FIM for 1931, and 125 million FIM for the next five years. These aims were not even met in the following years. However, it must be noted that, as Minister of Defense Lahdensuo emphasized, two thirds of the acquisitions in 1931 were directed to domestic producers. Equally, a great deal of the funding during the depression years was directed to various domestic private and public production facilities in the form of military procurement.⁵⁸⁰ The deficits in the first Emergency Program created by the more stringent budgets of the early 1930s were finally compensated in the additional budget of 1934, which was accepted by the Diet.⁵⁸¹

The changed nature of international politics as well as the more favorable views of the Social Democrats were behind the next compensational measure of 1934. The Diet even urged the Cabinet to construct a new basic acquisition program. This significant change in the political backing for military funding led to the appointment of a large basic acquisitions committee in 1935. The recommendations of this committee were largely adopted as the basis for the military expenditures before 1938. The additional basic acquisition measures in 1936 and 1937 amounted to 210 million FIM each year. In 1938, this sum was increased to 460 million FIM annually. However, as Kari Selén has noted, "the acquisition funds could not be spent in the same increasing pace as they were granted".⁵⁸² The comment of Einar W. Juva, in the biography of Finnish General and businessman Rudolf Walden, is equally descriptive: "The long time of completion [in these acquisitions] was also influenced by the fact that everything that could be produced domestically had to be acquired from here. When there were no ready factories, they had to be established first".⁵⁸³ Thus, the capital ME and the investments in the domestic supply system in the Finnish case exerted also an element of continuity into the military spending as whole, re-enforcing the path dependent elements in the Finnish case.

⁵⁸⁰ Terä-Tervasmäki 1973, 173—180; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1930, F 114. 51. The compilation of the budget; 52. The regular budget; 56. Funding proposals to the Diet; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1931, F 123. 51. The Compilation of the budget; MA, Archive of the Ministry of Defense, The Central Section, General Letters 1932, F 131. 52. The regular budget. See also Selén 1980.

⁵⁸¹ Terä-Tervasmäki 1973; Selén 1980, 119.

⁵⁸² Selén 1980, 119—131; Terä-Tervasmäki 1973, 185—200. See also Nummela 1993. On the changing views of Social Democrats, see e.g. Tervasmäki 1964; Soikkanen 1984; Mylly 1978; as well as Nevakivi 1992, 81—86, and Juva 1957, 431—434.

⁵⁸³ Juva 1957, 434.

As Douglass C. North has emphasized, organizations attempt to maximize their gains within the constraints of the institutional framework. Profit-maximization, or more complex forms of utility-maximization, can emerge equally well in the form of influencing military acquisitions to be directed to the domestic producers or the changing of the leadership structure within the military establishment, for example as in the case of the Jaeger officers. Organizations, large or small, have a central role, in addition to historical preconditions, in the development of path dependence. Mancur Olson has pointed out that small, homogeneous groups are often the most effective ones in their profit-maximization, which should be extended to cover other aims as well. The reasons for this include the fact that in small groups the internal social pressures (selective incentives) as well as common goals and interests lead to greater efficiency than in large, internally divided groups. The coercion potential of the group is of course relevant also. This meant in the Finnish case that the smaller committees and interest groups were often poised to make significant gains when a window of opportunity presented itself.⁵⁸⁴

A historical situation in which the institutional factors make it possible for smaller groups to participate in political decision-making also explains the organizations' interests in investing in political action. In the case of interwar Finland, both the division of the political field as well as the internal conflicts of the military establishment left room for smaller groups and powerful individuals to act out their own interests. Moreover, the Finnish political and economic elite still consisted of the same powerful families that had occupied the highest social and political strata since the Period of Autonomy. Thus, the process of independence did not create an abrupt change in the Finnish leadership structure; at best we may refer to the slow process of change among the public servants towards the middle-class in the Finnish society.⁵⁸⁵

Committees were an integral part of the Finnish decision-making system, aside from the actual government agencies, in the 1920s and 1930s. Similarities to the Swedish system are profuse. Committees were reserved for preparing specific legal and political issues for a larger legislative or political body. Committees, sub-committees, and commissions were in abundance among the different fields of administration: In 1930, there were 72 committees, and in 1939 as many as 117. The committee system, which was disintegrated and spread around the different fields of

⁵⁸⁴ See Olson 1965, e.g. 53—65. See also North 1994; North 1996; North 1997. On institutional trajectories and exchange relationships, see Greif 2000.

⁵⁸⁵ Noponen 1964. On the development of public servants' ideologies etc., see Tiihonen-Ylikangas 1992. On historical review of Finnish interest group research, see e.g. Lamberg 1997. See also Kuisma 1993.

administration especially in the 1920s, served particularly the interests of the political elites and the various interest groups.⁵⁸⁶

The roles of these different committees are sometimes quite difficult to assess. For example, as Ilkka Nummela has emphasized, the Economic Defense Council (*Taloudellinen Puolustusneuvosto*), which was established in 1929, was mainly aimed at planning for the functioning of national defense, civilian consumption, and economic life in crises situations. In 1930 the Council distinctly expressed that the planning of peacetime acquisitions was not part of its domain.⁵⁸⁷ However, if we analyze the membership of the committee, one notices that all the key interest groups, for example the Federation of Finnish Industries, wanted to participate in its functions. Also, it is to be noted that at the same time the domestic producers were able to push through their ideas on favoring more expensive domestic production in the respective Economic Board (*Taloudellinen Neuvottelukunta*) regarding the issue of government acquisitions. Thus, the key interest groups on the one hand did not have raise the issue of peacetime acquisitions in the Economic Defense Council, whereas on the other they wanted to make sure their interests continued to be secured — as well as ensuring the functioning of war-time economy at the same time — in crises conditions.⁵⁸⁸ The different committees possessed a great deal of influence in the still sporadic system of governance, particularly in determining how defense contracts were to be allocated.

The Defense Revision committee, which attempted to influence both the size of military expenditures as well as their allocation, was an attempt to achieve very large organizational changes within the military decision-making system, as well as introduce far-reaching plans for the military spending needs of the nation. It is also an example of a temporary committee established to serve a specific function. Additionally, it is an example of both the volatile nature of military expenditures in public discussion as well as the division of the political field. Additionally, I will analyze the actions of the Board of Acquisitions, which influenced the budgetary and acquisition processes directly within the Ministry of Defense. This Board was a permanent part of the Ministry's organization throughout the interwar period. The Board of Acquisitions is also an example of the direct influence of the interest groups in governmental

⁵⁸⁶ Tiihonen-Tiihonen 1984, 172—182.

⁵⁸⁷ Nummela 1984, 307—309.

⁵⁸⁸ Nummela 1984; MA, Archive of the Ministry of Defense, Minutes of the State Council, introduced by the Ministry of Defense, Ca 16 (1928) — Ca 24 (1936); Federation of Finnish Industries, Annual report 1930, Appendix 1.

activities. As we will see later, these groups, especially the Federation of Finnish Industries, played a significant role in the development of certain key pieces of military legislation as well.

The Defense Revision — officially appointed on November 26, 1923 "to inspect the rationality of the defense arrangements in this country as well as to issue proposals to re-organize the military establishment, if such need should arise"⁵⁸⁹ — assembled all in all thirteen times during the period 1923—1926. It included both civilian members — among other, several members of parliament — and military personnel.⁵⁹⁰ Jaeger officers and their military thinking dominated the work of the Defense Revision⁵⁹¹. In between the joint meetings, the work was continued in the two sub-sections: the military section and the cost estimation review section. The role of the military section and its members was central in the functions of the entire committee.⁵⁹² The Defense Revision also utilized both domestic and foreign experts on specific issues. The most important influence, cited by the committee itself, was the English expert commission, whose work concentrated mainly on improving the sea and air defense systems⁵⁹³.

The Defense Revision was unanimous on the question of the size of the armed forces and the length of the military service: The number of conscripts was not to be decreased and the length not to be less than one year. In the annual number of conscripts (23 500), the Army was overwhelmingly awarded the largest numbers in the Defense Revision calculations.⁵⁹⁴ All in all,

⁵⁸⁹ MA, document T 2858/2, Minute of the Council of War 5 — 6.11.1923; Kronlund 1990, 286; MA, DRArch, roll 1, folder 11: *Puolustusrevisionin osamietintö "Maamme puolustuslaitoksen ylin johto" 1924*. See also MA, DRArch, roll 9, folder 26: *Määrävahvuuskomitean mietintö*, and DRArch, roll 8, folder 24: *Rannikopuolustuskomitean mietintö v. 1922*. See also Elfvengren 1987, 34. The Defense Revision was inspired by similar efforts in Sweden, see Trönberg 1985 for details.

⁵⁹⁰ MA, DRArch, roll 2, folder 13: *Puolustusrevisionin mietintö*, parts I and II, 2—3. Of the members of the committee many ascended to significant posts both within the civilian administration and military command during the interwar period. See e.g. Turtola 1988 (Erik Heinrichs' career), Nummela 1984 (Leonard Grandell's rise to the top of economic-military planning), and Niukkanen 1951 (on Juho Niukkanen's political career from the 1920s to the 1940s).

⁵⁹¹ Many of the committee's members had a Jaeger background, e.g. Eirik Hornborg and Niukkanen; see Kronlund 1990, 286 and Niukkanen 1951, 9—11. The only actual representative of the "old guard" in the committee was Major General Martin Wetzer, who was, however, in favor of the changes that the Jaegers proposed — the other Czar's officers felt in fact threatened by Wetzer's participation in the committee, see Turtola 1988, 102 and DRArch, roll 4, folder 16: *Lähetettyjä salaisia ja yleisiä kirjeitä*, (roll page number) 63.

⁵⁹² DRArch, roll 2, folder 13: *Puolustusrevisionin mietintö*, parts I and II, 4. The military section included in addition to the chairman (Hornborg) the military members of the committee (Wetzer, Lauri Malmberg, Harald Öhqvist, and Armas Martola; later, the military personnel that replaced them, see Eioranta 1998 for details. The military section largely prepared the different parts of the Defense Revision's report. Kronlund 1990, 286.

⁵⁹³ DRArch, roll 2, folder 13, 5—7. Especially in the question of naval armaments, the Finnish naval officers attempted to influence the work of the committee, succeeding however better in the Diet.

⁵⁹⁴ MA, DRArch, roll 2, folder 13: *Puolustusrevisionin mietintö*, parts I and II, 9—11; DRArch, roll 2,

the Defense Revision emphasized the importance of the needs of the Army in dividing the military funding: The available funds were recommended to be used in the "right" proportion between the different service branches⁵⁹⁵. The Army's share of the recommended basic acquisition expenditures in the committee's report was to be over half, which was a conscious effort to improve the poor material status of this branch⁵⁹⁶.

In turn, the Finnish Navy was based on the war booty confiscated from the Russians after the Civil War. This Navy consisted of six gunboats, three S-class torpedo boats, mineship M1, and two motorized torpedo boats.⁵⁹⁷ Compared to the other nations in the Baltic area, the Finnish Navy was modest at best. The Finnish naval officers and shipbuilders were also greatly influenced by the Nordic Navies, especially in their design.⁵⁹⁸ The question of establishing a Navy and the content of naval acquisitions were especially difficult for the Defense Revision. The committee was aided in this dilemma by the English expert commission, despite strenuous opposition from the Finnish General Staff.⁵⁹⁹ The Defense Revision did not fully endorse the recommendations of the English commission yet approved the main points in their proposals. The Finnish naval officers and experts in charge of naval defense matters in the Ministry of Defense also attempted to influence the views of the committee without achieving the results they had hoped for. Their aim was to achieve a broader and differently structured naval building program.⁶⁰⁰

Obtaining funding for the naval building program was one of the biggest sources of conflict in the Finnish interwar politics. Funding was provided, in spite of the fierce resistance of the Social Democrats, in the additional budgetary measures in the mid-1920s. At the same time, for example Tanner's Social Democratic minority Cabinet of 1927 was tied to the earlier

folder 13, 1. part, 6. chapter, 122, 133—137; DRArch, roll 3, folder 13, 2. part, 13. chapter, 396, 430.

⁵⁹⁵ MA, DRArch, roll 2, folder 13, 1. part, 4. chapter, 55—57.

⁵⁹⁶ MA, DRArch, roll 2, folder 13, 1. part, 4. chapter, 56. See also Eloranta 1998.

⁵⁹⁷ Turtola 1972, 7; Niklander 1996, 15—17. Even though Niklander's book is not a historical study and there are several ahistorical attempts of applying hindsight, it is still a very comprehensive account of the process of building the Finnish Navy.

⁵⁹⁸ Niklander 1996, 32—33, 42—47.

⁵⁹⁹ MA, DRArch, roll 1, folder 7: *Pöytäkirjoja — Sotilasjaosto*, meetings 11.1.1924 and 12.1.1924. Turtola 1988, 120. Heinrichs' appointment as the Chief of Staff made it possible to carry out the request of the Jaeger-dominated committee.

⁶⁰⁰ MA, DRArch, roll 1, folder 7, meetings 2.10.1924, 9.10. 1924, 31.10.1924, and 6.11.1924. MA, DRArch, roll 1, folder 6: *Pöytäkirjojen luonnoksia*, meeting 14.2.1925; this suggestion was largely based on the English experts' proposals. MA, DRArch, roll 1, folder 6, meeting 17.2.1925, the Ministry of Defense also presented its counter proposal to the committee. See also MA, DRArch, roll 2, folder 13, 5, and 1. part, 7. chapter, 156—158; also MA, document T 2857/1 — Ministry of Defense continued to disagree with the committee on the issue of Navy in the latter part of the 1920s.

acquisitions by the terms of the previous acquisition agreement. If the decision to continue naval acquisitions had not been made quickly in the beginning of 1927, the prices would have multiplied in the future acquisitions. Needless to say, the Social Democrats were not enthusiastic about this arrangement. The Navy Act was finally approved in the Diet of 1927.⁶⁰¹ The 1924 Cabinet's proposal, 520 million FIM, was trimmed down significantly. The final amount was 215 million FIM⁶⁰². The Defense Revision had suggested a 591 million mark naval building program in its report, although the condition for such spending was the approval of the entire acquisition program recommended by the committee. The committee's proposals would have increased the Army's acquisition share to over fifty percent.⁶⁰³ The founding of an effective Navy was, however, the only part of this acquisition program that was realized at least in some form.

The reasons for the said form of the naval building program included the strong naval propaganda issued in the Diet, the influence of the naval experts in the Ministry of Defense, and the shortened version of the Defense Revision's report, which provided a distorted perspective on the needs of the armed forces. As a result, the share of the Navy in the basic acquisitions increased above fifty percent during 1926—1930. Thus, the structure of the acquisitions changed exactly as the Defense Revision had *not* intended it.⁶⁰⁴ As a matter of fact, the issue of establishing a Navy developed in stages. The first stage (1919—1924) was characterized by more or less detailed plans made mostly by naval officers. The second stage (1924—1927) centered on the development of the designs for the ships, especially the coastal defense vessels. The domestic naval officers and the shipyards were very active in ensuring mostly domestically produced and as-large-as-possible coastal defense vessels. The third stage, from 1927 onwards, was a continuation of the second stage: The Ministry of Defense and the shipyards were able to extend the limits of the Navy Act of 1927 even further than originally intended. The final construction costs for one coastal defense vessel alone⁶⁰⁵ has been estimated to have been circa 210 million FIM.⁶⁰⁶

⁶⁰¹ MA, Archive of the Ministry of Defense, Ca 15. The State Council's minutes, Introduced by the Ministry of Defense 1927, 27.1.1927; Turtola 1972; Jääskeläinen 1973, 139—140.

⁶⁰² Statute Collection 1927, 1015; Enkiö 1968, 147.

⁶⁰³ Eloranta 1996.

⁶⁰⁴ Niukkanen 1951, 29—30; Tervasmäki 1964, 241; Kronlund 1990, 315; Mannerheim 1952, 12; Tirronen-Huhtaniemi 1979, 239.

⁶⁰⁵ The two that were introduced to service in the 1930s were called Väinämöinen and Ilmarinen.

⁶⁰⁶ Niklander 1996; Turtola 1972; Eloranta 1998.

The naval lobbying involved in the finalization of the Navy Act of 1927 deserves a closer look. The main lobbying organizations were the various Finnish naval associations (for example, the Finnish Naval Association), the Navy Magazine (*Laivastolehti*), and the Naval Officers' Association. In addition, the naval officers in the Ministry of Defense were also very active promoters of the Navy Act. These persons and organizations issued active propaganda by "turning to influential persons and turning them favorable towards the cause" and directly handed out propaganda materials during the Diet proceedings, as well as supported these actions within the pages of the Navy Magazine (founded in 1926).⁶⁰⁷ Their subjective criticism of the naval programs was centered on the program's too limited size. They also emphasized the program's absolute necessity for the national defense: "Why don't we directly proceed to create and acquire the kind of Navy that, without overburdening the solvency of our nation's inhabitants, we can build for ourselves and which by its very existence alone will make the invasion plans of our enemy uncertain and, above all, will provide ourselves the faith in the continuance of our independence."⁶⁰⁸ The ties of this propaganda to the economic and political elites in Finland were strong. For example V.M.J. Viljanen, the managing director of Federation of Finnish Industries and a MP, was a member of the board of the Finnish Naval Federation as well. He even attempted to include a requirement in the Navy Act that the ships must be built in Finnish shipyards. In addition, a "Navy Men's Club" was established in 1929 to ensure the preservation of naval interests in Finland; this club included key figures from both sciences and industrial circles.⁶⁰⁹ This was perhaps the most blatant example of collusion between specific, small groups in the Finnish interwar case, although the aims of the agents did not always match exactly.

How did the Defense Revision committee's recommendations on the whole fare in the political debate? The committee's report in 1926 was naturally a continuation of the work undertaken in many sub-reports and preparatory proposals, which were almost solely the responsibility of the committee chairman Hornborg and the military section⁶¹⁰. The committee's work received some cautious criticism as early as the end of 1925, thus before the actual completion of the report on January 21, 1926, in for example the Progressive Party's mouthpiece *Helsingin Sanomat*. The

⁶⁰⁷ Turtola 1972, 131—132; Ainamo 1948, 20—22; Eloranta 1997c.

⁶⁰⁸ *Laivastokysymyksemme 1926*.

⁶⁰⁹ Turtola 1972, 132—133; Ainamo 1948; Eloranta 1998.

