




2012

# The Political Economy of War Finance

Rosella Cappella

University of Pennsylvania, Cappella@bu.edu

Follow this and additional works at: <http://repository.upenn.edu/edissertations>

 Part of the [Economic History Commons](#), [Finance Commons](#), [Military History Commons](#), [Military, War, and Peace Commons](#), [Political Science Commons](#), and the [Taxation Commons](#)

---

## Recommended Citation

Cappella, Rosella, "The Political Economy of War Finance" (2012). *Publicly Accessible Penn Dissertations*. 1175.  
<http://repository.upenn.edu/edissertations/1175>

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License ([CC BY-NC-SA](#)).

This paper is posted at ScholarlyCommons. <http://repository.upenn.edu/edissertations/1175>  
For more information, please contact [libraryrepository@pobox.upenn.edu](mailto:libraryrepository@pobox.upenn.edu).

---

# The Political Economy of War Finance

## **Abstract**

What explains the variation in how states pay for war? Leaders must choose between four primary means of war finance: taxation, domestic debt, external extraction, and printing. Each alternative has different political and economic costs and benefits. Borrowing compounds the cost of war through high interest rates; printing can result in disastrous inflation; taxation combats high inflation and minimizes cost yet can be politically damaging; while garnering money from abroad invites outside influence and fosters dependency. Conventional wisdom suggests that regime type dictates war finance strategy. However, based on statistical analysis of a novel data set and in-depth case studies, I demonstrate that regime type plays at best only a small role in a state's war finance story. I argue that there are four primary influences shaping war finance outcome: support for the war effort, fear of inflation, bureaucratic capacity, and the ability to cope with a balance of payments problem.

To test these hypotheses, my dissertation presents the results of the first large-scale statistical analysis of war finance. It utilizes an original data set on interstate war finance from 1823 to 2003. I augment my statistical analysis with six case studies, three paired comparisons. First, I compare the financing of the United States' war effort in the Korean and Vietnam Wars. I then compare the Russian and Japanese financing of the Russo-Japanese War. Lastly, I compare British financing of its war efforts in the Crimean War and World War II. The study ultimately finds that a larger percentage of the war effort is financed by taxation when there are one or more of the following conditions: high support for the war, inflationary fears, or high bureaucratic capacity to extract tax revenue. In contrast, higher levels of borrowing and printing are likely to fund wars when support for the war is low or the state has low bureaucratic capacity. Moreover, the state will borrow from abroad when it is facing low currency reserves.

## **Degree Type**

Dissertation

## **Degree Name**

Doctor of Philosophy (PhD)

## **Graduate Group**

Political Science

## **First Advisor**

Edward Mansfield

## **Keywords**

debt, inflation, tax, war cost, war finance

## **Subject Categories**

Economic History | Finance | Military History | Military, War, and Peace | Political Science | Taxation

---

**Comments**

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License ([CC BY-NC-SA](#)).

THE POLITICAL ECONOMY OF WAR FINANCE

Rosella Cappella

A DISSERTATION

in

Political Science

Presented to the Faculties of the University of Pennsylvania

in

Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

2012

Supervisor of Dissertation

---

Edward Mansfield, Professor, Department of Political Science

Graduate Group Chairperson

---

Nancy Hirschmann, Professor of Political Science

Dissertation Committee

Edward Mansfield, Professor, Department of Political Science

Avery Goldstein, Professor, Department of Political Science

Michael Horowitz, Associate Professor, Department of Political Science

Alex Weisiger, Assistant Professor, Department of Political Science

THE POLITICAL ECONOMY OF WAR FINANCE

COPYRIGHT

2012

Rosella Cappella

This work is licensed under the  
Creative Commons Attribution-  
NonCommercial-ShareAlike 3.0  
License

## ACKNOWLEDGMENT

It takes a village. This dissertation could not have been completed without the intellectual, emotional, and financial support of many people and institutions.

As an advisor, Edward Mansfield was tough and I thank him for it. This work would in no way be as well constructed, thoughtful, or persuasive without Ed continually setting the bar higher (It should be noted one of my fondest memories of writing this dissertation was when he said, “I believe you”). Avery Goldstein always took the time to ease my fears and entertain my intellectual ideas. Michael Horowitz was the taskmaster; always keeping me on track and suggesting how to better present my work. While all my advisors always had their door open to me, I walked through Alex Weisiger’s the most. Alex was my sounding board for new ideas and provided helpful comments on many drafts.

The support received at the University of Pennsylvania extended beyond my committee members. This dissertation could not have been written without the support of Rudy Sil, Eileen Doherty-Sil, Matthew Levendusky, and Ellen Kennedy. Since my first year of graduate school, Rudy has been encouraging, supportive, and unselfishly devoted a whole summer to teach me organization theory. Eileen Doherty-Sil made office life enjoyable and her caring presence was comforting. Matthew Levendusky provided critical guidance and feedback for my statistical chapter. Two of my favorite semesters at Penn were with Ellen Kenney. Her Money and Markets and War and Peace classes provided stimulating conversation and broadened my intellect.

I consider myself lucky to have shared my graduate student journey with three amazing and talented women: Allison Evans, Meredith Wooten, and Barbara Elias-

Sanborn. Anyone who has written a dissertation knows that it feels like a constant battle. While in the trenches, these women made me laugh and gave me the courage to keep going. I owe particular thanks to Barbara who got stuck with me as an officemate for three years and a roommate for one. She made the rough years fun.

Writing a dissertation is an isolating experience. I owe particular thanks to my California family for keeping me grounded. My sister, Roxy Adlesh, endured many stressed out phone calls as I pined for California sunshine. My best friend of fifteen years, Janna Velasquez, kept me grounded and while we were thousands of miles apart and had a knack for making it seem like she was next to me.

The motivation for this dissertation began long before graduate school when I was an undergraduate at the University of Southern California. I would like to thank John Odell and Peter Rosendorff who encouraged me to pursue my research. Every Christmas when I came home to Los Angeles to visit my family, I always looked forward to stopping by Professor Odell's lovely home in Pasadena to share my tales of graduate school. In addition, The School of International Relations and the Center for International Studies fostered my early research projects with grants to conduct field research in Geneva, Switzerland.

This dissertation could not have been written without the financial support of the Browne Center for International Politics, the Fontaine Society at the University of Pennsylvania, and the Harry S. Truman Presidential Library. I would also like to thank the helpful archivists at the Truman and Johnson Presidential Libraries who made an incredibly daunting task feasible.

Three other people deserve notable mention. The first is Stephen Seibert who is brave enough to marry a graduate student. Finally, I thank my parents, Michael and Rosa Cappella. Growing up as the daughter of two public high school teachers in Los Angeles, I learned to value education at an early age. My mother, an immigrant from El Salvador, and my father, a child of a Sicilian immigrant and an Irish mother, instilled in me that life is hard and while we should always be trying to better ourselves, it is important to help others along the way. I hope that the lessons from this work make life a little easier for others and I will continue to do my best. This work is dedicated to them.



## **ABSTRACT**

### THE POLITICAL ECONOMY OF WAR FINANCE

Rosella Cappella

Edward Mansfield

What explains the variation in how states pay for war? Leaders must choose between four primary means of war finance: taxation, domestic debt, external extraction, and printing. Each alternative has different political and economic costs and benefits. Borrowing compounds the cost of war through high interest rates; printing can result in disastrous inflation; taxation combats high inflation and minimizes cost yet can be politically damaging; while garnering money from abroad invites outside influence and fosters dependency. Conventional wisdom suggests that regime type dictates war finance strategy. However, based on statistical analysis of a novel data set and in-depth case studies, I demonstrate that regime type plays at best only a small role in a state's war finance story. I argue that there are four primary influences shaping war finance outcome: support for the war effort, fear of inflation, bureaucratic capacity, and the ability to cope with a balance of payments problem.

To test these hypotheses, my dissertation presents the results of the first large-scale statistical analysis of war finance. It utilizes an original data set on interstate war finance from 1823 to 2003. I augment my statistical analysis with six case studies, three paired comparisons. First, I compare the financing of the United States' war effort in the

Korean and Vietnam Wars. I then compare the Russian and Japanese financing of the Russo-Japanese War. Lastly, I compare British financing of its war efforts in the Crimean War and World War II. The study ultimately finds that a larger percentage of the war effort is financed by taxation when there are one or more of the following conditions: high support for the war, inflationary fears, or high bureaucratic capacity to extract tax revenue. In contrast, higher levels of borrowing and printing are likely to fund wars when support for the war is low or the state has low bureaucratic capacity. Moreover, the state will borrow from abroad when it is facing low currency reserves.

## TABLE OF CONTENTS

<b>ABSTRACT .....</b>	<b>VI</b>
<b>LIST OF TABLES.....</b>	<b>XIII</b>
<b>LIST OF FIGURES.....</b>	<b>XVI</b>
<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
<b>Implications for Political Science and Policy Makers .....</b>	<b>3</b>
<b>The Study of War Finance .....</b>	<b>9</b>
<i>Preferences .....</i>	<i>11</i>
<i>Capacity.....</i>	<i>12</i>
<b>Towards an Integrated Theory of War Finance .....</b>	<b>12</b>
<b>CHAPTER 2: THE POLITICAL ECONOMY OF WAR FINANCE .....</b>	<b>18</b>
<b>Key Concepts and Definitions .....</b>	<b>19</b>
<i>Financing What? The Cost of War .....</i>	<i>19</i>
<i>Paying for War and its Costs .....</i>	<i>21</i>
<i>War Finance Strategy.....</i>	<i>28</i>
<i>War Duration and the Dynamics of War Finance: Long versus Short Wars.....</i>	<i>30</i>
<b>The Political Economy of War Finance .....</b>	<b>33</b>
<i>Assumptions and the Argument in Brief .....</i>	<i>33</i>
<i>Variable 1: Bureaucratic Capacity.....</i>	<i>38</i>
<i>Variable 2: Balance of Payments and Currency Reserves .....</i>	<i>44</i>
<i>The Limits of Capacity as a Variable—Why we need to Understand Preferences .....</i>	<i>47</i>
<i>Capacity and Statebuilding.....</i>	<i>50</i>
<i>Variable 3: The Fear of Inflation .....</i>	<i>53</i>
<i>Variable 4: Public Opinion .....</i>	<i>59</i>
<b>Alternative Hypotheses .....</b>	<b>62</b>
<i>Democracy.....</i>	<i>62</i>
<i>Borrowing Capacity .....</i>	<i>63</i>
<b>War Finance Strategy Outcome.....</b>	<b>65</b>
<b>Research Design.....</b>	<b>67</b>

<i>Case Selection</i> .....	68
<b>Conclusion</b> .....	<b>70</b>
 <b>CHAPTER 3: TESTING THE ARGUMENT WITH A NEW WAR FINANCE DATA SET: 1823 TO 2003</b> .....	
<b>72</b>	
<b>The Data</b> .....	<b>74</b>
<i>Originality</i> .....	74
<i>Scope</i> .....	75
<i>Unit of Analysis</i> .....	76
<i>Variation on the Dependent Variable</i> .....	77
<i>Data Collection and Measuring War Finance</i> .....	78
<b>Descriptive Statistics: A <i>Quantitative</i> History of War Finance Since 1823</b> .....	<b>82</b>
<i>The Cost of War and War Finance</i> .....	88
<b>Empirical Analysis</b> .....	<b>91</b>
<b>Independent Variables</b> .....	<b>91</b>
<i>Bureaucratic Capacity</i> .....	91
<i>Inflation Lesson</i> .....	94
<i>Currency Reserves</i> .....	95
<i>Public Opinion</i> .....	96
<i>Control Variables</i> .....	96
<b>Statistical Analysis—Why do states finance war in the manner they do?</b> .....	<b>98</b>
<i>Taxation</i> .....	98
<b>Domestic Debt</b> .....	<b>103</b>
<b>Total Borrowing (From the Home Economy and from Abroad)</b> .....	<b>106</b>
<i>External Funding</i> .....	108
<i>Printing</i> .....	110
<b>Conclusion</b> .....	<b>112</b>
 <b>CHAPTER 4: PAY-AS-YOU-GO—THE FINANCING OF THE UNITED STATES’ WAR EFFORT IN KOREA</b> .....	
<b>114</b>	
<b>Korean War Finance – Background</b> .....	<b>119</b>
<b>Korean War Finance</b> .....	<b>125</b>
<i>Phase I: 1950 to mid-1951</i> .....	126
<i>The Fear of Inflation</i> .....	127
<i>Public Support for the War Effort</i> .....	136
<i>A War Finance Policy</i> .....	139
<i>Inflation—Monetary Policy and Price Controls</i> .....	141
<i>Phase I: A War Finance Success Story</i> .....	149

<i>Phase II: Mid-1951 to October 20, 1951</i> .....	151
<i>Fear of Inflation</i> .....	153
<i>Support for the War</i> .....	157
<i>The Revenue Act of 1951</i> .....	163
<i>Epilogue—1952 to July 26, 1953</i> .....	164
<b>Conclusion</b> .....	<b>165</b>
<b>CHAPTER 5: LYNDON JOHNSON’S FINANCING OF THE VIETNAM WAR EFFORT</b> .....	<b>166</b>
<b>Background</b> .....	<b>169</b>
<b>Vietnam War Finance</b> .....	<b>176</b>
<i>Phase I: March 1965 to Fall of 1966—A Stimulant Not a Sedative</i> .....	176
<i>Fear of Inflation</i> .....	177
<i>War Finance Policy Outcome – Phase I</i> .....	185
<i>Phase II: January 1967—June 1968</i> .....	186
<i>Fear of Inflation—The Call for a Tax Increase</i> .....	189
<i>Delaying the Request</i> .....	191
<i>Fear of Inflation—Just Not High Enough</i> .....	192
<i>Public Support for the War</i> .....	196
<i>1968—Rising Prices, A Global Financial Crisis, and Tet</i> .....	203
<b>Monetary Policy and the Federal Reserve</b> .....	<b>208</b>
<i>Johnson, Congress, and the Preference for Low Interest Rates: March 1965 to Fall 1966</i> .....	209
<i>The Federal Reserve: January 1967 to June 1968</i> .....	213
<b>Conclusion</b> .....	<b>220</b>
<b>CHAPTER 6: EXTERNAL WAR FINANCE—BRITISH FINANCING OF THE CRIMEAN WAR AND WORLD WAR II</b> .....	<b>222</b>
<b>British Financing of World War II</b> .....	<b>224</b>
<i>Background</i> .....	228
<b>Phase I: September 1939-May 1940: The Phony War to Dunkirk, The Policy of Cash and Carry..</b> <b>233</b>	
<i>Attempt at Self-Sufficiency</i> .....	236
<i>Self-Sufficiency Failing</i> .....	239
<b>Phase II: May 1940-March 1941, Dunkirk to Lend-Lease</b> .....	<b>243</b>
<i>New Demands</i> .....	244
<i>Increasing Orders and Decreasing Reserves</i> .....	248
<b>Phase 3: December 1940 – March 1941 Interim War Finance</b> .....	<b>254</b>
<i>The Stripping of British Assets</i> .....	257
<i>Reverse-Lend Lease</i> .....	261
<b>Phase IV: January 1943-August 1945</b> .....	<b>264</b>

<b>Epilogue: 1944—Post War Finance .....</b>	<b>268</b>
<b>A Review—The Cost of External War Finance .....</b>	<b>271</b>
<b>Crimean War Finance .....</b>	<b>274</b>
<i>Background.....</i>	275
<b>Crimean War Finance .....</b>	<b>278</b>
<i>Inputs for the War Effort .....</i>	278
<i>Military Manpower.....</i>	280
<i>Paying for Mercenaries .....</i>	282
<b>Crimean War Finance Conclusion.....</b>	<b>284</b>
<b>Conclusion .....</b>	<b>285</b>
<b>CHAPTER 7: BUREAUCRATIC CAPACITY AND EXTERNAL WAR FINANCE—THE FINANCING OF THE RUSSO-JAPANESE WAR.....</b>	<b>286</b>
<b>Background—The Russo-Japanese War .....</b>	<b>289</b>
<b>Japanese War Finance .....</b>	<b>293</b>
<i>Taxation .....</i>	294
<b>External War Finance.....</b>	<b>301</b>
<i>Inputs for the War.....</i>	302
<i>Balance of Payments Problem .....</i>	304
<i>Japan’s Initial Creditworthiness .....</i>	305
<i>Foreign Loans and the Financing of the Russo-Japanese War .....</i>	306
<i>Conclusion—Japanese War Finance.....</i>	309
<b>Russian War Finance.....</b>	<b>310</b>
<i>Taxation .....</i>	312
<b>Domestic Debt .....</b>	<b>318</b>
<b>External War Finance.....</b>	<b>320</b>
<i>Decreasing Creditworthiness and Increasing Economic Cost .....</i>	323
<b>Conclusion .....</b>	<b>326</b>
<b>CHAPTER 8: CONCLUSION.....</b>	<b>328</b>
<b>General Findings.....</b>	<b>328</b>
<b>Implications .....</b>	<b>330</b>
<b>Future Research.....</b>	<b>334</b>

<b>Concluding Remarks .....</b>	<b>337</b>
<b>APPENDICES .....</b>	<b>339</b>
<b>Appendix A .....</b>	<b>339</b>
<b>Appendix B .....</b>	<b>343</b>
<b>Appendix C .....</b>	<b>344</b>
<b>Appendix D .....</b>	<b>347</b>
<b>Appendix E .....</b>	<b>348</b>
<b>BIBLIOGRAPHY .....</b>	<b>349</b>

## LIST OF TABLES

Table 1: Primary War Finance Possibilities for Contemporary Conventional Interstate Wars.....	27
Table 2: Chinese Revenue during the Third Sino-Japanese War 1937-1941 .....	50
Table 3: United States Civil War Finance, 1861-1865 (In Millions of Dollars) ...	52
Table 4: Russian Inflation During the Crimean War .....	56
Table 5: Russian Fiscal and Monetary Data, 1851-1857 .....	56
Table 6: Likelihood of War Finance Strategy Outcome.....	66
Table 7: Participants Who Engaged in All Four Forms of War Finance.....	83
Table 8: Wars in which Domestic Tax Revenue Finances a Significant Portion of the Cost .....	84
Table 9: Correlation between Volume of Mail and Number of Employees in the United States' Revenue Bureaucracy .....	93
Table 10: Percentage of the War Financed by Taxation.....	100
Table 11: Percentage of the War Financed by Taxation, Primary IV is Inflation Experienced in the Previous War .....	102
Table 12: Percentage of the War Financed by Domestic Debt.....	104
Table 13: Types of Domestic Debt .....	105
Table 14: Percentage of the War Financed by Total Debt.....	107
Table 15: Percentage of the War Financed by External Funding .....	110
Table 16: Percentage of the War Financed by Printing .....	112
Table 17: Korean War Finance: Within-Case Variation .....	118
Table 18: Chronology of the Primary Economic and Security Events of the Korean War .....	122



Table 19: Federal Receipts, Outlays and Debt during the Korean War .....	150
Table 20: Percentage Price Change Since Korean Outbreak, January – September 1951 .....	154
Table 21: Vietnam War Finance: Within-Case Variation .....	169
Table 22: United States’ Budgetary Costs of the Vietnam War .....	170
Table 23: Estimated Military Assistance to South Vietnam, Fiscal Years 1966 to 1975 .....	171
Table 24: The Johnson Budget, 1965-1970 .....	172
Table 25: British Empire Supplies of Munitions from all Sources.....	228
Table 26: War Production of the United Kingdom and German, 1939 to August 1945 .....	230
Table 27: British Defense Expenditure as a Percentage of Total Government Expenditure .....	231
Table 28: Value of British Imports and Exports.....	242
Table 29: Monthly Drain in the Balance of Payments Between the United Kingdom and the United States, January to June 1940 .....	243
Table 30: Output of Principal Army Weapons, British and German, September 1939-May 1940 .....	247
Table 31: British Financing of American Industry, 1939-January 1941 .....	250
Table 32: Conjectural Balance of Payments Between the Sterling Area and the United States, July 1940 to June 1941.....	251
Table 33: United States Lend-Lease Aid to the British Empire .....	272
Table 34: British Government Revenues and Expenditures, 1853-1856.....	276
Table 35: Cost of Hired Mercenaries for the Crimean War .....	282
Table 36: Comparative Economic Data.....	292
Table 37: Japanese Expenditures in the Russo-Japanese War.....	293

Table 38: Japanese Note Issues .....	295
Table 39: Japanese Ordinary Revenue.....	298
Table 40: Japanese Tax Revenue for the Russo-Japanese War .....	300
Table 41: Japanese Foreign Exchange Balance, 1901-1906.....	305
Table 42: Japan's Foreign Loans During the Russo-Japanese War.....	309
Table 43: Russian Per Capita Taxation, 1885-1905 .....	314

## LIST OF FIGURES

Figure 1: Variation in the United States' War Finance .....	15
Figure 2: The Political and Economic Costs of War Finance.....	25
Figure 3: State Revenue by Speed .....	31
Figure 4: Alternative Forms of Taxation .....	43
Figure 5: Variation in War Finance Strategy for Cases Chosen.....	69
Figure 6: Measuring War Finance .....	79
Figure 7: The Relationship Between War Cost and Percentage of War Finance by Taxation in U.S. War Finance .....	89
Figure 8: Percentage of World War I Cost by Belligerent Met by Taxation.....	90
Figure 9: Monthly Wholesale Prices, 1947-1952 .....	129
Figure 10: The Inflation Fear of the American Public, 1949-1953: Percentage of Americans Believing Prices will be Higher in Six Months .....	134
Figure 11: Trends in Support for the Korean War .....	137
Figure 12: Monthly Consumer Price Index from 1947-1952 .....	151
Figure 13: Public Support for a Tax Increase, 1951-1953: Percentage of Americans Who Believe Tax Should Be Increased .....	155
Figure 14: Truman's Presidential Approval Rating, 1949-1953 .....	160
Figure 15: Trends of Support for the Vietnam War.....	197
Figure 16: Percentage of Americans in Favor of a Tax Increase, 1966-1968 .....	199
Figure 17: Trend in American Public Support for Selling Goods to British in Cash vs. Extending Credit .....	256

## CHAPTER 1: Introduction

*“The distribution of power itself ultimately rests on an economic base.”*

-Robert Gilpin

*“The strong emphasis on adequate finance suggests that it must have a niche in any explanation of war.”*

-Geoffrey Blainey

How do states mobilize and pay for war? Military power stems from an economic base. Without wealth, soldiers cannot be paid, weapons cannot be procured, and food cannot be bought. Strategists, tacticians, and logisticians would have little to work with. What if the United States chose not to extend over \$30 billion dollars of Lend Lease aid to Britain and other allies during World War II? Consider the course of the Korean War if the Soviets and Chinese did not aid in financing the North Korean war effort. What if Russian gold was not available to the French and British during World War I to allow them to keep their economies afloat?

This dissertation examines one of the oldest and most important types of financial and military power: the ability to finance war. For the millennia that wars have been fought, ruling groups have had the task of acquiring resources to support their war efforts. This practice continues today. Leaders must first decide where to get money. Do they raise money domestically or from abroad? If they choose to secure resources domestically, who should pay: individuals, society writ large, specific groups within a society, banks, or organizations? Should they pay voluntarily or coercively? Should the

state levy taxes, incur debt, or print? If leaders look outside their borders for finance, where should they look? Should they float debt on international financial markets or secure a direct loan from another state?

Each method of war finance has different political and economic consequences. How a state confronts the enormous cost of war has far reaching implications for the war effort, the state's economy, and the relationship between the state and its citizens. On the one hand, taxation is the least economically costly means of war finance. States can avoid costly debt and, because taxation is anti-inflationary, protect the domestic economy from rising prices. However, taxation is politically costly as it directly and forcibly extracts resources from society. Borrowing, on the other hand, is more economically costly than taxation as the state must pay back the amount borrowed plus interest. However, it is more appealing to policy makers as the public does not have to directly bear the costs of the war. Thus, policy makers can shield the public from the war effort. Funding a war via resources from abroad may be the least politically costly as it does not ask anything from the domestic population. However, in debt to a foreign actor, the state loses autonomy. Printing is the politically easiest option as it does not require the consent of society or from parties abroad and is renewable. However, its inflationary effects make it the most economically costly. How do leaders weigh each option? How do they choose between taxation, domestic debt, external funding, and printing? This work attempts to answer these questions.

When financing a war, leaders are aware that their decisions have both political and economic costs. They have preferences that are shaped by their beliefs about inflation and the war. However, their preferences are bound by the ability of the existing

bureaucracy to extract revenue and cope with low currency reserves in the presence of a balance of payments problem. I argue that this interaction between preferences and capacity explains the extent to which a state finances a war by taxation, domestic borrowing, external funding, and printing. I find that the likelihood of a war financed by taxation increases when policymakers fear inflation, there is high support for the war, or the state is characterized by a high bureaucratic capacity to extract tax revenue. In contrast, wars will be financed by more indirect means such as borrowing, at home or abroad, and printing when support for the war is low or the state has a low bureaucratic capacity. Finally, states will borrow from abroad when they face a balance of payments problem.

### **Implications for Political Science and Policy Makers**

The study of war finance has implications for political science and policy makers. This work illuminates the dynamics of war, the ability of a state to translate domestic and foreign resources into military power, the formation and stability of the state, and the relationship between state and society.

Understanding how states finance war helps scholars better understand the dynamics and, potentially, the outcome of war. Historians and military scholars tend to attribute victories of war to variables ranging from military leadership to tactics, strategy, technological superiority, and regime type. However, states fight wars. To focus solely on armies and navies dismisses the broader story of victory and defeat. Soldiers need to eat, be paid, and be supplied with military equipment. Where does the state acquire the money to meet these costs? More important to the war effort, what happens when a state

has exhausted its resources? Military logisticians have a saying, “Good logistics alone can’t win a war, Bad logistics alone can lose”; war financiers should have an equivalent.<sup>1</sup> The manner in which war is financed may not result in certain victory—but it may make defeat more likely. Inadequate war finance can result in the inability to secure adequate supplies, pay soldiers, or bankrupt of the state.

The study of war finance is the study of power. Traditionally, scholars have assumed that a state’s economic indicators translate into military capabilities. One of the most widely used indices assessing military capability is the Composite Index of National Capability (CINC) from the Correlates of War Project (Singer, Bremer, & Stuckey, 1972a). CINC is subdivided into six components; most important for this study is military expenditure. Studies that use military expenditure, or an even cruder measure, gross domestic product, to understand a state’s military capability can be misleading. Focusing on military expenditure or other economic indicators cannot capture or predict the ability of a state to raise exponentially large amounts of money at the onset of a conflict in addition to current expenditure levels.

Nor does military expenditure tell scholars the process by which governments raise money to pay for such expenditures. Organski and Kugler (1980) and Kugler and Domke (1986) realized that military expenditures did not translate into power. States first need to extract resources from society: “Taxes are exact indicators of government presence...Failure to impose and extract taxes is one of the essential indicators of governmental incapacity to obtain and maintain support” (Organski & Kugler, 1980, p.

---

<sup>1</sup> Stated by General Brehon B. Somervail Commanding General Army Services Forces, 1942 (Detzer, 1943, p. 266).

74). Meanwhile, studies that do focus on confronting the costs of war overemphasize domestic resources such as taxation and debt and ignore foreign financing and printing.

The political process of resource extraction in particular has been overlooked. Political elites make choices about where to solicit and extract resources, but there are few theories that help clarify their decision-making. If we can better understand what options of war finance are available, what factors shape the decision making process of policy makers and a state's capacity to extract those resources, then policy makers will be better equipped to measure their own state's military capability as well as that of its adversaries and allies. Scholars will have a more accurate and well-formed understanding of financial and, consequently, military power.

Because financing a war can be a costly exogenous shock to an economy, it often has lasting effects on a state's infrastructure long after the war has ended (e.g. Scheve & Stasavage, 2010). Indeed, political science has emphasized state building via the collection of war revenue. The end of feudalism and the rise of the modern state system has been attributed to the rising cost of war and the ability of rulers to meet these costs (e.g. Howard, 2009). More specifically, comparative politics scholars, led by Charles Tilly, have analyzed the effect of war finance on state formation in European states.<sup>2</sup> Paul Kennedy (1987), John Brewer (1989), and others attribute the rise of the British state during the Napoleonic period to "superior" war finance.

---

<sup>2</sup> Other studies that link war revenue and state building: For Europe, see Ardant (1975), Eartman (1997), Tilly (1990) and, Downing (1992); For Latin America, see Centeno (2002); For the Middle East, see Barnett (1992); For the United States, see Bensel (1990) and Pollack (Pollack, 2009); and for late developers, see Kiby and Ward (1991).



While greatly informative, these studies do not address why states finance war in the way they do. We first need to understand the political and economic process of war finance and resource extraction. Contemporary comparative scholars studying the effect of war finance on state building are unraveling Tilly's broad claim that war makes states and states make war.<sup>3</sup> Not all warfare has the same impact on state institutions. Wars financed by purely external means may have no impact on a state's domestic extractive capacity. Nor do wars financed by domestic revenue raised from an elite group of individuals or printing. When the state relies on money from abroad, elite debt or printing, it does not have to increase or expand the collection of domestic revenue, typically in the form of taxation. In these instances, the leviathan—the bureaucratic infrastructure—that Tilly argues results from financing war does not form. In unraveling the war finance process, this dissertation will provide insight into what conditions lead to revenue extraction that facilitates state building.

War finance can also affect state autonomy. While a state may be fighting a war to protect its sovereignty, the manner of war finance may also undermine it. As the cost of war rises, leaders need to raise large sums of money. Whether engaging in taxation or credit, the state accrues debt either to society or to creditors. As the amount of money garnered increases, so can the leverage the lenders have over the state. During the Anglo-French wars, this leverage was evident in the selling of offices and greater representation in government. In France, it was reported that “no fewer than 50,000 offices were created in the second half of the sixteenth century” (Brewer, 1989, p. 16). Furthermore, in exchange for revenue, society gained a more prominent voice in

---

<sup>3</sup> Notably Michael Barnett (1992).

government (See Ertman, 1997). As society's influence on the state increases, the ability of the state to create and implement policy autonomous from society decreases.

In addition to greater societal power vis-à-vis the state, banking houses and wealthy financiers also can increase their influence. During the Crimean War *The [London] Times* summed up this sentiment in England as war loans went to the Rothschilds. "We certainly were under the impression that we lived in an age of competition...Now we are at the mercy of a few great contractors" (Anderson, 1967, p. 214). The state may also become beholden to individuals and institutions abroad. David Hume in his essay *Of Public Credit* feared that "As foreigners possess a great share of our national funds, they render the public, in a manner, tributary to them, and may in time occasion the transport of our people and our industry" (Hume, 1987 [1742], p. 355).

War finance can also have redistributive effects within a society. Taxes can be either progressive or regressive. Wars financed by debt redistribute wealth, often regressively. It is often the highest income brackets that purchase debt who then receive that payment back with interest, often paid for by the poor. John Maynard Keynes came to the conclusion that war finance is often regressive. In *How to Pay for the War*, he laid out his plan to make war finance more evenly distributed among the different classes of society: "The bulk of the new taxes shall fall on the income groups of £250 or more, and that the main part of the contribution of the lower income groups shall take the form, not of foregoing income outright, but of merely deferring" (Keynes, 1940, p. 31).

The United States provides an example of how the means of war finance effects the redistribution of wealth (Studenski & Krooss, 1952, Chap. 13-15). During the United States' Civil War, taxation was regressive and the cost was borne by the lowest classes.

Union government revenues came from excise taxes and customs duties. Thus, the cost of the war was passed on to the consumer in the form of higher prices and fell most heavily on those at the bottom of the income scale. In addition, government borrowing was also initially regressive as it was restricted to banks and financial elites, leaving the interest to be reaped by elites and paid by the masses. Compare this experience of the North during the U.S. Civil War to U.S. financing of World War I. In World War I, because of the extraordinary increase in income taxes, the burden fell most heavily on those in the upper-income brackets. Individuals in the lower income groups were much heavier buyers of bonds. It was estimated that 30% of the liberty bonds were brought by people with incomes of \$2,000 or less (Krooss, 1955, p. 455). These examples are not unique to the United States and demonstrate how the decisions of war finance have large repercussions on the distribution of wealth within a society.

Policy makers fear inflation, particularly since it can bring about financial crisis and political instability. War finance can cause and exacerbate all three outcomes. To use one prominent example of war financing resulting in inflation, consider the hyperinflation experienced in Germany during the interwar years that peaked in 1923. During the financing of World War I, the German Reichsbank issued new notes, *Darlehenskassenscheine*, which were not legal tender but receivable at face value at all public offices. The consequence of this policy was a soaring increase of money in circulation. The Reichsbank's reserve ratio rule, requiring a cash reserve of 33 1/3%, was down to 3% by Dec 31, 1919 (Fairchild, 1994 (1922), pp. 254-255). The result was one of the worst bouts of inflation in world history, the extent to which is illustrated by

the artistic depictions of the time: children making houses using stacks of notes; people transporting money in wheelbarrows; and using notes to paper walls.<sup>4</sup>

Understanding how states finance wars advances the scholarly literature on the study of war, state building, state autonomy, the creation and destruction of economic structures within a state, and distribution of wealth within a society.

### **The Study of War Finance**

War finance has received some attention in general political science scholarship but has not evolved into a cohesive research project. Although international relations scholars have recognized that war finance matters to understanding the process and outcome of war, it has been grossly understudied. When scholars do discuss war finance, it is often normative in nature or in the form of single case studies. Thus, there exist few coherent cross-case explanations of war finance outcomes.

Early political economists, such as David Hume (1742 [1987] Part II, Essay IX), Adam Smith (1776 [1981]-b Book V, Chap. 3), David Ricardo (1888 [1846]-a, 1888 [1846]-b), Francis Hirst (1915) and Alexander Hamilton (1904), framed early western debates on war finance: who in society should be taxed, how to build credit, and the effect of war debt on society. Who in society should pay and the role of credit subsequently dominated future works on war finance. These works, written around the time of war, were generally policy oriented and normative in nature. Two twentieth-century examples of such works are A.C. Pigou's *The Economy and Finance of War*

---

<sup>4</sup> For an excellent account of war finance policy and the resulting inflation, see Feldman (1997).

(1916) and John Maynard Keynes' *How to Pay for the War* (1940).<sup>5</sup> These works, like their predecessors, address how wars should be financed rather than the political process of war finance.

Few have attempted to build a generalizable theory of war finance. Existing political science literature offers two major perspectives on how states confront the costs of war. The first emphasizes preference. Leaders have a consistent inclination to borrow. The second emphasizes state capacity. When liberal institutions characterize states, they are better able to borrow and, consequently, will. I argue that these leading theories do not provide an adequate theory of war finance. First, these theories assume that a leader's war finance policy preferences are static. Not all leaders prefer borrowing. Second, these studies are narrow in scope. The principal explanatory variable is regime type. Thus, these studies are unable to account for within-regime-type variation. Any understanding of war finance must take into account the dynamics of the war itself, the economic and political structure of the state, and the political costs that leaders face by engaging in the conflict. My argument builds upon these earlier theories of war finance, yet modifies them by conjoining three key features: the war, the economy, and state capacity.

---

<sup>5</sup> Both Pigou and Keynes emphasized the regressive effect of war finance on the distribution of wealth within a society. Pigou, discussing trade offs of taxation versus debt, argued that the proper war finance debate should not be when the war should be paid for—by future of the current generation—but *who* should pay. "...as regards to the distribution of the burden or war costs between present and future, the influence of the Government's choice between taxes and loans is secondary and remote. There is, however, another sense of distribution, namely, distribution between people of different grades of wealth, in regard to which its influence is primary and direct" (Pigou, 1916, p. 67). Pigou addresses the underlying assumption, "If all members of the community were in the same position, the interest [from a war loan] that each of them got would be, in effect, paid out of a new tax of equivalent amount levied on himself" (Pigou, 1916, p. 67). At the end of the war, if everyone was levied the same amount of tax and all would be equal. Keynes came to a similar conclusion. He argued that war finance should be progressive, and the bulk of new taxes should fall on higher income groups. Moreover, as debt financing was regressive, he advocated for a forced savings plan.

## *Preferences*

Early political economists argued that policymakers prefer to borrow rather than tax. Borrowing appeals to politicians because it enables them to commence a policy without having the public confront the costs. Moreover, by defraying the cost of war, leaders are able to avoid the economic shock of distortionary taxes. If the war becomes increasingly expensive or drawn out, the general public will nonetheless find itself less frustrated as long as they do not directly fund or directly sacrifice themselves in order to pay for the ailing policy. Adam Smith articulated this logic,

The ordinary expence [*sic*] of the greater part of modern governments in time of peace being equal or nearly equal to their ordinary revenue, when war comes they are both unwilling and unable to increase their revenue proportion to the increase of their expence. They are unwilling, for fear of offending the people, who by so great and so sudden an increase of taxes, would soon be disgusted with the war... The facility of borrowing delivers them from the embarrassment which this fear and inability would otherwise occasion (Smith, 1776 [1981]-a Book V, Chap. 3).<sup>6</sup>

Economic literature argues that policy makers favor borrowing in order to avoid painful and potentially economy distorting tax policies. The concept of smoothing emerged from this line of thought (See Barro, 1979; Lucas & Stokey, 1983; Ohanian, 1997, 1998). Tax smoothing proponents argue that when a government faces an exogenous expenditure, tax rates should not necessarily adjust to public finance shocks such that a balanced budget is always achieved (Ohanian, 1998, p. 8). Rather, when a government needs to finance a large increase in expenditure, the most efficient way to do

---

<sup>6</sup> Writing almost a century later, David Ricardo echoed Smith's concern, "The burdens of the war are undoubtedly great during its continuance, but at its termination they cease altogether. When the pressure of the war is felt at once, without mitigation, we shall be less disposed wantonly to engage in an expensive contest, and if engaged in it, we shall be sooner disposed to get out of it, unless it be a contest for some great national interest" (Ricardo, 1888 [1846]-b).

so is by borrowing. Borrowing is efficient because it allows states to prevent extreme tax increases that would otherwise distort microeconomic incentives.

### *Capacity*

Leaders' preferences alone cannot explain the variation in war finance. States must have the institutional capacity to carry out their plans. In regards to both tax and borrowing capacity, the prevailing works emphasize regime type. Kenneth Shultz and Barry Weingast argue that liberal states are more effective than authoritarian regimes at borrowing to meet the costs of war. They assert that "representative institutions enhance a state's borrowing power by making it easier for those with a stake in the repayment of debt to punish the sovereign in the event of default" (Schultz & Weingast, 2003, p. 5). As a result, liberal states will have easier access to credit that will allow them to facilitate a policy of tax smoothing.

Regime type also affects a state's capacity to extract taxes. Shinju Fujihira (2000) asserts that liberal democracies are better able to collect taxes to finance a war because they are characterized by representative institutions. These institutions enable capital and labor to overcome class disputes and reach a workable compromise between their regressive and progressive positions.<sup>7</sup>

### **Towards an Integrated Theory of War Finance**

The above conventional wisdoms do not provide a sufficient theory of war finance. They either emphasize the preferences of policy makers or a state's capacity to

---

<sup>7</sup> Levi (1988) and Cheibub (1998) also discuss the relationship between regime type and ability to extract tax revenue.

extract resources from society. Neither alone can predict the manner in which a state will finance a war, as they ignore how preferences and capacity interact. Moreover, regime type as an explanatory variable does not address within case variation. Lastly, they are narrow in scope. The understanding of war finance is presented as borrowing versus taxation. Resources from abroad, existing coffers, printing, or borrowing directly from another state all are excluded from the conversation.

Regime type alone cannot explain how a state finances a war. Shultz and Weingast's work is excellent in drawing our attention to the importance of credit. However, the study makes an assumption that regime type matters to creditors. It also assumes that representative officials are worried about the political cost from default or will even face a political fall out. Michael Tomz (2007), for example, finds that creditors value reputation formed by the repeated successful repayment of debt, not necessarily regime type. Moreover, studies that assume that creditors look to regime type when extending loans ignore the political aspect of debt. The Cold War is a prime example. The United States and Soviet Union extended vast amounts of war debt to a myriad of "non-liberal" regimes with bad credit for geo-political reasons. The Japanese and Russian experience during the Russo-Japanese war serves as another counter example. Both nations were able to secure credit despite being "non democratic." Russia's credit, provided by France and Germany, wavered with battlefield success and not with political cost to elected representatives. Furthermore, worried investors did not find confidence in Russia's institutions but in Russia's gold reserves and the state's perceived ability to pay



(*Times*, 1905). Japan's credit, provided by the United States, continued to be extended as Japan advanced successfully in battle.<sup>8</sup>

In addition to the inability to capture preferences, these theories connecting regime type to resource extraction do not capture important variation within democracies.<sup>9</sup> While democracies may be more effective at extracting taxes from their society, this capability does not dictate preference. Consider the variation in United States' war finance presented in the figure below. None of the above theories can explain why the United States chose to finance World War II by 50 % taxation and the Korean War by 100% taxation, whereas the wars in Iraq and Afghanistan have been financed entirely by domestic and foreign debt.

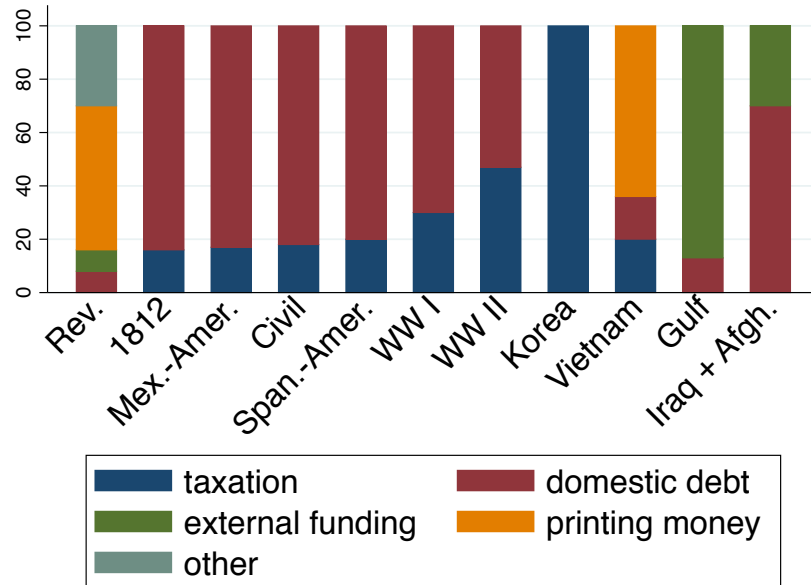
Once again, we are left with the puzzle: what explains the variation in how states finance war? What shapes a policy maker's preferences for war finance? What characteristics of the state bind the policy maker's preferences?

---

<sup>8</sup> There are many studies on the nature of the Japanese regime at the turn of the century (Harries & Harries, 1994, pp. 37-38; Okamoto, 1970; Walder, 1974, p. 35).

<sup>9</sup> Seabrooke (2006) and Steinmo (1993) discuss the variation of tax rates within liberal regimes.

**Figure 1: Variation in United States' War Finance<sup>10</sup>**



The rest of this dissertation proceeds as follows. The next chapter presents my argument. First, I discuss how states finance war, defining taxation, domestic debt, external funding, and printing. I then argue that leaders are first constrained by their capacity to raise revenue as well as their capacity to cope with low currency reserves. However, the extent to which capacity shapes war finance varies. Thus, we must also understand leaders' preferences. These preferences shape leaders' beliefs regarding inflation as well as their responsiveness to public opinion for the war effort. It is this

<sup>10</sup> What constitutes a tax, domestic debt, external funding, and printing are discussed in Chapter 3. Citations: For United States' financing of the War of 1812 to the Korean War, see Paul Studentski and Herman Kross' *Financial History of the United States* (1952). For U.S. financing of the Vietnam War see Tom Riddell, *A Political Economy of the American War in Indo-China: Its Costs and Consequences* (1975). For Gulf War finance, see United States Congressional Report (*Conduct of the Persian Gulf War: Appendix P*, 1992). In the Revolutionary War column, other is referring to plunder and the selling of land for money.

interaction between state capacity and leader's preferences that explains why states finance wars in the manner they do.

In Chapter 3, I test my hypotheses quantitatively. This work presents the results of the first large-scale statistical analysis of war finance. To do so, I constructed an original dataset that details how all major interstate wars were financed between 1823 and 2003. In so doing, I discover both over-time and between-country patterns that have eluded previous scholars.

I augment this large-N statistical work with three paired-case comparisons. In chapters 4 and 5, holding bureaucratic capacity, currency reserves, and regime type constant, I test the effect of preferences on how states finance war. Chapter 4 examines why the United States, under the leadership of President Truman, financed the entire Korean War by taxation. I then compare the financing of the Korean War to the Vietnam War under the leadership of President Johnson in Chapter 5. The Vietnam War, which was much cheaper than the Korean War, was only minimally financed by taxation (about 15%) and the rest was financed through domestic debt.

Chapters 6 and 7 emphasize capacity. In Chapter 6, in order to explore the effect of currency reserves and a balance of payments problem on war finance, I compare British financing of the Crimean War and World War II. To effectively fight the Germans during World War II, the British had turn to the United States for funding. The British received a \$30 billion loan to finance its war effort. Conversely, during the Crimean War, the British Government was able to finance the whole war internally, through a combination of taxation and domestic debt.

In Chapter 7, I compare Russian and Japanese financing of the Russo-Japanese War to test the effect of bureaucratic capacity to extract revenue on war finance. Russia, lacking the capacity to pay for the war via tax revenue, was forced to resort to other means of war finance, initially domestic debt followed by foreign loans. Japan, on the other hand, was able to finance a portion of the war via taxation. However, similar to Britain during World War II, the country found itself needing foreign currency to address a balance of payments problem. Thus, Japan had to resort to external funding.

Finally, the conclusion ties together the preceding material by drawing a set of general lessons on war finance. It exploits the advantages of the cross-national data and paired comparisons to discuss potential alternative hypotheses. I conclude with a discussion of the effect of war finance on national security and democracy.

## **Chapter 2: The Political Economy of War Finance**

How do states finance war? How do they choose between the primary means of war finance: taxation, domestic debt, printing, and procuring resources from abroad? The previous chapter reviewed existing arguments on why states choose to confront the cost of war in the manner they do. Here I build upon those arguments to provide a more cohesive explanation for war finance. The chapter contains three parts. First, I define the concepts of war cost, war finance, and war finance strategy. In this section, I outline the specific ways policymakers can pay for war and discuss the cost and benefit of each method to leaders, the economy, and society. Borrowing compounds the cost of war through high interest rates; printing results in disastrous inflation; taxation combats high inflation and minimizes economic cost yet is politically costly; garnering money from abroad invites outside influence and fosters dependency.

Second, I present my argument. I argue leaders are first constrained by their capacity to raise revenue as well as their capacity to cope with low currency reserves. However, the extent to which capacity shapes war finance varies. Thus, we must also understand leaders' preferences. I assume leaders (a) want to win the war, (b) prefer to avoid economic ruin, and (c) want to remain in power. Leaders want to ensure their military is outfitted as best as possible, with the supplies needed to effectively fight. They prefer a war finance policy that will have the least negative economic impact on the state. Finally, leaders want to remain in power. Thus, they prefer a war finance strategy that is the least politically costly. Taken together, these three assumptions shape leaders' beliefs regarding inflation as well as their responsiveness to public opinion for the war

effort. It is this interaction between a state's capacity and a leader's preferences that explains why states finance wars in the manner they do.

In sum, in this chapter I argue that there are four primary influences shaping war finance outcome: state capacity to extract revenues, state capacity to cope with a balance of payments problem, fear of inflation, and public support for the war effort. *Ceteris paribus*, we should see a larger percentage of the war effort financed by taxation when there is one or more of the following conditions present: high bureaucratic capacity to extract tax revenue, high inflationary fears, or strong public support for the war. We should see higher levels of borrowing and printing when the state has low capacity to extract revenue, support for the war is low, or there is no inflation fear. Finally, a state will resort to external war finance when it is unable to cope with a balance of payments problem.

This chapter concludes with a review of research design. I test my argument with a two-stage approach. First, using a novel war finance data set, I discuss the characteristics of war finance since 1822. I then test for the statistical significance of each variable. Second, I engage in process tracing via three pairs of cases to demonstrate how the variables collectively shape war finance strategy outcome.

### **Key Concepts and Definitions**

#### *Financing What? The Cost of War*

This work strives to explain how states confront the costs of fighting a war. Before we can understand "war finance," we need to address what we are financing, for the cost of war can mean several different things. As Seligman notes,

In the narrower sense, [the cost of war] means the actual money outlay, or expenditure in dollars and cents, directly involved in prosecuting the war. In the wider sense it includes many items, both direct and indirect, which are of significance from the economic point of view. The real cost of the war in this sense may mean either the actual loss of lives and of property or the diminution of the annual social output (Seligman, 1919, p. 741).

Like Seligman, I am primarily concerned with the narrow concept of cost: the direct financial outlays to pursue military objectives.<sup>11</sup> Cost includes not only direct outlays for the military, but also the range of expenditures incurred in industrial life to equip the armed forces. I also include financing allies who are aiding in the war effort, as it is an additional cost of war that a state becomes responsible for financing.<sup>12</sup>

This narrower conception of the cost of war excludes many pertinent expenses as well as human cost in life and suffering. Excluded are pre-war armament programs, demobilization, occupation, or arms races. While preparation and demobilization are expensive proceedings, this project is concerned with understanding the financial dynamics during conflict. Accordingly, I also do not include indirect costs to society such as veterans' costs, the effect of loss of life on a state's economy, or interest payments on the debt accumulated to pay for the war (See Stiglitz & Bilmes, 2008). While a broader conceptualization of cost may be useful for other purposes, such as

---

<sup>11</sup> For an early analysis of what may be included in the cost of war, see Giffin's (1904) discussion of the cost of the Franco-Prussian war. For an expansive conceptualization of the cost of war, see Bogart's (1921, p. Chap. XIV) discussion of the cost of World War I.

<sup>12</sup> The clearest example of allied financing—or advances to allies to aid with the war effort—occurred during World War I and World War II. For example, during World War I, almost 30% of the gross cost of the United States' war effort went to advances to allies. Bogart estimates the net cost of the war effort to be \$22,625,252,843 and advances to allies to be \$9,455,014,125. Thus, making the gross cost \$32,080,266,968. The United States advanced \$4,316 million to Great Britain, \$2,852 million to France, \$1,591 million to Italy, \$187 million to Russia, \$341 million to Belgium, \$27 million to Serbia, \$30 million to Romania, \$43 million to Greece, \$50 million to Czecho-Slovaks, \$10 million to Cuba and, finally, \$5 million to Liberia (Bogart, 1920, p. 267). This cost, while eventually repaid, was borne by the United States Government during the war.

policy debates or long-term analyses of the consequences of war, it is not useful for this study. The focus of this work, like that of state leaders themselves, is procuring money for specific military operations within a specific theatre and for a specific duration.

Thus, war finance is the means by which the state meets the costs of executing the war effort. It is the manner by which the state redirects or creates monetary resources to meet government outlays to continue the war.

### *Paying for War and its Costs*

How can a state finance a war? What options are available to policymakers? The majority of wars are financed through some combination of taxation, domestic debt, printing, and procuring resources from abroad.<sup>13</sup> Each method of war finance contains varying political and economic costs. Political costs are dependent on visibility and who within society is providing the revenue. Economic costs depend on the interest rate the state is paying to fund war debt and the extent to which the war finance policy is inflationary.

---

<sup>13</sup> Michael Barnett (1992) argues that governments can choose among three broad types of state strategies for war preparation: accommodational, restructural, and international. An accommodational strategy relies on already existing policy instruments, whereas a restructural strategy occurs when state managers attempt to restructure the present state-society compact in order to increase the total amount of resources available. An international strategy occurs when a state is highly constrained by its domestic context and, consequently, attempts to distribute the costs of war onto foreign actors. The broadness of Barnett's typology does not provide us with the analytical leverage to understand the specifics of war finance, the variation of policy outcome regarding taxation, borrowing, external extraction and other less conventional means. Furthermore, Barnett does not offer a framework for how these various strategies interact. For example, a state may be engaged in both an international and accommodational strategy. As a result, this work deviates from Barnett's typology in an attempt to more directly understand the dynamics of war finance.



- **Taxation** refers to the sum of revenue raised from war taxes and the existing tax structure that is funneled towards the war effort.<sup>14</sup> There are many different types of taxes, each with different political costs depending on the visibility of the tax and who within society is paying it. The more visible the tax and the more powerful the segment of society paying the tax, the higher the political cost for leaders to raise said tax. Highly visible direct taxes, such as an income tax or corporate tax, are costly, as members of society see exactly how much of their income is taken by the government. The most politically costly taxes are those that affect well-organized groups. Corporate taxes are the most costly, particularly excess profits taxes, as businesses have strong lobbies. The least politically costly taxes are indirect taxes, such as a sales tax or tariff where citizens have no direct interaction with the tax and the tax is widely dispersed throughout society. While taxation may be the most politically costly, especially when direct taxes are the primary means of revenue, it is also the least costly economically. Taxation not only avoids costly interest on debt raised; unlike debt, it does not need to be paid back. Moreover, because taxation is an inherently anti-inflationary policy, it also mitigates the economically damaging effects of price increases.

---

<sup>14</sup> Taxation is a form of government revenue that differs from other forms of finance, including debt; parastatal income, such as revenue from the selling of public land; and user fees, such as revenue from the selling of import licenses, in terms of obligations and administrative requirements. Taxes are “unrequited compulsory payments collected primarily by the central government” (World Bank 1988: 79). They are levied on a particular base and paid to the government to provide certain public goods or services or to redistribute income or purchasing power within society, but without provision or promise of any specific good or service in return for payment (Lieberman, 2002, p. 91).

- **Domestic borrowing** refers to money lent to the government from individuals, groups or institutions within the state with the explicit notion that it will be paid back over time (Moles & Terry, 1997, p. 147). Domestic borrowing, like taxation, takes many forms, each having a different economic and political cost. Domestic borrowing may be highly visible and engage with society at large, such as a bond campaign. It may be somewhat visible yet engage with a select few, such as borrowing from wealthy elites or banks. Or it may be less visible, such as the general issue of public debt. In regards to political cost, because domestic debt is voluntary, it is relatively less costly than taxation. It may become politically costly if the form of borrowing either crowds out credit that would otherwise be directed to the business community or if the level of debt becomes so high that the public no longer approves of it. In addition to varying political cost, the economic cost of domestic debt also varies greatly. It is presumed that domestic borrowing is economically costly because of the repayment of both the principal and costly interest. However, this is not always the case. First, debt that is floated on markets is not always floated at the prevailing market rates. States can and have imposed interest rates ceilings to avoid costly interest. For example, in order to avoid the costly debt of World War I, during World War II, Britain imposed an interest rate limit of three percent (Sayers, 1956, p. 143). In addition, debt is not always floated on markets. States often engage in negotiation with specific banks, individuals or organizations. Because of the variety of forms that domestic debt can take, it is difficult to make definitive statements regarding its political and economic cost. However, we can conclude that the lower the interest

rate, the lower the economic cost and the more the population is shielded from any negative effects of borrowing the lower the political cost.

- **Printing** refers to money created by the government. Printing, unlike taxation and domestic debt, does not use money already circulating within the state.

Printing and debt both add to the money supply. However, debt is monetized; it uses currency already in circulation. To monetize debt, a government must issue new bonds, sell them to the public or their central bank, and conduct an open market purchase. Thus, to float debt means to directly take money away from people when they purchase a bond. Printing, on the other hand, does not remove any money from society. It is necessary to differentiate printing from other sources of war finance because of its visibility and interaction with society.

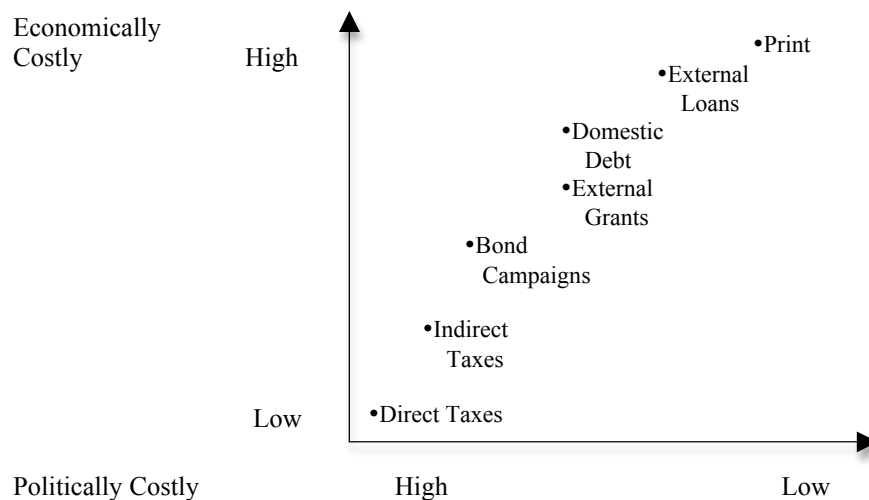
Domestic debt means that citizens must buy government bonds. Thus, it is visible and members of society must consent to its purchase. Printing is an action taken by the government alone. Thus, the two embody a different set of costs for policymakers. The initial political cost of printing is low; the government pays for the war effort without demanding anything from society. The political and economic cost of printing rises if the domestic economy becomes subject to high inflation, a typical side effect. High inflation becomes costly as the price of goods rise, people's savings become worthless, and interest rates rise, making debt more expensive.

- **External funding** refers to resources abroad that can be used to achieve domestic objectives (Mastanduno, Lake, & Ikenberry, 1989). External funding includes both foreign borrowing—which may be in the form of floating debt on foreign

markets, inter-state loans or grants—and plunder. Like domestic debt, because of the variety of forms external funding can take, its political and economic cost varies widely. External funding may be politically costly if the state has to render its sovereignty to its creditor(s). On the other hand, if a state is able to procure resources from abroad without relinquishing sovereignty, external funding may be less politically costly than taxation, as the leader no longer has to extract as much revenue from its population. If external funding is in the form of foreign debt with high interest rates, then its economic cost is reflective of those rates.

It is clear that, each war finance option has different political and economic costs. The various tradeoffs are summarized in the figure below. How do policymakers navigate the different costs and choose a war finance policy?

**Figure 2: The Political and Economic Costs of War Finance**



It is important to note that these are not the only four means through which a state can finance war. Understanding war finance as a dichotomous outcome of tax versus borrowing or some combination of the two removes the richness and complexity of a policymaker's experience. In addition to taxing or borrowing, states can also use existing coffers, currency reserves, forced labor, diaspora remittances, plunder, revenue from the sale of national or private assets, repudiate debt, or engage in austerity measures. Table 1 below summarizes all war finance options at a state's disposal.