⁶¹⁰ Kronlund 1990, 286. E.g. MA, DRArch, roll 1, folder 7: *Pöytäkirjoja — Sotilasjaosto*, 4.2.1924 Hornborg was assigned to prepare a statement on the military-political position of Finland; DRArch, roll 1, folder 5: *Pöytäkirjoja 1923—1924*, 8.11.1924 the same statement was approved as part of the overall report. See also MA, DRArch, roll 1, folder 11: *Puolustusrevisionin osamietintö "Maamme puolustuslaitoksen ylin johto" 1924*, 3—4.

criticism centered around the issues of ignoring the opinions of the former Chief of Staff Enckell, the suggested increases in the military expenditures, and the idea that the forthcoming proposals could not be carried out in parts ("the proposal is a whole that breaks down, if one of its parts is taken apart").⁶¹¹

Overall, the right-wing newspapers were positively disposed towards issues relating to the national defense⁶¹². The detailed writings of the chairman of the committee, Eirik Hornborg, at the time of the completion of the committee's work altered this situation drastically: Most newspapers actually demanded him to be indicted for treason. His motive might have been to emphasize the needs of the military establishment to the public at large. The failure of this approach became even more pronounced when Hornborg was at last actually indicted, by the order of the State Council, for disclosing classified information. Even though he was cleared of all charges in the trial, the damage to the "cause" was irreversible.⁶¹³ The public image of the Defense Revision's work became negative right from the beginning.

The shortened version of the Defense Revision's 1926 report was essentially prepared for the Diet by the Ministry of Defense and the General Staff. It did not, for example, contain the classified details on the mobilization plans as well as the extensive explanatory memorandums.⁶¹⁴ It was not, even though such claims have been made, too brief of an account rather than a structurally disproportionate representation of the national defense needs. Even though the key role of the Army is brought forth in a few sentences, the overall impression arising from the shortened version must be that it favored the Navy.⁶¹⁵ The highest political circles had been briefed on the entire report⁶¹⁶, yet the members of the parliament, combined with the active naval propaganda, were undoubtedly given a naval-dominated view of the Finnish defense needs. The negative publicity of the Defense Revision also had a significant

⁶¹¹ MA, DRArch, roll 10, folder 29: *Sanomalehtileikkeitä — puolustusrevisionia koskevia 1925—1926*, see e.g. Helsingin Sanomat 6.10.1925 and 8.10.1925 as well as *Uusi Suomi* (the National Coalition's supporter) 4.10.1925 — *Uusi Suomi* acted as sort of a "organ" for the committee. See Salokangas 1987, 262, 278.

⁶¹² MA, DRArch, roll 10, folder 29, e.g. *Uusi Suomi* and *Uusi Aura*. On the general party ties of the newspapers, see Salokangas 1987 for details.

⁶¹³ MA, DRArch, roll 10, folder 29: *Sanomalehtileikkeitä — puolustusrevisionia koskevia 1925—1926*, see e.g. *Turun Sanomat's*, *Lalli's*, *Tampereen Sanomat's*, and *Hämeen Sanomat's* views on the matter — the entire Defense Revision was seen as receiving bad publicity due to the Hornborg case. Only some of the right-wing newspapers, e.g. *Iltalehti*, clearly defended Hornborg.. See also Jääskeläinen 1977, 413.

⁶¹⁴ Defense Revision 1926. Cf. MA, DRArch, rolls 2, 3, and 4 as well as folders 13 and 14.

⁶¹⁵ Defense Revision 1926, 8.; Arimo 1986/1987, part III, 81; Terä-Tervasmäki 1973, 124—125. Cf. also the table of contents in Defense Revision 1926 to MA, DRArch, roll 2, folder 13.

⁶¹⁶ Defense Revision 1926, 8.

impact on the opinions of the members of parliament, at least as far as the military funding was concerned in the 1920s. The committee's acquisition plans were never brought to the Diet in their entirety to be debated. The failure of the Defense Revision was also influenced by the fact that all the major groups in the society, especially the economic interest groups, were not represented in the committee. Whereas in the Swedish case the political economy enabled the decisions to be made on the basis such proposals, the Finnish political economy provided fewer similar possibilities.

An example of real influence by the smaller organizations, contrary to the case of the Defense Revision, can be seen in the case of the Board of Acquisitions, appointed by the State Council on May 22, 1919 to make a statement on all the acquisitions of the military establishment. Additionally, it had the right of initiative "in matters improving the economy of the military establishment". The aim to emphasize economy was an additional incentive in the creation of the Board. Appointments to the Board of Acquisitions consisted almost exclusively of the representatives of the domestic economic elites and industries. Thus, this committee formed a natural continuum to for example the Staff of Engineers, which had functioned during the Civil War. In the Staff Engineers, as in the case of the Board of Acquisitions, the representatives of private businesses took care of the economic needs of the armed forces. The role of the Board became decisive in the acquisitions of the Ministry of Defense: All acquisitions required the approval of the Board before their completion. The different departments of the Ministry of Defense followed this principle quite strictly.⁶¹⁷

The Board of Acquisitions employed from the very beginning the principle of competition in the acceptance of contracts in order to enhance efficiency. In the first years of the 1920s, this competition principle functioned quite proficiently, but during the course of the decade more and more orders were given to domestic producers. Competition became in many cases a mere formality. This was instigated by the general improvement of economic conditions — the nation was not considered to be in peril — as well as the increased demands of the domestic industries. The regulations of the Board of Acquisitions in 1924 serve as a good example of this change: "...when the interests of the military establishment do not require otherwise, the order will be favored to be given to a domestic producer of a good or service." In 1925 the Board was divided into two sections: the metal and engineering industry, and the commissariat sections. Both were

⁶¹⁷ MA, Archive of the Ministry of Defense, Ca 2. State Council's minutes, introduced by the Ministry of Defense 1919, 22.5.1919; MA, The Board of Acquisitions (*Hankinta-asiain neuvottelukunta*), minutes 1919—1926; the minutes of the Board are missing after 1926. The first meeting of the Board took place

almost exclusively filled with the representatives of the respective industries in the Federation of Finnish Industries.⁶¹⁸

Was the involvement of domestic producer's interests in the Board of Acquisitions in Finland a case of profit-maximization or are there other factors (or motives) to be found behind the phenomenon? The Board's favorable disposition towards domestic production indeed became more pronounced in the mid-1920s. However, the members were in general against government-owned armaments production and the monopolizing of the military acquisitions. For example, in the case of the gunpowder factory the Board made specific remarks that "the state should not itself start to establish a gunpowder factory rather than leave it to a private company".⁶¹⁹ However, the support of the Social Democrats enabled the creation of government armaments factories in the 1920s and 1930s.⁶²⁰ On this issue, the domestic production interests represented in Board clearly failed to have an impact. The attitude of the Board on acquisitions changed significantly after the first years of independence. Some of the aspects of this change included a more lenient opinion of the Ministry of Defense's acquisitions in their own right as well as providing more long-term contracts for the Finnish producers.⁶²¹ A key issue in this change was the fact that Finland was not actively threatened anymore after the First World War and its immediate aftermath. It is also significant that the interests of the Finnish domestic producers were already secure by the mid-1920s. This situation was not altered until the rising threats of the 1930s.

Many of the key Finnish economic interest groups, national peak associations, were founded during the early years of the independence, 1917—1921: the Central Federation of Agricultural Producers (*Maataloustuottajien Keskusliitto*) in 1917; the Central Federation of Finnish Woodrefining Industries (*Suomen Puunjalostusteollisuuden Keskusliitto*) in 1918; and Finland's Import Federation (*Suomen Tuontiteollisuusliitto*), which changed its name later to the

2.12.1919. See also Lamberg 1999.

⁶¹⁸ MA, Board of Acquisitions, Minutes 1919—1926, minutes 1924 (SArk 2138/9), 28.5.1924; minutes 1925, (MA 2138/10), 3.6.1925. Even though only some of the members of the Board appear at first to be connected to the Federation of Finnish Industries (Feiring, Lavonius), a closer evaluation of the archive of the Federation of Finnish Industries reveals more connections (Hovilainen, O. Nikander, Niklander); ACFI (Archive of the Central Federation of Industries), Minutes of the Federation of Finnish Industries (*Suomen Teollisuusliiton pöytäkirjat*) 1920—1936. Additionally, the positions of the other members provided them with connections to the same circles. As Reino Arimo has described: "The members were known leaders of economic life"; Arimo 1981, 46.

⁶¹⁹ MA, Board of Acquisitions, Minutes 1919—1926, minutes 1919 (SArk 2137/8), 18.6, 11.9.1919; minutes 1920 (SArk 2137/9), 23.4.1920; minutes 1921 (SArk 2137/10), 31.5.1921; minutes 1921 (SArk 2137/11), 16.12.1921, 20.12.1921; minutes 1924 (SArk 2138/9), 13.8.1924, 24.9.1924.

⁶²⁰ E.g. Tervasmäki 1964; Mylly 1978.

Federation of Finnish Industries (*Suomen Teollisuusliitto*), in 1921. As Juha-Antti Lamberg has shown, the political weight possessed by the agricultural producers was the most extensive. The representative of the domestic market industries, the Federation of Finnish Industries, in turn had only limited successes in its pressure activities, such as lobbying for government acquisitions.⁶²² The beginning years of the independence were a time of political disorder and division, during which the various interest groups attempted to assert themselves in the struggle for political “market shares”. This game, especially in the context of military contracts, was influenced by the fact that many administrative units such as the Ministry of Defense were created out of nothing, which increased individual and group opportunities to influence decision-making and pursue rents. In addition, many groups within the government, such as the officers and the bureaucrats were hardly passive players in the game for impurely public defense contributions.⁶²³

The Federation of Finnish Import Industries (from 1924 onwards the Federation of Finnish Industries, FFI) was established on January 28, 1921 to protect the interests of the domestic industries. Some of the central principles in the activities of the Federation included, in addition to tariff questions, to influence trade agreements and protect the viability of the domestic market industries in Finland. Thus, the interests of the FFI were intricately linked to the allocation of defense contracts. Moreover, the State Council appointed a separate Board of Experts in Government Acquisitions in 1921. The Federation was able to push through a principle in the Board, which naturally affected the Board of Acquisitions in the Ministry of Defense as well, that even twenty percent more expensive domestic products were to be favored in government acquisitions compared to foreign products. The Federation attempted to push through this principle as early as 1921, but failed at first. This principle was adopted a few years later. The Federation’s strong grip on government contracts was temporarily lost at the end of the 1920s, but with the coming depression the same principle was adopted again. During the depression years the more lenient attitude of the State Council and the Ministry of Finances solidified the practice of favoring domestic producers. In the 1930s, the interests of the FFI emerged not only through the Board of Acquisitions, but through the Economic Defense Council as well.⁶²⁴

⁶²¹ MA, Board of Acquisitions, Minutes 1919—1926.

⁶²² Lamberg 1999.

⁶²³ See Eloranta 2001b.

⁶²⁴ ACFI, minutes of the Federation of Finnish Industries 1920—1925, 11.12.1920, 28.1.1921, 28.5.1921, 9.11.1921; minutes 1926—1929, 7.2.1928; minutes 1934, 2.11.1934; Federation of Finnish Industries, annual report 1930; Pesonen 1992, 9—10, 14; Finlands industriförbund 1946, 85—88; Lamberg 1997. On the Economic Defense Council, see Nummela 1984 for details.

The influence of the Federation was thus extended to the actual decision-making on the military acquisitions. The members of the Board of Acquisitions, which continued to function throughout the interwar period, consisted of the representatives of the different industries within the Federation of Finnish Industries. Of, for example, the chairmen of the Federation, Finn Feiring and Robert Lavonius acted also as the chairmen of the Board of Acquisitions in the 1920s and 1930s. Furthermore, the FFI was engaged in an active propaganda campaign, in the newspapers for example, in order to achieve its various goals during the interwar period.⁶²⁵ The Federation's activities were characterized by a right-wing ideological base, which fit well with the idea of emphasizing domestic self-sufficiency in the development of military resources. Thus, this was a case of ambivalence of sorts in dealing with the military establishment: on the one hand, the Federation tried to maximize the profits of its members; on the other, they wanted to secure the self-sufficiency of the defense industries during a possible crisis. The latter dimension of the actions of the Federation became more pronounced in the 1930s.⁶²⁶ The Federation of Finnish Industries was also, similar to the Board of Acquisitions, against government-owned military production.

The person who acted as a liaison between the members of the parliament and the Federation was the managing director of the Federation, V.M.J. Viljanen. Viljanen himself was a member of parliament, representing the Progressive Party, during 1924—1926. He also held many distinguished positions in other organizations, for example in the Finnish Navy Federation. Consequently, another issue that the Federation got involved with in the 1920s was to support the Finnish shipyards in obtaining the new Navy contracts. Three Finnish shipyards — *Maskin & Brobyggnads AB*, *AB Crichton-Vulcan OY*, and *AB Sandvikens Skeppsdocka & Mek. Verkst* — contacted the Federation in 1926 out of fear due to the "intentions to give the orders out of the country". The Federation decided to pressure the Cabinet in order to obtain the orders to domestic producers, which subsequently did occur.⁶²⁷

The position of Viljanen and the entire FFI were not, however, very stable as the 1930s would prove. The issue of the Federation's own propaganda company (*Suomen Ilmoituskeskus*), headed by Viljanen, and the resulting deficits led to demands among the representatives of the metal industries that Viljanen's tenure as a managing director should be terminated. Viljanen

⁶²⁵ MA, Board of Acquisitions, Minutes 1919—1926; Pesonen 1992, 14—15.

⁶²⁶ See Lamberg 1997 for further details.

⁶²⁷ ACFI, Minutes of the Federation of Finnish Industries, 1920—1925, 8.2.1923, 20.9.1924, 19.10.1925; Minutes of the Federation of Finnish Industries, 1926—1929, 1.7.1926, cf. 28.2.1926; 7.8.1928; Eloranta 1998.

and his friends on the board of the Federation were only barely able to manage to secure his continuation in this post.⁶²⁸ Another difficulty in the Federation's activities was the division between the agrarian producers, the export industries, and the domestic industries (represented by the Federation). The Federation tried actively to achieve cooperation with the export industries in the 1920s, but without any concrete results at first. These efforts were repeated in the aftermath of the Great Depression.⁶²⁹

The efforts towards reconciliation between the Central Federation of Agricultural Producers (CFAP) and the Federation of Finnish Industries started to bear fruit before the mid-1930s. The cooperation began in a more concrete form in 1934 with a joint committee. These two organizations were both aimed at protecting the domestic production from foreign competition. The issues they shared an interest in comprised tariffs, supporting domestic production, and government acquisitions. As Juha-Antti Lamberg has pointed out, in 1935 the joining of forces led to, for example, support for the same candidates in the elections with the export industries (represented by the Central Federation of Finnish Woodrefining Industries, CFFWI), as well as continued support for the Agrarian Union and the main national platform of the agrarian producers, CFAP. The official cooperation of CFFWI and the FFI began also in 1935. The industrialists and the agrarian producers were both concerned about the tightening of international tensions and the "growing influence" of socialism. Accordingly, their actions cannot accurately be described as pure profit-maximization alone.⁶³⁰

The continuous organizational and administrative turmoil of the 1920s, the absence of control on the use of government resources, and the high rates of return from the rent seeking targeting new contracts were pre-requisites for the group and individual rent seeking in Finland. Yet, did actual corruption occur? Did the corruptive contact surface widen due to the institutional shocks brought on by the independence? And, did the rent seeking turn into actual collusion among the agents as the case of the Navy act already suggested? I will address these questions by reviewing the allegations concerning the mismanagement of funds and other cases of potential criminal behavior that were documented and debated in the early 1920s. I will focus especially

⁶²⁸ ACFI, Minutes of the Federation of Finnish Industries, 1932, 20.1.1932, 27.1.1932, 19.4.1932, 9.5.1932, 16.6.1932 — this issue caused great division among the members of the Federation; Lamberg 1997. On metal industries, see e.g. Olin 1938.

⁶²⁹ ACFI, Minutes of the Federation of Finnish Industries, 1920—1925, e.g. 10.5.1922, 5.12.1924; Minutes of the Federation of Finnish Industries, 1935, 23.1.1935.

⁶³⁰ ACFI, Minutes of the Federation of Finnish Industries, 1934, e.g. separate minute 1.2.1934, 26.4.1934; Minutes of the Federation of Finnish Industries, 1935, 6.2.1935, 4.12.1935, 18.12.1935; Lamberg 1999; Lamberg 1997; Juva 1957, 420—423.

on the fortification process, which will amply portray the conflicts of interest and the windows of opportunity that were available in such a political economy.

The first instance of negligence that was debated in the 1920s was the case of the war booty materials, especially issues concerning their valuation and storage. Apparently the value of these materials was overrated in 1918, in addition to which the storage process was riddled with inconsistencies. The material that was deemed worth storing was placed into storage depots.⁶³¹ A committee that was appointed to review the rumors of malfeasance later in the 1920s found out that these materials had been overvalued, which had created a false impression of their true value. In addition, a number of accounting mistakes had taken place during the storage process.⁶³² The condemnation of the Diet for this process was decisive. For example, MP Joonas J. Laherma delivered a brutal speech, which doubted the integrity of the government officials and accountants. The chairman of the committee investigating the matter criticized especially the actions of the Accounting Office in the Ministry of Defense in his remarks. According to him, this kind of negligence had in fact been common during the years 1918—1919. In addition, he proclaimed that “there have been rather many cases which prove that war booty materials have been outright stolen”. For example, war booty vehicles had apparently been sold, as the detective agency that had been hired to investigate the matter found out, below market prices to private persons and organizations. He maintained that the reasons for these acts included the unorganized nature of the military establishment, the exceptional conditions after the Civil War of 1918, and the resignation of many qualified persons from the armed forces after the war. Despite the moral condemnation, the MPs in general were not willing to pursue this matter further.⁶³³

The assessment of the state accountants, issued in 1925, on the financial practices of the military establishment in 1918—1920 was at least as negative as the previous comments uttered in the Diet. Their report mentioned, for example, “certain large write-offs and outright fraud”. They estimated criminal activity to have formed circa 5 per cent of the write-offs worth nearly 2,3 million FIM. They also suggested an independent investigation of these instances.⁶³⁴ The reply of the Ministry of Defense was a strong counterattack leveled against this criticism. The Ministry officials considered the negligence to have been fairly minor, and that the funds were more often than not spent simply from the wrong accounts. They also accused the accountants

⁶³¹ Terä-Tervasmäki 1973, 72—76; Kronlund 1990.

⁶³² Kronlund 1990, 168.

⁶³³ Parliamentary Minutes, III/1919, 2662—2671.

of superficiality.⁶³⁵ In the mid-1920s, the criticism on the use of funds by the military establishment had lost its edge, especially since a more pressing crisis concerning the military, the officer conflict, claimed the attention of the public. The press hardly devoted any more space for this issue in the late 1920s.⁶³⁶

Another issue that attracted at least as much attention as the war booty issue (mainly in the newspapers) was the issue of fortifications and the ensuing construction activity in the beginning of the 1920s. In 1919, based on a signed contract, the Ministry of Defense gave a company called *Oy Granit* an exclusive on the fortification construction work in the Carelian Isthmus. These fortifications were considered essential in order to repel a possible Soviet attack.⁶³⁷ The actual construction of the fortification structures began in the fall of 1919, when the matter was reviewed for the first time in the Board of Acquisitions that functioned within the Ministry of War. The head of the Engineering Department in the Ministry, Engineer A. Lönnroth, maintained that the Ministry had attempted to acquire qualified workers for these construction efforts, but that they had had no luck due to the pay being lower than in the private sector. He also recommended *Oy Granit* to be awarded the contract. He considered the company to have the expertise and equipment required to carry out this contract, in addition to which the company could hire a military expert who would devise the said construction plans. Lönnroth had earlier in his career acted as the managing director of *Oy Granit* and promised to resign from the Ministry if the company was awarded the contract. After a bidding competition, the Board recommended *Oy Granit* to be chosen as the construction company, which in practice tied the Ministry to this decision. Lönnroth resigned from the Ministry shortly thereafter and started to run *Oy Granit*. At the same time, yet another person, who had been intimately involved in the fortification planning in the Ministry and had resigned as well, joined the ranks of *Oy Granit*.⁶³⁸

The exclusive obtained by *Oy Granit* raised numerous objections, especially in the press. The Board of Acquisitions had to stave off the attacks with articles of their own in the major newspapers, which emphasized the low price of *Oy Granit*'s bid and the secretive nature of the

⁶³⁴ Parliamentary Appendices 1924/IV—V, 3—5; Eloranta 2000b.

⁶³⁵ MA, Archive of the Ministry of Defense. Ministry of Defense. The Minister and Adjutancy 1918-1937. Other documents organized according to their content 1920-1923. Hc 3; MA, Archive of the Ministry of Defense. Ministry of Defense. The Minister and Adjutancy 1918—1937. Documents pertaining to the budgets 1922-1923, 1934. Hc 4.

⁶³⁶ On e.g. the Jaegers' relationship with the press, see Saarikoski 1997.

⁶³⁷ Terä-Tervasmäki 1973, 90—91; Arimo 1981, 22, 25—26.

⁶³⁸ MA, Board of Acquisitions, SArk 2137/8, minutes 1919, in particular 15.8.1919, 19.8.1919,

construction works.⁶³⁹ Also, the MPs of different parties criticized this solution during the budget round of 1919. According to representative Juho P. Kokko, cases like this represented a waste of the people's tax money:⁶⁴⁰

"If it is true that the company gets 10 % of the gross costs, it is wholly impossible. No wonder if the works become as expensive as they will. Will this kind of hoax be successful? It is told that the contractor of the works is an official of the military establishment who also awarded the contract, received it, and also acted as the highest overseer of the works. Those who will review the public accounts of the government will undoubtedly pay attention to this kind of thing, so that there will be no chance of wasting the people's money this way and raise the tax burden so great that it will transform the payment of taxes into hammer markets."

The state accountants did indeed review this process as well due to a request of the Diet. The criticism that ensued led to the dissolution of the contract and another bidding round, in particular since four other persons were found to have transferred from the Ministry to the employment of this company.⁶⁴¹ In 1921, during a new bidding round, four companies in all made a bid on the contract. The Board once again recommended Oy Granit to be given the contract due to its expertise and the hurried nature of the project. Another company, however, named *Oy Pyramid* had made a cheaper bid, which resulted in a compromise: both Oy Granit and Oy Pyramid were awarded the contract on 8.7.1921. The contract was less favourable for the companies than the one offered to Oy Granit in 1919, since their profit share was now assigned to be ten per cent of the work wages instead of the twenty offered in 1919. Each company was given its own separate work assignments. As Reino Arimo has estimated, these two companies were thus able to secure themselves a monopoly position on the future contracts in fortifications, especially in the 1930s.⁶⁴²

Did Oy Granit benefit from the connections and the exchange of personnel in such an obvious way? Does this process reflect collusion between the public and private spheres? Apparently this is not as clear-cut a case as it may seem initially. Firstly, the bidding practices that the Board carried out in the 1920s did, at least nominally, give opportunities for other contractors to obtain the future contracts.⁶⁴³ Secondly, the projects did not always go according to the plans,

26.8.1919, 28.8.1919; Arimo 1981, 46.

⁶³⁹ MA, Board of Acquisitions, SArk 2137/9, minutes 1920, 20.2.1920.

⁶⁴⁰ Parliamentary Minutes II/1919, 1695—1697.

⁶⁴¹ Parliamentary Documents IV-V/1923. Helsinki 1924. *Valtiontilintarkastajain kertomus vuodelta 1920*. (Helsinki 1922); MA, Archive of the Ministry of Defense, The Minister and Adjutancy 1918—1937. Other documents organized according to their content 1920—1923. Hc 3.

⁶⁴² MA, Board of Acquisitions, SArk 2137/10, minutes January-June 1921, 27.5.1921, 31.5.1921; Arimo 1981, 47.

⁶⁴³ Arimo 1981, 55—60; MA, Board of Acquisitions, SArk 2137/10, minutes January-June 1921, 17.5.1921; MA, Board of Acquisitions, SArk 2137/11, minutes 1.7.—31.12.1921, 23.8.1921. See also

because there were big disputes between the Ministry and the construction companies at times. Based on Reino Arimo's assessment, it seems that the tough debates that took place between the principal and the agent in this case complicated their interaction: For example, one of the companies was banned for a while from the construction site due to "unsuitable behavior".⁶⁴⁴ Thus, the networks between the Ministry officials and the companies did not make it much easier for these actors to engage, for example, in negotiations over the profit margin.

Oy Granit and the former officials of the Ministry of War that joined it apparently benefited from their personal networks mainly in the beginning of this process, during the bidding competitions. However, this was a case of merely unethical conduct that was not criminalized by the law, because most of the persons did not function in multiple roles. Only the actions of Engineer Lönnroth were clearly questionable, but not illegal. His actions were most likely based on individual rent seeking motives, which indeed produced a good economic payoff.⁶⁴⁵ The element of collusion was definitely present and resulted in the widening of the contact surfaces in this case, although outright corruption is difficult to prove in retrospect. The personal networks between the key actors clearly fuddled the principal-agent relationship, yet the collusion between the persons was far from unproblematic and its duration was mainly limited to the early 1920s in the Finnish case. It can also be argued that for example Oy Granit represented rare expertise in this matter, a monopoly of talent in a way, which made it possible for these infractions to occur. Moreover, the military establishment was in its formative stages, and it had to rely on outside experts. The more extensive forms of public-private interaction widened the corruptive contact surface and enabled much more extensive rent seeking, and even occasional collusion, in the Finnish case compared to the Swedish case.

Most of the researchers agree, at least to some degree, that there were some material deficiencies evident in the Finnish armed forces before the Winter War of 1939. The explanations for this state of affairs have thus far almost without exception referred to the "insufficient" level of the military expenditures. There have also frequently been references to the "shortsightedness" of the politicians in denying the larger appropriations.⁶⁴⁶ However, if we compare the Finnish military expenditures to the developments within other, small or large, democracies, we find that the Finnish military expenditures, to say the least, developed quite favorably during the interwar period. If the military spending in Finland was comparatively

Eloranta 2000b.

⁶⁴⁴ Arimo 1981, 50.

⁶⁴⁵ See e.g. Arimo 1981.

quite adequate, why were there such material deficiencies to be found before the Winter War? The path dependence defined earlier developed in this case as a combination of several factors. Firstly, the Finnish military establishment was not able to apply comprehensive planning in its military acquisitions (for example, the plans prepared by the Defense Revision). This was brought about by the division of the officer corps and their inexperience in the 1920s, as well as certain political considerations. Secondly, the Finnish military establishment had to be created almost out of nothing on the basis of the war booty materials. Thirdly, the military acquisitions in Finland were largely, due to the influence of domestic industrial interests, based on domestic production, which also led to the founding of government-owned production units.

The role played by the smaller organizations, such as committees and interest groups, in the allocation of military funding was central in interwar Finland. The organizational activities of these groups were made possible by the internal power struggles within the larger political entities as well as in the military establishment itself. For example, the Board of Acquisitions in the Ministry of Defense, which maintained a tight control of military acquisitions, consisted of members of the economic elites and interest groups, such as the Federation of Finnish Industries. The influence of the domestic interests in the decision-making led to an emphasis on domestic military production, which "path" was further strengthened by the establishment of government-owned military production facilities supported by the Social Democrats, otherwise averse to military spending.

The fourth important point as far as the development path of military spending in Finland is concerned relates to the fact that Finland upheld, in relative terms, quite large armed forces compared to many other European states during the interwar period. The armed forces, however, were divided internally in the high command due to the power struggles between the Czar's officers and the Jaeger officers. Additionally, the Finnish naval officers, both working in the Ministry of Defense and through the various pressure organizations, were able to push through a large naval building program in the late 1920s. The acquisition plans of the other branches were largely ignored. Still, the Finnish military spending in 1927—1936 was hardly insufficient as such: The Defense Revision Committee's estimates, considered to be too expensive for the state at the time of their completion, were exceeded clearly, especially during the depression years. The most decisive factor in the military spending in Finland was the allocation of defense contracts to the domestic, private and public, industries, which often had to be created out of nothing. These facilities were also awarded significant price advantages

⁶⁴⁶ See e.g. Juottonen 1997.

compared to the foreign producers. Furthermore, the lack of planning in acquisitions made it difficult to monitor the development of the material status of the armed forces. We can, however, confirm the view of the "shortsightedness of the politicians".

There are distinctly path dependent features in the development of military spending in interwar Finland. However, it may be too ahistorical to make a value judgment whether it was first, second, or third degree path dependence, as research on technological development sometimes attempts to do. It is difficult to assess if the actors — in this case, the members of the elites and the interest groups — were aware of the "inefficiency" of the choice that they made. Their interests were also often very complex and intertwined — for example, the members of the Federation of Industries wanted to further their own economic interests as well as maintain Finland's preparedness during a time of crisis, namely with domestic production. Thus, it is questionable whether these choices were clearly inefficient inasmuch the survival in the Second World War is concerned. In fact, such an interpretation would essentially accept the myopic bias often plaguing the contemporary decision-makers. Also, it may be impossible to separate the right-wing ideological thinking, mostly the fear of the spread of socialism, from the profit-maximization of these actors. I would prefer to label their actions as complex utility-maximization, of which I have presented an abstraction. Thus, the concept of path dependence should here be considered merely a tool in providing more comprehensive explanation, not as a breakthrough in the aggregate theoretical framework.

7.4. Conclusions

The interest groups that operated in the political markets for public goods, defined loosely, consisted of political parties, state bureaucracies, and economic (namely producers) interest groups. It seems evident from the quantitative analysis that a stronger consensus, implying declining party fragmentation, among the political parties fostered higher relative military spending. Although in the Swedish case, on the rare occasion that the major parties agreed on the necessity of disarmament, such decisions were reached after lengthy negotiations. State bureaucracies had only limited opportunities to maximize their budgets, especially in the Finnish context of newly created organizations. Yet, in both countries the military spending shares seemed to indicate budgetary immobility on the aggregate. This implies that the military bureaucrats were able to maintain the spending levels relatively unchanged despite changes in the economy as a whole or the central government spending. The opportunities of influencing military spending policy-making by both the political parties and the bureaucrats were severely

limited by the division between the parties in the political field and the difficulty of fundamentally changing the existing laws on the consumption component in the aggregate ME, especially concerning conscription.

However, there were more opportunities available for the economic interest groups to achieve their goals in this game in the Finnish case. These groups, representing the producing sectors, were primarily interested in the level of military capital expenditures and to whom the respective contracts would be awarded. Often these groups even favored lower public and military spending on the aggregate. The industrial federations in these two countries, representing domestic market interests, were particularly active in soliciting concrete benefits and price advantages as well as participating in the various public-private sector forms of cooperation. They had more opportunities available in the Finnish case, as the Finnish system of governance was still in its formative stage. Thus, the Federation of Finnish Industries obtained specific, binding price advantages in their fight for more contracts to be given to domestic producers. Furthermore, the military import share of Finland declined in the 1930s, despite its extreme dependence on foreign military goods. The Federation of Swedish Industries was more constrained in its rent-seeking, since the more established Swedish political markets did not provide room for similar successes as in the Finnish case. They were not able to obtain fixed contract rules on state military acquisitions, only a loosely drafted recommendation. Nonetheless, the Swedish armaments industries were equally able to resist efforts to nationalize this production branch in the 1930s. Also, the active participation of the Swedish armaments industries in the international markets ensured the survival and growth of these industries. Sweden, along with Czechoslovakia, became one of the leaders in the production and exporting of small and medium size arms in the 1930s.

The military spending of both countries was path dependent, similar to most European cases, in the linear sense. Yet, in the Swedish case the consumption ME was path dependent only in the short run, since compromises altering their level were possible only in increments, and a successful committee round preceded these compromises. Moreover, the impacts of the disarmament decisions were spaced out over several years. The Swedish capital ME was also somewhat path dependent inasmuch it was difficult to undermine the strong position occupied by the private armaments manufacturers in the Swedish society. Nonetheless, the window of opportunity available for private sector gains to be made was smaller than in Finland. In the Finnish case, the consumption ME was more path dependent than in the Swedish case, since it was very difficult to change the laws altering the conscription. Also, the private sector had more

opportunities available in the Finnish case, even resulting in occasional collusion, which maintained strong capital ME levels especially due to the extensive naval investments. These elements introduced mostly short-term path dependence in the Swedish case, and longer-term path dependence in the Finnish case. All the political market hypotheses discussed in Chapter 2 and Section 7.1 received support by the findings here. Of course, the threat scenarios under which the agents functioned in these two countries differed as well. Finland was perhaps more concretely threatened due to its long land border with the Soviet Union, which was considered to be a hostile country due to the historical circumstances and its socialist system. All these factors contributed to the reality that the Finnish relative military spending was higher than the Swedish equivalent.

8. CONCLUSIONS AND FURTHER RESEARCH CHALLENGES

"In order to ascertain the real scale of the means which we must put forth for War, we must think over the political object both on our own side and on the enemy's side; we must consider the power and position of the enemy's State as well as of our own, the character of his Government and of his people, and the capacities of both, and all that again on our own side, and the political connexions of other States, and the effect which the War will produce on those States. That the determination of these diverse circumstances and their diverse connexions with each other is an immense problem, that it is the true flash of genius which discovers here in a moment what is right, and that it would be quite out of the question to become master of the complexity merely by a methodical study, it is easy to conceive."

Carl von Clausewitz 1832⁶⁴⁷

As Clausewitz, one of the most famed military minds of our time, put it, the task of analyzing the complexities of military capacity and its accrument is a daunting one. The main goal of this thesis has been to explain an individual country's demand for military spending based on influences arising from four different, yet intractably linked explanatory levels: 1) International system; 2) Alliance (with the League of Nations serving as an example of a failed alliance); 3) State; 4) Within state. The main question pursued here has been to find out what determines the demand for military spending in a European democratic nation or a nation (i.e., only semi-autocratic) that behaves similarly in the interwar period? The selected eleven European nations, with other larger samples investigated at various points in the thesis, analyzed in this thesis include Belgium, Denmark, Finland, France, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The answers provided in this thesis, both theoretically and empirically, suggest that military spending was an impure public good, implying a combination of both public and private benefits, in this period. The impurely public benefits were linked to the actions of the domestic players in a complex evaluation of the international factors and domestic "needs". This thesis is based on the pluralist notion that domestic choices are the sum of the game that takes place within a particular political economy, not discounting such factors as cultural elements and ideological developments that are primarily excluded from the macro-level perspective adopted here.

On the whole, it is possible to distinguish certain key features in the military spending patterns outlined mostly in Chapter 3. Firstly, it seems that the military burdens of most states in the interwar period remained similar to those that had existed before the First World War, whereas the defense shares usually decreased due to their more limited central government budget role.

⁶⁴⁷ Clausewitz 1982 (reprint), 375.

Secondly, the military burdens and defense shares of the eleven selected European states were, on the average, quite stable in this period, suggesting budgetary path dependence and budgetary immobility for the post- First World War military spending. The Great Depression did not have too big an impact, at least on the aggregate, perhaps due to the domestic market support strategies adopted by many governments that provided a counter-balance. Nonetheless, the military spending of the “authoritarian challengers” increased quite clearly from 1930 onwards. Thirdly, the eleven European states seemed to initiate their rearmament quite late in the 1930s, certainly much later than the centralized nondemocratic regimes. This might have been influenced by their inability to adjust quickly to threats, which is often cited as a characteristic of a democracy, or their prolonged trust in the League of Nations and/or in each other. It is also possible that other impurely public benefits affected their military spending demand functions, as uncovered in Chapter 5. Fourthly, the individual solutions of these countries differed greatly. Fifthly, it seems that the interwar international political climate did not offer much inducement for common security guarantees. As discussed in connection with the League of Nations and economic development, the international “system” lacked leadership and credible commitment to cooperation. Respectively, the disparity between the French and the Germans — first in favor of the French until the early 1930s, then in favor of the Germans in the 1930s — was surely a destabilizing force in the international system. These disparities were reflected on to the international diplomatic scene. Sixthly, it seems that the Great Powers, in general “high” military spenders, usually differed somewhat from the military spending practices of the “weak” states, a term which implies limited political and economic influence in the international system.

At the level of the international system, this thesis investigated the impacts of systemic changes — namely, balance of power, the democratic peace argument, as well as systemic leadership (or the lack of it) — on an individual country’s military spending. On the basis of the statistical exercises undertaken in Chapters 4 and 5, it is possible to assess the success of the theoretical framework in explaining the demand for military spending as an impure public good, especially within the sample of selected eleven European states. Firstly, it seems that systemic forces — with the systemic analyses based on a 17-country system covering the key states in the international economy — indeed played an important role in determining the demand for military spending among the said states. Whereas often the exact impact of these forces was difficult to ascertain precisely, for example the concentration of military resources to fewer hands seemed to lower military spending among these states. Yet, as we have seen in this thesis, this concentration did not occur in the same lines in the 1930s compared to the immediate

period following the First World War. Usually the systemic forces represented a destabilizing force in the international system.

Clearly the democracies as a whole behaved different than the autocracies. They seemed to spend less for military purposes, and an increase in the level of democracy seemed to decrease the impulse to spend on defense. At the level of the system, the new authoritarian challengers represented a systemic threat in the 1930s, to which the democracies on the aggregate responded slowly. International security leadership, in turn, was not forthcoming from the League of Nations, which was unable to act as the guardian of the status quo sealed in Versailles or advance its main goal: widespread disarmament. Thus the selected eleven European states did not consider military spending as a public good in such an alliance framework. In fact, it is here argued that alliances providing a pure public good in the form of deterrence were extremely rare, since the military technology did not provide such characteristics for the pre-NATO alliances. Also, other interwar military alliances beyond the League failed to inspire any more confidence. In general, the decision-making systems embodied by the various types of interwar democracies seemed to provide support for the idea of democratic peace even at the level of military spending. Moreover, the interwar democracies as a whole clearly spent less for military purposes than the authoritarian regimes, and it seems that the level of authoritarian rule was important in determining the level of military spending in relative terms. Finally, the leadership vacuum caused by the passive foreign (and economic) policy stance of the two leading democracies, the United States and the United Kingdom, destabilized the international system even further, thereby rendering disarmament almost impossible to achieve. These factors contributed to the strengthening of impurely public tendencies, especially within states, in the military spending decision-making of these European democracies.