Although I focus on the standard means of war finance, it should be said that there are historical precedents for each method listed in Table 1. Less common methods are notable but less instructive for this project. For example, diaspora remittances were present in Israeli war finance in the 1948 Arab Israeli War and the Six Day War (M. N. Barnett, 1992, p. 161; Kanovsky, 1970; Tal, 2004, p. 29). Remittances also played a large role for Eritrea during its 1998-2000 war with Ethiopia, allowing the government to cover its trade and fiscal deficits (Yamauchi, 2004). Germany used forced savings plans or involuntary borrowing during World War II (Tooze, 2007), a method that John Maynard Keynes (1940), in his treatise *How to Pay for the War*, suggested should be a component of Allied war finance. During the Greco-Turkish War of 1919-1922, Greece forced a loan campaign on its population. On April 10, 1922, Greek Finance Minister Petros Protopapadakis ordered that every piece of paper currency to be cut in two pieces. The side bearing the photograph of Minister Stavros was used as legal tender for one half of the face value of the note. In other words, 100 drachma notes cut in two became legal

tender for 50 drachma and the other 50 drachma became government revenue (Mazower, 1991; Pratt, 1922).<sup>15</sup>

	<b>Method</b>	<b>Source</b>
<b>Government Mobilization or Creation of Resources</b>	Taxation*	Domestic Society
	Borrowing	Domestic Society Domestic Financial Elites Domestic or Foreign Private Banks Foreign States Foreign Individuals
	External Extraction	Foreign States Foreign Individuals
	Printing (or Non-Monetized Debt)	Government
	Existing Coffers	Local, State, Federal Government
	Currency Reserves	Government
	Forced Labor	Domestic Society Foreign Actors
	Plunder	Domestic Society Foreign Society
	Diaspora Remittances	Foreign Actors
	Involuntary Borrowing (i.e. Forced Savings Plans)	Domestic Society
	Sale of National or Private Assets	Government or Domestic Society
	Debt Repudiation	Domestic Debt Foreign Debt
	Austerity Measures	Government or Domestic Society

\*This table does not capture the variation in taxation. Policymakers can choose between a variety of taxes, both direct and indirect, that can be progressive or regressive from anywhere within the tax base. Direct taxation refers to a tax in which the government collects revenue directly from the people. Examples of direct taxes include income, corporate, and excess profits tax. An indirect tax is a tax collected by an intermediary. Examples of indirect taxes include tariffs on imports and exports, sales and value added taxes, as well as other general taxes on good and services.

<sup>15</sup> Early presence of forced loans could be seen in England under Edward I to finance his campaign in Flanders against the French. “Further, foodstuffs were requisitioned on a massive scale to supply the armies...and a large forced loan in wool was ordered in July 1297” (Miller, 1975, p. 12).

Forced labor has also been present in numerous wars. One prominent example is Russian forced labor during the Russo-Turkish War of 1828. The Russians forced the labor of 16,000 peasants who were employed in making hay on the banks of the Danube (Chesney, 1854, p. 76). During the Russo-Turkish War of 1877, the Turkish troops received no regular pay; they were merely lodged and fed by the state (Hozier, 2005 (1878), p. 605). Debt repudiation was used by Iraq during the Iran-Iraq war and the Germans in World War II to preserve their currency reserves (Chubin & Tripp, 1988; Tooze, 2007). Britain during World War II experienced the selling of private assets. In need of dollars, the UK had to demonstrate to a reluctant United States Congress that it desperately required aid. As a result, the British Government forced the British citizens to sell the British owned Viscose Corporation of America (Sayers, 1956, pp. 388-389). While history is full of such fascinating examples of atypical means of war finance, this project emphasizes the variation in the more prominent methods.

### *War Finance Strategy*

States often do not just resort to one mean of war finance, i.e. finance a war entirely by taxation. Generally, states resort to multiple methods.<sup>16</sup> To understand war finance in its entirety, I introduce the concept of war finance strategy. A war finance strategy is the combination of methods and sources of resource extraction used to pay for war. War finance strategy is the cumulative manner of how a state pays for a conflict. For example, during World War II, the United States paid for the war through a combination of taxation and domestic debt, about 50% of each (Studenski & Krooss,

---

<sup>16</sup> Descriptive statistics regarding the variation in how states finance war will be discussed in Chapter 3.

1952). Thus, the United States' war finance strategy was one that relied solely on domestic means, an equal combination of taxation and debt. Britain, during World War II, had a different war finance strategy. The British financed their war through a combination of domestic and external means. The strategy was a combination of 25% taxation, 50% domestic debt, and 25% external funding (Sayers, 1956). In theory, there are an infinite number of war finance strategies. A state may use a percentage of each war finance method—taxation, domestic borrowing, external extraction and printing—to finance its war effort.

War finance is not a static process. States often attempt one finance strategy at the beginning of a war and adjust as the war unfolds. The initial strategy could prove to be too politically or economically costly or too inefficient or ineffective at meeting the demands of the war. Thus, a state may change its war finance strategy. In addition, a revised war finance strategy may depend on the first attempt. Thus, war finance may become both a learning and path dependent process.

Union financing of the American Civil War provides an excellent example. United States Treasury Secretary Salmon P. Chase believed the war would be over in a few months (Bogart, 1921). Instead of pressuring Congress to increase taxes or improve upon the existing bureaucratic capacity and collect income taxes, Chase issued short-term debt. After the Battle of Bull Run in July of 1861, creditors realized that the war was not going to be quick and neat. Chase was left with a large amount of short-term debt that needed to be repaid, poor credit because of recent military events, and meager tax revenue. As a result, by 1862 there was a shift in war finance strategy from short-term debt bought by banks to a public bond campaign. By 1863, the nation's first income tax



was imposed along with creation of the Bureau of Internal Revenue collection.<sup>17</sup> As demonstrated by this example, war finance varies significantly, not only across states, but also over time within states, even within one war.

*War Duration and the Dynamics of War Finance: Long versus Short Wars*

This dissertation focuses exclusively on “long wars,” specifically wars over six months long. I refer to wars over six months long as “long wars,” as the average interstate war duration as coded in the Correlates of War Project is only about four months long. Long wars have inherently different dynamics than short wars.

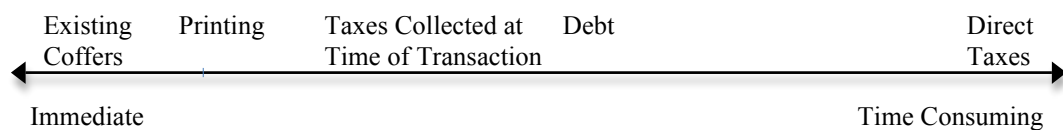
First, long wars have different revenue needs. Short wars are expenditure bursts. Leaders want to win the war; once a war begins, they want to avoid instant defeat. Therefore, their primary focus is to ensure that the military is outfitted as best as possible as fast as possible. Consequently, the initial needs of the war must be met using money that is immediately available, either using existing coffers, printing or, in some cases, debt. Once a short war turns into a long war, the needs of the state changes as does the leader’s time horizon. At war onset, leaders finance the war they expect to fight. If a leader expects to fight a short war, that leader will finance the war accordingly. Once a war extends beyond six months, the leader is now concerned with maintaining a winning war effort while protecting the state’s economy from the negative effects of economic mobilization for a long war. The state needs renewable sources of revenue that have the least disastrous effect on the state’s economy.

---

<sup>17</sup> For an excellent discussion of the change in Civil War finance from 1861 to 1863 see Chapters 13 and 14 in Studentski and Krooss (1952). I also use Civil War finance, specifically the change in war tax laws and revenue income, as an example later in this chapter.

Second, short wars not only have different revenue needs, they also have a limited war finance tool kit. Certain forms of revenue are available immediately while other forms are not. The figure below illustrates the continuum measured by the speed at which revenue can be collected by the state. Printing, taxes collected at the time of transaction, and particular forms of debt are immediately available, whereas direct taxes, income, and corporate taxes are collected only about once a year.

**Figure 3: State Revenue by Speed**



Wars initially must be paid for with what the state already has or has immediate access to. When a state draws upon existing coffers or prints money, it does not have to wait for its bureaucracies to implement, collect, and process revenue. Borrowing either from at home or abroad, while faster, also takes time. Debt needs to be negotiated: who will underwrite the loans, where the debt is placed, what the interest rate will be, what is an acceptable issue price, when should the debt be floated, and what will be the collateral? Even when contracts are successfully negotiated, they take time to execute. Creditors must float the debt, which may or may not be successful, or states must transfer resources. During World War II, there was a gap between President Roosevelt's announcement of Lend-Lease in early 1941 and the actual commencement of extending resources. This interim period left Britain struggling and stripping herself of reserves until 1942 (Sayers, 1956, p. Ch. XIII). Moreover, even when successful debt is

negotiated quickly, transferring specie takes time. Today, states are privileged with technology and transfers can be made instantaneously. However, this was not always the case. In the United States during the Mexican-American War, specie was being drawn out of the Independent Treasury Bank in New Orleans. Two-thirds of the revenue was collected in the northeast and mid-Atlantic and banks had to move specie to New Orleans. One method was to assume the expense and risk of physically shipping gold and silver coins by express (Cummings, 2009, p. 45).

Time directly affects the ability to raise taxes. The expediency by which tax revenue can flow into state coffers is a function of the type of tax to be raised, the speed of processing, and the size of the revenue administration needed. Tax implementation and collection can be thought of on a scale from easiest to difficult or quickest to slowest. A tax on imports or exports provides the fastest means of generating revenue. Revenue can be collected at point of entry and exit and takes little effort for the revenue administration. Customs agents at each border crossing are sufficient. In addition, as tariffs, sales, or value added taxes are collected onsite, their revenue flows immediately to the state. Moreover, the feasibility of monitoring and collection of imported and exported goods allows the state to easily change the tax rate. Income taxes lie at the opposite end of the spectrum, as their implementation and collection is a daunting task. The state has to audit, collect, and process the means of society. In the United States, for example, income taxes are paid only once a year. The processes of income tax collection was expedited in the United States during the Civil War when withholding was introduced (Studenski & Krooss, 1952, p. 151). Withholding meant that the tax was paid directly by the employer and taken directly out of one's paycheck. States fighting short

wars are unable to raise large sums of revenue by taxation precisely because they are short. It is also important to note that the quicker means of taxation, indirect taxes, produce less revenue than direct taxes. Indirect tax revenue is contingent on the size and frequency of the transaction. In theory, direct taxes have no limit as they can be levied against all individuals and businesses within the state.

Before proceeding, it is worth noting that by restricting my universe of cases to wars over six months long, I may have sample selection bias. Sample selection bias occurs when using non-randomly selected samples. Restricting my universe of cases to long wars excludes states that have either opted not to engage in conflict or belligerents that have either won, lost, or negotiated a settlement. It is possible that states able to fight a long war have an enhanced state capacity, stronger resolve that allows them to fight longer or other intrinsic characteristics that affect their war finance strategy.

The risk of sample selection bias is that it can lead to over or under representation of the effect of my variables of interest. Given the nature and vast scope of this project, I am unable to address these selection effects. However, the in-depth nature of my case studies supported by primary documents and archival research lends confidence to my findings.

## **The Political Economy of War Finance**

### *Assumptions and the Argument in Brief*

Once a state is embroiled in a war, it must raise revenue to purchase goods and pay soldiers if it wants to continue fighting. Leaders have four primary means of war

finance to choose from: taxation, domestic debt, external extraction, and printing. Each one has different political and economic costs. How do leaders weigh each option?

When deciding how to finance war, leaders are concerned with three things. First, leaders want to win the war. I build upon scholarly literature linking leadership and regime survival to war outcome.<sup>18</sup> Bueno de Mesquita, Siverson, and Woller (1992) find that the probability of violent regime change increases with defeat in war. Moreover, the chances of regime change increase with the costs of war, irrespective of the nation's war outcome or initial conditions. Bueno de Mesquita and Siverson (1995) find that leaders of authoritarian regimes are less likely to be punished by society for the high costs of war and war outcome than leaders of democratic regimes. Goemans (2000; 2000) finds that different domestic institutions are more prone to postwar leadership survival given war outcome. Given the high costs leaders will pay if they lose the war, leaders want to secure the best military and political outcome possible. To do this, leaders need to effectively fund the military in order hire soldiers and purchase supplies needed to fight.

Second, leaders prefer to avoid economic ruin. It follows that leaders prefer a war finance policy that will have the least negative economic consequences for the state. Here, I build upon scholarly literature that suggests economic performance shapes electoral outcomes. This phenomenon is referred to as "economic voting."<sup>19</sup> The essence of this literature suggests citizens vote for the government in power if the economy is doing well; otherwise, the vote is against (Lewis-Beck & Stegmaier, 2000, p. 183). The

---

<sup>18</sup> There is a plethora of literature linking war, war outcome, the cost of war, and leadership survival (Bueno de Mesquita & Siverson, 1995; Bueno de Mesquita, Siverson, & Woller, 1992; Bueno de Mesquita, Smith, Siverson, & Morrow, 2003; Chiozza & Goemans, 2003; Colaresi, 2004; H.E. Goemans, 2000; Tilly, 1993).

<sup>19</sup> For a review of economic voting literature see Lewis-Beck and Stgmaier (2000).

variable of interest for this literature is economic performance, operationalized as economic growth, unemployment or inflation. While a war economy and the manner of war finance can exacerbate all three indicators of economic performance, I am primarily concerned with inflation. Inflation is costly and instantly felt; a large increase in prices affects the ability of a citizen to purchase goods that day or that month. Moreover, inflation redistributes income regressively, reduces the worth of citizen's savings, hurts creditors, and increases interest rates, exacerbating costly debt.<sup>20</sup> Severe inflation alone has also been associated with regime change. In a cross national study in the post-war era, Gasiorowski (1995) finds that inflation facilitated the breakdown of authoritarian regimes.<sup>21</sup> Inflation is an indirect war cost. As such, as inflation increases, so does the risk to a leader's or regime's survival (Buono de Mesquita, et al., 1992). In order to lower the cost of war, avoid inflation, and remain in office, leaders prefer war finance policies that are the least economically costly.

Third, leaders want to remain in power. Thus, they prefer a war finance strategy that is the least politically costly. Mastanduno, Lake, and Ikenberry correctly point out that like mobilization for war, resources extraction entails costs and may generate discontent from affected societal groups (Mastanduno, et al., 1989, p. 463). In order to stay in power, leaders will prefer to minimize these societal costs. The political cost of direct resource extraction, raising taxes, will be higher if support for the war is low.

---

<sup>20</sup> Costly debt, debt with high interest rates, is also economically costly. However, its effects on society are not as immediately felt as inflation. A large increase in prices affects the ability of a citizen to purchase a good that day or that month. A large increase in costly debt effects society when that debt is due, which may be anywhere from 6 months to 10 or 20 years, depending on the terms of the debt.

<sup>21</sup> Other works linking economic crisis and regime change are Skidmore (1977) and Wallerstein (1980).

Thus, in order to shield themselves from this extra cost, leaders will finance the war in such a way that is less dependent on direct resource extraction.

I build upon these three assumptions of leadership behavior to construct a model of war finance. I derive four hypotheses about state behavior: two pertain to state capacity and two solely to leaders' preferences. I argue that states are constrained by the bureaucratic capacity to extract tax revenue as well as their capacity to cope with a balance of payments problem. In addition, I argue that a state's war finance policy is dependent on inflationary fears and public support for the war effort.

When deciding how to finance a war, states are initially bound by their capacity to extract revenue from society. Specifically states are constrained by their administrative capacity to extract tax revenue. Regardless of a leader's preferences, if a state does not have this capacity to finance a war via taxation, it will have to resort to other methods. However, it follows from the first assumption (leaders desire to win the war) that leaders will want to continue fighting in order to preserve their leadership. Thus, instead of capitulating, a leader will resort to other means of war finance such as printing, debt, or external funding, to continue fighting the war.

In addition to bureaucratic capacity, states are also constrained by their capacity to cope with a balance of payments problem. In order to win the war, the leader needs to outfit the military as best as possible. Adequately supplying the military may mean procuring resources from abroad. If a state needs to procure inputs for the war effort from abroad they must purchase these goods with the currency of the country the state is buying goods from or the dominant reserve currency (i.e. dollars today or British pounds before World War I). If a state does not have enough reserve currency within its borders

needed to purchase goods abroad, it will have to borrow from outside its borders to compensate for the currency shortage. Thus, the state's capacity to cope with this problem dictates if external funding will be a component of a state's war finance strategy.

The degree to which these constraints bind varies across states. Yet even states capable of financing the war through international taxation may choose not to do so. Thus, in addition to understanding the variation in state capacity, we also need to take into account leaders' preferences. I assume leaders prefer war finance strategies that are the least economically and politically costly in order to remain in power.

Leaders prefer to avoid economic ruin. It follows that leaders prefer to avoid inflation. Wars are inflationary. That is to say, wars create economic conditions that increase prices. The state, now a dominant player in the market, buys goods and labor to support the war effort. This act results in increased demand and or shortage of goods, placing an upward pressure on prices. How states finance war can either exacerbate or mitigate this inflationary pressure. Taxation and domestic debt in the form of loan campaigns extract money, i.e. purchasing power, from citizens, reducing their ability to purchase goods and, consequently, consumer demand. On the other hand, printing and domestic debt increase the amount of money in an economy, increasing consumer demand, exacerbating inflationary pressures. In order to preserve the domestic economy, when states are cognizant of and have the capacity to mitigate this inflation problem, they will attempt to finance the war in such a way that will shrink the money supply and remove purchasing power from consumers. The best way to achieve this desired effect is taxation as well as domestic debt in the form of bond campaigns.



Finally, leaders want to stay in power. Thus, when financing a war, they will choose means that are the least politically costly. Taxation, which directly wrests resources from society, is intrinsically unpopular, as citizens do not want to surrender their earned wages, their livelihood, to the state. When the war is unpopular, leaders will be hesitant to ask citizens to sacrifice for what is perceived as an ailing policy. As a result, taxation will most likely play only a small role in financing unpopular wars.

In sum, I argue that when a state's bureaucratic capacity to collect and process tax revenue is limited, it is more likely that the percentage of the war financed by taxation will be low. To compensate, the cost of war will be met by either high levels of domestic debt concentrated among wealthy elites or by printing. In addition, when a state is facing a balance of payments problem, it will be forced to extract resources from abroad. Moreover, I argue that states' war finance preferences are largely determined by beliefs about inflation as well as public opinion about the conflict. When leaders fear inflation as a consequence of war finance or public opinion for the war effort is high, the state is more likely to finance the war via taxation and domestic debt that engages larger portion of society. In the following sections I explore each variable individually. I then discuss how the variables interrelate to shape a state's war finance strategy.

#### *Variable 1: Bureaucratic Capacity*

In the run-up to World War I, Harvard finance professor Oliver Sprague argued that "A war finance policy based on taxation presupposes that a country must have established and in operation highly developed income-tax machinery in time of peace, so that it may have at its disposal full information regarding the income of its citizens"

(Sprague, 1917). Sprague was correct to note that the bureaucratic capacity to collect tax revenue is essential if taxation is to be a component of a state's war finance strategy.

Bureaucratic capacity is the ability to implement policy effectively (Huber & McCarty, 2004, p. 481). Specifically, it is "the ability of the bureaucracy to carry out programs in accordance with a previously specified plan" (Carpenter, 2001, p. 28).

When politicians decide to finance all or part of a war by tax revenue, they turn to their bureaucracy to extract resources from society. A revenue bureaucracy characterized by low capacity is less effective at revenue collection, diminishing the ability of politicians to achieve their policy goals. *Ceteris paribus*, when a state has a high bureaucratic capacity to extract tax revenue, taxation will be likely to comprise a larger percentage of a state's war finance strategy. Conversely, low bureaucratic capacity states will finance a larger percentage of the war either through domestic debt, printing, or external funding.

Scholars in international relations and comparative politics have long acknowledged that the state must draw from its society and domestic economy for material resources when in pursuit of foreign policy (Gilpin, 1981; Knorr, 1975; Kugler & Domke, 1986; Mastanduno, et al., 1989; Organski & Kugler, 1980). During wartime, taxation provides an excellent source of revenue. A state may favor taxation because of its renewability and reliability as well as the potentially large amounts of wealth it can extract. Furthermore, its aforementioned anti-inflationary effects and debt avoidance makes taxation preferable.<sup>22</sup>

---

<sup>22</sup> Policymakers and scholars for about every war have debated what is the "optimal" balance between taxation and borrowing. For a study on the macroeconomic effects of taxation versus debt on a state's economy—labor supply, capital, and output—using United States war finance as an example, see Ohanian (1998). Ohanian uses United States' financing of the Korean War as an in-depth case study and then

Unfortunately for policymakers, the implementation and collection of taxes is not a simple endeavor.<sup>23</sup> The ability to extract taxes is contingent on the state's institutions to implement policy. The bureaucratic capacity to extract taxes is dependent on the state's revenue administration and the state's level of monetization.<sup>24</sup> Low capacity occurs when bureaucracies are inefficient or ineffective at extracting taxes from society to support the war effort. Many factors affect the ability of revenue institutions to extract tax revenue. For example, Christopher Hood (2003) argues that low-cost and effective tax collection can be broken down into five properties of administrative feasibility. Those properties include listability, conduitability, standard clarity, cross-sanctions, and reinforceability.<sup>25</sup> While there are myriad variables that affect the capacity of a state's revenue bureaucracy, it is outside the scope of this project to understand and explore each one. For the purpose of this study, what is relevant is that said capacity can vary and that this variation has implications for the ability to carry out a specified war finance strategy.

---

extrapolates what would have happened if the United States had financed World War II in the same manner, 100% taxation.

<sup>23</sup> As Evan Lieberman points out, "Tax collection is ultimately the product of policy making, the monitoring of economic activity, the administration of complex laws, and judicial and putative enforcement" (Lieberman, 2002, p. 92).

<sup>24</sup> For the purposes of this study, I only discuss monetization and a state's revenue administration. Legitimacy is an integral component to bureaucratic capacity as it can be essential to compliance. As stated by Margaret Levi, "enforcement is nearly always imperfect. Even with considerable coercive power and effective techniques of measurement and monitoring, a ruler cannot achieve total compliance unless there is a policeman on every corner, a fed under every bed. There is always room for shirking and cheating" (Levi, 1988, p. 49). However, the complexity of the source of legitimacy—which may be the state, the structure of the regime, the leader, or the public good in question—is beyond the scope of this work.

<sup>25</sup> Listability means easy indentifiability of the population to which taxes can apply. Conduitability means the ability to channel taxes through a manageable number of state intermediaries. Standard clarity means capacity to specify and assess tax bases with limited effort and ambiguity. Reinforceability means taxes can be cross-checked from different administrative vantage points, and cross-sanctions means that evasion of one tax brings extra liability to another. The administratively 'perfect' tax base (combining high effectiveness and low collection cost) would possess all these properties and a tax with none of them can be expected to fail (Hood, 2003, pp. 224-225).

It is important to note that a state's tax capacity can vary depending on the type of taxes to be collected. A state may have a high administrative capacity in regards to one source of tax revenue and not another. While taxing incomes might be the most efficient form of taxation, it is not the only way to extract payments from society.<sup>26</sup> Taxes may be extracted in the forms of sales, property, or customs. Tariffs provide an example of the variation in administrative capacity requirements. Because they tend to be collected at ports and on narrow bands of the economy, the types of capacities and political compliance necessary for collection are rather different than those associated with domestic tax bases (Lieberman, 2002, p. 103).

From an administrative point of view, revenues collected at the border are among the least difficult to obtain. Because they have to pass through a few checkpoints to leave or enter a territory legally, imports and exports form a base upon which governments may impose a tax with relative ease (Cheibub, 1998, p. 359).

States that have high import and exports flows but poor direct taxation capacity may still have the capacity to finance a large percentage of the war by taxation.

One example of the effect of administrative capacity on tax collection is English and French financing of the Anglo-French Wars during the 18<sup>th</sup> century. In both states, the administrative responsibility for tax collection went to a private consortium of tax farmers. This reliance on tax farmers proved inefficient, as they took a large amount of collected revenue as payment. Moreover, as this institution of revenue collection was not rational-legal in kind, officers were in a position to cultivate directly their own financial

---

<sup>26</sup> Evan Lieberman points out, "Collection of consumption taxes can be interpreted as evidence of a functioning and competent tax administration, but not to the degree that is generally associated with the collection of income taxes. Taxes on consumption still generally require significant bureaucratic capacity, but not nearly the same amount of information is required as with the taxation of income, and these revenues tend to be easier to collect than taxes on income because they are collected indirectly, incrementally, and generally at the point of purchase" (Lieberman, 2002, p. 103).

interests at the expense of the state, thus decreasing the legitimacy of taxation (Brewer, 1989, pp. 72, 93). However, over the almost hundred years of war with France, the British Government reformed its administration and eliminated its reliance on tax farmers. It was able to collect higher taxes and thereby improve its credit. The French Government, while having a much larger economy, was unable to make the necessary adjustments to its revenue administration and, consequently, was unable to use taxation as a primary source of war finance revenue (Kennedy, 1987).

Even if the state has a highly effective state revenue administration, the economy must be developed enough, or sufficiently monetized, to draw resources from. Monetization, the process of converting an asset-based economy into a cash-based economy, strongly affects the efficacy with which a state can finance its war effort by means of taxation (Tilly, 1990, p. 88). In an economy where only a small share of goods and services are bought and sold, (a relatively non-monetized society) collectors of revenue are unable to observe or evaluate resources with accuracy (Tilly, 1975, p. 85). Moreover, the tax base is much smaller. Thus, as a state's level of monetization increases, its ability to collect more varieties and more efficient forms of taxation increases. A state may collect taxes in the forms of tributes, rents, flows, stocks and income.<sup>27</sup> Taxes on flows, stocks, and incomes are the most efficient in that they yield a high return for a given amount of effort at collection. Moreover, they are the most elastic in that they adapt more readily than tributes or rents to alterations in the tax code.

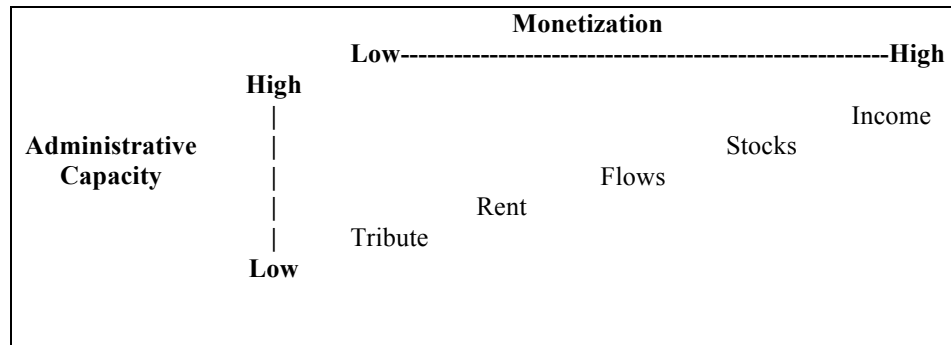
---

<sup>27</sup> Tributes include arbitrary payments levied on individuals, groups or localities. Rents consist of direct payments for lands, goods, and services supplied contingently to particular users by the state. Payments on flows cover excise, customs, tolls, transaction charges, and other collections on transfers or movements. Payments on stocks divide chiefly into land and property taxes. Income taxes touch current revenues, especially salaries and other monetary revenues (Tilly, 1990, p. 87).

However, these more efficient forms of taxation are not possible when the state's economy is not highly monetized.

Bureaucratic capacity to extract tax revenue—a state's level of monetization coupled with its administrative capacity—can vary, and this variation has implications for war finance. Figure 4 below presents the potential forms of taxation a state may engage in based on a state's level of monetization and administrative capacity. States that are characterized by a low level of monetization and a low administrative capacity will be confined to more inefficient forms of tax revenue such as tributes and rents. Consequently, the state's resulting war finance strategy will reflect lower levels of taxation.

**Figure 4: Alternative Forms of Taxation<sup>28</sup>**



At the other end of the spectrum, highly monetized and administratively mature states will be able to implement taxes that are more elastic to policy change and yield higher revenue. Thus, higher levels of taxation will finance the war effort.

H1a: When a state has a low bureaucratic capacity, taxation will comprise a low percentage of its war finance strategy.

<sup>28</sup> Adapted from: Tilly, C. (1990). *Coercion, Capital, and European states, AD 990-1990*. Cambridge, Mass., USA, B. Blackwell, 88.

I assume that leaders want to win the war. Low bureaucratic capacity does not necessarily mean surrender or defeat. Low capacity states often engage in long wars. However, they must turn to other means of financing. The Mexican war effort during the Mexican-American War, 1846-1848, is one such example. An already weak revenue administration was further weakened by the war, resulting in extremely low bureaucratic capacity to raise revenue. “During the war with the United States, expenditures were more than double income. With her ports blockaded and a vast portion of the country overrun Mexico could not even depend on the normal sources of revenue” (“Latin American Studies,” 1949). Thus, the state turned to other sources of war finance. The state forced loans from its people, borrowed from the church, borrowed from the British, and plundered (Cummings, 2009, Chap. 5).

H1b: When a state has a low bureaucratic capacity, it will be unable to tax; thus, it will be forced to finance its war by other means.

*Variable 2: Balance of Payments and Currency Reserves*

When a state has low bureaucratic capacity it may seek funding from abroad to pay for its war effort. What other conditions force states to resort to external means? Regardless of the bureaucratic ability to tax, if a state is unable to cope with a balance of payments problem, it will be forced to incorporate external funding into its war finance strategy.<sup>29</sup> A country’s balance of payments is the record of all economic transactions between residents of one country and residents of other countries, including governments.