Thus, it seems that the demand for military spending was certainly impurely public, which includes nested pure public characteristics, influenced by forces arising from the four explanatory levels discussed throughout this thesis. Military spending also yielded joint products at the level of state and within state. Military expenditures were not an income-normal good at level of state, and in fact the level of economic development seemed to exert a downward pressure on the military spending of these states. Rising prices of "defense" in general decreased their relative military spending. There were quite contradictory spillover effects felt by these states, yet they responded to increasing threats by increasing their military spending at a lag (usually one year). As far as the interaction between military spending and economic growth was concerned, the short-run dynamics of the comparisons suggest that: 1)

military spending was Granger-caused by economic development rather than vice versa; 2) the short-run impact of military spending on economic growth was almost negligible due to offsetting tendencies.

The domestic political markets are clearly more important in the analysis of military spending in any time period than most earlier studies have indicated. One of the problems in such efforts has been to come across quantifiable, credible proxies measuring the impact of, for example, domestic market interest groups. The results achieved in this thesis suggest that: 1) Increased political competition in the legislatures tended to decrease military spending, as predicted; 2) Election years seemed to have a downward effect on military expenditures, yet this impact did not emerge statistically significant in the pooled sample as a whole; 3) Military expenditures tended to be quite path dependent in terms of previous year's spending levels; 4) Industries as a whole, due to their strong, established position in the political markets, were able to increase military spending during times of industrial slowdown in order to compensate for their losses. Finally, it seems that there are a plethora of indications that the Great Powers and the "weak" states differed in certain respects in their military spending behavior, yet the differences were rather small. Why were there not more apparent distinctions between these groups of states?

The focus on the "weak" states as actors, especially in Chapter 6, revealed that the so-called "weak" states were not quite so weak as expected. Were, for example, they dependent on their military trade? In fact, these "weak" states did not display clear differences in their military trade behavior in terms of, for example, strategic and/or geographic differences, as the hegemonic literature would suggest, and only in a limited sense due to differing income levels. They were, on the whole, dependent on their external trade, although this dependence declined significantly during the 1930s. They were not, however, as dependent on military imports as seemingly suggested by the hypotheses pursued here, rather than on military exports. These "weak" states actually emerged as some of the most dominant sellers of arms in the small and medium size armaments markets in the 1930s. They attempted to extend their military export market shares quite aggressively, often successfully, by selling military goods to even countries potentially hostile to them. Therefore, they did indeed, in addition to their dualistic disarmament role in the League of Nations, act assertively in the balance-of-power system of the interwar period. These states actually discovered the best opportunities for expanding their market shares in the 1930s, in the climate of intense competition for political and economic leadership in the system. By and large, the results achieved in this thesis confirm that also the arms producers of

the "weak" states had room to maneuver in the international markets without significant strategic constraints.

These "weak" states were also constrained by the domestic actors, which parallels the results of the systemic estimations quite well. The results achieved here suggest that many of these countries developed strong domestic military production in the 1930s, especially during the Great Depression, or at least their military import shares grew slower than military capital expenditures in general after the height of the depression. This coincided with a general trend of more extensive reliance on the domestic markets among the European nations.

The interest groups that operated in the European interwar political markets for public goods, defined loosely, consisted of political parties, state bureaucracies, and economic (namely producers) interest groups. The quantitative findings suggest that a stronger consensus leading to less competition, implying declining party fragmentation, among the political parties fostered higher relative military spending. The focus in this thesis was on two polities in particular, Sweden and Finland, in this period. They offered both similarities and dissimilarities in perspective and historical contingencies that enriched the comparisons. Finland was an agriculturally dominated economy, significantly behind its Nordic neighbors in industrialization, that had just become independent. The challenges the Finns faced included the creation of a new administrative infrastructure. Sweden, respectively, had a mature industrial base and established political markets.

In the Swedish case, on the rare occasion that the major parties agreed on the necessity of disarmament after an extensive committee phase, decisions imposing subsequent military spending cuts were undertaken only after lengthy negotiations and implemented slowly. State bureaucracies had only limited opportunities to maximize their budgets, especially since these bureaucracies were quite undeveloped in the Finnish context. Yet, in both countries the military spending shares seemed to behave opposite to central government spending trends, thus indicating budgetary immobility once again. Therefore, the military bureaucrats, usually officials of the Ministries of Defense, and the certain interest groups were able to maintain the spending levels relatively unchanged, either in the short or the longer run, despite changes in the economy or the central government spending practices. The opportunities of influencing military spending policy-making by the political parties and the bureaucrats were severely limited by the division in the political field and the difficulty of fundamentally changing the existing laws on the consumption ME, especially governing conscription in the Finnish case.

Therefore, there were more opportunities available for the economic interest groups to achieve their goals in the game for impurely public benefits arising from the military spending in the Finnish case. These groups, mainly representing the producing sectors, were primarily interested in the level of military capital expenditures and the awarding of the ensuing contracts. Often these groups favored lower public and military spending on the aggregate, meaning lower levels of taxation, which coincided with the political philosophy of many center and right-wing parties in Sweden and Finland. The industrial federations in these two countries, representing domestic market interests, were particularly active in soliciting concrete benefits and price advantages as well as participating in the various public-private sector forms of cooperation. They had more opportunities available in the Finnish case, as the Finnish system of governance was still in a state of flux. Thus, the Federation of Finnish Industries obtained specific price advantages of up to twenty per cent to the domestic producers in government acquisitions. Furthermore, the military import share of Finland declined in the 1930s, despite its extreme dependence on foreign military goods. This had obvious adverse effects on the material status of the Finnish military establishment. Also, the long process of establishing state-owned production units contributed to this predicament. The Federation of Swedish Industries was more constrained in its rent-seeking, since the more established Swedish political markets did not provide room for similar measures as in the Finnish case. They were able to obtain only a loosely drafted recommendation on state military acquisitions. Nonetheless, the Swedish armaments industries were able to resist efforts to nationalize military production in the 1930s, which was the result of their established position in the Swedish supply framework. Also, the active participation of the Swedish armaments industries in the international markets, in addition to key domestic committees, ensured the survival and even growth of these industries. Bofors, one of the key suppliers of Swedish armed forces, became an important exporter of small and medium size arms along with its Czech competitors.

The military spending of both countries was clearly path dependent in the linear sense, which applied to most of these eleven European states in the interwar period. Nonetheless, there were significant differences in such tendencies in the Swedish and Finnish cases. In the Swedish case, the military consumption expenditures were path dependent only in the short run, since compromises altering their level were eventually possible, yet the impacts were smoothed over several years. The Swedish military establishment's capital spending was also path dependent, since the strong position occupied by the private armaments manufacturers in the Swedish society made it difficult to constrain their rent seeking altogether. Nonetheless, the window of opportunity available for private sector gains was smaller in Sweden than in Finland. In the

Finnish case, the military consumption expenditures were more path dependent than in the Swedish case, since it was very difficult to change the laws on conscription. Moreover, the private sector had other opportunities available in the Finnish case, even resulting in occasional collusion, which kept the capital component in military spending (especially naval investments) high. These elements introduced mostly short-term path dependence in the Swedish case, and longer term path dependence in the Finnish case. Yet, the threats and the international position of these two states differed greatly, which affected the behavior of the agents as well. For example, the actions of the private sector representatives were not motivated by pure profit maximization in the 1930s rather than a complex set of priorities including nationalism and hatred of the socialist system. Finland was perhaps more concretely threatened due to its long land border with the Soviet Union, whereas Sweden seemed to feel somewhat less threatened from both the east and the south. Nonetheless, Sweden did consider the emergence of Finland and the Baltic states as an additional security instrument in the Baltic region, which contributed to its willingness to disarm.

In the following I will reproduce the list of hypotheses that were pursued in this thesis, and a summary of how they fared in the various analyses carried out in this thesis. The following list includes the number of the hypothesis, the relevance (relevant, uncertain, not relevant) of the possible quantitative indicator in the estimations, whether it received weak or strong support (or in fact support at all or support to the contrary, and the means by which this support was gathered. These hypotheses should be cross-referenced with the list of hypotheses presented at the end of Chapter 2.

LIST OF HYPOTHESES 1—50:

1. INTERNATIONAL SYSTEM: (HYPOTHESES 1—11)

1.1. BALANCE OF POWER: (HYPOTHESES 1—4)

- ⊙ **HYPOTHESIS 1.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 2.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 3.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 4.** Relevance: relevant. Support: strong. Analysis: quantitative.

1.2. DEMOCRATIC PEACE: (HYPOTHESES 5—8)

- ⊙ **HYPOTHESIS 5.** Relevance: irrelevant. Support: none. Analysis: quantitative.
- ⊙ **HYPOTHESIS 6.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 7.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 8.** Relevance: relevant. Support: strong. Analysis: quantitative.

1.3. SYSTEMIC LEADERSHIP: (HYPOTHESES 9—11)

- ⊙ **HYPOTHESIS 9.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 10.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 11.** Relevance: relevant. Support: strong. Analysis: quantitative.

2. ALLIANCE: (HYPOTHESES 12—18)

2.1. ALLIANCE MEMBERSHIP: (HYPOTHESES 12—13)

- ⊙ **HYPOTHESIS 12.** Relevance: irrelevant. Support: none. Analysis: quantitative.
- ⊙ **HYPOTHESIS 13.** Relevance: uncertain. Support: none. Analysis: quantitative.
- 2.2. PURE PUBLIC GOOD: (HYPOTHESES 14—16)**
- ⊙ **HYPOTHESIS 14.** Relevance: relevant. Support: strong, opposite. Analysis: quantitative.
- ⊙ **HYPOTHESIS 15.** Relevance: relevant. Support: strong, opposite. Analysis: quantitative.
- ⊙ **HYPOTHESIS 16.** Relevance: relevant. Support: uncertain. Analysis: quantitative.
- ⊙ **2.3. JOINT PRODUCTS (=IMPURE PUBLIC GOOD WITHIN AN ALLIANCE): (HYPOTHESES 17—18)**
- ⊙ **HYPOTHESIS 17.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 18.** Relevance: relevant. Support: strong. Analysis: quantitative.
- 3. STATE: (HYPOTHESES 19—39)**
- 3.1. PURE PUBLIC GOOD CHARACTERISTICS: (HYPOTHESES 19—23)**
- ⊙ **HYPOTHESIS 19.** Relevance: relevant. Support: strong, opposite. Analysis: quantitative.
- ⊙ **HYPOTHESIS 20.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 21.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 22.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 23.** Relevance: uncertain. Support: none. Analysis: quantitative.
- 3.2. DEMOCRATIC PEACE: (HYPOTHESES 24—29)**
- ⊙ **HYPOTHESIS 24.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 25.** Relevance: uncertain. Support: none. Analysis: quantitative.
- ⊙ **HYPOTHESIS 26.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 27.** Relevance: uncertain. Support: none. Analysis: quantitative.
- ⊙ **HYPOTHESIS 28.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 29.** Relevance: relevant. Support: weak. Analysis: quantitative.
- 3.3. ECONOMIC DEVELOPMENT - MILITARY SPENDING: (HYPOTHESES 30—33)**
- ⊙ **HYPOTHESIS 30.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 31.** Relevance: irrelevant. Support: none. Analysis: quantitative.
- ⊙ **HYPOTHESIS 32.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 33.** Relevance: relevant. Support: weak. Analysis: quantitative.
- 3.4. "WEAK" STATES VS. GREAT POWERS: (HYPOTHESES 34—)**
- ⊙ **HYPOTHESIS 34.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 35.** Relevance: uncertain. Support: uncertain. Analysis: quantitative.
- ⊙ **HYPOTHESIS 36.** Relevance: relevant. Support: weak, also for military exports. Analysis: quantitative.
- ⊙ **HYPOTHESIS 37.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 38.** Relevance: relevant. Support: weak. Analysis: quantitative.
- ⊙ **HYPOTHESIS 39.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.
- 4. WITHIN STATE: (HYPOTHESES 40—50)**
- 4.1. IMPURE PUBLIC GOOD: (HYPOTHESES 40—50) (*=evidence only from the Swedish-Finnish interwar context)**
- ⊙ **HYPOTHESIS 40.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.*
- ⊙ **HYPOTHESIS 41.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.*
- ⊙ **HYPOTHESIS 42.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.
- ⊙ **HYPOTHESIS 43.** Relevance: relevant. Support: strong. Analysis: quantitative.
- ⊙ **HYPOTHESIS 44.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.
- ⊙ **HYPOTHESIS 45.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.
- ⊙ **HYPOTHESIS 46.** Relevance: relevant. Support: strong. Analysis: qualitative.*
- ⊙ **HYPOTHESIS 47.** Relevance: relevant. Support: strong. Analysis: qualitative.*
- ⊙ **HYPOTHESIS 48.** Relevance: relevant. Support: strong. Analysis: qualitative.*
- ⊙ **HYPOTHESIS 49.** Relevance: relevant. Support: strong. Analysis: quantitative, qualitative.
- ⊙ **HYPOTHESIS 50.** Relevance: relevant. Support: uncertain. Analysis: quantitative.

This study also suggests further challenges for the study of military spending during the interwar period. Firstly, it should prove helpful if the sample could be widened and some of the

data problems involving the Eastern European states could be resolved. Secondly, we need more concrete ways of measuring supply and demand side developments at the same time. An application of supply side models, if data could be gathered for these purposes, would give a more accurate picture of the incentives facing the military producers, for example. Thirdly, the supply and demand factors should also include the impact of domestic power structures and allocation patterns, as well as competition within the political markets in a comprehensive manner. A concise game theoretical analysis of the interaction patterns between the agents would improve the relative weight of many of the claims made in this thesis. Therefore, this thesis is merely a step in the right direction. Also, a similar framework as developed here could be applied to other time periods and samples of countries as well. After all, military expenditures greatly reflect the values of the societies in question. Fourthly, the application of factor analysis might be necessary to distinguish between the systemic forces in the kinds of demand analyses carried out in this thesis. Fifthly, one should also attempt to study military expenditures more closely in connection with the central government spending practices as a whole and the development of public debt. Military expenditures were and are often funded in arrears, and public debt seems to have been an important explanatory variable in the development of military spending in the long run.⁶⁴⁸ All these challenges, if met, would surely increase our understanding of the demand for military spending in any time period. In any case, military spending is very likely to be an impure public good in most instances, with influences originating from the four levels of analysis explored in this thesis.

⁶⁴⁸ This was originally suggested to me by Avner Offer. See also Clark 2001 for a similar argument and application. In the long run, the significance of credit can hardly be disputed. See also *The Rise of the Fiscal State in Europe c. 1200—1815*. Edited by Richard Bonney. Oxford University Press. Oxford 1999.

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APPENDICES

APPENDIX 1. Details on the Abbreviations and Statistical Tests

Table 1A. Abbreviations Used in the Thesis, in Alphabetical Order

<i>2SLS</i>	Two-Stage Least Squares
<i>3SLS</i>	Three-Stage Least Squares
<i>ADF</i>	Augmented Dickey Fuller
<i>ALLIANCEDUM</i>	Alliance dummy
<i>AR</i>	Autoregressive (term)
<i>ATOP</i>	Alliance Treaty Obligations and Provisions
<i>AUT</i>	Austria
<i>AUTOC</i>	Autocracy
<i>AUTOCCINC</i>	CINCs of autocracies, system
<i>AUTOCDUM</i>	Autocracy dummy
<i>AUTOCTOTME</i>	Total ME by autocracies, system
<i>BEL</i>	Belgium
<i>BF</i>	Belgian francs
<i>C</i>	Constant
<i>CAPME</i>	Military capital expenditures
<i>CCC</i>	Contracts Coordinating Committee
<i>CFAP</i>	Central Federation of Agricultural Producers (Finland)
<i>CFFWI</i>	Central Federation of Finnish Woodrefining Industries
<i>CGE</i>	Central government expenditures
<i>CID</i>	Committee of Imperial Defence
<i>CINC</i>	Composite Index of National Capabilities
<i>CINCCONC</i>	Concentration of CINCs, system
<i>COMBTHRT</i>	Aggregate threat index
<i>CONSME</i>	Military consumption expenditures
<i>COW</i>	Correlates of War
<i>CZE</i>	Czechoslovakia
<i>DEMDUM</i>	Democracy dummy
<i>DEMOC</i>	Democracy
<i>DEMOCCINC</i>	CINCs of democracies, system
<i>DEMOCTOTME</i>	Total ME by democracies, system
<i>DEN</i>	Denmark
<i>DFSHARE</i>	Defense share
<i>DKR</i>	Danish kronas
<i>DS</i>	Difference-stationary
<i>DSP</i>	Difference-stationary process
<i>ECONCINC</i>	Economic resources in CINC, system
<i>ELECTIONDUM</i>	Election year dummy
<i>ESP</i>	Spanish pesetas
<i>EUROPEMEPRICE</i>	European market price of arms
<i>FBI</i>	Federation of British Industries
<i>FFI</i>	Federation of Finnish Industries
<i>FIM</i>	Finnish markkas
<i>FIN</i>	Finland
<i>FRA</i>	France
<i>FRF</i>	French francs
<i>FSI</i>	Federation of Swedish Industries
<i>GBP</i>	British pounds sterling
<i>GDP</i>	Gross Domestic Product
<i>GDPCAP</i>	Real GDP per capita
<i>GDPSHARE</i>	Real GDP share, system

<i>GER</i>	Germany
<i>GERSOVTHRT</i>	German-Soviet-weighted threat index
<i>GERTHRT</i>	German-weighted threat index
<i>GLS</i>	Generalized Least Squares
<i>GNP</i>	Gross National Product
<i>ITA</i>	Italy
<i>JAP</i>	Japan
<i>LO</i>	Landsorganisationen
<i>LOG</i>	Logarithm
<i>MA</i>	Moving average (term)
<i>MAD</i>	Mutually Assured Destruction
<i>ME</i>	Military expenditures
<i>MESHARE</i>	Real military spending share, system
<i>MF</i>	Microfilm
<i>MIC</i>	Military-industrial complex
<i>MILBUR</i>	Military burden
<i>MILCINC</i>	Military resources in CINC, system
<i>MILCINCCONC</i>	Concentration of MILCINCs, system
<i>MILEXP</i>	Military exports
<i>MILIMP</i>	Military imports
<i>MILIMPOFME</i>	Military imports of ME
<i>MP</i>	Military personnel or member of parliament, depending on context
<i>NATO</i>	North Atlantic Treaty Organization
<i>NED</i>	The Netherlands
<i>NLG</i>	Dutch guildens
<i>NOK</i>	Norwegian kronas
<i>NOR</i>	Norway
<i>OLS</i>	Ordinary Least Squares
<i>PAC</i>	Political action committee
<i>POP</i>	Population
<i>POR</i>	Portugal
<i>PPP</i>	Purchasing power parity
<i>PSOC</i>	Principal Supply Officers Committee
<i>PTE</i>	Portuguese escudos
<i>RUS/USSR</i>	Soviet Union
<i>S.E.</i>	Standard error
<i>SAAB</i>	Svenska Aeroplanaktiebolaget
<i>SAF</i>	Svenska arbetsgivareföreningen
<i>SAT</i>	Suomen Ampumatehdas Ab
<i>SEK</i>	Swedish kronas
<i>SFR</i>	Swiss francs
<i>SIPRI</i>	Stockholm International Peace Research Institute
<i>SNA</i>	System of National Accounts
<i>SPA</i>	Spain
<i>SUR</i>	Seemingly Unrelated Regressions
<i>SWE</i>	Sweden
<i>SWI</i>	Switzerland
<i>SYSTOTME</i>	Total system ME
<i>SYSTOTMECV</i>	Coefficient of variation on the total system ME
<i>TRADEOFGDP</i>	Percentage, trade of GDP
<i>TS</i>	Trend-stationary
<i>UKCINC</i>	CINC of the United Kingdom
<i>UKME</i>	ME of the United Kingdom
<i>UKMILCINC</i>	MILCINC of the United Kingdom
<i>USA</i>	The United States
<i>USACINC</i>	CINC of the United States
<i>USAME</i>	ME of the United States

<i>USAMILCINC</i>	MILCINC of the United States
<i>USD</i>	U.S. dollars
<i>VOL</i>	Volume

Appendix 1B. Details on the Parametric and Nonparametric Statistical Tests Utilized in Tables 4 and 11

Note! All tests reported in this section have the same mean, median, or variance as the null hypothesis. Details can be found in Gujarati 1995 and EViews 3.1 manual.

Mean Equality Test:

Carries out the test of the null hypothesis that the mean of the series x is equal to a specified value y against the two-sided alternative that it is not equal to y .

Median Equality Tests:

**Mann-Whitney U-test* ranks the series from smallest value (rank 1) to largest, and to compare the sum of the ranks from the first subgroup to the sum of the ranks second subgroup. If the groups have the same median, the values should be similar.

**Kruskal-Wallis one-way ANOVA by ranks*, which is a generalization of the Mann-Whitney test to more than two subgroups. The test is based on a one-way analysis of variance using only ranks of the data

**van der Waerden* (normal scores) test, which is similar to the Kruskal-Wallis test, except that the ranks are smoothed by converting them into normal quantiles.

**Chi-square test for the median*, which is a rank-based ANOVA test, based on the comparison of the number of observations above and below the overall median in each subgroup.

**Adjusted Chi-square test for the median*, same as above but the so-called Yates' continuity corrected statistic.

Variance Equality Tests:

**Standard F-test*

**Siegel-Tukey test*, which assumes the two subgroups are independent and have an equal median. The test statistic is computed using the same steps as the Mann-Whitney U test for median equality, however with a different assignment of ranks. Here the ranking for the Siegel-Tukey test alternates from the lowest to the highest value for every other rank.

**Bartlett test*, which compares the logarithm of the weighted average variance with the weighted sum of the logarithms of the variances.

**Levene test*, which is based on an analysis of variance of the absolute difference from the mean.

**Brown-Forsythe*, a modified Levene test. This is a modification of the Levene test in which the absolute mean difference is substituted with the absolute median difference.

APPENDIX 2. Details on the Data Sources and Adopted Solutions

COMMON DATA:

*=part of the core sample of eleven European states

▣=part of the larger sample of 17 European states

Note! Many, but not all, of the series mentioned here can be found in the enclosed CD-ROM database.

1920—1938*▣:

Military personnel data (thousands) from Singer-Small 1993. *Iron and steel production* (thousands of tons) from Singer-Small 1993. *Urban population* (population living in cities with population greater than 100,000 – in thousands) figures from Singer-Small 1993. *Levels of democracy and autocracy* (separate indices, scale from 0—10, with the score 6 or higher in the democracy index taken as indicating a democracy, with the score 3 or higher in the autocracy index taken as indicating an autocracy; these indices are constructed on the basis of the following variables: competitive participation in politics, regulation of participation, executive recruitment regulation, executive recruitment competition, executive recruitment openness, and executive constraints), used to divide the military threat into either democratic or authoritarian (neutral countries were excluded) aggregates, taken from Polity 3D 2000. *Alliances* (defined very broadly as including any defensive, offensive, neutrality, nonaggression, or consultation obligations), used to construct alliance dummies for each country, by year from ATOP 2000. *Exchange rates* used in various conversions from Global Financial Data 2000 (only partially for France, Germany, the UK, the USA), otherwise from *Währungen der Welt* 1991, 1997 and *Autio* 1992. Data on *battleships* as well as *nominal and depreciated tonnages*⁶⁴⁹ were found in Modelski-Thompson 1988, complemented with data from the League of Nations, *Armaments Year-Books* 1924—1940 and League of Nations, *Statistical Enquiry into National Peace-time Armaments*. A.20. 1923. IX.

1920—1938*:

Definitions of military expenditures can be found in Chapter 1 of this thesis as well as in Eloranta 1998, Appendices. In addition to the ME series indicated on country-basis, three other series are often used as a point of reference in this thesis: Banks (1976) figures; National Capabilities (Singer-Small 1993) figures; and the figures collected by the League of Nations (League of Nations, *Armaments Year-Books* 1924—1940; League of Nations, *Budget expenditure on national defence: 1913 and 1920—1922*. A.38(a). 1922. IX; League of Nations, *Statistical Enquiry* 1923). Additionally, a general reference to the data on the *capital goods prices* can be found in Collins-Williamson 2001. Data on these countries' military imports and exports can be found in the League of Nations, *Statistical Year-Books of the Trade in Arms and Ammunition* 1924—1938, as well as other sources listed in Chapter 6 of this thesis.

COUNTRY-SPECIFIC DATA:

AUSTRIA▣

1920—1938:

Nominal ME from Singer-Small 1993, converted using the exchange rates listed above. *Nominal GDP* obtained by deflating the real GNP found in Kausel et al. 1965 for 1920—1923 by the combined price index described below, otherwise nominal GDP from Mitchell 1998b. *Real GDP* from Maddison 1995, adjusted according to 1929 indirect PPP-level differences calculated in Prados de la Escosura 2000. *Total population* from Maddison 1995. *Nominal CGE* for 1923—1937 (1920—1923 defense share [=ME of CGE] extrapolated using the military burden [=ME of GDP] trend, 1938 defense share, for systemic purposes, assumed to be the same as in 1937) from Mitchell 1998b. Regarding *price data*, the consumer

⁶⁴⁹ As indicated in Section 3.3 of this thesis, only benchmark years (1923, 1928, 1933, 1938) were utilized to come up with the depreciated tonnage figures, due to the enormous amount of work involved. Interpolation to come up with the series individually was performed using a combined index of naval spending and battleships found in Modelski-Thompson 1988, backwards from each observation point. Following the specifications laid by the League of Nations (*Statistical Enquiry* 1923, 3), the depreciation times were set as: 20 years for battleships, battle cruisers, coastal defense ships, destroyers, monitors, aircraft carriers and miscellaneous craft; 17 years for cruisers and light cruisers; 12 years for torpedo craft and submarines.

price index (CPI) for 1920—1938 and WPI for 1922—1938 taken from Mitchell 1998b, and combined with equal weighting (for 1920—1921 only CPI taken) to come up with a deflator for ME. Nominal ME was then converted to 1929 prices and adjusted with the indirect PPP-converters found in Prados de la Escosura 2000 and the exchange rates mentioned above to come up with *real ME* in 1929 (quasi)-USD.

BELGIUM*

1920—1938:

Nominal ME from Clement 2000 (including the breakdown of the components). *Nominal GDP* from Buyst 1997. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Clement 2000. Regarding *price data*, WPI (year 1920 missing) and CPI from Mitchell 1998b, combined with equal weighting (for 1920 only CPI taken) to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

BULGARIA

1925, 1930, 1935:

Nominal ME from Singer-Small 1993, using the exchange rates described above. *Nominal NNP* from Mitchell 1998b. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* from Maddison 1995.

DENMARK*

1920—1938:

Nominal ME from Johansen 1985. *Nominal GDP* from Johansen 1985. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Johansen 1985. Danish WPI and CPI from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from Bjerke 1955. *Real industrial value added* from Hansen 1974.

FINLAND*

1920—1938:

Nominal ME from Tervasmäki 1964 (including the breakdown of the components). *Nominal GDP* from Hjerpe 1988. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* obtained from Taimio 1986. Finnish WPI and CPI from Hjerpe 1996, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from Hjerpe 1988. *Real industrial value added* from Hjerpe 1988.

FRANCE*

1920—1938:

Nominal ME from Frankenstein 1982 (including details on the military capital expenditures). *Nominal GDP* from Mitchell 1998b. *Real GDP* from Maddison 1995, adjusted as in the Austrian case. *Total population* from Maddison 1995. *Nominal CGE* from Maddison 1998b. French WPI from Mitchell 1998b and French CPI from Global Financial Data 2000, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from Chadeau 1989 (1920—1921 extrapolated with French WPI). *Real industrial product* from Chadeau 1989.

GREECE

1925, 1930, 1935:

Nominal ME as an average of Singer-Small 1993, using the exchange rates described above, and League of Nations, Armaments Year-Books 1924—1940. *Nominal GDP* from Kostelenos 1995. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* for 1929 onwards from Maddison 1995, extrapolated backwards using the 1929 ratio between the Maddison figures and Kostelenos 1995 real GDP data.

GERMANY*

1920—1938:

Nominal ME for 1920—1923 from Singer-Small 1993, converted by using the exchange rates described above, for 1924—1931 from League of Nations Armaments Year-Books 1924—1934, and for 1932—1938 from Abelshausen 1998. *Nominal NNP* from Mitchell 1998b (1920—1924 missing, military burden extrapolated by using defense share trend, see CGE below). *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* for 1920—1921, 1924—1934 from Mitchell 1998b (1922—1923 defense shares from Banks 1976), for 1935—1938 from Klein

1959. German *WPI* and *CPI* from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

HUNGARY

1925, 1930, 1935:

Nominal ME as an average of Singer-Small 1993, using the exchange rates described above, and League of Nations, Armaments Year-Books 1924—1940. *Nominal NNP* from Mitchell 1998b. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* from Maddison 1995.

ITALY[¶]

1920—1938:

Nominal ME for 1920—1922 from Il bilancio dello Stato 1969, for 1923—1932 from Sullivan 1984, and for 1933—1938 from Zamagni 1998.⁶⁵⁰ *Nominal GDP* from Rossi et al. 1993. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Ercolani 1975. Italian *WPI* and *CPI* from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

JAPAN[¶]

1920—1938:

Nominal ME (with extraordinary ME included, see Eloranta 2000a for details on the argument favoring their inclusion) from Emi-Shionoya 1966. *Nominal GNP* from Ohkawa et al. 1974. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* (general government expenditures) from Emi-Shionoya 1966. Japanese *WPI* from Mitchell 1998c, and Japanese *CPI* from Global Financial Data 2000, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

THE NETHERLANDS^{*¶}

1920—1938:

Nominal ME from Central Bureau voor de Statistiek 1979 (without extraordinary ME). *Nominal GDP* from Bakker et al. 1990 (1920 figure is nominal NNP from Central Bureau voor de Statistiek 1979 raised by 8.4 per cent). *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Mitchell 1998b. Dutch *WPI* and *CPI* from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from de Jong 1999. *Real industrial value added* from de Jong 1999.

NORWAY^{*¶}

1920—1938:

Nominal ME from Historisk Statistikk 1978. *Nominal GDP* from Historisk Statistikk 1978. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Historisk Statistikk 1978. Norwegian *WPI* and *CPI* from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from NOS XII 1969 and Nasjonalregnskap 1968. See also Bjerke 1966. *Real product of mining, manufacturing and gas supply* from Nasjonalregnskap 1968.

POLAND

1925, 1930, 1935:

Nominal ME from Singer-Small 1993, using the exchange rates described above. *Nominal GNP* from Lethbridge 1985 (the Klarner estimates), missing for the period 1920—1928. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* from Maddison 1995, missing for the period 1920—1928.

PORTUGAL^{*¶}

1920—1938:

Nominal ME from Valério 1994. *Nominal GDP* from Batista et al. 1997. *Real GDP* from Batista et al. 1997, adjusted to 1929 prices using the indirect PPP-converters found in Prados de la Escosura 2000.

⁶⁵⁰ It is argued here that this combination ME (colonial ME excluded) will represent the best choice according to the definition put forth in the introduction. On other sources of Italian ME and their time series qualities, see e.g. Eloranta 2000a.

Total population from Maddison 1995. *Nominal CGE* from Valério 1994. Regarding *price data*, Portuguese WPI taken from Valério 1994, and Portuguese CPI for 1929—1938 from Mitchell 1998b, combined with equal weighting (only WPI for 1920—1928) to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price* index from Batista et al. 1997. *Real industrial value added* from Batista et al. 1997.

RUMANIA

1925, 1930, 1935:

Nominal ME from Singer-Small 1993, using the exchange rates described above. *Nominal GDP* from Lethbridge 1985, missing for the period 1920—1926. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* from Maddison 1995, missing for the period 1920—1926.

RUSSIA/SOVIET UNION[□]

1920—1938:

Nominal ME for 1920—1927 from Davies 1958, for 1928—1938 from Harrison-Davies 1997. *Nominal GNP* for 1928—1938 from Mitchell 1992⁶⁵¹ (for 1920—1927 military burden derived by using the defense share trend). *Real GDP* for 1928—1938 from Maddison 1995, for 1920—1928 using a combined trend of the sum of nominal exports and nominal imports (found in Soviet Economic Facts 1983) and the trend of population increase (see below) (with year 1928 marked as 100 for the trend index); this real GDP was then adjusted with the 1913 (as 1929 comparison was not available) Prados de la Escosura indirect PPP-conversion. *Total population* from Singer-Small 1993. *Nominal CGE* for 1920—1927 from Davies 1958, for 1928—1938 from Harrison-Davies 1997. Regarding *price data*, the retail price index (RPI) used here was constructed by combining the various RPIs found in Soviet Economic Facts 1983 (p. 217, with 1930 value interpolated in a linear fashion) for the years 1928—1938, for the period 1920—1928 by utilizing the reverse combined trend of nominal exports and imports⁶⁵² outlined above; the RPI for the period 1920—1927 was then extrapolated using this index. *Real ME* was derived by converting the nominal ME to 1929 (quasi)-prices, and then converted to 1929 USD by using the exchange rates (using the so-called Tschervontzy ruble conversion) outlined above.⁶⁵³

SPAIN*[□]

1920—1938:

Nominal ME for 1920—1935 from Carreras et al. 1989, and for 1936—1938 taken from Singer-Small 1993 (converted using the exchange rates described above). *Nominal GDP* from Prados de la Escosura 1993. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Carreras et al. 1989. The Spanish WPI and CPI both taken from Maddison 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price* index from Prados de la Escosura 1993. *Real industrial value added* from Prados de la Escosura 1993.

SWEDEN*[□]

1920—1938:

Nominal ME from Krantz 1987 (including the breakdown of the components). *Nominal GDP* from Krantz 1997. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* in two-year intervals from Höök 1962, interpolated for the rest of the years using the nominal CGE levels obtained from Statistisk Årsbok 1919—1941. Swedish WPI and CPI

⁶⁵¹ This data is here deemed highly dubious due to the lack of source documentation and existing discrepancies in comparison with e.g. Bergson 1961.

⁶⁵² The argument here is that the more difficult it was to obtain goods from abroad (in addition to the chaotic domestic political and economic situation), the higher the prices must have been in the Soviet domestic markets.

⁶⁵³ The Soviet real ME was not adjusted according to the indirect PPPs, since this would have increased the Soviet total ME share in the 16-country system substantially. It is argued here that this adjustment may be more appropriate in the case of the real GDP, the total economic resources of the Soviet Union, rather than for military spending (especially procurement), benefiting exclusively the (at least in principle) price-controlled domestic government production facilities. For details on the quantitative and qualitative aspects of Soviet defense spending and procurement, see especially Harrison-Davies 1997.

from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from Johanssen 1967. *Real industrial value added* from Krantz 1997.

SWITZERLAND*²

1920—1938:

Nominal ME from Vogler 1965. *Nominal GDP* from Ritzmann-Blickenstorfer-David 2000. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Mitchell 1998b. Swiss *WPI* and *CPI* from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

THE UNITED KINGDOM*²

1920—1938:

Nominal ME from Sefton-Weale 1995 (data on the military wages from Chapman-Knight 1954). *Nominal GDP* from Sefton-Weale 1995. *Real GDP* from Maddison 1995, adjusted as in the case of Austria. *Total population* from Maddison 1995. *Nominal CGE* from Mitchell 1998b. British *WPI* and *CPI* both from Mitchell 1998b, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria. *Capital goods price index* from Feinstein 1972. *Real industrial value added* from Feinstein 1972.

THE UNITED STATES²

1920—1938:

Nominal ME from Historical Statistics 1975. *Nominal GNP* from Historical Statistics 1975. *Real GDP* from Maddison 1995. *Total population* from Maddison 1995. *Nominal CGE* from Historical Statistics 1975 (federal government outlays). American *WPI* and *CPI* both from Mitchell 1998a, combined with equal weighting to come up with a deflator for ME. *Real ME* derived as in the case of Austria.

YUGOSLAVIA

1925, 1930, 1935:

Nominal ME from Singer-Small 1993, using the exchange rates described above. *Nominal GDP* from Mitchell 1998b. *Nominal CGE* from Mitchell 1998b. *Real GDP per capita* from Maddison 1995.