---

<sup>29</sup> In this scenario—when a state is extracting large revenues from society in the form of taxes to finance the war yet has to borrow from abroad to address its balance of payments problem—the result is what Barnett (1992) would characterize as both an accommodational and international strategy. High taxes may be part of a state’s war finance strategy but, by balance of payments necessity, so will external extraction.

When a state is procuring supplies from abroad, it needs enough of the supplier nation's currency to be able to purchase the goods. A problem arises when a nation's foreign exchange reserve runs low. A low currency level is a problem because the state can no longer procure materials needed for the war effort. In order to ensure a continuation of the war effort, the government must now find the means to continue importing inputs. These means may be in the form of a currency loan, the donation or loan of supplies, or plunder. The resulting war finance strategy will be characterized by a reliance on resources from abroad.

Political scientists and economists have addressed the significance of a balance of payments problem on the ability to implement policy and, consequently, exercise military power. David Andrews (2006) and Benjamin Cohen (2006) both argue that the risk of unsustainable payment disequilibrium (a continuing balance of payments problem) represents a constant threat to policy independence and that excessive imbalances automatically generate mutual pressures to adjust towards equilibrium. Monetary power is, thus, derived from states that are able to postpone payment readjustment. Klaus Knorr, writing in response to the Vietnam War and state's fighting abroad wrote, "The balance-of-payments position and reserves of international liquidity of a state also affect the foreign deployment and use of military forces... Thus, a strong position of international liquidity is an asset that is part of the military potential of great powers interested in using military strength in distant lands and oceans" (Knorr, 1975, p. 61).

When does a balance of payments problem arise? A balance of payments problem arises when the state must procure resources from abroad during the war and it does not have enough gold or reserve currency to do so or the state is experiencing capital



flight. Roughly speaking, rulers have three main ways of acquiring concentrated means of coercion: they could seize them, make them, or buy them (Tilly, 1975, p. 84). When states can supply the entire war effort via domestic inputs, then there is no need for them to procure weapons or other war inputs from abroad. Thus, they have no reason to procure or use their existing reserve currency for the war effort. However, when a state is unable to supply its war effort domestically, it will need to look outside its borders. The state, as pointed out by Tilly, must either buy or seize what it needs. If it chooses to buy supplies, it needs either gold or another currency to do so. A balance of payments problem arises when the necessary currency diminishes to critical levels and the state is still in need of supplies. The problem of low foreign reserves is compounded during war when trade flows decrease and exports decrease rapidly. A state may redress the balance by encouraging exports, prompting the flow of currency to the country, or reducing imports, keeping needed currency from flowing out of the country. However, war can decrease a state's ability to trade, either because its trading partners are hurt by the war or industries that normally export are needed for the war effort. The state may also resort to plunder and "seize goods" needed for the war effort. Plunder includes confiscating foreign exchange from banks and individuals. The state, therefore, must seek external aid in reserve currency to sustain its ability to purchase goods.

H2: When a state is faced with low currency reserves as a result of said balance of payments problem, it is more likely to resort to external war finance.

Countless states during wartime have faced these problems. A balance of payments problem was evident during World War I for Britain and France who, consequently, successfully extracted gold from Russia (Horn, 2002). During World War

II, Germany engaged in strict rationing and plundered the gold coffers of occupied territories while Britain secured dollars from the United States in the Lend-Lease deal and extracted gold from the Commonwealth, mainly South Africa, Australia, and New Zealand (Abelshauser, 1998; Sayers, 1956). Britain was again the victim of a balance of payments problem during the Korean War and again financed its participation in the war via advancements from the Commonwealth and the United States (Grey, 1988). A balance of payments problem does not arise in western powers only. Egypt has suffered during multiple wars with Israel, continuously saved by Soviet loans and debt repayment in Egyptian pounds (M. N. Barnett, 1992; Tignor, 1984). As dominant exporters, both Iran and Iraq suffered the balance of payments malady during the Iran-Iraq War. Iran, unable to secure foreign currency from abroad, resorted to non-conventional methods and regulated the distribution of foreign exchange within its borders, establishing the Foreign Exchange Allocation Commission (Amuzegar, 1997, p. 163). Iraq also engaged in rationing. Unlike its counterpart, Iraq was able to borrow from its neighbors as well as from France and the Soviet Union (Cordesman, 1987). Consequently, states facing balance of payments disequilibrium are more likely to finance their wars via external extraction.

*The Limits of Capacity as a Variable—Why we need to Understand Preferences*

The previous two sections highlighted the manner in which capacity shapes a state's ability to confront the costs of war. However, discussing capacity without preferences provides only a limited understanding why states finance wars in the manner they do. Preferences are important for three primary reasons. First, at the onset of war,

policymakers have limited information on the length, cost, or ultimate economic impact of the conflict. Thus, they base their initial war finance strategy on their preferences. When policymakers meet to discuss how costs should be met, they bring to the table their beliefs on taxation, debt, budgetary protocol, and society's relationship with the war effort. Such beliefs define the early war finance effort. These preferences are updated as policymakers begin to understand what is needed for the conflict. For example, during the War of 1812, American war finance was initially defined by Jeffersonian ideals and a preference for low taxation. In 1807, Jefferson's Treasury Secretary Albert Gallatin presented his principles of war finance to Congress. He argued that the "losses and privations caused by the war should not be aggravated by taxes beyond what is strictly necessary," and despite his aversion to public debts, he favored borrowing from banks to cover the expenditures of the war itself (Studenski & Krooss, 1952, p. 75).<sup>30</sup> Eventually Gallatin's preferences changed as the war became more costly and current revenue yields were inadequate to meet war costs. Consequently, taxes became a larger portion of American's war finance strategy and in July of 1813, Congress enacted an internal revenue system requested by Gallatin (Studenski & Krooss, 1952, p. 78).

Second, leaders are only somewhat knowledgeable of the state's capacity to extract revenue. Extracting revenue may prove more difficult in war than in peacetime. Citizens may be more or less likely to pay taxes depending on their perception of the war and war effort. Or, the war may be fought on the state's territory, which in turn affects their ability to collect revenue. Or, the state may increase taxes expecting high revenue

---

<sup>30</sup> For an excellent discussion of Gallatin's commitment to Jeffersonian ideals, see Raymond Walter's (1957) biography, Albert Gallatin: Jeffersonian Financier and Diplomat.

yields yet the dynamics of the war effort hurt the domestic economy decreasing revenue yields.

China during the Third Sino-Japanese War (1937-45) provides an interesting example of a war's potential effect on a state's capacity to collect taxes. Chinese leaders favored a tax based war finance strategy and therefore attempted to raise taxes immediately before and during the war to pay for it. In 1936, the government first introduced direct taxes and an income tax subsequently followed in 1938. However, the course of the war affected state capacity to raise revenue.

<b>Table 2: Chinese Revenue during the Third Sino-Japanese War 1937-1941</b>						
Distribution of Receipts in Percentages						
Year	Indirect Taxes	Direct Taxes	Sale of Foreign Exchange and Gold	Borrowing From Public	Deficit Covered by Bank Credit	Cash War Costs (in millions of C\$)
1938	20.6	0.9	23.8	12.3	37.2	2,091
1938 (2 <sup>nd</sup> half)	17.5	0.7	2.2	1.5	70.8	1,169
1939	5.1	1.0	5.4	1.0	79.2	2,797
1940	3.7	1.3	2.5	2.7	70.0	5,288
1941	4.8	1.4	-	5.4	81.2	10,795

First, indiscriminate Japanese bombing behind the lines, while stiffening the will to resist, added confusion to tax collection. Moreover, when the government was driven from Nanking to Hankow, and then to Chungking, many experienced administrators could not follow. Thus, the ability to collect taxes and, consequently revenue, decreased greatly (Young, 1965). As a result of this newly limited state capacity, the war was financed

though a mix of domestic debt and printing. A summary of Chinese receipts during the Third Sino-Japanese War is presented in Table 2 below. Notice the severe decrease in indirect tax revenue, the inability to raise the direct tax receipts and the expansion of the deficit covered by borrowing and bank credit.

Third, state capacity varies. States are confined by their capacity to varying degrees. Some states are at the whim of their bureaucratic capacity and cannot effectively tax their society. Thus, they must turn to other sources of revenue. However, without an understanding of a state's preferences, knowing that a state will not resort to taxation does not tell us whether it will turn to printing, domestic debt, or external funding. In addition, when a state is characterized by high bureaucratic capacity to extract revenue, it does not necessarily follow that taxation will be a dominant component of a state's war finance strategy. The United States' financing of the wars in Iraq and Afghanistan is a prime example. The two wars were financed through a combination of domestic and foreign debt. Taxation was absent from the United States' current war finance strategy.<sup>31</sup> We need to understand leaders' preferences as well as state capacity in order to fully comprehend why states finance wars in the manner they do.

### *Capacity and Statebuilding*

The negative effect of war on a state's capacity to extract revenue does not mean that the state is helpless. Nor does the existing revenue structure before war onset necessarily define or bind a state's war finance strategy. The state may be able to

---

<sup>31</sup> About 70% of the war has been paid for with domestic debt and 30% with external extraction. The figure for foreign debt is an estimate of U.S. securities—public debt—owned by foreign and international sources (*The Growing Budgetary Costs of the Iraq War, 2007; Treasury Bulletin: Ownership of Federal Securities, 2010*).

enhance its capacity to extract revenue during the wartime by means of state building. The United States' financing of the Civil War is a clear example. At the onset of the war, taxes were confined to tariffs and customs duties.<sup>32</sup> Unfortunately, the outbreak of war brought about a sharp curtailment in foreign trade and resulted in much lower revenue collections than expected (Studenski & Krooss, 1952, p. 139). Consequently, the state had to look elsewhere for revenue. The result was the nation's first income tax.<sup>33</sup> More importantly, during the course of the war, the country's revenue bureaucracy expanded exponentially to collect and process the increase in levels and kinds of taxation (See Bensel, 1990). Thus, as we can see in Table 3 below, the percentage of the war financed by taxation increased dramatically, practically tripling, during the course of the war.

H2c: A state characterized by a low bureaucratic capacity yet whose policymakers prefer taxation will engage in state building during the war effort. Consequently, a larger portion of its war finance strategy will be financed by taxation.

Not all states, on the other hand, are constrained by their bureaucratic capacity. States characterized by a fully developed or fully effective, functioning bureaucracy are not as limited by their capacity. Thus, their war finance preferences come to the forefront.

---

<sup>32</sup> It was hoped that the Morrill Tariff Act of 1861, which restored duties to the rates in effect before 1857, would produce substantial federal revenue (Studenski & Krooss, 1952, p. 139)

<sup>33</sup> The Revenue Act of 1861 ushered in the nation's first income tax.

**Table 3: United States Civil War Finance, 1861-1865 (In Millions of Dollars)<sup>34</sup>**

	1861	1862	1863	1864	1865
Receipts:					
Customs	\$39.6	\$49.1	\$69.1	\$102.3	\$84.9
Income Tax			2.7	20.3	61.0
Direct Tax		1.8	1.5	0.5	1.2
Excise:			34.9	89.4	148.5
Spirits and Liquor			6.8	32.6	22.5
Tobacco			3.1	8.6	11.4
Manufactures			16.5	36.2	73.3
Stamps			4.1	5.9	11.2
License			4.8	5.2	9.8
Gross Receipts			1.7	3.4	9.9
Other			1.3	4.9	12.0
Sale of Public Lands	0.9	0.2	0.2	0.6	1.0
Miscellaneous	1.0	0.9	3.7	30.3	25.4
Premiums on Gold Sales		0.1	0.6	21.2	11.7
Totals	\$41.5	\$52.0	\$112.7	\$264.6	\$333.7
Percent of Tax Revenue Comprised of Income Taxes	0	0	2.4%	7.7%	18.3%
War Expenditure*	\$24.4	\$431.8	\$666.6	\$776.2	\$1,143.3
Total Government Expenditure	\$66.6	\$469.6	\$718.7	\$865.0	\$1,296.8
Percent of War Financed by Taxation**		<b>11.1%</b>	<b>15.7%</b>	<b>30.6%</b>	<b>25.7%</b>

<sup>34</sup> *Source*: Studenski, P. and H. E. Krooss (1952). Financial History of the United States. New York, McGraw-Hill Book Company, Inc, 152.

\*The figures for war expenditure are comprised of expenditures of the War and Navy departments. Consistent with my definition of the cost of war, I exclude the rising cost of pensions and interest on government debt.

\*\*Since it is impossible for me to parse out exactly what and how much of each tax went to the war effort, I take the percent of total government financed by taxation. Because war expenditure comprised such a large percentage of total government expenditure—almost 90% from 1862 onward—my estimates of the percentage of war financed by taxation are only minimally distorted. However, I exclude 1861, as only 36.6% of government expenditure was war expenditure.

### *Variable 3: The Fear of Inflation*

Taxation and domestic borrowing that engages a large percentage of the population (i.e. a bond campaign) will, *ceteris paribus*, be the dominant means of war finance when leaders fear inflation. Wars often result in inflationary pressures. To fight a war, especially a protracted one, the state becomes a dominant player in the market, procuring supplies and labor to confront the enemy. The inflationary effects of the state's actions are two fold. First, the state is removing goods and labor from the market, decreasing the supply accessible to the private sector. This decrease in supply creates an upward pressure on prices as the private sector competes for now scarce resources. Second, the state is releasing a lot of money into the economy, increasing the money supply, as it purchases inputs for the war effort. Citizens now have more income to spend, increasing demand for now scarce goods. This scarcity may be further aggravated during wartime if there is a significant decrease in import trade as a result of the war, further decreasing supply.<sup>35</sup>

How a state finances its war effort can exponentially compound the effect of war inflation. Not all war finance policies have the same effect on the money supply. Taxation and loan campaigns decrease the amount of money in the economy. By removing money from citizens, the government limits their spending power. In the words of John Maynard Keynes, "In peace time, that is to say, the size of the cake

---

<sup>35</sup> It is important to note the size of the price increase is contingent on two factors: the extent to which the state mobilizes for the war, the amount of goods being purchased, and the health of the economy, specifically whether the economy has room to grow or is already at full capacity and experiencing rising prices.



depends on the amount of work done. But in wartime the size of the cake is fixed. If we work harder, we can fight better. But we must not consume more” (Keynes, 1940, p. 4). In contrast to taxation and loan campaigns, printing and domestic debt that is not bought by society exacerbate the effects of war inflation. These war finance policies not only compound the amount of money in the economy; they do nothing to reduce the spending power of the consumer. Thus, they place an upward pressure on prices.

Why should policymakers fear inflation? First, war inflation is a very real and common event. Of the belligerents included in the data set presented in Chapter 3, the average change in prices from the consumer price index taken a year before war onset to the peak consumer price change experienced during the war is an almost 30% increase.<sup>36</sup> Of these belligerents, 41% experienced at least a 10% increase in prices, while 66% experienced at least a 5% increase during the war. These figures do not capture the inflationary effects of war finance that arise after the war is over. Germany during the interwar years, being the most famous and most horrific example, experienced over 200,000,000,000% increase in prices in 1923 as a result of her financing of World War I.<sup>37</sup>

High inflation can cripple a state’s economy. Economist Jacob Viner explained the negative effects of inflation quite succinctly, “Most of us will agree, however, that rapid inflation in any country does serious economic harm by making routine saving highly unprofitable to the saver, by distorting the allocation of investment, by creating a

---

<sup>36</sup> I use data collected by Carmen Reinhart and Kenneth Rogoff (2009). Reinhart and Rogoff have collected annual consumer price indices (CPI) and their relative cost of living indices for 70 countries, some observations dating back as early as 1265.

<sup>37</sup> Two examples of scholarly works that link the German Great Inflation to their financing of World War I are Balderson (1989) and Feldman (1997).

privately profitable but socially wasteful area of activity for middlemen of various species and in other ways.” There is no shortage of studies to confirm Viner’s statement. Inflation has been shown to inhibit economic growth (Martin Feldstein, 1979; 1997, 1999), exacerbate inefficiencies in the tax system resulting in dead weight loss (Bailey, 1956), lead to greater price variability (Lounge & Sweeney, 1981; Parks, 1978), redistribute income among both individuals and groups within a society, most notable benefitting debtors at the expense of creditors (Birati & Cukierman, 1979; Budd & Seiders, 1971; Nordhaus, 1973; Wolff, 1979).<sup>38</sup>

The inflation experienced in Russia during the Crimean War (1853-1856) presents a compelling example of the effect of wartime inflation intensified by war finance. Russian inflation is an excellent example as there is sub-national variation in prices where regions nearest to the fighting experienced the highest bouts of inflation. Table 4 below presents a summary of the data on flour prices. The largest increase in prices came in toward the end of the war in 1856. The variation of increase across Russia is particularly interesting. The southern and western providences (Kursk, Chernigov, Volyn) experienced the highest increase in inflation, near 200%, whereas the northern, eastern and central regions (Viatka, Perm, Volgda, and St. Petersburg) experienced only about 10 to 20% inflation. The general pattern is clear. The price rise is greatest in the south and west, the areas nearest to the scene of military activity, reflecting the impact of military purchases of food and fodder (Pintner, 1959, pp. 81-82).

---

<sup>38</sup> For a review of the costs of inflation see Kirshner (2001).

Index of the Price of Rye Flour Annual Averages 1851-1852=100					
<i>Regions</i>	<i>Av. 1851-52</i>	<i>1853</i>	<i>1854</i>	<i>1855</i>	<i>1856</i>
Southern	100	94	100	113	220
Western	100	117	150	157	270
Central	100	106	110	105	164
Baltic	100	122	156	145	205
Siberian	100	127	111	85	84
Northern	100	106	113	102	135

Pintner, W. M. (1959). "Inflation in Russia during the Crimean War Period." American Slavic and East European Review **18**(1): 82.

This inflation was made worse by the drop in trade as a result of the war effort as well as Russia's financing of the war. First, Russian trade with the West dropped substantially.<sup>39</sup> In 1852, the year before the war, Russia was exporting 100,051 (thousands of rubles) worth of goods while importing 83,118. By 1855, these figures dropped to 27,534 and 56,173 respectively (Pintner, 1959, p. 85). In addition, Russia financed the majority of her war effort via printing (Kipp, 1975, pp. 443-444). As we can see in Table 5 below, the amount of notes more than doubled.

	Regular Government Revenue	Government Budget Deficit	Ruble Notes in Circulation
Avg. 1851-53	220.9	28.2	310.9
1854	220.1	112.2	344.8
1855	206.9	240.4	432.7
1856	210.7	307.3	599.2
1857	226.7	48.4	712.6

Pintner, W. M. (1959). "Inflation in Russia during the Crimean War Period." American Slavic and East European Review **18**(1): 85.

<sup>39</sup> For a discussion of economic warfare against Russia by Britain which caused this decrease in Russia's trade, see Anderson (1961).

Aside from being economically ruinous, inflation is also politically costly. In American politics, it has been established that good macroeconomic conditions benefit the incumbent president and his congress party at the polls (For example see Kramer, 1971). Sam Peltzman (1990) shows that voters base their assessment of an administration on inflation. Inflation has also been associated with regime change (Gasiorowski, 1995; Huntington, 1968) as well as the firing of central bankers (Dreher, Sturm, & de Haan, 2008).

When leaders fear inflation, they will be more likely to resort to taxation and to domestic debt. A higher level of taxation removes spending power from consumers, decreasing their demand for goods. Similar to taxation, when citizens buy domestic debt, they also reduce the amount of money they are able to spend. This reduced demand mitigates the effect of increasing prices.

H3a: When leaders fear inflation, a larger percentage of the war will be financed by taxation and domestic debt in the form of bond campaigns.

H3b: When leaders do not fear inflation, they are less likely to finance their wars via higher levels of taxation and bond campaigns.

Under what conditions do policymakers fear inflation? Inflation influences policy choices regarding large, new expenditures such as those required to pay for a war.<sup>40</sup>

Political scientists and sociologists have extensively studied learning by political decision makers and organizations.<sup>41</sup> An underlying assumption in these works is that leaders face uncertainty and, therefore, draw lessons from past experiences to cope with difficult

---

<sup>40</sup> Shinju Fujihira finds that financial policymakers' preferences over wartime financial outcomes, specifically inflation, changed between the two world wars (Fujihira, 2000, pp. 46-48).

<sup>41</sup> For a review article of learning in political science, see Levy (1994). For a sample of works that emphasize learning, see (Jervis, 1976, p. Chap. 6; Levitt & March, 1988; May, 1973; Neustadt & May, 1986; Reiter, 1994). Eichengreen (1996) and Odell (1982) emphasize learning in political economy.

choices. As Robert Jervis notes, “Previous international events provide the statesman with a range of imaginable situations and allow him to detect patterns and causal links that can help him understand his world... We cannot make sense out of our environment without assuming that, in some sense, the future will resemble the past” (Jervis, 1976, p. 217).

In addition to looking at the past, decision makers are heavily influenced by formative events.<sup>42</sup> An event can be formative even if it is not directly experienced by the policymaker. Jervis finds that “events that are terribly important for the nation (e.g. wars) can have so great an impact that the perceptual predispositions of those who did not participate in the making of the policy will be affected almost as much as those who did” (Jervis, 1976, p. 239). Wars are particularly formative events.

The only thing as important for a nation as its revolution is its last major war. Because of the dramatic and pervasive nature of a war and its consequences, the experiences associated with it... will deeply influence the perceptual predispositions of most citizens. Major wars so dominate the life of a country that in a real sense all those old enough to remember it will have experienced it firsthand (Jervis, 1976, p. 266).

Inflation itself can also be formative, as it arbitrarily confiscates wealth from a society, hurting citizens who watch income and savings become worthless. Commerce suffers immensely “as the inflation proceeds and the real value of the currency fluctuates wildly from month to month, all permanent relations between debtors and creditors... becomes so utterly disordered as to be almost meaningless; and the process of wealth-getting degenerates into a gamble and a lottery” (Keynes, 1932, pp. 77-78). The

---

<sup>42</sup> Two aspects of an event make it formative: the vividness of information and the level of its emotional effect.

inflation lesson is even more prominent for policymakers because it is a policy failure. The literature in social psychology and organizational theory suggests that people learn more from failure than from success, and failure leads to policy change (Jervis, 1976, pp. 275-278; Levy, 1994, p. 304; Reiter, 1994, p. 490). Thus, inflation resulting from a previous war is particularly ripe for drawing lessons for policy change. We should, therefore, expect to see policymakers emerge from such experiences emphasizing taxation and domestic debt carried by a large percentage of private citizens.

H3b: Policymakers are more likely to fear inflation when they have experienced high inflation in the previous war and, therefore, high levels of taxation will finance the current war.

#### *Variable 4: Public Opinion*

In addition to inflationary beliefs, public opinion for the war affects leaders' war finance policy preferences. Specifically, it affects the willingness of leaders to extract resources from society. Low public support raises political costs and lowers the feasibility of highly visible means of domestic extraction. As a result, leaders' preferences move away from a war financed by taxation to a war finance strategy that emphasizes less visible domestic borrowing from financial elites and banks, external extraction, or printing. Conversely, high support in favor of the conflict reduces the political costs to leaders to extract taxes. Therefore, the state is more likely to resort to higher levels of domestic taxation and borrowing in the form of bond campaigns.

Comparative politics scholars commonly assume that it is politically costly for leaders to raise revenue (e.g. Levi, 1988). Taxation is costly for three reasons. First, leaders are taking the means of livelihood from the population. Second, taxation is

highly visible. Thus, the population is directly aware of how much and from whom the state is extracting resources. Third, society expects something in return; to pay taxes means to contribute to the provision of a public good. When financing a war, the public good is national security, the articulated ends of the war. Consequently, if society does not value the conflict, the high visibility of taxation and its direct effect on the population can result in resistance. Even in highly coercive regimes or economies characterized by a state apparatus that has direct control over society's resources, when leaders directly seize money from the population, it opens up the possibility for discontent.

Wars are unique events because of the myriad effects they can have on society. Some wars are so "popular" that they may be the only means, as Adam Smith posited, by which people submit to new taxes. For example, before the Six Day War in Israel, the Israeli population resisted high taxation. Once the war began, Israeli citizens reversed their stance on taxation.

When the Israeli army began to mobilize at the end of May 1967, reaction among taxpayers was immediate: there was a sharp increase in advance payments by self-employed taxpayers. Some paid their advances in full for the entire year; some made payments in considerable excess of the amounts due, which they asked to be credited against assessments that had not yet been made. A number of taxpayers who had filed objections to pending assessments withdrew their objections, explaining that although they felt their positions were reasonable, they preferred not to press them in the face of the government's obvious need for funds. There were others who refused to accept refund checks (Wilkenfeld, 1973, p. 112).

Not all wars are perceived as a public good. The field of international relations is rife with literature arguing that the dynamics of war can negatively affect public opinion (Gartner & Segura, 1998; Gartner, Segura, & Wilkening, 1997; Mueller, 1973) and the endurance of regimes and leaders (Bueno de Mesquita, 1978; Bueno de Mesquita, et al.,

1992; Stam, 1996). Leaders, in anticipation of the negative political externalities of war, may shield themselves by selecting a strategy that emphasizes non-tax revenue. Non-tax revenue is less likely to provoke resistance than tax revenue, partly because of the comparatively high visibility of taxation (Lamborn, 1983, p. 129), but also because it enables policymakers to commence a policy without having the public confront the costs. If the war becomes increasingly expensive or drawn out, the public will be less frustrated when not directly sacrificing to pay for an ailing policy. Adam Smith articulated this logic:

The ordinary expence [*sic*] of the greater part of modern governments in time of peace being equal or nearly equal to their ordinary revenue, when war comes they are both unwilling and unable to increase their revenue proportion to the increase of their expence [*sic*]. They are unwilling, for fear of offending the people, who by so great and so sudden an increase of taxes, would soon be disgusted with the war... The facility of borrowing delivers them from the embarrassment which this fear and inability would otherwise occasion (Smith, 1776 [1981]-a, pp. Book V, Chap. 3).<sup>43</sup>

The United States' experience with the Vietnam War is a counter example to Israel's experience in the Six Day War. Public opinion was so low that it shifted President Johnson's war finance strategy away from taxation and towards less visible means of domestic debt and printing, resulting in painfully high inflation. In August 1967, President Johnson canvassed the Democrats in Congress regarding perceived support for the war. Representative Julia Butler Hansen reported that the public "wants the war over quickly, not because it wants to win but because it wants out. People would

---

<sup>43</sup> Writing almost a century later, David Ricardo echoed Smith's concern, "The burdens of the war are undoubtedly great during its continuance, but at its termination they cease altogether. When the pressure of the war is felt at once, without mitigation, we shall be less disposed wantonly to engage in an expensive contest, and if engaged in it, we shall be sooner disposed to get out of it, unless it be a contest for some great national interest" (Ricardo, 1888 [1846]-b).



rather pull out without victory if this would avoid new taxes. They think Vietnam is not worth a tax increase” (Gibbons, 1995, p. 806).<sup>44</sup> Nor did the Johnson Administration attempt a war bond campaign. Secretary of State Dean Rusk explained, “The administration made a deliberate decision not to create a war psychology in the United States. There have been no war bond campaigns, etc” (Gibbons, 1995, p. 906). Thus, low public opinion means a less visible means of revenue withdrawal such as external extraction, borrowing from domestic elites and/or printing.

H4a: A state’s war finance strategy is more likely to be characterized by higher levels of taxation and domestic debt that directly engages the population (i.e. bond campaign), when support for the war is high.

H4b: A state’s war finance strategy is more likely to be characterized by low taxation and higher levels of domestic borrowing that are less visible to the populace, higher levels of external extraction, or printing when support for the war is low.

## **Alternative Hypotheses**

### *Democracy*

The prominent preexisting theories of war finance suggest that regime type determines a state’s war finance strategy. Kenneth Shultz and Barry Weingast argue that liberal states are more effective than authoritarian regimes at borrowing to meet the costs of war. They assert that “representative institutions enhance a state’s borrowing power by making it easier for those with a stake in the repayment of debt to punish the sovereign in the event of default” (Schultz & Weingast, 2003, p. 5). As a result, liberal states have easier access to credit. Regime type also affects a state’s capacity to extract

---

<sup>44</sup> Representative Hansen, a Democrat from Washington, was part of the Friendly Five survey initiated by President Johnson to find out the current state of opinion among the Democrats in Congress.

taxes. Shinju Fujihira (2000) asserts that liberal democracies are better able to collect taxes to finance a war because they are characterized by representative institutions. These institutions enable capital and labor to overcome class disputes and reach a workable compromise between their regressive and progressive positions. According to these arguments, we should expect to see a positive relationship between democracies and the percentage of the war paid for by taxation and debt, as opposed to printing, plunder, or external funding.

### *Borrowing Capacity*

The theory of war finance developed here emphasizes domestic bureaucratic capacity and excludes debt capacity. Intuitively, holding preferences constant, states that are unable to borrow will be forced to resort to other means. While this statement is accurate, it does not take into account the wide variety of borrowing methods and sources. Of the wars coded in my war finance strategy data set, 97% of states financed at least some portion of a war by borrowing. As some form borrowing always appears possible, the question then becomes under what conditions are states able to borrow more significant amounts?

What affects a state's ability to borrow? First, there must be money available to borrow, either from internal sources or abroad. If there is money available, a state can choose to borrow directly or float debt.<sup>45</sup> If a state decides to float debt, its ability to collect revenue is contingent on its institutional capacity, its credit, and its aptitude at floating debt. How significant is institutional capacity, credit, and/or aptitude? When a

---

<sup>45</sup> When a state borrows directly from a source, it is a direct transfer from the source to the government. Floating debt occurs when the state issues shares to the public, either its own society or abroad.

state borrows directly from a source (i.e. another state, an individual, a group, a bank), the value of these characteristics for obtaining revenue decreases. It is a simple cash transfer between two parties. If a state chooses to use an intermediary, say a banking house, to underwrite its debt and float it in world markets, then its own financial infrastructure becomes less significant as it is contracted out. When a state chooses to float debt itself, these characteristics become more significant. However, because the state has the option to resort to direct borrowing, it is difficult to make predictive and precise statements regarding borrowing capacity.

One may also hypothesize that the structure of the international monetary system can inhibit borrowing from abroad, forcing states to pursue a domestic war finance strategy. Periods when the international monetary system is characterized by high capital controls make borrowing abroad difficult. Capital controls are restrictions placed by governments on the ability to move funds in or out of the territories they control. Periods of high capital controls include the late interwar period to the early 1970s.<sup>46</sup> Interestingly, the presence of controls has no effect on a state's ability to borrow abroad. As will be discussed in the next chapter, after World War II, states in the international system actually borrowed more from abroad than during periods free of controls. What changed was the manner of borrowing. Instead of floating debt on London markets, states borrowed directly. Thus, the Cold War played a large role in war finance, as the

---

<sup>46</sup> The interwar period was “dominated by an initiative by private and central bankers...to restore the pre-1914 liberal international monetary and financial order in which they had been so prominent” (Helleiner, 1994, pp. 26-28). However, the stock market crash of the late 1920s led to a collapse of the international system and saw an increasing use of capital controls. From the early 1930s until the early 1970s, the international monetary system was characterized by capital controls. “Both the coming of war and the initiation of planning for the postwar international economic order had the effect of encouraging a decisive shift away from the liberal tradition in the federal government. The war demonstrated the potential effectiveness of exchange controls...” (Helleiner, 1994, p. 31). See also (Eichengreen, 1996).

participants in the Arab-Israeli, India-Pakistani, and South East Asian conflicts all received money from at least one of two the super powers.

### **War Finance Strategy Outcome**

Table 6 provides a summary of when we should see wars financed by taxation, domestic borrowing (and the form it will take), external funding, and printing. How do a state's preferences—which are shaped by its belief in inflation and perceived support for the war effort—and its bureaucratic capacity interact to influence how it finances a war? Preferences are important as they guide how a state would like and attempt to finance war. However, leader's preferences are bound by the state's ability to implement said preferences as the state, at least initially, is at the whim of its bureaucracy. However, if a state's preferences for taxation are strong enough, a state may engage in state building. During the course of the war the state may erect or strengthen its bureaucratic institutions to better collect revenue and, therefore, fulfill its preferences. In addition, if a state needs to procure inputs for the war from abroad, states are bound by their capacity to cope with a balance of payments problem. Thus, while a leader may prefer to finance a war domestically, if it does not have the currency reserve to purchase badly needed imports to fight the war, the state will have to include external war finance into its war finance strategy.

**Table 6: Likelihood of War Finance Strategy Outcome**

<b>Outcome:</b>	<b>Taxation</b>	<b>Domestic Debt</b>	<b>External Funding</b>	<b>Printing</b>
<b>Condition:</b>				
<b>Low Inflation Fear</b>	Low	High	N/A	High
<b>High Inflation Fear</b>	High	High – Disperse Amongst Society	N/A	Low
<b>Low Support for the War</b>	Low	High – Concentrated Amongst Wealthy Elites	High	High
<b>High Support for the War</b>	High	High – Disperse Amongst Society	N/A	Low
<b>Low Bureaucratic Capacity</b>	Low	High	High	High
<b>High Bureaucratic Capacity</b>	High	N/A	N/A	Low
<b>High Support for the War Effort or High Inflation Fear AND Low Bureaucratic Capacity</b>	Low*	High	N/A	Low
<b>High Support for the War or High Inflation Fear AND High Bureaucratic Capacity</b>	High	High – Disperse Amongst Society	N/A	Low
<b>High Balance of Payments Problem</b>	N/A	N/A	High	N/A
*Likely to see state building efforts if the war is long enough. Thus, for the early months or years of the war, taxation will finance a very low percentage as the state erects or strengthens its bureaucratic infrastructure. Consequently, the later months or years of the war will be characterized by a higher percentage of taxation.				

## Research Design

This study of war finance applies to conventional interstate wars from the early 19<sup>th</sup> century to today.<sup>47</sup> To test my theory of war finance, I take a multi-method research strategy that combines statistical analysis with case studies. First, I use statistical analysis to understand war finance trends and provide an initial test my hypotheses. I compiled a new war finance dataset measuring war finance for all interstate wars from 1823 to 2003 lasting longer than six months for principal belligerents. As my dataset contains observations that precede World War II, I am forced to rely on proxy variables or on more indirect tests of my set of hypotheses. Moreover, data limitations and measurement problems mean that several hypotheses cannot be tested quantitatively.

In order to supplement my quantitative findings, I undertake qualitative analysis to understand how the various individual hypotheses interact with each other to shape a war finance strategy. Thus, I engage in process tracing within each of the cases to show how the different variables collectively influence outcome. I employ three structured

---

<sup>47</sup> I exclude civil wars as they necessarily divide countries in regards to resources to pay for the war: ideologically, industrially, and the tax and borrowing base. Two examples of civil war finance literature are Ballentine and Sherman (2003) and Jean and Ruffin (1996). The era of modern war finance begins with the wars of the modern European military revolution—the shift from small-decentralized knight service to large standing armies. The military revolution changed the cost of warfare, the relationship between state and society and, therefore, the manner of war finance. “Armies became much larger, adopted new techniques and weaponry, and expanded central organization. Warfare became an extremely onerous and politically sensitive fiscal burden” (Downing, 1992, p. 63). As a result, it brought the need for more effective and efficient replenishable sources of revenue. Medieval methods, such as feudal fees, seizing of resources, weathering troops abroad, imposts, temporary levies, the sale of venal offices, tax farming, and inside credit from office holders, were no longer able to support large armies and professional soldiers. Moreover, from the early 18th century to the present, the dominant narrative when discussing war finance is the tradeoff between borrowing and taxation. There are a myriad of works that discuss the conceptual shift in war finance from medieval methods to taxation and borrowing (Hirst, 1915; Hume, 1742 [1987], "Of Public Credit").

focused comparisons—six case studies: (1) the United States’ financing of the Korean and Vietnam wars; (2) British financing of the Crimean War and Second World War; and (3) Russia and Japan, in the Russo-Japanese War.

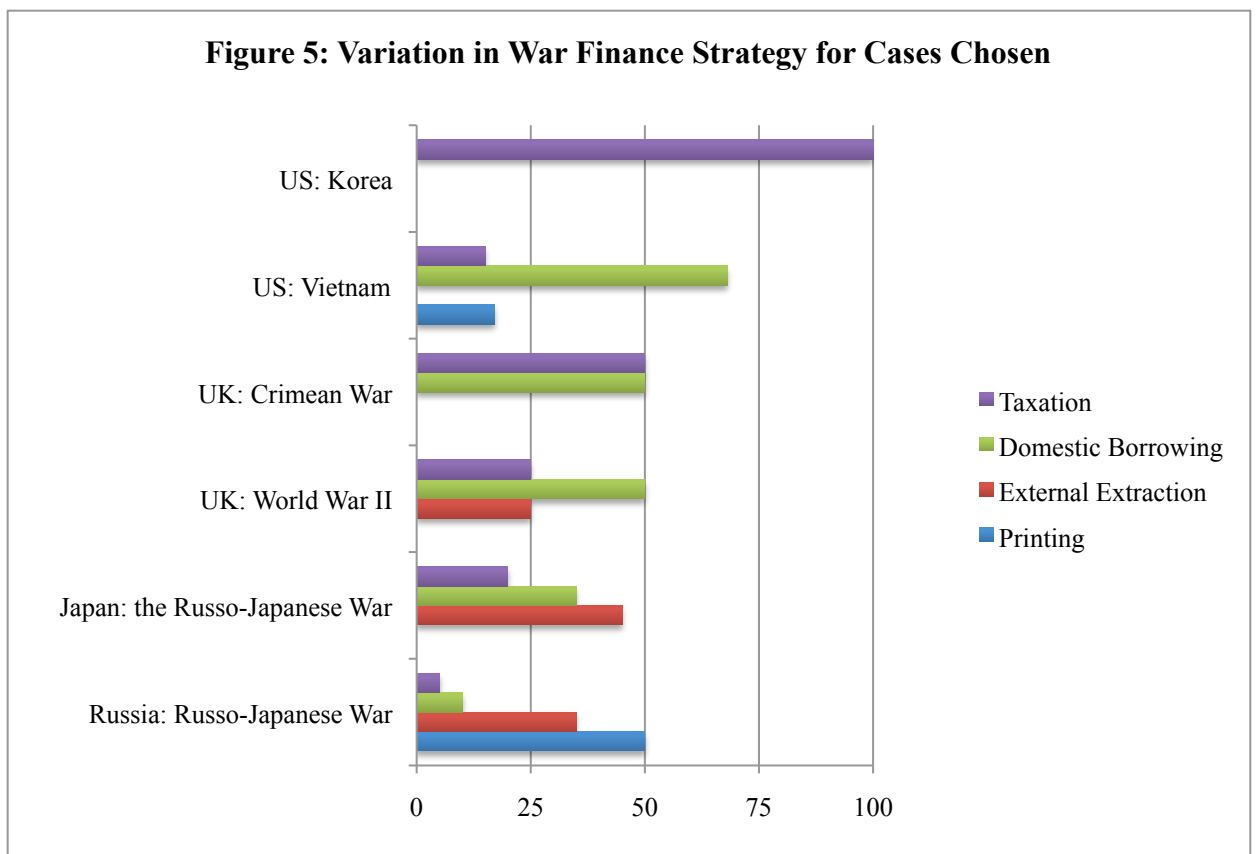
### *Case Selection*

Given the vast scope of this study, spanning over 200 years and 40 wars, there exists significant variation. In addition to variation of the independent variables, given the time span there exists variation in polarity of the international system and, various forms of international monetary systems. In order to isolate my variables of interest, I test my hypotheses with three pairs of structured focused comparisons (George & Bennett, 2005). Testing my cases in pairs allows me to hold these potentially influential variables constant.

In order to understand the effect of preferences on war finance, the first pair of cases, the United States’ financing of the Korean and Vietnam wars, holds regime type, bureaucratic capacity, reserve currency, and the international monetary regime constant. The United States financed the Korean War entirely by taxation. In contrast, the Vietnam War, which was much cheaper than the Korean War, was only minimally financed by taxation (about 15%) and the rest was financed through domestic debt and printing. Why this variation in outcome? I argue that variation in public support for the war and fear of inflation shaped the war finance.

In order to understand the effect of reserve currency on war finance, I study British financing of the Crimean and Second World Wars. While these two wars were fought almost a hundred years apart, I am still able to control for war finance preferences,

regime type, and bureaucratic capacity. As a result, I am able to draw attention to the effect of a state’s balance of payments problem on external funding to finance a war. Why did Britain resort to costly external finance during World War II and not in the Crimean War? I argue that this variation in war finance outcomes can be explained by the source of inputs for the war effort—whether they are procured from inside or outside a state’s borders and state capacity to cope with a balance of payments problem.



Lastly I compare two “non-democracies,” Russian and Japanese financing of the Russo-Japanese War. The final pair of cases allows me to both explore the effect of bureaucratic capacity on war outcome and how state’s cope with low capacity. At the



time of the Russo-Japanese war, both Japan and Russia shared many similarities. Beginning in the 1860s, both countries began a period of political and economic transformation that emphasized was political centralization and economic modernization. However, Japan was able to finance both a larger portion of the war with taxation than Russia and borrow from abroad at cheaper interest rates. Russia, in contrast to Japan, financed a smaller portion of its war by taxation. Moreover, Russia having more established credit and borrowing capacity before the war, paid higher interest rates than Japan. Why was Japan able to fare better? I argue that Japan had better capacity due to the tax reforms of the Meiji era. Thus, the Japanese were able to finance a larger percentage of the war by taxation than Russia. Moreover, Japan was able to secure better credit rates, not due to regime type but to its initial gold reserve and military success during the war.

## **Conclusion**

Explaining how states finance war requires the reexamination of the relationship between preferences and capacity. Conventional wisdom suggests that preferences are static, all states prefer to borrow, and capacity is contingent on regime type. I suggest that leader's preferences are not static and state's are not bound by regime type. I argue that in order to comprehend war finance one must understand that leader's preferences are contingent on three assumptions, their desire to win the war, avoid economic ruin, and remain in power. These three assumptions shape leaders' fear of inflation response to public support for the war. Preferences alone cannot explain war finance. States are also bound by the ability of their institutions to extract tax revenue and cope with a

balance of payments problem. The focus of the following chapters is to investigate the extent to which preferences and capacity together shape how states finance wars.

### **Chapter 3: Testing the Argument with a New War Finance Data Set: 1823 to 2003**

This chapter has three primary goals. First, I test the statistical significance of multiple hypotheses from the previous chapter accounting for the decisions states make about war finance. I test the relationship between war finance strategy and a state's capacity to raise tax revenue, its capacity to cope with low currency reserves when importing inputs for the war effort, the extent to which inflation was experienced in the previous war, and how the war was financed. Second, I provide the first statistical assessment of conventional wisdom. That is, I explore the relationship between regime type and cost of war on war finance. Third, I provide the first descriptive statistics of interstate war finance. To test my hypotheses, I create an original war finance data set. My empirical analysis spans 200 years with 94 observations accounting for 39 wars and 31 different belligerents.

The data reflects four trends in war finance since the beginning of the nineteenth century. First, most wars are not financed though the simple dichotomy of "tax or borrow." Second, most wars are not financed by taxation; borrowing finances a majority of wars. Third, the location of borrowing has changed with the onset of the Cold War. After 1945, the percentage of wars financed by borrowing abroad, specifically from the United States or Russia, has increased dramatically. Last, the twentieth century has seen a large decrease in the percentage of wars paid for by printing or plunder.

In addition to uncovering war finance trends, the data cast doubt on two influential widespread beliefs concerning the effect of regime type and the cost of war on war finance. First, conventional wisdom suggests that regime type dictates war finance

strategy. I show this view is mistaken and that regime type has a relatively minor influence. Democracies are no more likely than non-democracies to finance their wars via higher levels of taxation. Moreover, democracies are also no more likely to finance their wars by borrowing than non-democracies. Second, it appears that cost does not affect the percentage of taxation in a state's war finance strategy. This finding runs contrary to a common view among economists, who hold that higher levels of borrowing and lower levels of taxation should finance costlier wars.

The main factors determining war finance are not regime type and cost of war, but rather the bureaucratic capacity of the state to raise tax revenue, the ability of the state to cope with a low currency reserves when purchasing inputs from abroad for the war effort, and the state's experience in financing the previous war. I also find that war duration and the presence of the Cold War influence how a state finances war.

The findings from the descriptive statistics and regression analysis suggest that a state's bureaucratic capacity to raise taxes does not limit the financial base of military power. While state capacity is crucial to a war finance strategy dominated by taxation, the state has a myriad of other means to pay for the war. However, to understand what war finance strategy a state will chose requires understanding how domestic economic and political capacity interact with political relations among states as well as the structure of the international system.

The chapter is organized as follows: the first section describes the originality and construction of the data set. The remaining two sections are devoted to describing trends in war finance and testing independent variables.

## **The Data**

### *Originality*

Until now, there has been no existing study that has directly examined war finance statistically, but instead has focused on indirect (and problematic) tests. To date, the closest things to a war finance database are data sets measuring resource potential, the supposed pool of money that policy makers could draw upon to confront the cost of war. While these data sets are important building blocks to understanding a state's potential financial and, consequently, military power, they do not address how states actually pay for war. Thus, the predominant tests of war finance theories have been qualitative in nature. The data set present in this chapter significantly advances the study of war finance by providing the first quantitative analysis.

Early works studying war outcome looked to a preponderance of power and, consequently, national capabilities. These studies were not theories of war finance but theories of how economic capabilities affected war outcome. Organski and Kugler (1980) argued that the ability of the government to procure revenues from society or from abroad was crucial. Thus, they created an index that accounted for a state's potential tax revenue and foreign aid. Kugler and Domke (1986), also attempting to predict conflict outcome, constructed an index of relative political capacity—actual over expected tax revenue—and foreign aid. While these indices point in the right direction regarding potential war finance strategies, they do not provide an account of how participants financed their wars. They only account for resource potential.

Complementing the abovementioned works are scholars, in the same vein trying to understand war outcome, who looked to a state's ability to obtain large amounts of

cheap credit (e.g Rasler & Thompson, 1983). Unfortunately, large-N analysis that uses sovereign debt or bond yields to predict, or as a proxy for war finance, are similarly limited, as they can only capture resource potential and not how wars are paid for. The counterparts to these resource potential data sets are those measuring military expenditures; for example, the Correlates of War Project's Composite Index of National Capabilities or the Stockholm's International Peace Research Institute's military expenditures data set (Singer, Bremer, & Stuckey, 1972b; SIPRI, 2010). These data sets are equally limited. They only demonstrate how much a state is spending on its military in any particular year; they do not provide any information about where that money is coming from. This chapter bridges this gap between resource potential and actual military expenditure to provide a comprehensive account of how interstate wars around the world have been financed since the early 1800s.

### *Scope*

To construct this data set, I began with the interstate wars listed in the Correlates of War Project (COW).<sup>48</sup> The war finance data set, which spans from 1823 to 2003, encompasses all interstate wars in COW over six months in duration whose participants are principal belligerents.<sup>49</sup> As discussed in Chapter 2, war duration affects war finance. Longer wars have an inherently different dynamic than short wars, as shorter wars have different revenue needs and limit the state's war finance tool kit. Thus, I exclude wars less than six months long. I use six months as the cut off point because data limitations militate against going under six months. There are few "long wars" in COW as the

---

<sup>48</sup> I draw from COW v4.0 (M. R. Sarkees & F. W. Wayman, 2010).

<sup>49</sup> See Appendix A for list of wars included in the data set.

average war is about four months long. Thus, to ensure a significant number of observations, I include wars over 180 days.

Principal belligerents are “those states considered major decision-makers in the war, those whose contributions to the fighting force (i.e. number of troops) are sufficient to make them independent decision-makers about the course of the war” (Fazal, Fortna, Stanton, & Weisiger). For example, in the Korean War, only the United States, China, North Korea and South Korea are considered principal belligerents<sup>50</sup>. I exclude non-principal belligerents in an attempt to isolate states whose war effort places economic stress on their economy. The complete list of cases for the data set is presented in Appendix A. Of the 96 cases in the data set, 25 observations (i.e. belligerents or country-war) take place in the post World War II era. Geographically, over half of the wars fought involve participants from European states, Russia and the United States.<sup>51</sup>

### *Unit of Analysis*

The unit of analysis is war finance by participant, aggregated over the entirety of a war. As discussed in Chapter 2, war finance can be an endogenous process, as war finance in year one affects war finance in year two. Unfortunately, war finance information by country-year is not readily available for the majority of observations in my data set. To compensate for data limitations, I use country-war. I use the United States’ financing of World War I as an example: instead of taking the percentage of World War I financed by taxation by the United States for each fiscal year—1917, 1918

---

<sup>50</sup> According to COW, other participants in the Korean War include Thailand, the Philippines, Turkey, Australia, Greece, France, Belgium, the Netherlands, the United Kingdom, Columbia and Canada.

<sup>51</sup> There are nine African, six Middle Eastern, twelve Central and South American, and eighteen Asian countries in the data set.

and 1919—about 30%, 25% and 22% respectively—I aggregate over the entire war, of which 26.5% was paid for by taxation.<sup>52</sup>

Some cases, of course, are more difficult to code precisely. An extreme example is Cambodia during the Vietnamese-Cambodian War. During this war, there was no Cambodian currency. Market prices were established by supply and demand in Vietnamese Dong, Thai Baht, gold, and rice (R. R. Ross, 1987; Vickery, 1986). However, there is data on how the war was financed overall. We know that a small percentage of the Cambodian war effort was financed by domestic taxation while the rest of the war was financed via external funding, primarily from the Chinese.<sup>53</sup>

*Variation on the Dependent Variable*

As discussed in Chapter 2, the state has a myriad of means to confront the cost of war. As shown in Box 1 below, my data set captures the primary means in which a state can finance war. Thus, I account for how much of the war was met by taxation, domestic borrowing, funding from outside the state’s borders, printing, and plunder. Moreover, I

---

<sup>52</sup> **United States’ Financing of World War I by Taxation** (in millions of dollars in current year currency)

Year	Cost of the War	War Tax Revenue	Percentage of the War Financed by War Tax Revenue
1917	\$1,361	\$409	30%
1918	\$13,079	\$3,253	24.8%
1919	\$17,821	\$3,874	21.7%
<b>Total</b>	<b>\$32,428</b>	<b>\$7,536</b>	<b>26.5%</b>

*Source:* Seligman, E. R. A. (1919). "The Cost of The War and How it was Met." American Economic Review IX (December): 739-770.

<sup>53</sup> For data on domestic taxation and rice production, see (Twining, 1989). For data on Chinese military aid see (An, 1978, p. 283; Jackson, 1978, p. 80; Morris, 1999, p. 76; Pike, 1978, pp. 11-15; R. S. Ross, 1988, pp. 107-109; *Sino-Soviet Competition in Indochina*, 1978).



account for the presence of borrowing and the location of borrowing—if the state borrowed from either the United States or Soviet Union.

### *Data Collection and Measuring War Finance*

A careful triangulation amongst primary and secondary sources allowed me to paint a picture for a majority of observations in the data set.<sup>54</sup> During the interwar years, the League of Nation’s statistical publications was an excellent source, particularly for the various Sino-Japanese wars. In the post World War II era, primary sources include documents collected from the *Foreign Relations of the United States* (FRUS). During the Cold War, United States’ intelligence estimates from various agencies provide a plethora of information for the various “proxy wars.” Specifically, intelligence estimates were helpful to understand funding for the various Southeast Asian wars and Arab-Israeli wars. While primary sources are useful, secondary sources provided the core of information for the data set.

---

<sup>54</sup> The concept of triangulation is borrowed from Lustick (1996). Triangulation is the construction of a background narrative of a historical event through the identification of claims made by different historians, despite their approach from difficult archival sources and/or implicit theoretic or political angles. Of the 95 observations, I have information for 82% of the cases.

## **Figure 6: Measuring War Finance**

### **Ordinal Variables:**

**Domestic Taxation.** This variable captures how much of the war was paid for out of domestic tax revenues. It includes revenues from war taxes and other tax revenue that was not necessarily earmarked for the war effort.

**Domestic Borrowing.** How much of the war was paid for by borrowing from within the state? Domestic borrowing includes all forms borrowing, ranging from a bond campaign to general public debt to banks or wealthy individuals.

**Print.** How much of the war was paid for by printing money? Printing occurs when the state issues non-monetized debt from its central bank.

**Plunder.** Did the state engage in plunder to pay for the war? Plunder occurs when goods are taken by force from the area of conflict.

**Domestic War Finance.** Domestic war finance is a broad variable that encompasses all domestic revenues, including but not limited to taxation, existing coffers, domestic borrowing, and printing money. It is an attempt to capture how much of the war burden was met by the state.

**External Funding.** Did the state use money or aid from abroad to fund its war effort? External extraction is a broad variable. It includes all forms of aid from outside a country's borders, including plunder, grants, loans, or other.

**Total Borrow.** How much did the state borrow to pay for the war? This includes all forms of borrowing, both domestic and from abroad.

### **Dummy Variables:**

**Borrow.** Did the state borrow? Here, 'borrow' is an expansive category of borrowing. It includes all forms of borrowing, both domestic and from abroad.

**Borrow Abroad.** Did the state borrow from abroad to pay for the war effort?

**Borrow United States / Soviet Union.** Did the state borrow from the United States or Soviet Union to pay for the war effort?

It is important to note some of the data is in the form of “numbers,” or numerical estimates of how much of a particular war was financed by a specific mean. However, other data is qualitative in nature. Data availability of the Russian and Turkish war

finance effort during the Russo-Turkish War of 1877 provides an example. Data on the Russian war effort are in "numbers." We have an estimate of the actual amount borrowed and printed:

Since April 12, 1877...The cost of the campaign has been enormous. In November 1877, we concluded three domestic loans for 350,000,000 paper roubles [*sic*] and one foreign loan for 93,750,000 paper roubles or 125,000,000 paper roubles. In addition to this, 285,000,000 roubles were advanced by the Imperial bank, the aggregate sum of the cost amounting to at least 800,000,000 roubles. Beckoning the expensive of the return march at 50,000,00 roubles, we have a grand total of 850,000,000 roubles, which will take 45,000,000 roubles a year in interest and sinking fund. Now as the outlay occasioned by the Imperial debt is given at 108,000,000 roubles a year in the Budget for 1877. It follows that the war has raised our debt nearly one-half...It is estimated in this country that the war has cost in one way and another about L100,000,000 ("Monetary Commercial English News," 1878, p. 407).<sup>55</sup>

Just before the outbreak of the Russo-Turkish war, the notes in circulation amounted to a little over 780,000,000 rubles. During the war there was an additional issue of 417,000,000 rubles (Karel, 1896, p. 38)

In contrast, data for Turkey's war effort is qualitative, as shown by the data collected below. We know Turkey attempted to raise taxes. Unfortunately, the war effort hampered the state's ability to do so. As a result, the army was forced to plunder and the state had to borrow. However, as the data is more descriptive in nature, the manner in which Turkey financed its war effort is more ambiguous.

They did [Turkish Parliament], however, accept all the heavy expenditures required for the war, which produced a substantial deficit, and they approved increases in income, property, and animal taxes to compensate. They also approved a compulsory internal loan requiring property owners and civil servants alike to purchase government bonds according to their wealth and means (Shaw & Shaw, p. 185)

A forced loan was voted by the Parliament before its dissolution, and was to have come into operation in August; but owing to the poverty-stricken

---

<sup>55</sup> For secondary sources on borrowing to finance Russia's war with Turkey see (Crisp, 1953a; Karel, 1896; Maurice, 1905, pp. 244-245).

condition of the people, it was found impracticable to enforce the payment of the double taxes (Hozier, 2005 (1878), p. 605).

If the ordinary taxes could have been possibly collected by the Turks during the campaign, they certainly need not have been embarrassed for lack of the ‘sinews of war,’ considered the rather sweeping reductions in their payments. Not only, however, did the enemy occupy their most lucrative province, but that enemy, on the 31<sup>st</sup> July, issued a decree which was to have an important bearing on the payments by those who had hitherto been Turkish tax-payers (Hozier, 2005 (1878), p. 605).

The Turkish army was recruited solely from the Mohammedan population, Christian subjects of the Sultan were not allowed to bear arms, but paid a poll-tax in lieu of military service. It would perhaps be more accurate to say that they were compelled to take out annual licenses to carry their heads, the receipt of the tax bearing the words ‘The bearer is entitled to keep his head for one year.’ Exemptions from service were frequent, and easily obtained by the upper classes (Maurice, 1905, p. 14).

The Army lived almost entirely on the country it occupied (Hozier, 2005 (1878), p. 605).

By 1876 the prosecution of the war had forced the treasury to assume an additional burden of 7.45 billion kurus of debt... (Shaw & Shaw, p. 222).<sup>56</sup>

The two examples above, Russia and Turkey in the Russo-Turkish War of 1877, demonstrate the complexities of data collection. However, they also demonstrate information availability. To overcome data limitations and still be confident that I am correctly capturing how a state financed a war, the dataset is comprised using a mix of dummy and discrete variables rather than point values. The discrete variables are captured by using an ordinal scale of 0 – 4:

0 = none of the cost of the war was met by X variable;

---

<sup>56</sup> Turkey also did not pay her troops and repudiated her debt to aid in the war effort: “The Turkish troops had during the twenty months received no regular pay: they were merely lodged and fed by the State, and got, but at the rarest intervals, a few piastres: yet they continued to fight with undiminished zeal, and desertions and insubordination were never heard of amongst the regular troops” (Hozier, 2005 (1878), p. 604); “Some partial explanation of the mystery was afforded by the fact that the Government was not paying official salaries” (Hozier, 2005 (1878), p. 605); “...that they payment of the foreign debt was left in abeyance” (Hozier, 2005 (1878), p. 605).

- 1 = under 25% of the cost of the war was met by X variable;
- 2 = between 25-50% of the cost of the war was met by X variable;
- 3 = between 50-75% of the cost of war was met by X variable; and
- 4 = over 75% of the cost of the war was met by X variable.

Thus, to continue with my least ambiguous example, the United States' financing of World War I, the percentage of the cost of war met by taxation was 26.5%; therefore, it is coded as a 2.

Most of the data collected is not as unambiguous as the United States' World War I experience. Typically, the data resembles the examples above describing Russia and Turkey's financing of the 1877 war effort. Consequently, difficult coding decisions had to be made. To continue with the Turkish example, we know that Turkey attempted to raise taxes. However, Russian confiscation of Turkish territory and its Parliament's decision not to engage in a forced loan suggests that taxes financed a very small percentage of the war effort, less than 25%.

### **Descriptive Statistics: A *Quantitative* History of War Finance Since 1823**

How exactly are wars financed? Have there been significant changes in the character of war finance in the past two hundred years? The following section provides the first quantitative history of war finance. There are four prominent war finance trends for wars over six months long. First, war finance rarely takes the form of "tax versus borrow." The majority of states also engage in printing or external extraction to confront the cost of war. Second, most wars are not financed by taxation. If taxation is a component of a state's war finance strategy, it generally covers only a very small percentage of the war cost. Thus, borrowing is the dominant form of war finance. Third,

the location of borrowing has changed over time. There has been a shift from borrowing from within the state to borrowing from abroad since the end of World War II. Last, the presence of printing and plunder have also decreased over time.