APPENDIX 3. Additional Data Tables

Table 1. The Number of Battleships, Nominal and Depreciated Naval Tonnages, and Aggregate Percentage Shares for 17 Nations

Year	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.	L.	M.	N.	O.
1923	0	0,000	0,000	0,000	0,000	0	0,081	0,058	36,719	0,000	0	0,727	0,433	30,435	0,000
1928	0	0,000	0,000	0,000	0,000	0	0,000	0,000	0,000	0,000	0	0,635	0,218	15,429	0,000
1933	0	0,000	0,000	0,000	0,000	0	0,000	0,000	0,000	0,000	0	0,351	0,178	16,676	0,000
1938	0	0,000	0,000	0,000	0,000	0	0,000	0,000	0,000	0,000	0	0,216	0,072	13,658	0,000
Year	P.	Q.	R.	S.	T.	U.	V.	W.	X.	Y.	Z.	AA.	AB.	AC.	AD.
1923	0	0,049	0,020	20,482	0,000	6	10,158	8,011	40,317	52,400	0	3,082	0,502	8,320	48,841
1928	0	0,093	0,059	28,810	0,000	6	11,534	9,066	35,410	26,949	0	3,374	1,427	19,051	0,000
1933	0	0,196	0,486	82,011	0,000	5	13,434	19,316	47,419	8,492	1	3,521	3,400	31,845	52,797
1938	0	0,154	0,218	58,056	0,000	7	10,244	11,862	47,463	34,334	4	5,616	10,200	74,446	53,038
Year	AE.	AF.	AG.	AH.	AI.	AJ.	AK.	AL.	AM.	AN.	AO.	AP.	AQ.	AR.	AS.
1923	5	7,218	6,062	42,932	42,925	10	11,993	14,792	63,058	61,661	0	0,989	0,652	33,689	0,000
1928	4	6,594	11,354	77,560	29,779	10	15,533	17,267	50,074	39,371	0	1,359	1,261	41,812	0,000
1933	4	9,104	11,781	42,677	0,000	9	18,167	13,696	24,864	16,330	0	1,278	1,470	37,945	0,000
1938	4	8,951	10,871	49,778	25,499	9	14,955	9,283	25,441	2,061	0	1,008	0,853	34,679	0,000
Year	AT.	AU.	AV.	AW.	AX.	AY.	AZ.	BA.	BB.	BC.	BD.	BE.	BF.	BG.	BH.
1923	0	0,588	0,074	6,452	0,000	0	0,245	0,116	24,195	0,000	3	2,757	1,644	30,485	61,528
1928	0	0,578	0,071	5,550	0,000	0	0,408	0,185	20,436	0,000	3	3,884	2,265	26,272	65,736
1933	0	0,474	0,069	4,825	0,000	0	0,519	1,043	66,266	0,000	3	4,031	0,379	3,104	0,000
1938	0	0,495	0,143	11,814	0,000	0	0,343	0,570	68,080	0,000	3	5,329	4,146	31,889	0,000
Year	BL.	BJ.	BK.	BL.	BM.	BN.	BO.	BP.	BQ.	BR.	BS.	BT.	BU.	BV.	BW.
1923	3	2,662	1,908	36,644	69,558	0	1,716	0,905	26,953	0,000	0	0,000	0,000	0,000	0,000
1928	2	2,823	2,860	45,635	29,128	0	1,540	0,610	17,830	0,000	0	0,000	0,000	0,000	0,000
1933	2	2,606	3,519	44,533	0,000	0	1,731	1,369	26,088	0,000	0	0,000	0,000	0,000	0,000
1938	1	1,598	1,214	31,132	0,000	0	1,316	0,709	22,082	0,000	0	0,000	0,000	0,000	0,000
Year	BX.	BY.	BZ.	CA.	CB.	CC.	CD.	CE.	CF.	CG.	CH.	CI.	CJ.		
1923	24	25,508	31,024	62,178	48,612	21	32,227	33,800	53,617	36,991	0,005	0,002	72		
1928	20	26,009	25,573	44,292	50,882	17	25,635	27,784	48,823	42,111	0,005	0,002	62		
1933	15	22,576	20,145	29,429	25,447	15	22,013	23,148	34,680	23,202	0,005	0,002	54		
1938	15	26,977	28,961	44,003	26,747	15	22,798	20,900	37,574	16,045	0,006	0,003	58		

Sources: see Appendices, Appendix 2 for details. A=Austria, number of battleships; B=Austria, percentage of the total nominal tonnage of 17 nations; C=Austria, percentage of the total depreciated tonnage of 17 nations; D=Austria, percentage of its depreciated tonnage to its nominal tonnage; E=Austria, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; F=Belgium, number of battleships; G=Belgium, percentage of the total nominal tonnage of 17 nations; H=Belgium, percentage of the total depreciated tonnage of 17 nations; I=Belgium, percentage of its depreciated tonnage to its nominal tonnage; J=Belgium, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; K=Denmark, number of battleships; L=Denmark, percentage of the total nominal tonnage of 17 nations; M=Denmark, percentage of the total depreciated tonnage of 17 nations; N=Denmark, percentage of its depreciated tonnage to its nominal tonnage; O=Denmark, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; P=Finland, number of battleships; Q=Finland, percentage of the total nominal tonnage of 17 nations; R=Finland, percentage of the total depreciated tonnage of 17 nations; S=Finland, percentage of its depreciated tonnage to its nominal tonnage; T=Finland, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; U=France, number of battleships; V=France, percentage of the total nominal tonnage of 17 nations; W=France, percentage of the total

depreciated tonnage of 17 nations; X=France, percentage of its depreciated tonnage to its nominal tonnage; Y=France, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; Z=Germany, number of battleships; AA=Germany, percentage of the total nominal tonnage of 17 nations; AB=Germany, percentage of the total depreciated tonnage of 17 nations; AC=Germany, percentage of its depreciated tonnage to its nominal tonnage; AD=Germany, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; AE=Italy, number of battleships; AF=Italy, percentage of the total nominal tonnage of 17 nations; AG=Italy, percentage of the total depreciated tonnage of 17 nations; AH=Italy, percentage of its depreciated tonnage to its nominal tonnage; AI=Italy, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; AJ=Japan, number of battleships; AK=Japan, percentage of the total nominal tonnage of 17 nations; AL=Japan, percentage of the total depreciated tonnage of 17 nations; AM=Japan, percentage of its depreciated tonnage to its nominal tonnage; AN=Japan, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; AO=Netherlands, number of battleships; AP=Netherlands, percentage of the total nominal tonnage of 17 nations; AQ=Netherlands, percentage of the total depreciated tonnage of 17 nations; AR=Netherlands, percentage of its depreciated tonnage to its nominal tonnage; AS=Netherlands, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; AT=Norway, number of battleships; AU=Norway, percentage of the total nominal tonnage of 17 nations; AV=Norway, percentage of the total depreciated tonnage of 17 nations; AW=Norway, percentage of its depreciated tonnage to its nominal tonnage; AX=Norway, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; AY=Portugal, number of battleships; AZ=Portugal, percentage of the total nominal tonnage of 17 nations; BA=Portugal, percentage of the total depreciated tonnage of 17 nations; BB=Portugal, percentage of its depreciated tonnage to its nominal tonnage; BC=Portugal, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; BD=Russia/USSR, number of battleships; BE=Russia/USSR, percentage of the total nominal tonnage of 17 nations; BF=Russia/USSR, percentage of the total depreciated tonnage of 17 nations; BG=Russia/USSR, percentage of its depreciated tonnage to its nominal tonnage; BH=Russia/USSR, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; BI=Spain, number of battleships; BJ=Spain, percentage of the total nominal tonnage of 17 nations; BK=Spain, percentage of the total depreciated tonnage of 17 nations; BL=Spain, percentage of its depreciated tonnage to its nominal tonnage; BM=Spain, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; BN=Sweden, number of battleships; BO=Sweden, percentage of the total nominal tonnage of 17 nations; BP=Sweden, percentage of the total depreciated tonnage of 17 nations; BQ=Sweden, percentage of its depreciated tonnage to its nominal tonnage; BR=Sweden, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; BS=Switzerland, number of battleships; BT=Switzerland, percentage of the total nominal tonnage of 17 nations; BU=Switzerland, percentage of the total depreciated tonnage of 17 nations; BV=Switzerland, percentage of its depreciated tonnage to its nominal tonnage; BW=Switzerland, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; BX=UK, number of battleships; BY=UK, percentage of the total nominal tonnage of 17 nations; BZ=UK, percentage of the total depreciated tonnage of 17 nations; CA=UK, percentage of its depreciated tonnage to its nominal tonnage; CB=UK, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; CC=USA, number of battleships; CD=USA, percentage of the total nominal tonnage of 17 nations; CE=USA, percentage of the total depreciated tonnage of 17 nations; CF=USA, percentage of its depreciated tonnage to its nominal tonnage; CG=USA, percentage of its depreciated battleship tonnage to its nominal depreciated total tonnage; CH=17-country total nominal tonnage; CI=17-country total depreciated tonnage; CJ=17-country total number of battleships.

Table 2. Granger Non-causality Relationships for 17 Countries, 1920—1938

DEPENDENT VARIABLE	INDEPENDENT VARIABLE	NUMBER OF LAGS (FOR BEST p)	BEST p -VALUE
1. AUT:			
Defense share	Real GDP per capita	3†	0,013
Real GDP per capita	Defense share	3†	0,015
Military burden	Real GDP per capita	3	0,106
Real GDP per capita	Military burden	3†	0,016
Country ME of tot. ME	Country GDP of tot. GDP	3	0,002
Country GDP of tot. GDP	Country ME of tot. ME	2†	0,027
2. BEL:			
Defense share	Real GDP per capita	3	0,138
Real GDP per capita	Defense share	2	0,129
Military burden	Real GDP per capita	3	0,121
Real GDP per capita	Military burden	5	0,265
Country ME of tot. ME	Country GDP of tot. GDP	2†	0,000
Country GDP of tot. GDP	Country ME of tot. ME	5	0,242
3. DEN:			
Defense share	Real GDP per capita	3	0,216
Real GDP per capita	Defense share	3	0,189
Military burden	Real GDP per capita	5†	0,007

Real GDP per capita	Military burden	1	0,038
Country ME of tot. ME	Country GDP of tot. GDP	4	0,052
Country GDP of tot. GDP	Country ME of tot. ME	4†	0,005
4. FIN:			
Defense share	Real GDP per capita	2†	0,010
Real GDP per capita	Defense share	4†	0,019
Military burden	Real GDP per capita	1†	0,004
Real GDP per capita	Military burden	2†	0,000
Country ME of tot. ME	Country GDP of tot. GDP	2†	0,000
Country GDP of tot. GDP	Country ME of tot. ME	4	0,664
5. FRA:			
Defense share	Real GDP per capita	2†	0,015
Real GDP per capita	Defense share	2	0,148
Military burden	Real GDP per capita	3†	0,028
Real GDP per capita	Military burden	4	0,773
Country ME of tot. ME	Country GDP of tot. GDP	2	0,373
Country GDP of tot. GDP	Country ME of tot. ME	3	0,197
6. GER:			
Defense share	Real GDP per capita	4	0,250
Real GDP per capita	Defense share	3	0,087
Military burden	Real GDP per capita	4	0,201
Real GDP per capita	Military burden	3	0,088
Country ME of tot. ME	Country GDP of tot. GDP	5†	0,006
Country GDP of tot. GDP	Country ME of tot. ME	1	0,016
7. ITA:			
Defense share	Real GDP per capita	1†	0,000
Real GDP per capita	Defense share	5	0,049
Military burden	Real GDP per capita	1†	0,001
Real GDP per capita	Military burden	3	0,386
Country ME of tot. ME	Country GDP of tot. GDP	5	0,394
Country GDP of tot. GDP	Country ME of tot. ME	5	0,102
8. JAP:			
Defense share	Real GDP per capita	3	0,299
Real GDP per capita	Defense share	1	0,168
Military burden	Real GDP per capita	5	0,188
Real GDP per capita	Military burden	2†	0,021
Country ME of tot. ME	Country GDP of tot. GDP	4	0,055
Country GDP of tot. GDP	Country ME of tot. ME	5	0,127
9. NED:			
Defense share	Real GDP per capita	3†	0,004
Real GDP per capita	Defense share	1	0,278
Military burden	Real GDP per capita	5	0,135
Real GDP per capita	Military burden	2	0,583
Country ME of tot. ME	Country GDP of tot. GDP	1	0,082
Country GDP of tot. GDP	Country ME of tot. ME	3	0,230
10. NOR:			
Defense share	Real GDP per capita	4	0,076
Real GDP per capita	Defense share	3	0,178
Military burden	Real GDP per capita	1†	0,031
Real GDP per capita	Military burden	1	0,175
Country ME of tot. ME	Country GDP of tot. GDP	1	0,064
Country GDP of tot. GDP	Country ME of tot. ME	4	0,351
11. POR:			
Defense share	Real GDP per capita	1	0,128
Real GDP per capita	Defense share	2	0,729
Military burden	Real GDP per capita	1†	0,001
Real GDP per capita	Military burden	5	0,379
Country ME of tot. ME	Country GDP of tot. GDP	5	0,115
Country GDP of tot. GDP	Country ME of tot. ME	3	0,127
12. RUS/USSR:			
Defense share	Real GDP per capita	4†	0,059
Real GDP per capita	Defense share	2	0,107
Military burden	Real GDP per capita	1	0,176
Real GDP per capita	Military burden	2	0,109
Country ME of tot. ME	Country GDP of tot. GDP	2	0,001
Country GDP of tot. GDP	Country ME of tot. ME	5†	0,010

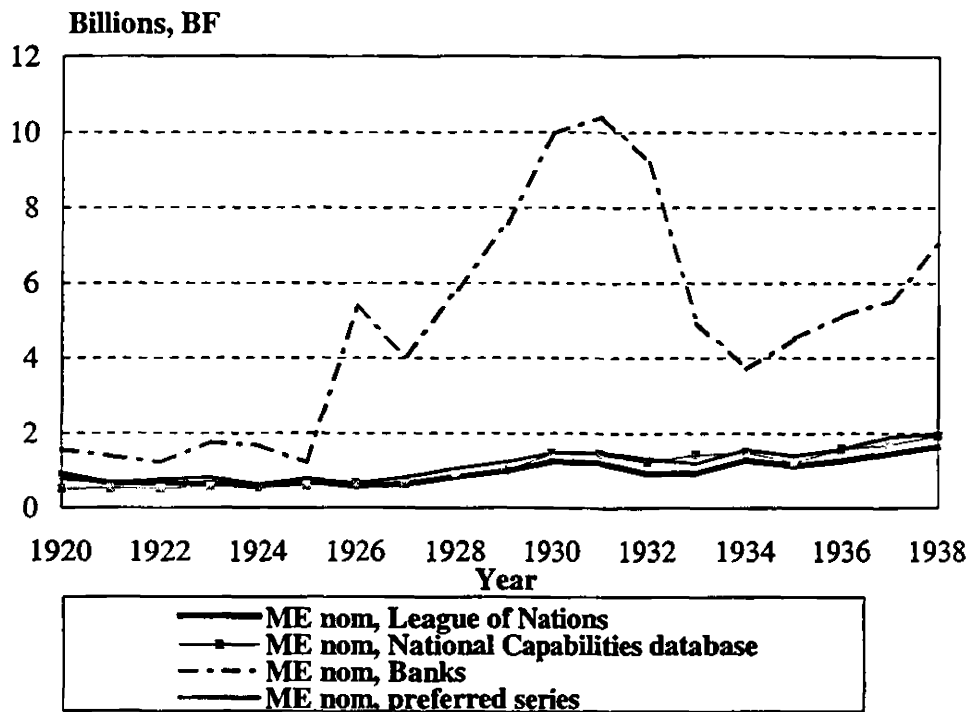
13. SPA:			
Defense share	Real GDP per capita	1	0,113
Real GDP per capita	Defense share	4	0,105
Military burden	Real GDP per capita	3	0,420
Real GDP per capita	Military burden	3	0,233
Country ME of tot. ME	Country GDP of tot. GDP	1	0,044
Country GDP of tot. GDP	Country ME of tot. ME	4	0,032
14. SWE:			
Defense share	Real GDP per capita	2†	0,034
Real GDP per capita	Defense share	2†	0,037
Military burden	Real GDP per capita	3†	0,001
Real GDP per capita	Military burden	2	0,029
Country ME of tot. ME	Country GDP of tot. GDP	3	0,373
Country GDP of tot. GDP	Country ME of tot. ME	4	0,206
15. SWI:			
Defense share	Real GDP per capita	1†	0,011
Real GDP per capita	Defense share	1	0,349
Military burden	Real GDP per capita	2	0,448
Real GDP per capita	Military burden	1	0,028
Country ME of tot. ME	Country GDP of tot. GDP	1	0,185
Country GDP of tot. GDP	Country ME of tot. ME	1	0,112
16. UK:			
Defense share	Real GDP per capita	2†	0,002
Real GDP per capita	Defense share	1	0,156
Military burden	Real GDP per capita	4	0,007
Real GDP per capita	Military burden	4	0,082
Country ME of tot. ME	Country GDP of tot. GDP	2	0,022
Country GDP of tot. GDP	Country ME of tot. ME	4	0,026
17. USA:			
Defense share	Real GDP per capita	3†	0,000
Real GDP per capita	Defense share	2	0,304
Military burden	Real GDP per capita	2	0,613
Real GDP per capita	Military burden	4	0,318
Country ME of tot. ME	Country GDP of tot. GDP	1	0,191
Country GDP of tot. GDP	Country ME of tot. ME	4†	0,027

Sources: see Appendices, Appendix 2.

Note: All variables are in logarithmic form. FRA real GDP of total (16 countries) real GDP, GER defense share, GER military burden, JAP defense share, JAP real GDP per capita, SPA military burden, SWI real GDP of total (16 countries) real GDP, and UK defense share are $I(1)$. NED military burden and UK military burden are $I(2)$. † = null rejected at more than one lag.

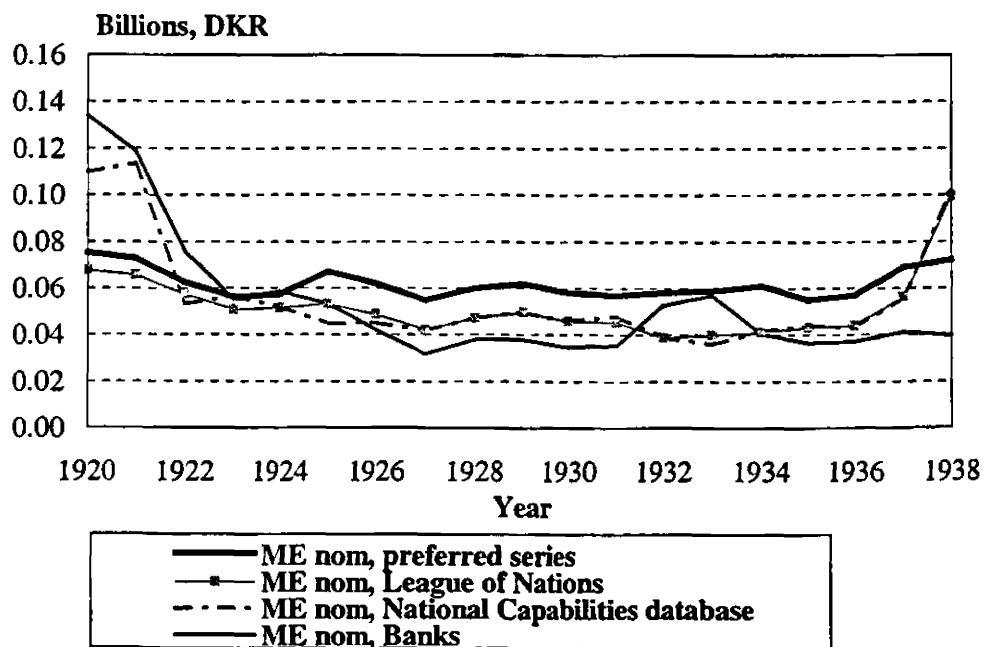
APPENDIX 4. Additional Figures

Figure 1. Belgian ME Data in Comparisons, 1920—1938



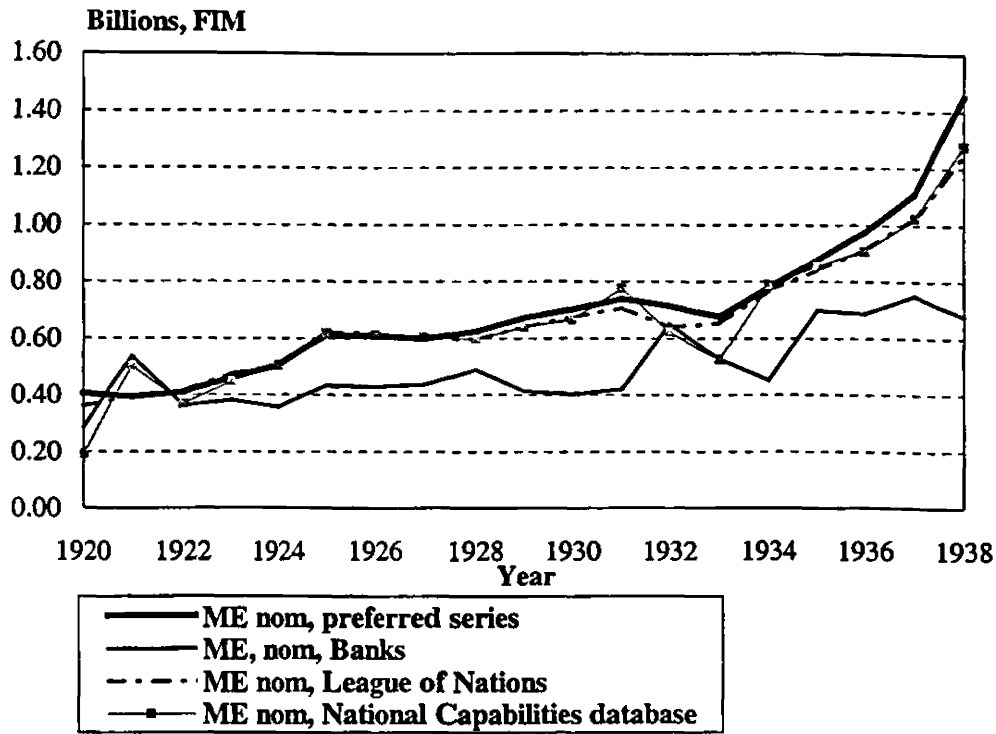
Sources: see Appendices, Appendix 2 for details.

Figure 2. Danish ME Data in Comparisons, 1920—1938



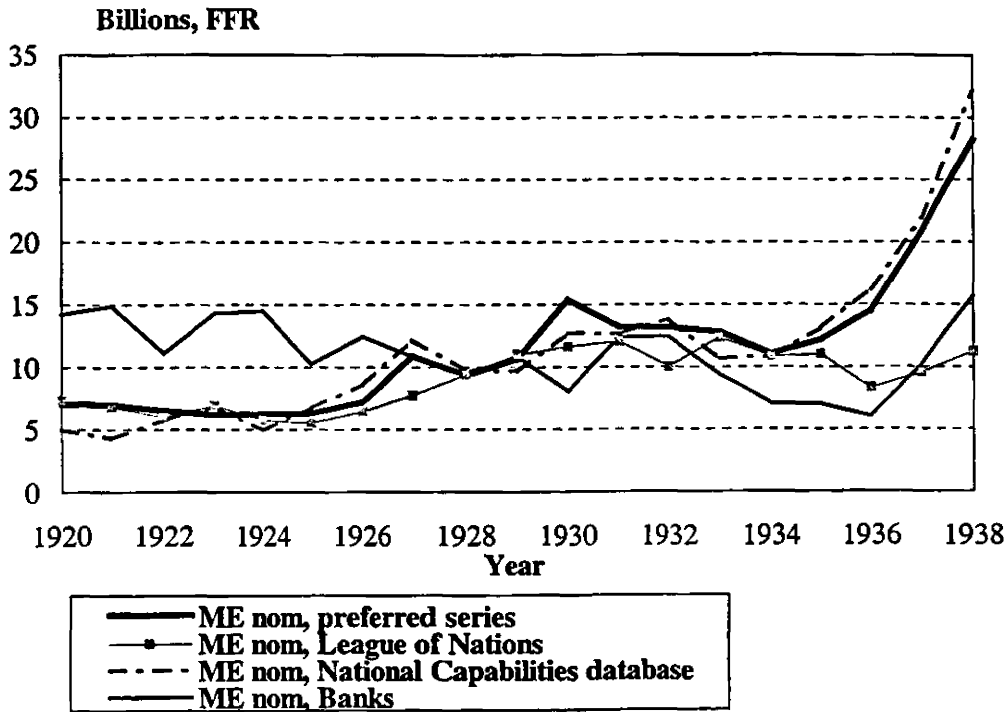
Sources: see Appendices, Appendix 2 for details.

Figure 3. Finnish ME Data in Comparisons, 1920—1938



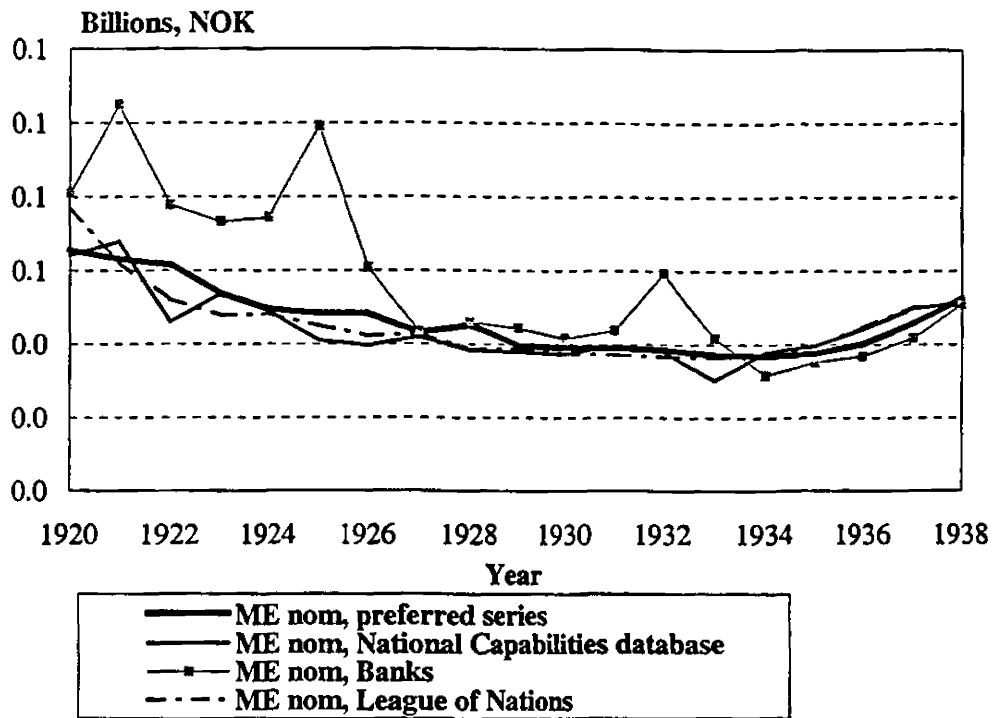
Sources: see Appendices, Appendix 2 for details.

Figure 4. French ME Data in Comparisons, 1920—1938



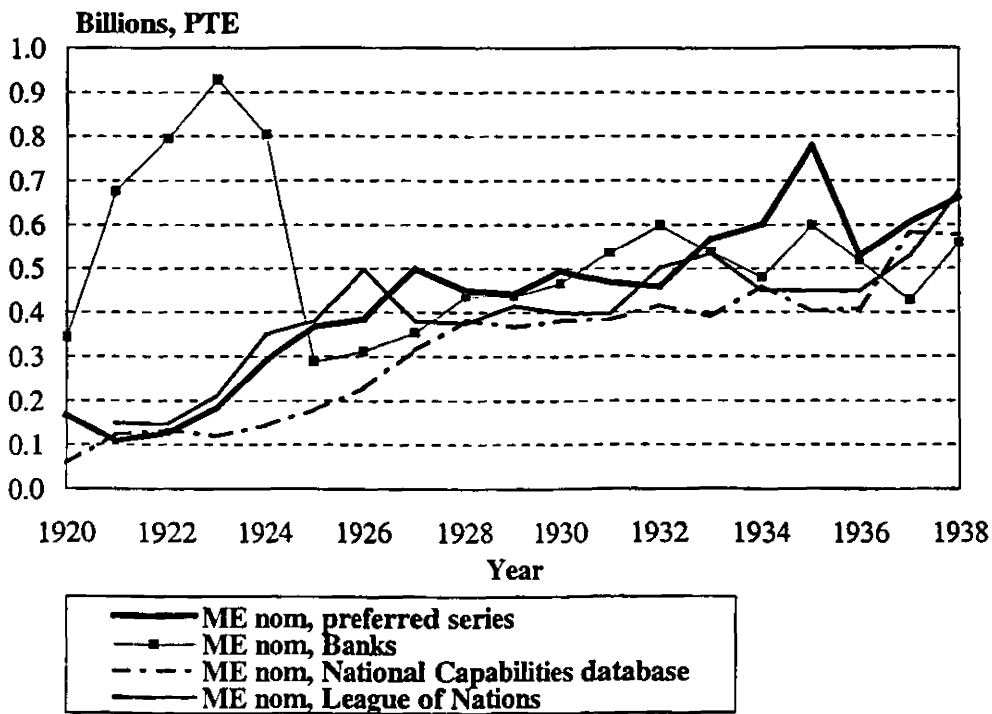
Sources: see Appendices, Appendix 2 for details.

Figure 5. Norwegian ME Data in Comparisons, 1920—1938



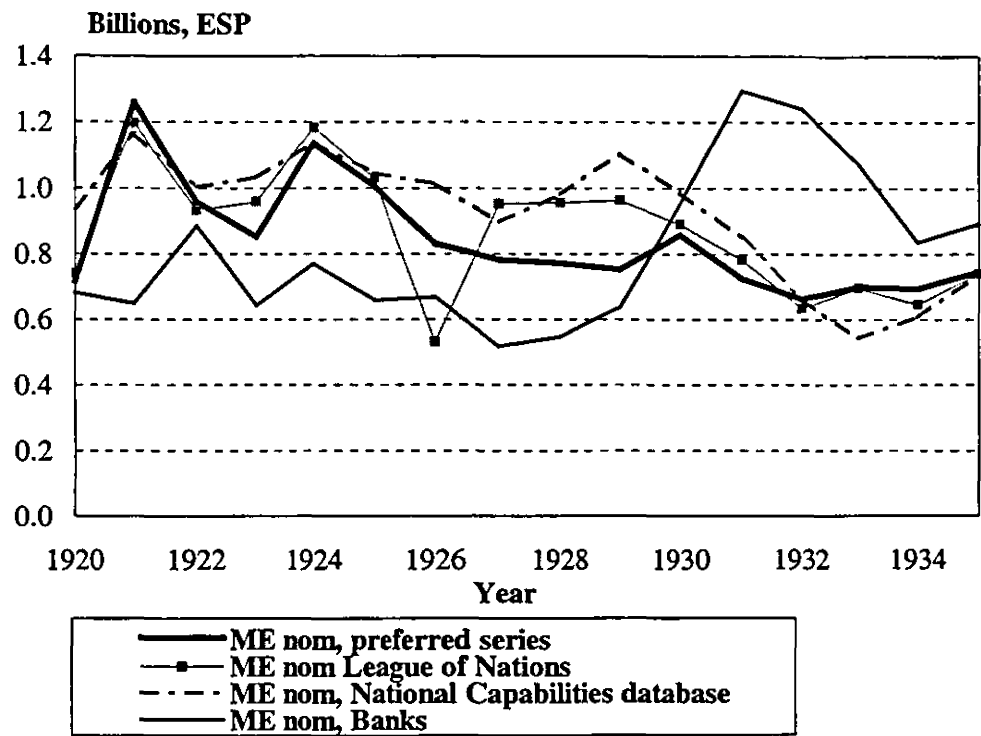
Sources: see Appendices, Appendix 2 for details.

Figure 6. Portuguese ME Data in Comparisons, 1920—1938



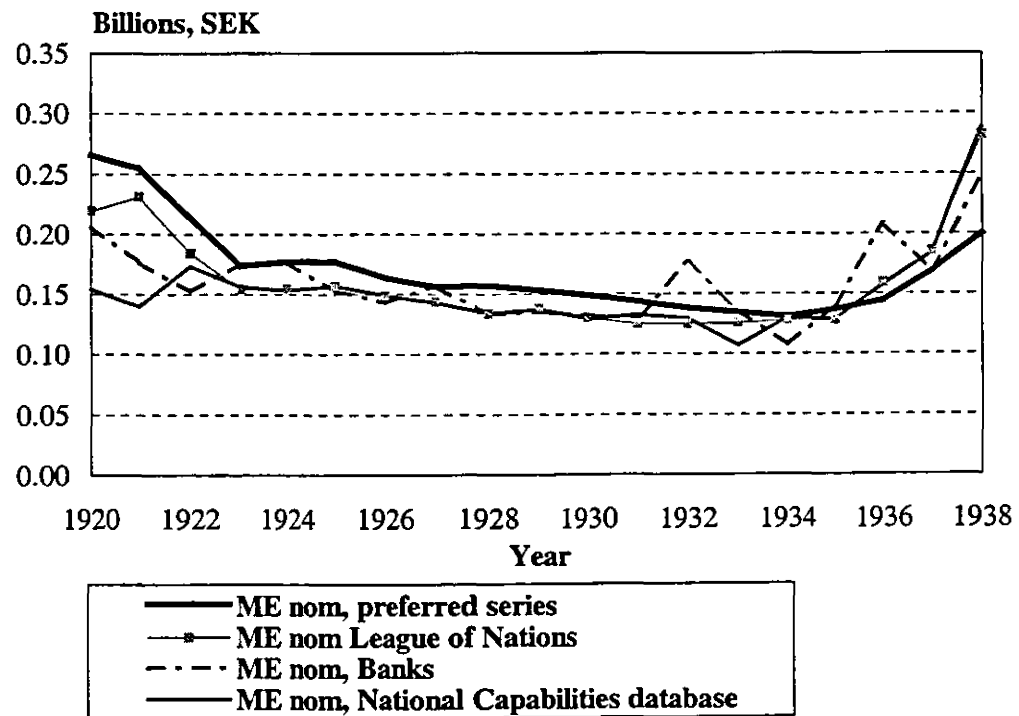
Sources: see Appendices, Appendix 2 for details.

Figure 7. Spanish ME Data in Comparisons, 1920—1936



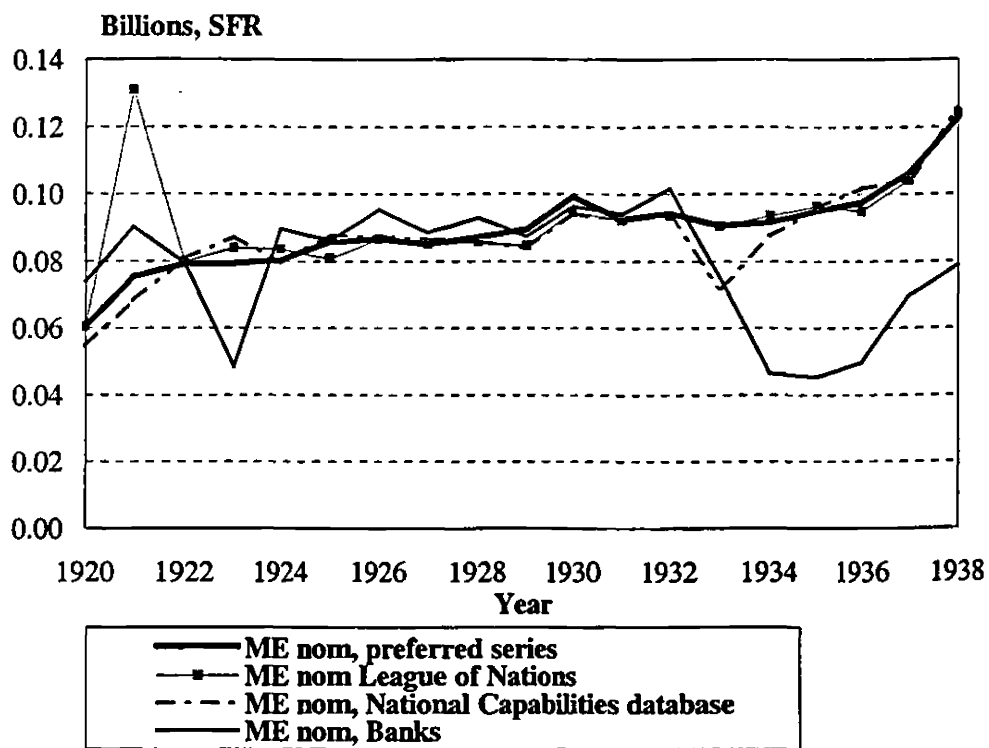
Sources: see Appendices, Appendix 2 for details.

Figure 8. Swedish ME Data in Comparisons, 1920—1938



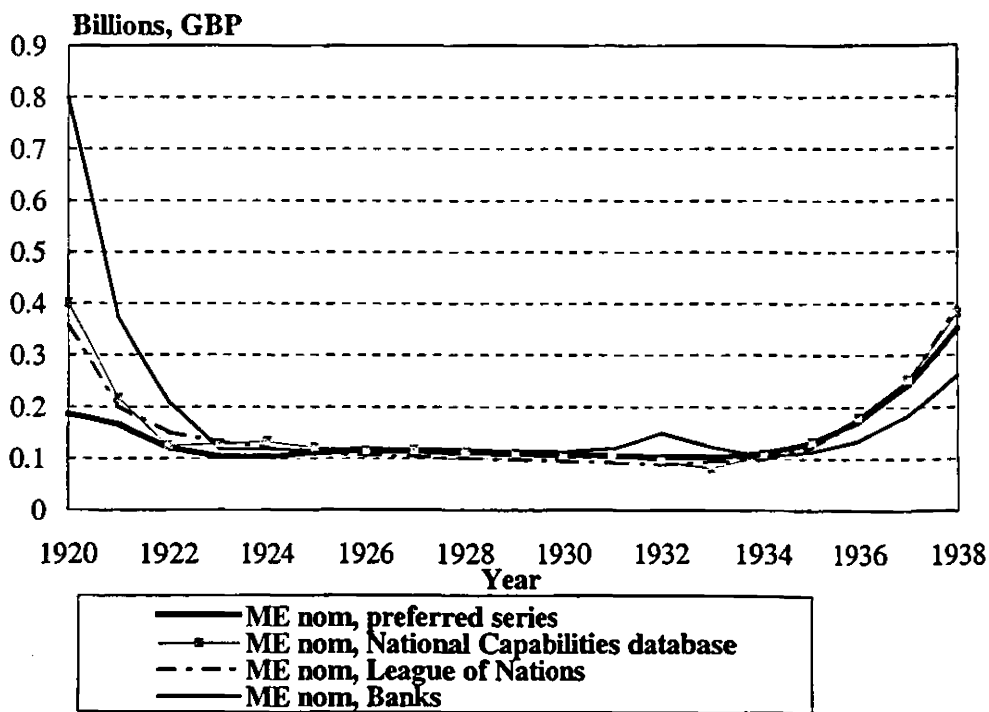
Sources: see Appendices, Appendix 2 for details.