**Table 7: Participants Who Engaged in All Four Forms of War Finance.**

<b>War</b>	<b>Year</b>	<b>Participant</b>
Russo-Japanese War	1904-1905	Russia
World War I	1914-1917	Russia
Chaco War	1932-1935	Bolivia
Chaco War	1932-1935	Paraguay
World War II	1939-1945	Germany
Korean War	1950-1953	Republic of Korea
Vietnam War	1965-1975	Republic of Vietnam

To conceive of war finance in the form of tax or borrow misses the broader picture of how wars are financed. Few states finance their wars entirely within this dichotomy. In fact, only 14 of the 94 belligerents resorted solely to financing their wars though a combination of taxation and domestic debt. Most wars are also financed though either printing or external extraction. However, a few states combine of all four methods. As shown in Table 7, only seven participants' war finance strategy reflected the four approaches. The majority of states finance their wars by three or less means.

**Table 8: Wars in which Domestic Tax Revenue Finances a Significant Portion of the Cost**

WAR	YEAR	PARTICIPANT
<b>Wars financed between 25 and 50% by domestic tax revenue</b>		
Russo-Turkish War	1828-1829	Turkey
Crimean War	1854-1856	United Kingdom
World War I	1917-1918	United States
Greco-Turkish War	1919-1922	Turkey
Franco-Turkish War	1919-1921	Turkey
World War II	1939-1945	United Kingdom
World War II	1941-1945	United States
World War II	1939-1945	Russia
<b>Wars financed between 50 and 75% by domestic tax revenue</b>		
First Schleswig-Holstein	1848	Germany
<b>Wars financed by 75% or more domestic tax revenue</b>		
Italo-Turkish War	1911-1912	Turkey
Korean War	1950-1953	United States

Second, I find that taxation plays a very small part in how states finance wars. Only 22% of participants financed 25% or more of their wars using domestic tax revenues, listed in Table 8 above. By contrast, 93% of states have engaged in at least some form of borrowing to confront the cost of war.<sup>57</sup>

This finding is consistent with the assumption that leaders care about the war effort. Specifically, procuring resources for the war effort with expediency matters to

<sup>57</sup> The five participants in which there was no borrowing: Italy in the Italo-Turkish War of 1910; Russia in the Estonian and Latvian Wars of Liberation 1918-1920 as well as in the Russo-Polish War of 1919-1920; and the United States in the Korean War, 1950-1953.

leaders, and consequently, affects war finance. As discussed in Chapter 2, taxation is not necessarily the most expedient form of revenue. It takes time for states to audit society, collect, and process revenue. Borrowing and printing, on the other hand, are more immediately available. Charles Tilly points out,

Historically, few large states have ever been able to pay for their military expenditures out of current revenues... If a government and its agents can borrow, they can separate the rhythm of their expenditures from that of their income, and spend ahead of their income. Spending ahead of income makes expensive warmaking easier, since expenditures for men, arms, and other requisites of war usually come in surges, while potential and actual state revenues ordinarily fluctuate much less from one year to the next. A state that borrows quickly, furthermore, can mobilize faster than its enemies, and thus increase its chances of winning a war (Tilly, 1990, p. 85).

Practically every state has engaged in some form of borrowing, and 68% of all participants financed at least half or more of their war effort with debt. There have been significant changes in the amount borrowed over the last hundred years. Before World War I, 58% of belligerents financed at least half of the of the war effort by borrowing. In the interwar period, this figure rose to 62%. The biggest increase in borrowing, however, took place in the post-World War II era. After 1945, 84% of states have chosen to finance their wars by 50% of borrowing or more.

The location of borrowing has also changed over time. There has been a shift from borrowing from the domestic economy to procuring funds from abroad. From 1823 to the present, 59% of states have engaged in at least some borrowing from abroad to finance their wars. Before World War II, 29% of states used foreign war finance to cover 25% or more of the cost of war. After World War II, 75% of states used foreign war finance to cover 25% or more of the cost of war. Not only are belligerents increasing



their reliance on foreign war finance, their reliance is specifically on the Soviet Union or United States. After World War II, 72% of participants borrowed from one of the two super powers.

The role of borrowing during the Cold War clearly brings to light an often-ignored dynamic of war finance: politics. When conventional wisdom discusses the role of credit in war finance, they look to sovereign debt yields and floating war debt on financial markets. War finance is not a purely economic transaction. For example, when the United States was funding the Republic of Vietnam during the Vietnam War, U.S. policy makers were not concerned with the RVN's credit rating. They were concerned with ensuring that an ally won the war. In addition, the emphasis on finance from abroad highlights two aspects of war. First, it demonstrates the strong presence of third parties in economic mobilization for war. Second, external funding, along with other means such as printing, is a reminder that a state's resources are never finite.

Lastly, the presence of printing and plunder has decreased in the post-World War II era. Of the 24 cases where some form of printing has taken place to pay for the war effort, only three have taken place after 1945: the Republic of Korea during the Korean War (Cole & Park, 1983; Manson, Kim, Perkins, Kim, & Cole, 1980), the Republic of Vietnam (Dacy, 1986), and the United States during the Vietnam War. A note of caution is warranted here, detecting the presence of printing can be difficult. Not all cases are obvious. The United States' financing of the Vietnam War is a perfect example. How much the United States "printed" is debatable, as it is hard to discern how much debt was

monetized versus non-monetized.<sup>58</sup> Thus, there may be wars financed by printing post-1945 that are not captured by the data. However, I suspect that the feasibility of borrowing from either the United States or Soviet Union during the Cold War allowed states to avoid relying on the printing press.

Plunder, also difficult to document, was much more prominent in the nineteenth century than the twentieth century.<sup>59</sup> Of the few cases where plunder was documented, 70% took place before World War I. Prominent cases of plunder in the twentieth century include Paraguay in the Chaco War (Zook Jr., 1960), Germany during World War II (Abelshauser, 1998), and the Democratic Republic of Vietnam during the Vietnam War (Van Dyke, 1972).

Descriptive statistics demonstrate that war finance has been dynamic over the last two hundred years; few aspects of war finance have remained stable while most others have changed. Taxation is rarely a large component to any state's war finance policy while borrowing appears to dominate. What has changed is how states borrow, which

---

<sup>58</sup> “The gross debt of the United States rose \$53 billion (FY1964 to FY1968). Even though the combined deficits on GNP accounting amounted to \$19.7 billion. The \$19.7 billion represents the excess of federal expenditures over current receipts, ignoring various forms of asset transactions. Our question is how much of this was absorbed by borrowing from the non-bank public and how much was money created. Clearly, the government issued new debt worth far more than the deficit defined by NIPA (national income and product accounts) principles. Of the \$53 billion of new debt, the public absorbed \$16.3 billion, close to the NIPA deficit, but the Federal Reserve absorbed \$17.4 billion in federal securities in the same period, which certainly has some causal relationship with the burgeoning money supply. Thus, the question of how much of this was absorbed by borrowing from the non-bank public and how much was money creation appears over determined and possibly unsolvable...Employing a quarterly model of the macro economy with Federal Reserve policy partially endogenous for the year 1953-1976, McMillan and Beard (1980) estimated that around 17 percent of any increase in the deficit was monetized; Hamburger and Zwick (1981) estimated that between 20 percent and 25 percent of any increase in the deficit was monetized” (Edelstein, 2000, pp. 379-380).

<sup>59</sup> Weathering troops abroad—armies surviving off of foreign lands or plunder—was a prominent method of war finance before the twentieth century and the rise of the modern state. It was too expensive for states to maintain standing armies both during and after wartime. Thus, states promoted their armies to stay abroad and let the host country pay the bill (See Brewer, 1989; Howard, 2009).

seems to vary with the international environment. During the 1800s, when states borrowed from abroad, they often floated debt on the London financial market. With the onset of the Great Depression and the two World Wars, this capital dried up and international capital mobility decreased. Moreover, the onset of the Cold War created two new creditors willing to bankroll many interstate conflicts, the United States and Soviet Union. Thus, borrowing from abroad shifted from an emphasis on market-based to interstate grants and loans in the post-World War II era. It is too early and there are not enough observations to diagnose the presence and composition of a post-Cold War borrowing trend.<sup>60</sup> Lastly, the presence of both printing and plunder as a means to war finance has decreased greatly.

#### *The Cost of War and War Finance*

Does the cost of a war affect how it is paid for? Economists suggest that as the cost of war rises, states should borrow more and tax less. Tax smoothing theories recommend that states should avoid sharp increases in taxation to meet large exogenous increases in government expenditure, such as financing a costly war. A sharp increase in taxation, such that the government achieves a balanced budget, leads to negative externalities on labor supply, consumption, output and capital. Thus, states should borrow to pay for their wars. Accordingly, as the cost of war rises, the percentage of the war paid by taxation should decrease. Unfortunately, data on the cost of war, like data on war finance, is scant. It is not possible to test this hypothesis using regression analysis.

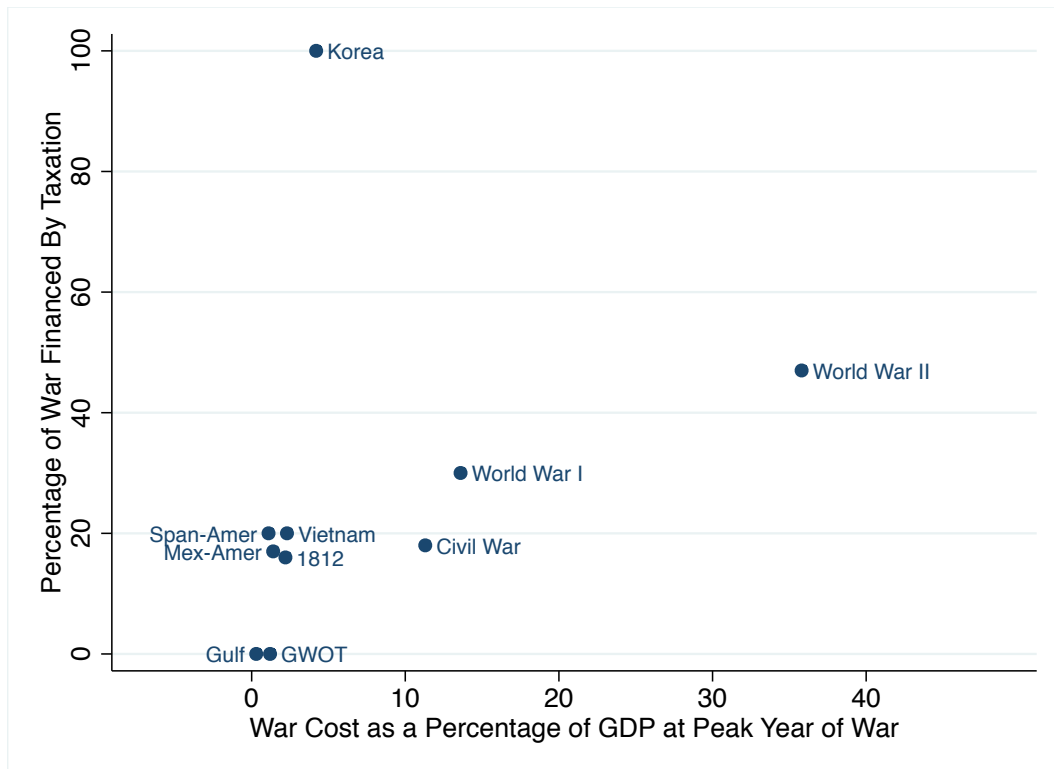
---

<sup>60</sup> The Long Wars dataset contains only six observations after Cold War: Iraq and Kuwait in the first Gulf War, Eritrea and Ethiopia in the Badme Border War and the United States in the Iraq and Afghanistan wars.

However, there is excellent data on the war cost and financing of wars fought by the United States as well as belligerents in the World Wars.

In regards to United States' war finance, counter to what we should expect from tax smoothing theories, there is a positive relationship between the cost of war and the percentage of the war financed by taxation. The graph below represents the relationship between the cost of each interstate war fought by the United States as a percentage of GDP for the most expensive year of the war and the percentage of the war paid for by taxation. Taxation met 50% of the costliest war fought by the United States, World War II.

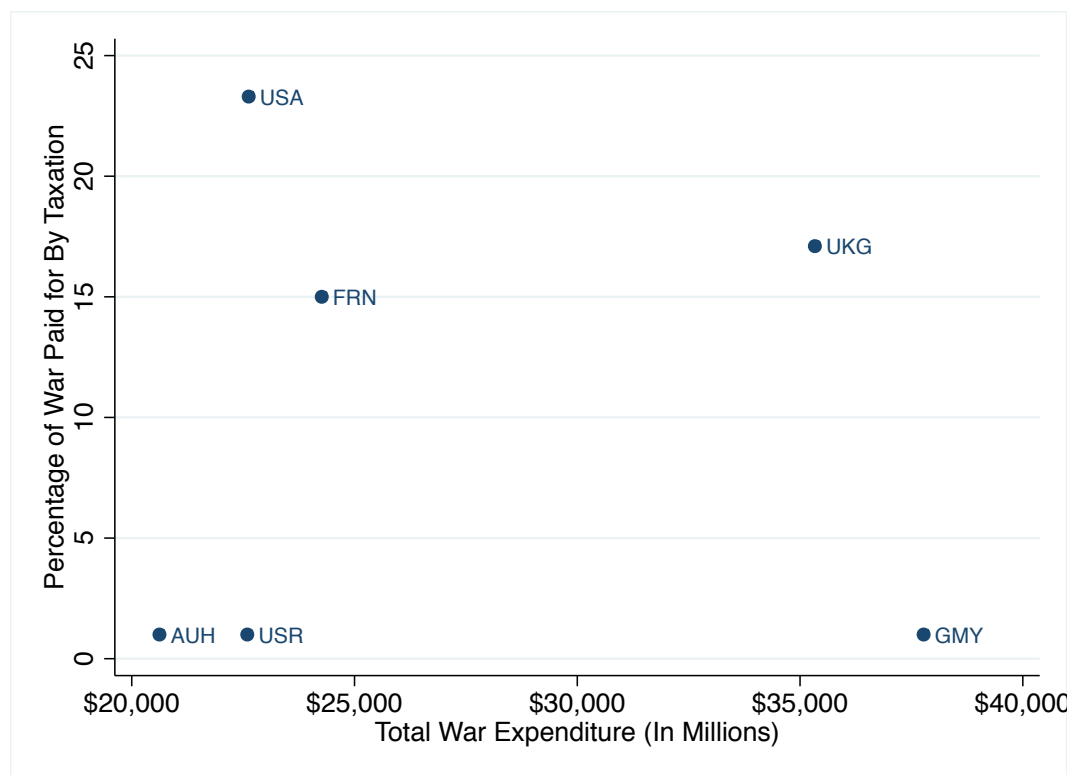
**Figure 7: The Relationship between War Cost and Percent of War Financed by Taxation in U.S. War Finance**



If we examine the relationship between the cost of World War I for the various belligerents and the percentage of said cost met by taxation, we find that there is no clear relationship. As we can see in the graph below, taxation met a negligible amount of the cost of war for the costliest belligerent, Germany, as well as the least costly, Austria-Hungary.

These two graphs exploring the relationship between war cost and war finance suggest that the relationship between the cost and finance is more complex than at first blush. The cost of a war alone does not, as some economists would expect, necessarily dictate how much of a war is financed by taxation. However, much more work needs to be done in this area before more definitive conclusions can be drawn.

**Figure 8: Percentage of World War I Cost by Belligerent Met by Taxation**



## **Empirical Analysis**

In this section, I test conventional wisdom concerning the relationship between regime type and war finance as well as several of the hypotheses presented in the previous chapter (see Table 6). My central claim is that how a state finances war is not shaped by its regime type or the cost of the war. Rather, bureaucratic capacity, the ability to cope with low currency reserves when procuring inputs for the war from abroad, fear of inflation, and support for the war effort shape war finance outcome. We should see a larger percentage of the war effort financed by taxation when there is high support for the war, when policy makers fear inflation, and when the state has the bureaucratic capacity to extract tax revenue. In contrast, we should see higher levels of borrowing (either domestic or foreign) and printing when support for the war is low or the state does not have the bureaucratic capacity to extract revenue. In addition, states will rely on external extraction when the state is procuring inputs from the war from abroad and is facing low currency reserves. The following sections present the independent variables followed by statistical analysis.

### **Independent Variables**

#### *Bureaucratic Capacity*

When a state has a high bureaucratic capacity, *ceteris paribus*, it is more likely that the war will be financed by taxation. When politicians decide to finance all or part of a war by tax revenue, they turn to their bureaucracies to extract resources from society.

A revenue bureaucracy characterized by low capacity is less effective at revenue collection, diminishing the ability of politicians to achieve their policy goals, i.e. pay for the war via tax revenue.

For the purposes of this study, a state's bureaucratic capacity is a function of two elements: the state's revenue administration and the state's level of monetization. As discussed in Chapter Two, the efficiency and effectiveness of a state's revenue administration is a product of many variables. Here, I focus on two. First, the bureaucratic organization needs to exist. Second, the state's revenue administration must be able to complete myriad tasks, including but not limited to assessing the tax base, auditing society, and collecting and processing revenue. To successfully carry out these tasks, the state must be able to identify members of society and physically reach the population. The state must then process money collected.

I use a state's postal service capacity as a proxy for the capacity of a state's revenue administration to raise taxes. There is no data directly measuring the capacity of a state's revenue administration. However, the postal service is a comparable government bureaucracy. The postal service engages in tasks similar to a state's revenue administration. To successfully collect and distribute mail, the postal service must be able to identify members of the population and reach all citizens. Furthermore, it must be able to quickly collect, process, and redistribute an input taken from society. Using Arthur Banks' (2011) Cross National Times Series Data, I measure postal service capacity by the volume of all mail sent and received domestically (MAIL) and the amount of per capita mail sent and received domestically (MAILpercapita).

To ensure that my proxy is an acceptable measure of bureaucratic capacity, I test for high correlation between MAIL and MAILpercapita against data for the United States. The Internal Revenue Service (IRS) has compiled a list of the number of workers employed at the IRS between 1866 through 1991 (*IRS Historical Fact Book: A Chronology 1646-1992*, 1993 Appendix 4: Personnel). I find there is a high correlation between postal service capacity and bureaucratic capacity to extract tax revenue, shown in Table 9 below.

<b>Table 9: Correlation Between Volume of Mail and Number of Employees in the United States' Revenue Bureaucracy</b>			
	<b>MAIL</b>	<b>MAILpercapita</b>	<b>Number of Employees</b>
<b>MAIL</b>	1.0000		
<b>MAILpercapita</b>	0.9490	1.0000	
<b>Number of Employees</b>	0.7547	0.8804	1.0000

I measure a state's level of monetization by the size of its economy. Both a larger tax base and higher rates of economic transactions generally characterize larger and more monetized economies. The result of which is a larger tax base and more points of transaction from which to extract revenue, facilitating the feasibility of extracting revenue and, consequently, financing a war via taxation. To measure a state's economic size, I use per capita Gross Domestic Product (GDPpercapita) from Angus Maddison's economic indicators. Angus Maddison's data, set in 1990 international Geary-Khamis



million dollars, is incomplete before World War II (Maddison).<sup>61</sup> In order to provide an observation for each year in my data set, I interpolated the surrounding years. In addition, I have taken the year before the war started in order to avoid potential endogeneity created by war mobilization on both industrial infrastructure and economic growth or decline.

### *Inflation Lesson*

I argue that when states fear inflation, they are more likely to finance a larger percentage of the war via tax revenue and direct borrowing (i.e. in the form of a bond campaign). In addition, states are more likely to fear inflation when they have experienced inflation in the previous war. To test the effect of inflation experienced as a result of the last war on current war finance, I take the highest recorded inflation rate from the country's most recent interstate war. To construct this variable, I take the previous interstate war fought by the state in question as coded in COW. To capture the potential for an inflation lesson, I take the highest CPI during the previous interstate war.<sup>62</sup> I then created a dichotomous variable for those states that experienced at least 10% during the previous war.<sup>63</sup> I use data collected by Carmen Reinhart and Kenneth Rogoff (2009).<sup>64</sup> For example, when coding the presence of a United States' war finance

---

<sup>61</sup> The Geary-Khamis dollar is an aggregation method in which category "international prices" (reflecting relative category values) and country PPPs (depicting relative country price levels) are estimated simultaneously from a system of linear equations ("Annex II - Methods of Aggregation," 1992).

<sup>62</sup> I do not take CPI the year after the most recent interstate war because this figure is almost always negative as it captures the economic contraction resulting from demobilization.

<sup>63</sup> There are 57 observations for inflation experienced in the previous war. Of those 57 observations, 30 belligerents did not experience inflation in the previous war above 10% and 27 did. If I do not take a dummy variable and just look at the highest CPI experienced at during the previous interstate war, there is huge variation: Mean: 28.30%; Std. Dev: 59.92%; Min: -67.6; Max 345.4.

<sup>64</sup> Reinhart and Rogoff have collected annual consumer price indices (CPI) and their relative cost of living indices for 70 countries.

lesson in World War II, I used the highest inflation experienced during World War I—18% in 1918. There are two caveats to this variable. First, COW only extends back to 1815. As a result, I cannot use COW for the earliest wars in my data set, as this would require data from wars prior to 1823. To compensate for these missing values, I triangulate amongst secondary historical sources. The Franco-Spanish War of 1823, the first interstate war listed in COW, is a prime example. For France, I code the previous war, the Napoleonic Wars, and take the highest inflation for that period, 9.6% in 1805. The second caveat applies to newly formed states. The Estonian and Latvian wars of independence are case in point. In these instances, I do not have an observation.

### *Currency Reserves*

When a state needs to import inputs for the war, it is more likely that external funding will finance a larger percentage of the war effort. When a state imports resources for the war effort, it must use its currency reserves to pay for the goods. The more a state imports inputs, the more pressure is placed on its reserves. Once the currency reserves are depleted, the state must turn to other states outside its borders for financial aid. A state is more likely to procure inputs for the war effort from abroad when it does not have the industrial capacity to produce armaments.

The Japanese during the Russo-Japanese war effort were in this exact position. On the eve of the war, Japan was in an excellent balance of payments position: the state had stabilized the gold-linked yen, replenished its reserves, and trade surpluses with the United States had taken a back seat to the capital injections from China and Britain (Miller, 2005, p. 469). Unfortunately, Japan's excellent economic position was short-

lived. Its infant industries were unable to produce enough war inputs to successfully support the war effort. The lack of industry left the military in “need of foreign munitions, supplies and shipping” that “would exhaust its paltry \$40 million exchange reserves in short order” (Miller, 2005, p. 470). Thus, Japan needed to secure foreign currency to meet her war needs. As a result, Japan floated \$408 million dollars in American markets in 1904 and 1905 (Miller, 2005, p. 473).

To capture the potential presence of an armaments industry, I look at a state’s iron and steel production. I use a subcomponent of the Correlates of War National Capabilities Index, the Iron and Steel Production score (IRST), taken the year before war onset.

### *Public Opinion*

Unfortunately, I am not able to test the effect of a public opinion on war finance due to the lack of data availability. There is no data on public opinion that extends back to the early nineteenth century that is comprehensive beyond Europe and the United States. Therefore, I will have to test the effects of this variable in my case studies in the following chapters.

### *Control Variables*

In addition to the variables of interest above, I also test for several other variables that might affect war finance. The list of control variables includes regime type, the structure of the international monetary system, the duration and intensity of the conflict, the presence of the Cold War, World Wars, and the pre- and post-World War II era.

*Regime Type.* Conventional wisdom suggests that democracies are more likely to finance their wars via both higher levels of debt and taxation. I directly test this argument using regime type data taken from the Polity IV data set (Gurr, Jagers, & Marshall, 2008). Polity consists of annual coding of a regime's governing institutions focusing on the concomitant qualities of democratic and autocratic authority. Wars are dynamic processes and can affect regime type during the war. Using Polity, I record regime type the year before war onset, using the standard approach of subtracting the state's autocracy score from its democracy score (POLITY2). As a robustness check, I run additional models using different measures of democracy that can be found in Appendix B.<sup>65</sup>

*Log Duration.* I also control for the duration of the war. It is possible that the length of the war may affect war finance as resources get exhausted, forcing states to alter their war finance strategy. Data for duration is taken from the COW data set. Duration is highly skewed with most observations being relatively low duration while a small number are substantially longer. The effect of this skew is to give the outlying cases undue influence over results. To compensate for this distribution, I take the log of duration (LOGDURATION).

*The Cold War.* I also control for the presence of the Cold War. As demonstrated by the descriptive discussion statistics above, from 1945 to 1990, more wars were financed

---

<sup>65</sup> I use the Democracy (DEMOC) and Autocracy (AUTOC) score from the Polity data set. I also test to see if the presence of a full democracy affects war finance. As a result, I created a dummy variable (FULLDEM) substituting a Polity threshold of 6 for full democracy. As a final robustness check, I use the W score (W) from the selectorate theory of war which measures the coalition size leaders need to appease to stay in office (Bueno de Mesquita, Morrow, Siverson, & Smith, 2004).

externally, not necessarily a result of currency reserves or bureaucratic capacity but due to the decisions made by the world's two superpowers. The Soviet Union and United States often made grants or loans available to states fighting interstate wars for or against communist goals. Thus, I created a dummy variable for the presence of the Cold War (COLDWAR).

*World Wars.* World War I and II are often considered outliers in international relations literature as a result of their magnitude. In order to ensure that the characteristics of these wars are not skewing my results, I generated a dichotomous variable to capture their presence (WORLDWAR).

### **Statistical Analysis—Why do states finance war in the manner they do?**

#### *Taxation*

I hypothesize that states are more likely to finance a larger percentage of their war effort via taxation when a state has high bureaucratic capacity—the state has an effective revenue administration and is highly monetized—or when there is a high fear of inflation or high support for the war effort. I also hypothesize that regime type has no effect on the likelihood that taxation will comprise a larger percentage of a state's war finance strategy. Conventional wisdom by contrast suggests that democracies will fund their wars via higher levels of taxation. Specifically, representative institutions that characterize democracies allow them to extract more taxes. Thus, they are better able to and, therefore, will finance their wars by higher levels of taxation (Cheibub, 1998;

Fujihira, 2000; Levi, 1988). I argue that these theories do not take into account the state's ability to raise taxes—its bureaucratic capacity, or policymaker's preferences. Moreover, regime type as an independent variable is unable to address the variation that exists within democracies.

As my dependent variable, the percentage of the war paid for by taxation, is categorical and ordered, I test my hypotheses using an ordered probit analysis. I first test the effect of bureaucratic capacity on taxation and then test the effect of inflation experienced in the previous war. Given poor data availability of consumer price indices, once I include the inflation variable, a significant number amount of observations drop from the model.

Table 10 shows the results of the regression analysis in which the dependent variable is the percentage of war paid for by taxation. I find that the more developed a state's bureaucratic capacity is, the more likely it is to finance a larger percentage of its war effort by domestic taxation. The first two columns present the results for the primary variables of interest, bureaucratic capacity to extract tax revenue, and regime type. Columns 1 through 5 present the result of the variables of interest plus other control variables. The last column, Column 6, presents the full model.

<b>Table 10: Percentage of the War Financed by Taxation</b>						
<b>Ordered Probit Analysis</b>						
	(1)	(2)	(3)	(4)	(5)	(6)
Administrative Capacity to Tax	2.94* (1.79)	2.90 (1.98)	8.31** (3.31)	2.79* (1.48)	2.86* (1.69)	6.40* (3.87)
Monetization	0.0014** (0.0005)	0.0014** (0.0005)	0.0013* (0.0007)	0.0013** (0.0006)	0.0015** (0.0005)	0.001* (0.0007)
Regime Type		0.0007 (0.032)				0.029 (0.040)
War Duration			-0.234 (0.284)			-0.333 (0.339)
World War				0.530 (0.470)		0.356 (0.687)
Cold War					0.074 (0.282)	0.445 (0.712)
Observations	37	36	34	37	37	33
R – Squared	0.1469	0.1455	0.2592	0.1640	0.1472	0.2744

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. Using the Breush-Pagan / Cook-Weisberg, I found heteroskedasticity in models 1, 2, and 5. Thus, I use robust standard errors for those models. In addition, I ran robustness checks clustering standard errors by Year, Country, and Alliances on the saturated model, Model 6. There was no change in the results.

State capacity to extract revenue is directly correlated with the percentage of the war paid for by taxation. As a state's administrative capacity to extract tax revenue and its level of monetization increases, it is more likely that a higher percentage of the war will be paid for out of tax revenue. What is surprising is the stability and statistical significance of the variables measuring state capacity, administrative capacity to extract tax revenue and monetization, across all of the models. Bureaucratic capacity is the

driving force shaping taxation regardless of regime type, duration of conflict, and time period.

Contrary to conventional wisdom, I find no correlation between regime type and the percentage of the war financed by taxation. Democracies are no more likely to finance their wars by taxation than non-democracies. This finding stands in contrast to Fujihira's (2000) finding, noted above, that liberal democracies are better able to collect taxes to finance wars because they are characterized by representative institutions.

A state's capacity alone does not shape how much it will rely on taxation to finance its war effort; it is a necessary but not sufficient condition. The state also has to have the desire or will to raise taxes. I argue that this desire is more likely when the state fears inflation. When leaders fear inflation, they will finance wars primarily through domestic taxation and debt in such a form that extracts purchasing power from a larger percentage of the population.