Figure 9. Swiss ME Data in Comparisons, 1920—1938



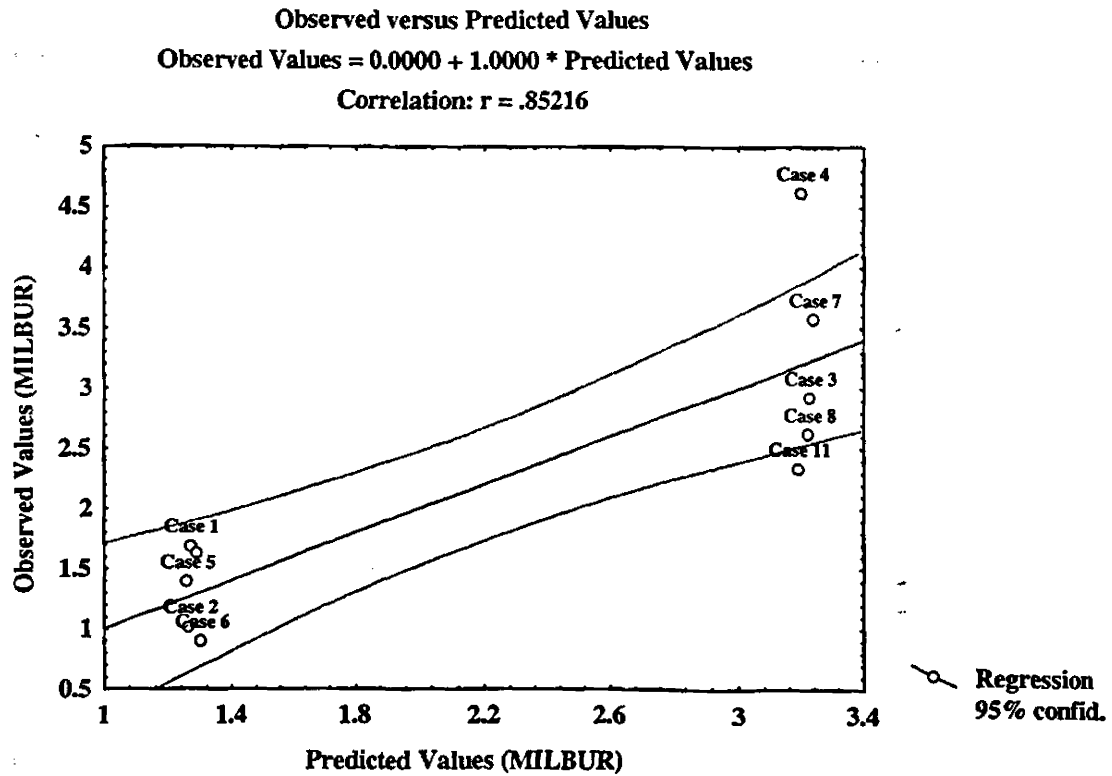
Sources: see Appendices, Appendix 2 for details.

Figure 10. British ME Data in Comparisons, 1920—1938



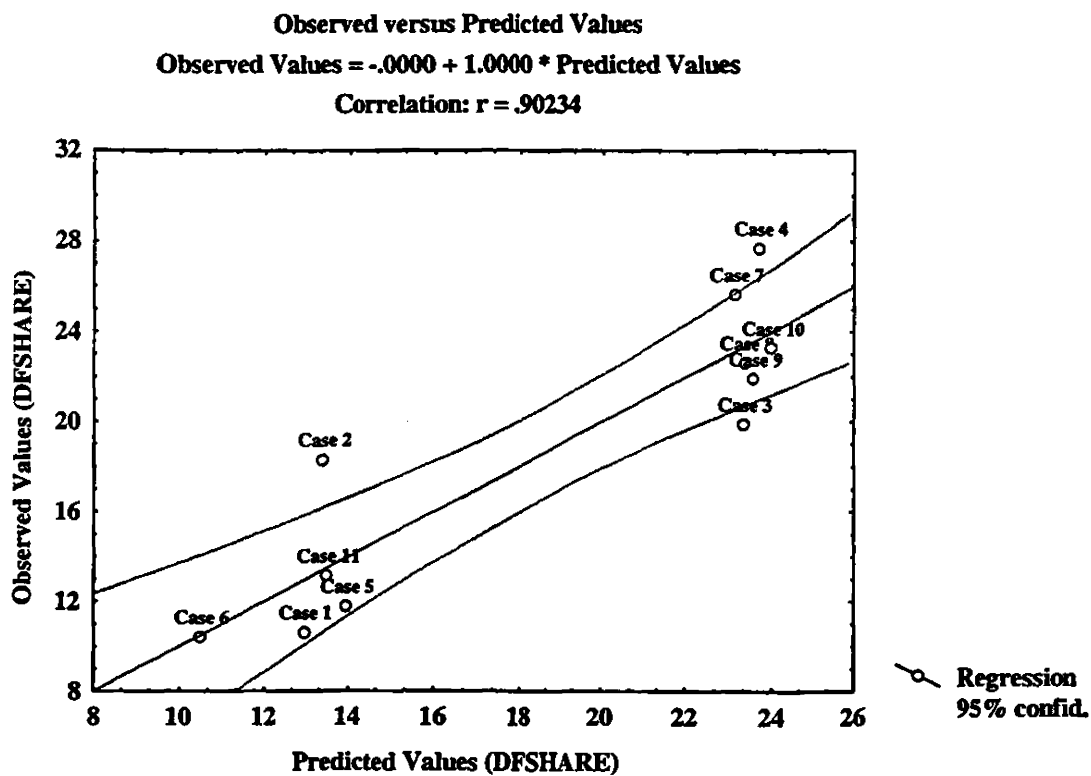
Sources: see Appendices, Appendix 2 for details.

Figure 11. Military Burdens of the Selected Eleven European States Regressed Against Their Respective Real GDP per Capita (in 1929 Quasi-USD), 1930



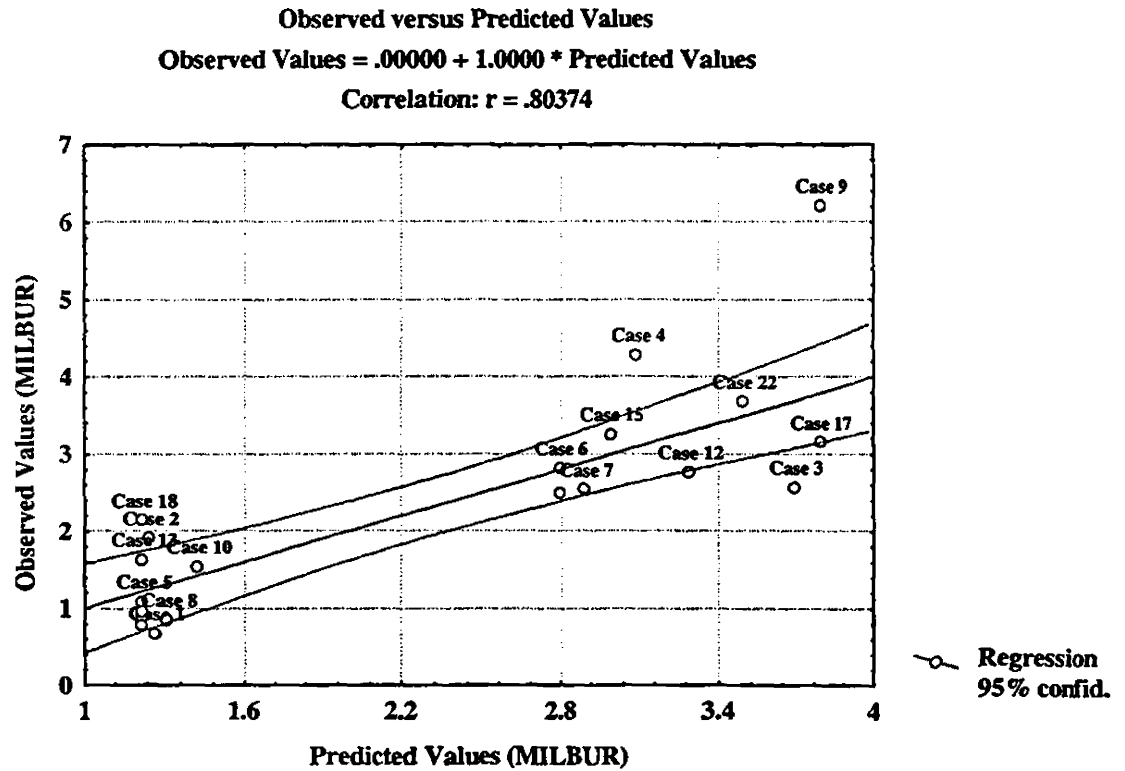
Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 29—32 in the text. Model: piecewise linear regression with breakpoint.

Figure 12. Defense Shares of the Selected Eleven European States Regressed Against Their Respective Real GDP per Capita (in 1929 Quasi-USD), 1930



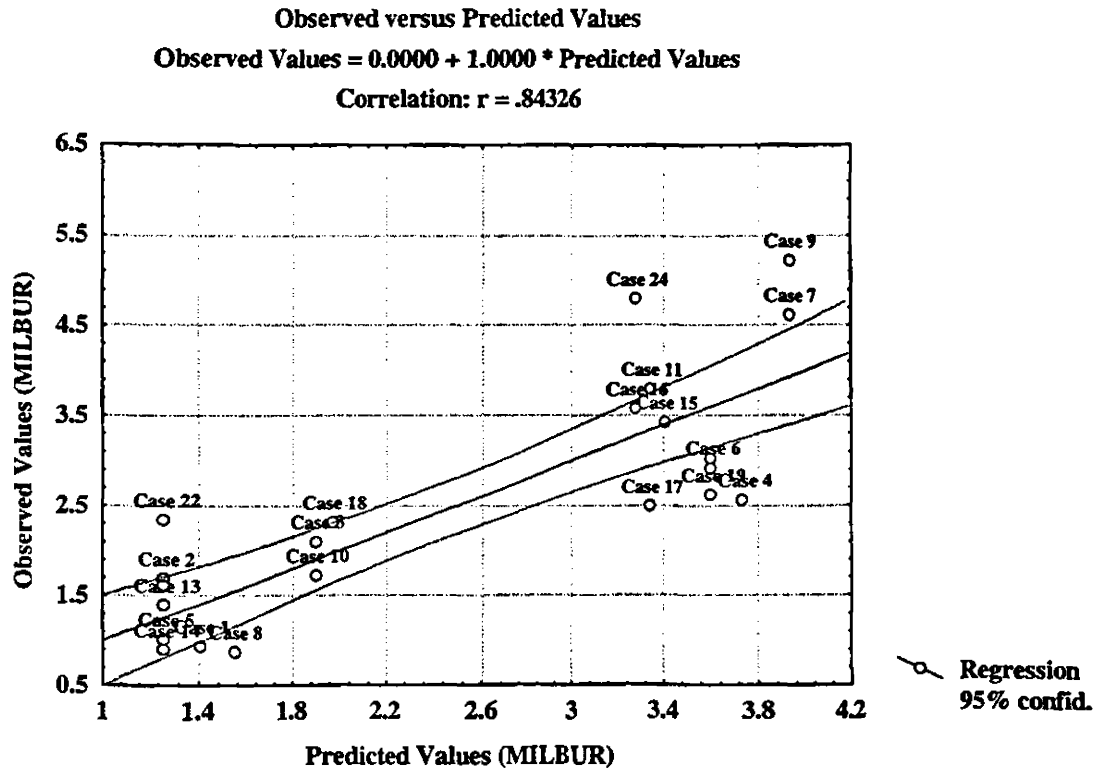
Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 29—32 in the text. Model: piecewise linear regression with breakpoint.

Figure 13. Military Burdens of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1925



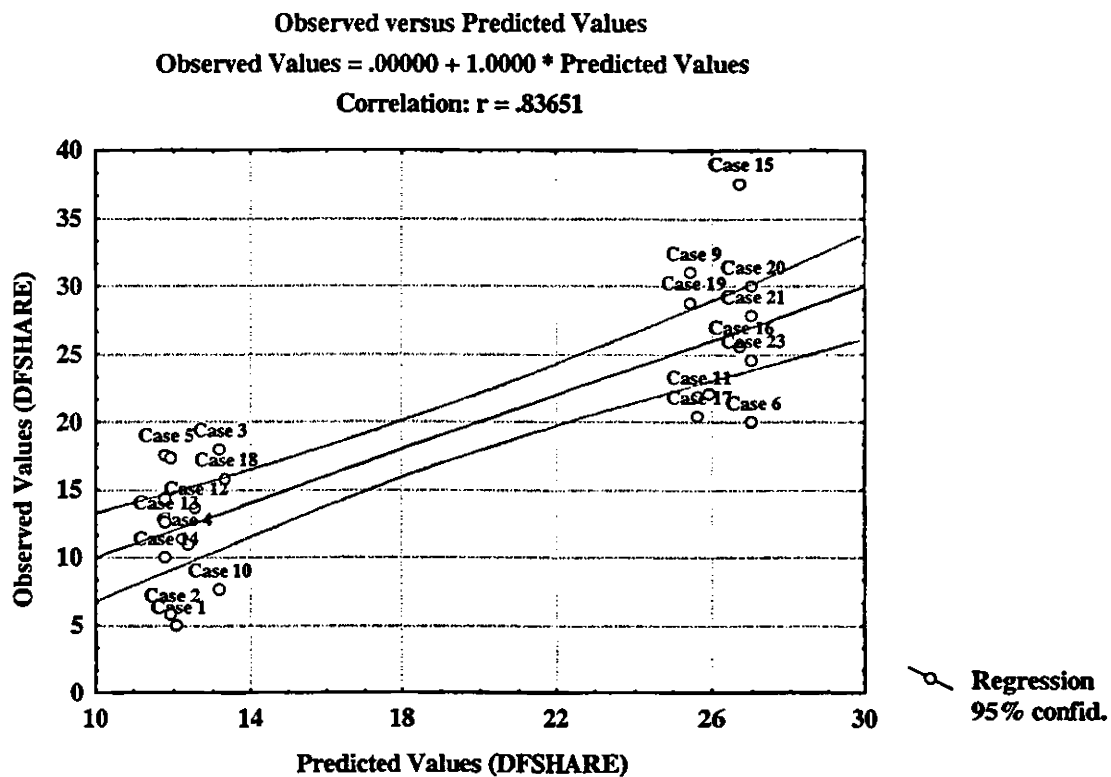
Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 44—45 in the text. Model: piecewise linear regression with breakpoint.

Figure 14. Military Burdens of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1930



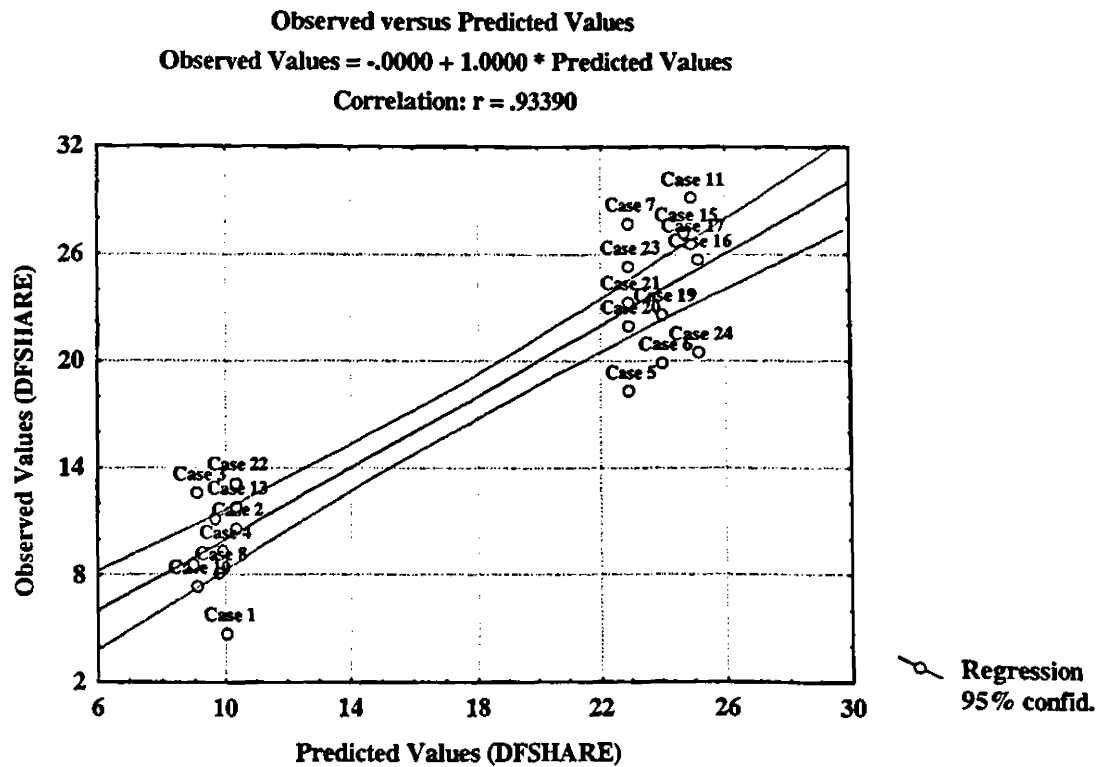
Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 44—45 in the text. Model: piecewise linear regression with breakpoint.

Figure 15. Defense Shares of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1925



Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 44—45 in the text. Model: piecewise linear regression with breakpoint.

Figure 16. Defense Shares of Twenty-four Countries Regressed Against Their Respective Levels of Democracy, 1930



Sources: see Appendices, Appendix 2 for details. Details on the countries can be found in Figures 44—45 in the text. Model: piecewise linear regression with breakpoint.