Table 11 shows the results of an ordered probit analysis for the variable of war finance by taxation when the primary independent variable of interest is inflation experienced in the previous war. When states experienced at least 10% inflation in the previous interstate war, they are more likely to finance the current war with higher levels of taxation. This finding suggests that there is a learning mechanism between wars, as previous war finance affects current war finance.



**Table 11: Percentage of the War Financed by Taxation, Primary IV is Inflation Experienced in the Previous War.**

**Ordered Probit Regressions**

	(1)	(2)	(3)	(5)	(6)	(7)
At least 10% Inflation Experienced in the Previous War	1.13** (0.425)	1.14** (0.450)	1.06** (0.455)	1.14** (0.440)	1.19** (0.430)	0.937* (0.527)
Regime Type		0.028 (0.028)				0.049 (0.039)
War Duration			-0.305 (0.292)			-0.728** (0.381)
World War				-0.015 (0.450)		0.555 (0.651)
Cold War					1.46* (0.883)	6.74 (5.29)
Observations	34	31	31	34	34	28
R – Squared	0.0909	0.0918	0.0816	0.0910	0.1250	0.2057

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. Using the Breush-Pagan / Cook-Weisberg, I found no heteroskedasticity.

## **Domestic Debt**

When is a state more likely to finance their war via domestic debt? Conventional wisdom holds that, when possible, states will borrow to pay for the war effort. Moreover, democracies are the most able to borrow. Because representative institutions characterize liberal regimes, they are more likely to sanction leaders who default on credit. Thus, they have better credit. As a result, they are better able to borrow for the war effort. We should, therefore, expect to find that democracies are more likely to finance wars with domestic debt than are non-democracies. I break from conventional wisdom and argue that regime type does not affect the percentage of the war paid for by domestic debt. Instead, states resort to borrowing when they are unable to raise taxes as a result of low bureaucratic capacity and when they fear inflation and want to remove spending power from consumers. In addition, policy makers will prefer less visible means of extraction, such as borrowing from domestic elites, when support for the war effort is low.

Table 12 shows us that none of the variables of interest are statistically significant predictors of higher domestic borrowing. There is no statistical relationship between bureaucratic capacity to extract revenue and the percentage of the war paid for by domestic debt. Initially, these results were upsetting, as there is no statistical evidence for my hypotheses. However, if we take into account the limits of the data set, these results are not surprising.

**Table 12: Percentage of the War Financed by Domestic Debt  
Ordered Probit Analysis**

	(1)	(2)	(3)	(5)	(6)	(7)
Administrative Capacity to Tax	-4.91 (1.29)	-4.24 (1.45)	-2.52 (2.28)	0.750 (1.31)	5.83 (1.41)	-4.93 (3.15)
Monetization	0.0002 (0.0004)	0.0002 (0.0004)	0.0005 (0.0004)	-0.00003 (0.0005)	0.0002 (0.0004)	0.0003 (0.0005)
Regime Type		-0.0012 (0.027)				0.0010 (0.033)
War Duration			-0.257 (0.216)			-0.546** (0.254)
World War				0.673* (0.387)		1.35** (0.514)
Cold War					-0.958** (0.372)	-0.410 (0.538)
Observations	45	44	42	45	45	41
R – Squared	0.0032	0.0032	0.0270	0.0273	0.0351	0.1195

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. In addition, using the Breusch-Pagan Cook-Weisberg test for heteroskedasticity, I found heteroskedasticity in Model 6. In order to correct for heteroskedasticity in that model I use robust standard errors.

First, domestic borrowing is over determined. I hypothesize that low bureaucratic capacity, low inflation fear, and low support for the war all result in high levels of domestic debt, as does high support for the war. I also argue that the converse is true: when a state fears inflation and support for the war is high we should also see high levels of domestic debt funding the war effort. The difference is the source of domestic debt. When inflationary fears or support for the war is high, we should see domestic extraction that engages a larger percentage of the population. Thus, we expect to see bond campaigns and high amounts of domestic borrowing. When support for the war is low,

we should also expect to see high levels of domestic debt but in a different form than bond campaigns. This debt will be less visible, either purchased by wealthy elites or issued as general public debt. Table 13 below highlights this dilemma.

<b>Table 13: Types of Domestic Debt</b>			
<b>Condition</b>	<b>Purpose of Debt</b>	<b>Type of Debt</b>	<b>Example</b>
High Inflation Fear	Debt that extracts as much purchasing power from the general public as possible.	Bond Campaign; General Public Debt	US Financing of World War II
High Support for the War Effort	Debt that lowers the economic cost of the war.	Bond Campaign; General Public Debt at Lowest Interest Rates Possible	UK Financing of World War II – The 3% War
Low Inflation Fear	Debt that covers the cost of the war. No focus on removing purchasing power.	Not Determined	Chinese Financing of the Sino-French War
Low Support for the War Effort	Debt that covers the cost of the war; low visibility is ideal.	Debt Concentrated Amongst Select Few In Society; Disperse Amongst Society	Argentine Financing of the Paraguayan War; U.S. Financing of the Vietnam War
Low Bureaucratic Capacity	Debt that covers the cost of the war.	Not Determined	Mexican financing of the Mexican-American War

Unfortunately, data limitations do not allow me to capture the type and source of domestic debt. For example, consider United States' war finance in the twentieth century. Domestic debt was a component of all three wars, comprising around 70% of the cost of World War I, 50% of the cost of World War II and 16% of the cost of the Vietnam War. The debt of the two world wars, primarily comprising highly visible Liberty and Victory bond campaigns, is very different than that of Vietnam, which was financed by general public debt. However, they are both coded under domestic debt.

What positive finding can we extract from this statistical analysis? Model 2 tests conventional wisdom; war debt is a function of regime type. The results, similar to the results on taxation, once again demonstrate that a state's regime type is not statistically

significant. Democracies are no more likely than non-democracies to finance their wars via domestic debt. Again, data limitations necessitate a caveat. When scholars like Schultz and Weingast (2003) argue democracies are better able to raise debt, they are implicitly referring to debt floated on financial markets at market rates. First, as I stated above, my coding of domestic debt includes all forms of debt raised by a government. Second, not all domestic debt is floated on financial markets at market rates. Some states are able to float war debt at low or capped interest rates. For example, Britain during World War II floated all war debt at 3% interest rates (Sayers, 1956). If leaders can change the economic cost of borrowing, this may affect their decision making in terms of how to finance the war.

We can conclude that when we discuss war finance, the concept of “tax versus borrow” needs to be greatly expanded. Not only are there myriad ways to finance a war beyond these two means, borrowing is a much bigger category than this concept allows for. Consequently, it makes it statistically difficult to explore what accounts for high levels of domestic debt in war finance. Thus, I use my case studies to disentangle the types of debt and what causes states to resort to domestic debt as a whole and how they choose what type of domestic debt to float.

### **Total Borrowing (From the Home Economy and from Abroad)**

The above section focused primarily on domestic debt. Under what conditions does debt from both from at home and abroad play a large role in a state’s war finance strategy? Once foreign debt is added to domestic debt, a state’s war finance strategy becomes heavily reliant on borrowing in general. Again, states characterized by low

bureaucratic capacity to raise tax revenue will be forced to resort to other means of war finance. Thus, they are more likely to finance a larger percentage of the war by borrowing. Conventional wisdom argues that democracies are more able and, therefore, more likely to borrow. However the conventional wisdom does not specify the source of this debt, domestic or foreign.

The analysis in Table 14 shows the effects of the primary independent variables on the percentage of the war financed by total debt. The results of this table differ from the analysis of domestic debt discussed earlier in the chapter. The results suggest that, again, regime type does not shape the percentage of the war financed by borrowing. Rather, states with low bureaucratic capacity, states fighting shorter wars, and states with a smaller relative capability are more likely to borrow more.

	(1)	(2)	(3)	(4)	(5)	(6)
Administrative Capacity to Tax	-0.031 (2.11)	-0.928 (2.40)	-4.08* (2.36)	-0.552 (2.25)	-0.328 (2.05)	-8.77** (3.68)
Monetization	-0.0002 (0.0004)	-0.0002 (0.0004)	0.0001 (0.0005)	-0.0004 (0.0004)	-0.002 (0.0004)	-0.0004 (0.0005)
Regime Type		0.021 (0.025)				0.013 (0.031)
War Duration			-0.367* (0.199)			-0.764*** (0.239)
World War				0.370 (0.370)		1.92*** (0.564)
Cold War					-0.028 (0.363)	0.752* (0.453)
Observations	52	51	49	52	52	48
R – Squared	0.0035	0.0084	0.0648	0.0105	0.0035	0.1715

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. Using the Breusch-Pagan Cook Weisberg test for heteroskedasticity, I found heteroskedasticity in Models 1, 2, 4, and 5. To correct for this, those models have robust standard errors.

First, consistent with my hypothesis, there is some evidence that states with a weaker bureaucratic capacity to collect tax revenue are more likely to borrow in general. My proxy for bureaucratic capacity, MAIL, is significant in the saturated model, Model 6, and is consistently negative in every regression. In addition, Table 14 demonstrates two interesting findings. First, a state's level of monetization, a component of bureaucratic capacity to collect revenues, is not significant, although the direction of the variables are negative, in line with theoretical expectations. Second, there is a negative relationship between duration and total borrowing; shorter wars are more likely to be paid for by higher levels of debt than longer wars. This result is somewhat surprising. I would have expected to see that states fighting longer wars were more likely to borrow. However, it may be the case that longer wars allow for state-building, increasing the percentage of the war paid for by taxation.

### *External Funding*

Understanding when states turn abroad to finance the war effort is important to understanding externalities of war and signaling. When a state receives funds from outside its borders, it may become indebted to a foreign entity, foreign markets, individuals, or states. Consequently, the state surrenders some of its autonomy. Procuring resources from abroad is also a signal to adversaries. It may signal the weakness of the state's economic foundation for the war effort. The state is incapable of fighting alone. It also may signal strength if the state can successfully float its sovereign debt. Thus, external extraction is not a decision that states make lightly, as there are significant repercussions to this action. When do states resort to acquiring money

abroad? I hypothesize that states are more likely to finance a significant portion of their war effort from resources procured outside their borders when they have a low bureaucratic capacity as well as a low currency reserves as a result of procuring inputs for the war from outside its borders. In addition, I suspect that external war finance will be more likely during the Cold War, as the superpower rivalry increased the availability of cheap external funding.

Table 15 provides four interesting results. First, bureaucratic capacity does not appear to be statistically correlated with the percentage of the war financed via external debt. While this variable shows some significance in Models 1, 2 and 5, it is not significant in the saturated model. Second, it appears that states that have low domestic productive capacity are more likely to finance a larger percentage of the war from external sources. While I cannot confirm statistically that the causal mechanism is low currency reserves, I explore this issue in Chapter 6 with British financing of the Crimean War and World War II and Chapter 7 with a study of Japanese financing of the Russo-Japanese War. Third, the Cold War mattered. As the Soviet Union and United States were willing to fund various proxy wars, war finance via external means increased in this era. Finally, non-democracies are more likely to finance their wars via external funding than are democracies.



<b>Table 15. Percentage of the War Financed by External Funding Ordered Probit Regressions</b>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Administrative Capacity to Tax	-1.41** (0.065)	-8.28* (4.41)	-7.94 (6.39)	-4.33 (3.13)	-11.83** (0.841)	-6.59 (4.20)	-4.88 (9.41)
Monetization	-0.00004 (0.0005)	0.0002 (0.0005)	0.0003 (0.0005)	0.0002 (0.0005)	0.0003 (0.0005)	-0.00009 0.00055	-0.0001 (0.0006)
Domestic Production Capacity		-0.105* (0.060)	-0.128** (0.062)	-0.165** (0.065)	-0.121* (0.067)	-0.079 (0.057)	-0.334*** (0.091)
Regime Type			-0.011 (0.029)				-0.073** (0.036)
War Duration				0.072 (0.229)			-0.244 (0.258)
World War					0.893* (0.555)		2.33** (0.862)
Cold War						1.30** (0.426)	1.92*** (0.524)
Observations	48	48	47	45	48	48	44
R – Squared	0.0970	0.1225	0.1471	0.1302	0.1333	0.1930	0.3343

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. In addition, using the Breusch-Pagan Cook-Weisberg test for heteroskedasticity, I found heteroskedasticity in Model 2, 4, and 5; in order to correct for heteroskedasticity in those models, I use robust standard errors.

### *Printing*

Printing is an unattractive war finance option as a result of its disastrous consequences on a state's economy. However, states do occasionally engage in printing to fund their war efforts. I hypothesize that when states have a low bureaucratic capacity and no fear of inflation they are more likely to print. Moreover, as printing is such an unattractive option, I suspect that there may be a correlation with war duration. The

longer the war, the more likely you have exhausted all your resources internally and externally. The experience of Paraguay during the Paraguayan War of 1864-70 is a fitting example. Paraguayan President Francisco Solano López initially hoped to finance the war by selling yerba mate, but the increasingly effective blockade of the Parana River and increased consumption of yerba by the troops limited this possibility. Thus, government revenues were inadequate to finance the war effort (Reber, 1999, p. 23). In 1865, López received congressional approval to raise a foreign loan of 25 million pesos, guaranteed by yerba and land revenues. At the same time, the president attempted to raise £200,000 sterling on the money markets of Buenos Aires. He found no takers for either, as the turmoil occasioned by the war made potential lenders wary. As a result, Paraguay turned to the paper emission of 2,900,000 pesos in March 1865, more than doubling the amount of paper pesos in circulation (Whigham, 2002).

Table 16 presents the results of my statistical analysis. There are several interesting findings. First, my variable of interest, bureaucratic capacity, is partially significant. My proxy for bureaucratic capacity is typically negative, and generally insignificant. However, my proxy for the level of monetization of a society, GDP per capita, is positively correlated with printing in every regression, and significant in several, including the full model.

Second, there is a strong relationship between regime type and the percentage of the war paid for by printing. Non-democracies are more likely to print to finance a war than are democracies. This finding, in conjunction with the finding above that non-democracies are more likely to finance their wars via external funding, suggests that non-

democracies may be less likely to ask their societies to fund the war. These findings need to be further explored.

	(1)	(2)	(3)	(4)	(5)	(6)
Administrative Capacity to Tax	-0.358 (1.34)	2.98 (1.73)	-13.90* (7.95)	-0.354 (1.34)	-0.967 (1.54)	-2.24 (5.17)
Monetization	0.0007 (0.0006)	0.0007 (0.0006)	0.0012** (0.0006)	0.0007 (0.0006)	0.0007 (0.0006)	0.001** (0.0006)
Regime Type		-0.104** (0.043)				-0.130** (0.053)
War Duration			1.37*** (0.424)			1.97*** (0.418)
World War				-0.033 (0.450)		-1.06 (0.969)
Cold War					0.498 (0.628)	-1.099 (1.000)
Observations	34	33	31	34	34	30
R – Squared	0.0193	0.1182	0.2864	0.0194	0.0279	0.3883

*Notes:* The dependent variable is on a scale of 0-4. Accordingly, all models are run using ordered probit analysis. Standard errors are in parentheses. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01. Using the Breusch-Pagan Cook Weisberg test for heteroskedasticity, I found heteroskedasticity in Models 3 and 6. To correct for this, those models have robust standard errors.

In addition to regime type, the duration of the war is also significant. Longer wars are more likely to be paid for by printing. We can imagine that longer wars place extreme pressure on a state's economy by exhausting a state's resources. As a result, the state will be forced to print.

## **Conclusion**

This chapter demonstrates that war finance is a complex, dynamic process. Policymakers face different decision making tradeoffs for each aspect of war finance:

taxation, borrowing, the location of borrowing, printing and, plunder. The resulting war finance strategy is a function of state capacity, its domestic economy and its institutions, and the degree to which inflation was experienced in the previous war. The resulting strategy is also influenced by political relationships, such as the Cold War.

While these are encouraging results, the size of the data sets, the use of proxy variables, and problems of endogeneity should temper our confidence. In an attempt to strengthen my findings and get at the underlying causal mechanisms, the following chapters offer detailed case studies of how six select wars are financed.

## **Chapter 4: Pay-As-You-Go—The Financing of the United States’ War Effort in Korea**

The United States’ war efforts in Korea and Vietnam were strikingly similar and yet could not have been financed more differently—Korea entirely by taxation and Vietnam by a mix of borrowing and printing with only a minimal reliance on tax revenue. This difference is surprising given the significant similarities in the political and economic context in which they were financed. Both required aid to a small Asian country struggling against a communist enemy backed by the Soviet Union and, more importantly, China. Both were “limited” wars, fought in the shadow of the Cold War. For the US, the lethality of both wars was similar: the United States had 54,246 deaths in Korea and 58,153 in Vietnam (M. R. Sarkees & F. Wayman, 2010, Appendix 5). Both wars were also initiated and primarily fought under Democratic presidents. In regards to cost, the Korean War was actually more expensive than Vietnam, making it even more impressive that President Truman was able to pay for the entire war through taxation alone. At its peak in 1952, the Korean War cost 4.2% of American GDP, in comparison to a peak cost of 3.2% of US GDP in 1968 for Vietnam. Moreover, total defense spending as a percentage of GDP in the peak year of the war during Korea was still more expensive: 13.2% compared to 9.5% for Vietnam (Daggett, 2010; Tuan, 1987). How did these two wars that seem so similar come to be financed so differently?

In chapter 2, I argued that taxation will finance a larger percentage of a war when there is a high fear of inflation and high public support for the war. Taxation mitigates

inflation by removing purchasing power from citizens. Once this purchasing power is removed, citizens must buy fewer goods reducing pressure on prices, and thereby mitigating inflation. However, raising taxes is politically costly. When public support for the war is high, it reduces this political cost, easing the ability of Congress to pass a revenue bill. The comparison of United States' financing of the Korean and Vietnam Wars provides an opportunity to test these predictions.

When the Korean War began, the United States had just emerged from a period of high postwar inflation. The U.S. economy in 1950 was characterized by a period of healthy expansion. However, the public and policymakers were fearful of repeating the high levels of inflation they linked to the financing of World War II. Thus, as soon as the war began, taxes were immediately raised to combat inflation. At the same time, high public support for the war made it easier for the Truman Administration to implement a war tax. The result was unprecedented—a costly war financed entirely through taxation.

The financing of the Vietnam War was the antithesis of Korean War finance. When combat troops entered Vietnam in 1965, the Johnson Administration had just cut taxes. Fearing a recession, Johnson and his advisors were not concerned that the economy would overheat. Moreover, the administration rejected any similarities between the current situation and the financing of the Korean War. Thus, there was no fear of inflation and, therefore, no desire to raise taxes to fund the war effort. When prices began to rise in 1966, the administration viewed the rise as temporary. It was not until 1967 that a fear of inflation began to materialize. This fear prompted an attempt to raise taxes. Low levels of public support for the war, however, raised the political cost of asking for more revenue, limiting the Johnson Administration's ability to implement a

war tax. The result was a war effort financed primarily by general domestic debt. During the height of the Vietnam War (1965 to 1972), less than 20% of the spending came from increased taxes (Riddell, 1975, p. 367). Government borrowing financed the rest.

The two cases I have selected, Korea and Vietnam, are helpful in evaluating the fear of inflation and level of popular support for the war as key variables determining the method by which conflicts are financed. These two cases hold a wide range of variables constant. First, bureaucratic capacities to extract revenue, as well as the tax base and tax rates, are constant across the two cases. In the United States, the administrative machinery to collect taxes had been put in place by the end of World War II. Although the income tax was enacted in 1913, it only applied to high-income individuals for the first 30 years of its existence.<sup>66</sup> However, in order to finance World War II, the income tax base was greatly expanded and personal exemptions were reduced. The tax capacity and base created by World War II remained in place for both the Korean and Vietnam Wars.<sup>67</sup> Tax rates, however, were much lower throughout the Vietnam War than they were during the Korean War.<sup>68</sup> Higher tax burdens increased the political cost of extracting additional taxes on top of the preexisting tax rate, making the financing of the Korean War through taxation alone even more impressive.

By comparing United States' financing of the Korean and Vietnam Wars, I am able to hold other important variables constant. During both wars, the domestic political

---

<sup>66</sup> Income tax is a fitting example because it is the primary source of government revenue from World War II to the present (Witte, 1985, p. 80). For a history of the Internal Revenue Service and its preceding institutions, see (*IRS Historical Fact Book: A Chronology 1646-1992*, 1993).

<sup>67</sup> During the Korean War, personal exemptions were \$600, \$1,200, and \$600 for single persons, married couples, and dependents respectively. For the first half of the Vietnam War, 1965-1969, these figures were the same. For the latter half of the Vietnam War, these figures were raised slightly (Wilson, 2008 Table 1).

<sup>68</sup> For tax rates before and during the Korean and Vietnam Wars see (*IRS Historical Fact Book: A Chronology 1646-1992*, 1993, Appendix 5).

context was similar: Democratic presidents with legislative agendas to expand societal welfare—Truman’s Fair Deal and Johnson’s Great Society. Moreover, the Democratic Party held the majority in both the 81<sup>st</sup> and 89<sup>th</sup> Congresses, when each of the wars began. Both wars also started at times of similar and declining unemployment rates (In June of 1950, the unemployment rate was 5.4%, in March of 1965, it was 4.7%.<sup>69</sup>). Thus, there was little room in either of the prewar economies for a major increase in government spending without overheating. Finally, both wars took place in the era of the Bretton Woods system. Thus, a system of capital controls was in effect, giving Truman and Johnson more freedom in their macro-economic policy.<sup>70</sup>

This chapter focuses specifically on the financing of the Korean War. Above I described the differences between the financing of the Korean and Vietnam Wars. Both cases are also characterized by within-case variation. Korean War finance can be divided into two periods, from June 1950 to mid-1951 and from mid-1951 to the end of the war. During the first period, from the onset of the war in June 1950 to mid-1951, both the fear of inflation and support for the war effort were high. Therefore, taxation was the dominant method of war finance. Truman asked for \$10 billion in revenue and Congress quickly passed two bills—the Revenue Act of 1950 and the Excess Profits Tax Law of 1950—granting Truman everything he asked for. By mid-1951, the political-economic landscape changed. First, prices began to stabilize, reducing the public’s fear of inflation. Once the fear of inflation was removed, the main rationale for taxation by the

---

<sup>69</sup> These figures are seasonally adjusted and can be found at the United States Department of Labor, Bureau of Labor Statistics.

<sup>70</sup> For a review of the Bretton Woods system and the effect of closed capital controls on macro economic policy, see Eichengreen (1996) and Helleiner (1994).



administration was also removed. The public no longer believed it was necessary to raise taxes to fight inflation. Second, a bloody stalemate that began in mid-1951 diminished public support for the war effort. Once the war became unpopular, the political cost of increasing taxes for the war rose. Thus, in 1951 when Truman asked for an additional \$10 billion dollars via increased tax revenue, he only received half of his request. Moreover, whereas in 1950 it took Congress only two months to pass a tax bill, in 1951 there was an eight-month Congressional delay. Table 17 below describes this variation.

**Table 17: Korean War Finance: Within-Case Variation**

		<u>Fear of Inflation</u>	
		High	Low
<u>Public Support for the War Effort</u>	High	Sept. 1950: Revenue Act of 1950	
	Low	Jan. 1951: Excess Profit Tax Law of 1950	Revenue Act of 1951

The rest of the chapter proceeds as follows: I first provide a brief background to the Korean War. Specifically, I focus on the political and economic context before the war started as well as the state of the armed forces. I also sketch out my methodology—emphasizing Truman’s Council of Economic Advisors and the use of archival documents procured from the Truman Presidential Library. Second, in chronological order, I tell the story of how the war came to be financed by taxation. I start with the period of high inflation fear and strong public sentiment in favor of the war effort, June 1950 to mid-1951. I then proceed to the second war finance phase, 1951-1952, where the inflation

fear and public support of the war had decreased dramatically. I conclude with a discussion of the affect of Truman's war finance policy on the national economy.

### **Korean War Finance – Background**

The Korean War began on June 25, 1950. The North Korean People's Army (KPA) invaded South Korea and by June 27<sup>th</sup>, South Korean President Syngman Rhee, along with many government officials, evacuated Seoul. The United Nations became involved almost immediately. By July 7<sup>th</sup>, the United States was designated commander of all United Nations forces by the United Nations Security Council and Truman authorized General Douglas MacArthur to send U.S. ground forces to Korea.<sup>71</sup> In two weeks time, the U.S. military establishment, with an actual strength of about 1,460,000 men in June 1950, went from a planned FY1951 end strength of approximately 1.5 million to an approved figure of slightly more than 2.1 million effective as soon as possible, an increase of some 41% (Condit, 1998, p. 225). By the time all was said and done, over the course of three years, 5,720,000 troops served worldwide during the war and 1,789,000 served in-theater (Leland & Oboroceanu, 2010, p. 10).

To truly appreciate the impressiveness of the Truman Administration's ability to raise enough taxes to finance the entire war effort, one has to understand the political and economic environment of 1950. First, the United States was not prepared for a full-scale conventional war. When the Korean War began, the Truman Administration was in the process of greatly decreasing the budget and the size of the armed forces. Truman, determined to maintain a balanced budget, imposed a budget ceiling on the Pentagon,

---

<sup>71</sup> Blair (1987) and Millet (2010) provide an excellent review of military events and U.S. involvement.

cutting defense by about a third to \$10 billion per year (Blair, 1987, p. 7; See also Condit, 1998, pp. 223-224). Thus, in June of 1950, the armed forces were in dreadful shape. The army, for example, was below its previously authorized strength of 677,000, numbering only 591,000. Of these only 360,000 were stationed in the United States, with the rest overseas. Moreover, army doctrine was rigidly based on the concept of three-battalion regiments. However, in order to stay within budget, Army Chief of Staff Joseph Collins was forced to deactivate one in three battalions. In addition to low troop numbers and ‘missing’ battalions, equipment was in poor shape. Stockpiles of material left over from World War II were deteriorating, and budget cutting had seriously retarded both the procurement of new equipment and research and development (Blair, 1987, p. 28). Thus, a huge renewed investment in the armed forces had to take place in order to meet the needs of a large-scale conventional war.

Second, the United States was not just ill-prepared for a full-scale conventional war, it was ill-prepared to rally against communism. Once the war began, in addition to the increase in the immediate cost of the conflict, there was an acceleration of military spending for the Cold War. In Truman’s first speech to Congress regarding the situation in Korea on July 19, 1950, he stated, “The attack upon the Republic of Korea makes it plain beyond all doubt that the international communist movement is prepared to use armed invasion to conquer independent nations. We must therefore recognize the possibility that armed aggression may take place in other areas.”<sup>72</sup> Thus, Truman directed that the United States’ forces in support of the Philippines be strengthened and that

---

<sup>72</sup> “Special Message to the Congress Reporting on the Situation in Korea,” July 19, 1950; Public Papers of the President, Truman Library.

military assistance to the Philippine Government, to the Associated States of Indo-China, and to the forces of France in Indochina be sped up. He also ordered the United States Seventh Fleet to prevent any attack by the new communist government of China upon Formosa (now Taiwan). Truman did not limit anti-Communist policy to the Pacific. He also increased economic and military aid to other “free” nations such as Greece, Turkey, and Iran.

Adding to this enormous increase in military spending, the United States also paid for allied participation in the Korean War. The Korean War was fought under the United Nations but paid for almost entirely by the United States. The South Korean government attempted to pay for its own war effort. It increased taxes, borrowed from its people, and printed money. However, given that the war was being fought on its own soil, self-sufficiency was impossible. Thus, the United States provided large amounts of military assistance during the war.<sup>73</sup> The United States also provided assistance to other allied forces.

---

<sup>73</sup> Many scholars have addressed how South Korea financed its war effort (Cole & Park, 1983; Lee, 2001; Manson, et al., 1980; Reeve, 1963).

1950	June 24	Secretary of State Dean Acheson informs Truman of a massive North Korean assault
	June 30	Truman authorizes General MacArthur to send United States' ground forces to Korea
	July 24	The White House requests supplemental appropriations for defense for FY1951 amounting to \$10,486,976,000
	July 25	Truman asks Congress for a tax increase—the elimination of excise tax reduction; an increase in corporate taxes; and, an increase in individual income tax—resulting in \$5 billion in additional tax revenue
	August 4	White House announces an additional supplemental appropriations of \$1,155,930,000
	September 15	General Douglass MacArthur lands at Inchon
	September 23	The Revenue Act of 1950 is signed into law increasing revenue by \$5.8 billion
	October 19	US Army and ROK drive the KPA north and capture Pyongyang
	November 25	China enters the war
1951	January 3	The Excess Profit Tax Law of 1950 is signed into law increasing revenue by \$3.5 billion
	January 4	The Chinese overwhelm United Nations forces, culminating in the capture of Seoul
	January 26	Mandatory wage and price freezes issued
	February 2	Truman asks Congress to enact revenue legislation to yield at least \$10 billion annually
	February 18	The Chinese are unable to break the UN front in central Korea; the UN launches a counteroffensive, driving most Communist forces back across the 38 <sup>th</sup> parallel
	April 11	Truman relieves General MacArthur
October 20	The Revenue Act of 1951 is signed into law, yielding \$5.4 billion in revenue, about \$5 billion less than what Truman requested	
1952	March 29	Truman loses the Democratic in New Hampshire primary and announces he will not run for reelection
	April	Truce talks deadlocked, principally over the issue of the exchange of prisoners
	April	Office of Price Stabilization lifts price ceilings on 16 different commodities
	Nov 4	Dwight D. Eisenhower beats Adlai Stevenson for President of the United States, winning over 55% of the popular vote and carrying 39 states. Republicans take control of Congress
1953	January 20	Eisenhower assumes office
	July 27	Armistice signed

For example, while the Commonwealth countries —Britain, Canada, Australia, New Zealand—committed troops and basic equipment, they relied upon the American supply system as well as any special equipment and logistics. Given the immediacy and urgency of the war, the U.S. provided said support before a basis for reimbursement was negotiated. The matter was not resolved until February 1964.<sup>74</sup>

Third, at the onset of the war, there was a strong movement in Congress to lower taxes. Immediately after the surrender of Japan, Truman signed the Revenue Act of 1945, revoking the excess profits tax and lowering individual and corporate tax rates. Congress wanted another large tax cut in 1947, proposing a further reduction in individual income taxes and increased personal exception (Bank, Kirk, & Thorndike, 2008, pp. 110-111). Congress was insistent on decreasing taxes, whereas Truman felt that,

As long as business, employment, and national income continue high, we should maintain tax revenues at levels that will not only meet current expenditures but also leave a surplus for retirement of the public debt. There is no justification now for a tax reduction.<sup>75</sup>

Truman vetoed the bill. Congress, insistent on rolling back World War II tax hikes, overrode the veto: the House by 311-88 and the Senate by 77-10. The Revenue Act of 1948 reduced individual income tax rates by 5-13%.

---

<sup>74</sup> For an excellent review of the costs and reimbursement negotiations with the Commonwealth countries, see Grey (1988 Chapter 9). For a review of the Korean Operations Pool Account, see Farrar-Hockley (1995 Appendix N).

<sup>75</sup> “Memo, Fred Panzer to President Johnson, “The Truman Tax Vetoes,” 9/21/1967, EX FI 11, Box 56, WHCF, LBJ Library.

The Korean War cost the United States about \$50 billion in 1950 dollars.<sup>76</sup> Total defense appropriations from 1951 through 1953 totaled \$155.579 billion.<sup>77</sup> In order to confront these costs, the Truman Administration raised taxes three times. Signed into law in September of 1950, the Revenue Act of 1950 increased revenue by \$5.8 billion via a combination of eliminating an excise tax reduction and increasing both corporate and individual income taxes. In January 1951, Truman signed the Excess Profit Tax Law of 1950, increasing revenue by \$3.5 billion. Finally, in October 1951, the Revenue Act of 1951 became law, yielding \$5.4 billion in revenue; this increase was however \$5 billion less than what the Truman Administration requested. Why did the Truman Administration choose to raise more war taxes than any previous or future administration in U.S. history? How was it able to do so? The Truman Administration received all the revenue it requested in the first two revenue bills, yet received only half the amount it requested in October of 1951. What factors changed?

To understand the political and economic events that shaped Korean War finance, I focus primarily on the Truman Administration, specifically, his Council of Economic Advisors—Chairman Leon Keyserling, John D. Clark, and Roy Blough—as well as Treasury Secretary John Snyder and L. Laszlo Ecker-Racz, Director of the Tax Advisory staff in the Department of the Treasury. Other notable figures and agencies include Truman’s Budget Director Frederick Lawton, Secretary of Defense George C. Marshall, and the Bureau of the Budget. I emphasize the executive when studying war finance because it is the primary location of war finance policy. The Council of Economic

---

<sup>76</sup> For a good review of the cost of various estimates of the cost of the Korean War, see (Edelstein, 2000, pp. 348-342).

<sup>77</sup> For an excellent review of Korean War appropriations, see Condit (1998).

Advisors (CEA), created in 1946 to inform and advise the president when making economic policy decisions, was the hub for financing the Korean War.<sup>78</sup> Not only was the three-man committee tasked with weekly, daily, and monthly reports on the health of the economy, but Truman explicitly turned to them for advice on policy creation. While I stress the executive, it is also necessary to examine the role of Congress, in particular, the House Ways and Means Committee, whose chairman was Robert Doughton (D-NC), and the Senate Finance Committee, chaired by Walter George (D-GA). Lastly, the role of the public and the relationship between public opinion and finance policy is integral to my analysis of Korean War finance.

The evidence for this chapter comes primarily from archival documents procured from the Harry S. Truman Presidential Library. A majority of the documents come from the papers of Truman's Council of Economic Advisors, CEA Reports, the Papers of John Snyder, Bureau of the Budget Files, speeches by Truman and his staff, and files on public opinion. I also analyze congressional testimony as well as materials prepared by the Joint Committee on the Economic Report. In order to understand public opinion for the war effort, I use various sources of polling and survey data: The Gallup Poll, Roper/Fortune Survey and ORC Public Opinion Index, using the iPoll databank at the Roper Center.<sup>79</sup>

### **Korean War Finance**

The following two sections test my argument that fear of inflation and public support for the war determined the financing of the Korean War. The narrative, in

---

<sup>78</sup> Gross and Lewis (1954) provide an excellent review of the mandate, structure, and role in policy making of the CEA under the Truman Administration.

<sup>79</sup> [http://www.ropercenter.uconn.edu/data\\_access/ipoll/ipoll.html#.TihiaM3qo4g](http://www.ropercenter.uconn.edu/data_access/ipoll/ipoll.html#.TihiaM3qo4g)



chronological order, is divided into two sections. The first section extends from the beginning of the conflict to the spring of 1951. In this section, I demonstrate that the fear of inflation of both the Truman Administration and the public directly created a pay-as-you-go war finance policy. The success of this policy was aided by the low political cost of raising tax revenue created by strong public support for the war effort. I conclude this section with a discussion of the Revenue Act of 1950 and Excess Profits Tax Law of 1950.

The second section covers the spring of 1951 to October 20, 1951, when the final revenue act pertaining to the war was signed. I argue that the conditions that allowed Truman to raise revenue to fund the entire war effort through taxes were removed. A fall in prices as well as a bloody stalemate lowered both the fear of inflation and public support for the war effort. As a result, the political cost of extracting more revenue rose. Truman was not able to raise the amount of revenue originally requested, placing his pay-as-you-go war finance policy in jeopardy.

#### *Phase I: 1950 to mid-1951*

Once the United States decided to participate in the Korean War, Truman and his advisors wanted to pay for the entire war by taxation. Taxation, they believed, would prevent inflation. This fear of inflation was founded on the lessons of World War II, as well as a huge increase in prices once Korean the war began.<sup>80</sup>

Mindful of their experiences fighting post-World War II price increases, the Truman Administration hoped to avoid inflation at all costs. They believed the culprit of

---

<sup>80</sup> Three notable works that address the relationship between inflation and Korean War finance policy are Bank et al. (2008, Chapter 5) Friedberg (2000, Chapter 4), and Pierpaoli Jr (1999).

World War II inflation was large amounts of deficit spending.<sup>81</sup> Thus, they rejected debt as a potential way to finance the war. Moreover, it was believed that if the government had taxed more during World War II, post-war inflation would not have been as severe. The Truman Administration concluded that since deficit spending was inflationary, taxation was the most effective way to finance a war. The more of the war that was paid for immediately by taxes, the better. Thus, they created the “pay-as-you-go” war finance policy. For the first year of the war, this policy received widespread support from the public as well as Congress. Not only was the fear of repeating the mistakes of World War II finance still embedded in the public’s mind, there was a large jump in prices as soon as the war began (prices continued to climb until mid-1951). Consequently, the Truman Administration’s plan was to ask Congress immediately for a tax increase followed by further necessary revenue increases.

Popular support for the war effort aided this request. For the first year of the war, public opinion overwhelmingly favored the war, as well as tax increases to pay for it. It was the popular belief that the United States was going to enter World War III and, therefore, needed to protect its economy for a long war. As a result, the Truman Administration received the revenue increases requested for the 1950 fiscal year.

### *The Fear of Inflation*

Inflation during and after World War II directly affected the financing of the Korean War. Post-World War II inflation was severe. Between June 1947 and January 1948, wholesale prices rose at an annual rate of 20% and consumer prices at an annual

---

<sup>81</sup> For a review of World War II financing, see Studenski and Kroos (1952); for a review of deficit financing see Murphy (1950).

rate of 12% (Truman, 1948). As shown below in Figure 9 (a graph of the wholesale price index), there were three post-war inflation crests between 1947 and 1950. Prices peaked in January of 1948 and, except for a short reprieve in May, remained high until December. Even though prices began to decrease and stabilize in the fall of 1948, in February of 1949 there was still a fear that inflation would return. On February 4, 1949, CEA Chairman Edwin Norse wrote to Truman cautioning the President that inflationary pressures were developing:

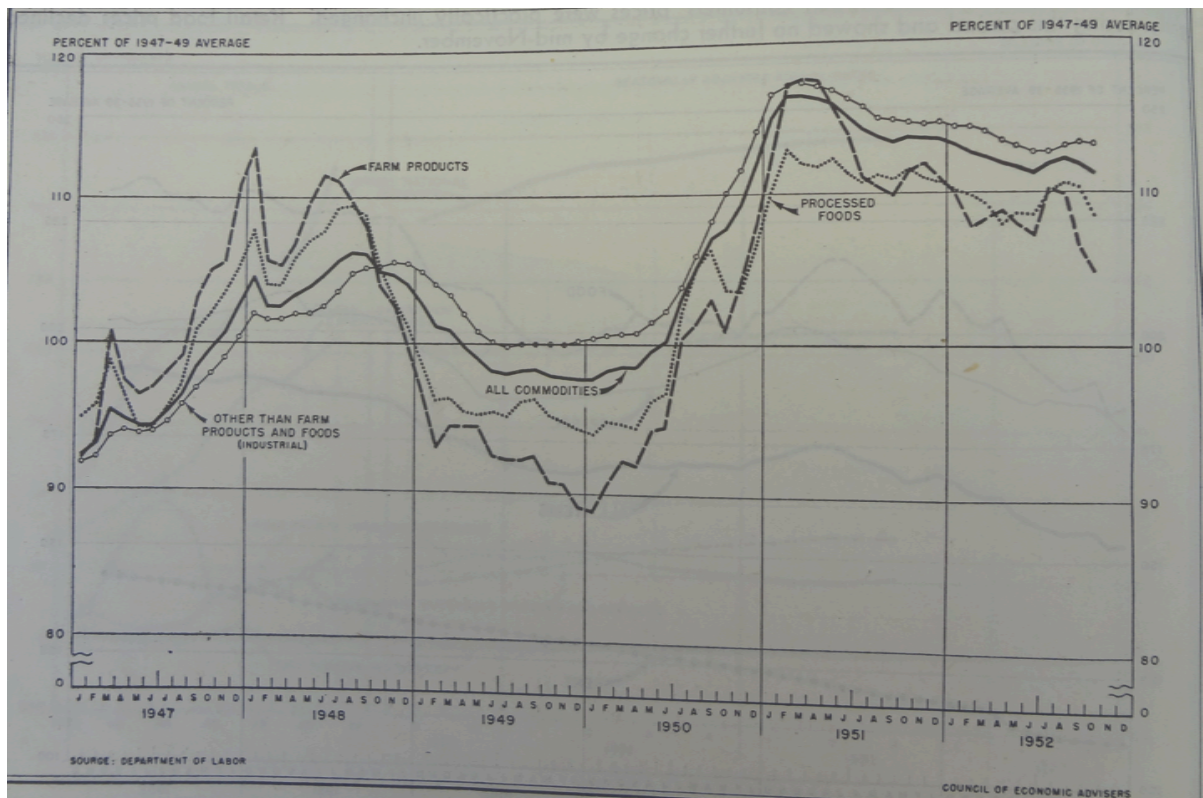
We [the CEA] find that national income and the disposable income of consumers are at new peak levels, creating a great buying power which is being supplemented by growing expenditures of federal, state and local governments. Business investment continues to be large, because capital does not go on sit-down strikes when profits are as lush as they are. Market demand continues so strong that wholesale price index for other than farm and food products have been steadily trending upward . . . This is not the performance of a softening economy.<sup>82</sup>

Norse feared that the purchasing power of American consumers was increasing at the same time government expenditures and business investment was rising. A year before the Korean War broke out the economy was beginning to overheat.

---

<sup>82</sup> Edwin G. Norse to Harry S. Truman, February 4, 1949; WHCF: OF Box 1564; Truman Papers, Truman Library.

**Figure 9: Monthly Wholesale Prices 1947 – 1952<sup>83</sup>**  
 (Percent of 1935-1939 Average; 1935-1939=100)



Severe inflation in a previous war does not necessarily translate into a taxation-based war finance policy; there must be a learning mechanism. Truman and many in his administration, in office for both the financing of World War II and the combating of post-war inflation, were well situated to learn lessons from the previous war.<sup>84</sup> Truman’s CEA Chairman, Leon Keyserling, CEA member since 1946, touted this learning in a letter to Truman,

<sup>83</sup> Report, “Economic Indicators December 1951 – Prepared for the Joint Committee on the Economic Report by the Council of Economic Advisors,” 1952; OF 1565; Truman Papers, Truman Library.

<sup>84</sup> “The majority of high-level mobilization officials and advisers during the Korean War had served in similar posts during World War II, and some had even been involved in the World War I mobilization” (Pierpaoli Jr., 1999, p. 5).

As you know, I have devoted most of my time since the Korean aggression to study of the economic problems of national defense. I have pondered the lessons of World War II, while recognizing that the current situation is very different.<sup>85</sup>

In the same letter, Keyserling also commented on Truman's own World War II experience as well as lessons learned, "As you know better than anyone else from your World War II experience" and "You will recall vividly how that mistakes was made by some people in relatively high places a decade ago."<sup>86</sup>

Truman and his advisors explicitly drew upon previous war finance experience. Before the war started, Truman made reference to inadequate inflationary war policy. In The President's Midyear Economic Report to Congress, he stated, "Our position [referring to the current economy] would be even stronger if we had taken adequate steps to control the inflation between 1945 and 1949."<sup>87</sup> Truman continued, discussing policies for economic stability. In doing so he invoked the memory of weak post-war inflation policy,

These facts show that our economy is still operating at high levels of employment and production. The kind of Government action that would be called for in a serious economic emergency would not be appropriate now. However, it would be even less appropriate to rely entirely on 'letting nature take its course' to restore economic stability and maximum production and employment. Within the memory of this generation, we have experienced the terrible consequences of inaction and the saving value of affirmative policy.<sup>88</sup>

---

<sup>85</sup> Leon Keyserling to President Truman, April 13, 1951, Correspondence Between Truman and Keyserling folder; Keyserling Papers, Box 1, Truman Library.

<sup>86</sup> Leon Keyserling to President Truman, April 13, 1951, Correspondence Between Truman and Keyserling folder; Keyserling Papers, Box 1, Truman Library.

<sup>87</sup> "Special Message to the Congress: The President's Midyear Economic Report," July 11, 1949; Public Papers of the President, Truman Library.

<sup>88</sup> "Special Message to the Congress: The President's Midyear Economic Report," July 11, 1949; Public Papers of the President, Truman Library.

Inflation was so severe that even before the Korean War began, a war finance contingency plan was already in place dictating that higher levels of taxation should finance the next war. This thinking was evident in a memo written to Assistant Treasury Secretary John Graham in 1948 in which it was “assumed that the Government would . . . finance a major part of the [next] war’s cost out of taxes.”<sup>89</sup>

Once the war started, there was a consistent effort by Truman and his staff to incorporate the inflationary lessons from the previous war. L. Laszlo Ecker-Racz, Director of the Tax Advisory staff in the Department of the Treasury, argued to President Truman that the financing of Korea should be different from that of World War II. Current war finance policy should avoid relying heavily on direct controls to fight inflation and rely more heavily on taxation.

In comparison, preparation for the last war [World War II] can be regarded as a sprint, and the economic measures that carried the country though it will not necessarily be appropriate at the present time. In particular, for a sustained effort we cannot hope to rely as heavily as we did then on a comprehensive system of direct controls to secure resources necessary for the defense program and at the same time avoid inflation. Although the control system during the last war worked better than many had expected, we feel reasonably confident that, had it been continued much longer, the U.S. economy would have been exposed to the well-known weaknesses of a policy of suppressed inflation. This time, we must rely much more heavily than before on tax policy and credit policy . . .<sup>90</sup>

Similarly, when attempting to secure a tax increase in 1951, Secretary of the Treasury John Snyder, in a letter to Robert Doughton, Chairman of House Ways and Means, stated

---

<sup>89</sup> Mr. Keith to John Graham, October 13, 1948; Excess Profits Tax folder; Ecker-Racz Papers Box 3, Truman Library.

<sup>90</sup> L. Laszlo Ecker-Racz to Harry S. Truman, October 19, 1950; Tax Program folder; Ecker-Racz Papers Box 4, Truman Library.

that the large amount of deficit financing that was seen in World War II should be avoided.

Under present circumstances large-scale deficit financing is extremely dangerous. Even if taxes were increased later in the year to the level recommended by the President, the public debt will have increased by the amount of the deficit incurred in the meantime. If tax increases are once again permitted to lag behind requirements, it is improbable that the lost ground could be regained. This could be done only if taxes were raised sufficient to both cover expenditures and to pay off the additions to the debt. Unless prompt action is taken to increase taxes, we will be repeating the pattern of World War II financing which resulted in a permanent increase in the public debt. The President has properly said that we must not make this mistake again. It can be avoided only if substantial tax increases are made effective within the next few months . . . to avoid the kind of delay encountered in 1942 when the Revenue Act was not passed until October.<sup>91</sup>

The Truman Administration was not the only party scarred by the financing of the previous war; so was the public. The public's memory of shortages and inflation during World War II is evidenced by the hoarding psychology that took place when the Korean War started. The sense of the imminence of a wartime economy at the outbreak of hostilities in Korea, combined with memories of the shortages of consumer goods during World War II, created a climate of expectations that had no counterpart in 1940-1941 (Hickman, 1955, p. 10). Once the Korean War began, the consumer was reminded of the shortages experienced during World War II. Consequently, people hoarded goods once war broke out, creating demand-pull inflation.

The timing and character of the buying waves make it apparent that consumers were acting on expectations of shortages. The first spurt in retail sales lasted two months, and occurred immediately after the onset of hostilities. Sales then declined for several months as the United Nations

---

<sup>91</sup> John Snyder to Chairman Doughton, "The Dangers in Delaying the 1951 Tax Legislation," February 10, 1951, Papers Box 4, Truman Library.

forces advanced northward in Korea, only to spurt once again after the Chinese Communists entered the war and the retreat from the Yalu began. Purchases of consumer durable goods fluctuated violently during this period. These were the goods which had been in shortest supply during World War II (Hickman, 1955, p. 17).

This hoarding caused by the memory of World War II compounded the public's fear of inflation by creating inflation and driving up prices. "That was the situation in the last half of 1950. The volume of demand generated by the forward buying was itself sufficient to create *temporary* shortages at existing prices, and as a result prices advanced rapidly" (Hickman, 1955, p. 21). As shown in Figure 9 above, both wholesale and consumer prices began to rise in July of 1950. Between June and December 1950, the consumer price index increased by 47%, while the index of wholesale prices rose by 10.4% (*The Economic and Political Hazards of an Inflationary Defense Economy*, 1951, p. 5). Polling surveys reflected the public's awareness of increasing prices. In a Gallup Poll survey in October 1950, 68% of adults interviewed believed that prices would be higher in six months.<sup>92</sup> As shown in the graph below, this belief that prices would continue to rise remained consistent until May of 1951.

Truman, aware of the public's memory, invoked it in a speech to Congress when outlining his "pay-as-you-go" war finance policy, "During World War II, taxes were not high enough, and the government was forced to borrow too much. As a result, when controls were taken off after the war, prices skyrocketed and we paid in inflation for our

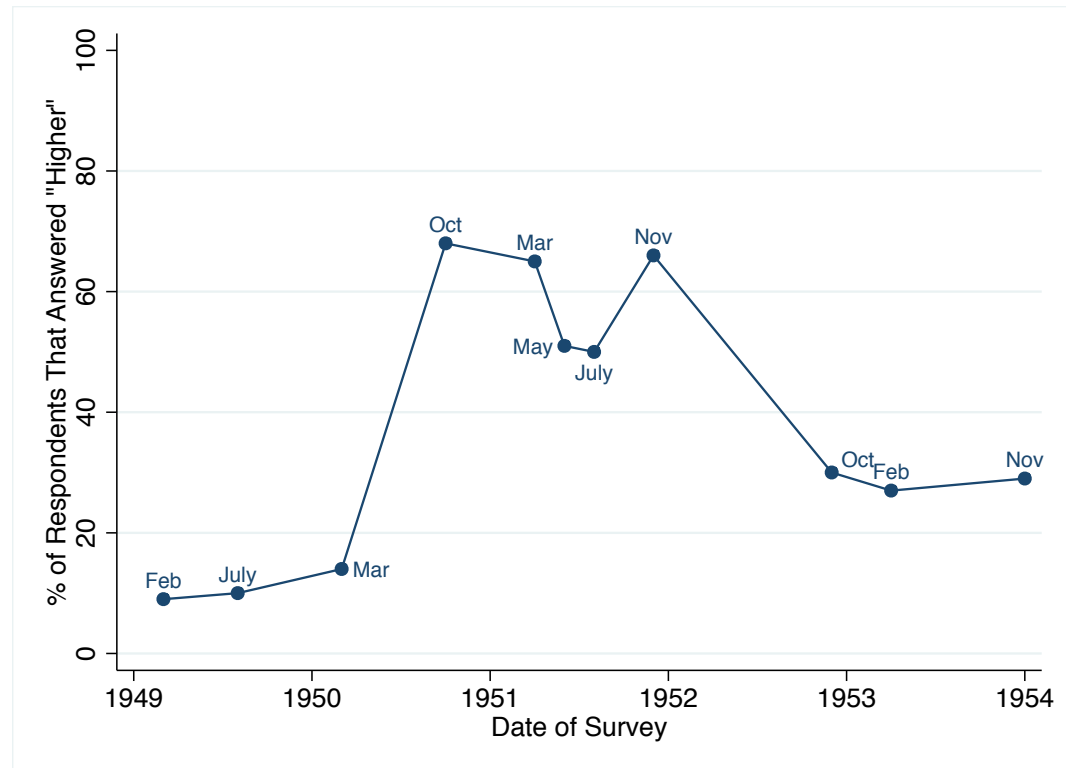
---

<sup>92</sup> Gallup Poll Question: "Do you think that prices, in general, will be higher, lower, or about the same six months from now?"



failure to tax enough. The value of people's savings was cut down by the higher prices they had to pay.”<sup>93</sup>

**Figure 10: The Inflation Fear of the American Public, 1949 – 1953: Percentage of Americans Believing Prices will be Higher in Six Months**



The public, like the Truman Administration, also believed that the best way to fight inflation was with taxation. Survey data, telegrams to the White House, and petitions to Congress indicate that the public supported a tax increase to fund the war. In a Gallup Poll Survey in July 1950, 70% of respondents stated that they would be “willing to pay more money in taxes to support a larger army.” A month later, 51% of participants agreed that “federal income taxes must be increased immediately to pay for

<sup>93</sup> “Special Message to the Congress Reporting Recommending a ‘Pay as We Go’ Tax Program,” February 2, 1951; Public Papers of the President, Truman Library.

the present war in Korea and to re-arm the United States.” In October 1950, about two months into the war, 51% of people surveyed stated that they would prefer increased taxes to pay for the war versus 26% who preferred to borrow.<sup>94</sup> When asked a similar question in February of 1951, the preference was still a tax increase; 49% of respondents favored taxation whereas only 24% favored borrowing.<sup>95</sup> In addition to polling data, a myriad of telegrams were sent to the white house in favor of a tax increase. On August 28, 1950, Jessie James of Houston, Texas wrote to the president and stated, “Generally speaking, people are never too anxious to pay for taxes, but I believe they would like to pay currently as much as possible of our present and future defense and war expense.”<sup>96</sup>

Economists also believed that the primary means to finance the war should be taxation. On November 30, 1950, over 400 economists from 30 institutions sent a letter to Congress asking for anti-inflation measures to be implemented. Specifically, they recommended that the government

raise tax revenues even faster than defense spending grows so as to achieve and maintain a cash surplus. Merely to balance the budget is not enough. If the inflationary pressure is to be removed, taxes must take out of private money incomes not only as much as Government spending contributes to them but also a part of the increase of private incomes resulting from increased private spending of idle balances and newly borrowed money (*An Economist's Statement on Anti-Inflationary Measures*, 1950).<sup>97</sup>

---

<sup>94</sup> The polling question, “Congress voted recently to increase federal income taxes for all tax payers. To pay the costs of the Korean War and our defense program income taxes will have to be raised even more or the government will have to borrow money and go deeper into debt. Which do you think the Government should do—increase income taxes still more, or borrow more money?”

<sup>95</sup> The polling question, “Our government in Washington plans to spend this coming year about \$25 billion more than was spent this last year for national defense. How do you, yourself, think this additional money for defense should be raised—mostly by an increase in personal income taxes or mostly by borrowing money to be paid back later?”

<sup>96</sup> Telegram from Jesse James to President Truman, August 28, 1950; OF Box 1565; Truman Papers, Truman Library.

<sup>97</sup> Report, “General Credit Control, Debt Management and Economic Mobilization,” 1951; Keyserling Papers Box 14, Truman Library.

For the first year of the war, the Truman Administration, the public, and economists were all overwhelmingly fearful of inflation and, as a result, in favor of a policy that privileged taxation over deficit spending.

### *Public Support for the War Effort*

When war broke out on the Korean Peninsula, there were two dominant sentiments among the U.S. public. First, for the first year of the war the public was generally in support of the war effort. Second, it was believed that the United States was now engaged in World War III.<sup>98</sup> These two positions, in conjunction with beliefs on inflation and taxation, lowered the political cost of increased fiscal sacrifice, making it easier for the Truman Administration to raise taxes. As a result, Truman was able to pass the Revenue Act and the Excess Profits Tax Law of 1950 speedily and effortlessly.

Public opinion polls conducted at various points during the war, as well as Truman's approval ratings, gauge support for the war effort. An Elmo Roper survey taken just after the outbreak of hostilities revealed that 75% of the people supported Truman's decision to commit United States' forces to Korea (Sandler, 1995, p. 20). In November 1950, a Gallup poll survey indicated that 66% of Americans believed the country should stay and defend South Korea, even if it meant world war.<sup>99</sup> John Mueller (1973), in his classic work on public opinion in Korea, aggregated responses to polling

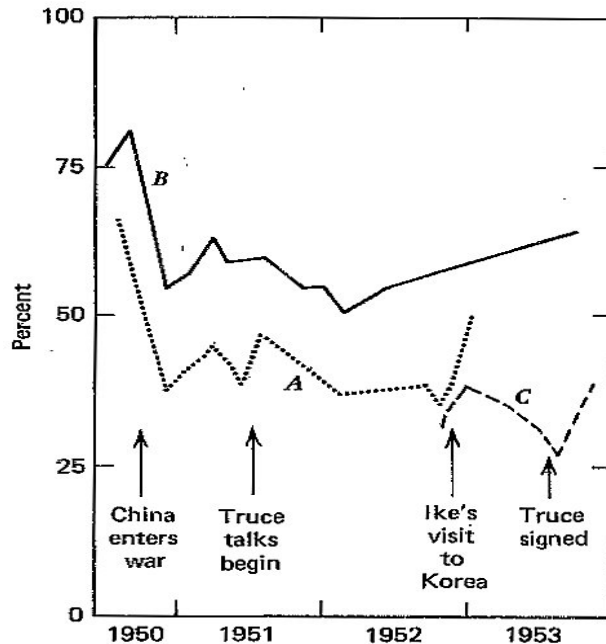
---

<sup>98</sup> For other works that discuss Korea and World War III, see Bank et al (2008, p. 111) and Patterson (1996, p. 207).

<sup>99</sup> Polling Question: "Some people say the United States should stop fighting and take her troops out of Korea to avoid a third world war. Other people say we should keep our troops even if it does mean a world war. What do you, yourself think—should we take our troops out of Korea, or not?" 25% of respondents felt the United States should withdraw, 66% felt the U.S. should not, and 9% had no opinion.

questions finding trends of support for the Korean War.<sup>100</sup> As shown in the graph below, when Truman asked for the two large tax increases—the Revenue Act of 1950 and the Excess Profits Tax of the same year—he did it during the period in which public support for the war was the highest.

**Figure 11: Trends in Support for the Korean War<sup>101</sup>**



In addition to general public support for the war, when the United States decided to come to the aid of South Korea, the dominant sentiment felt by U.S. citizens was that

<sup>100</sup> For another excellent graphic representation and analysis of public support for the Korean War, see Campbell et al. (1965, p. 323). Campbell et al. find that public support for the Korean War differed remarkably from public support for World War II. The Korean “begins with about 65% of the population favoring the already declared ‘policy action.’ Prior to the actual outbreak of hostilities in Korea on June 25, 1950, and the entrance of the United States two days later, little awareness of pending conflict in Korea is revealed in the polls. Once war was upon us, however, some support was achieved, though not of a magnitude comparable to that occasioned by the world wars” (Campbell, et al., 1965, pp. 323-324).

<sup>101</sup> Mueller, J. E. (1973). *War, Presidents, and Public Opinion*. New York, Wiley, Figure 3.1. Letters refer to various polling questions. Letter A—“Do you think the United States made a mistake in going into the war in Korea, or not?” Letter B—“Do you think the United States was right or wrong in sending American troops to stop the Communist invasion of South Korea?” Letter C—“As things stand now, do you feel that the war in Korea has been (was) worth fighting, or not?”

the country was fighting a world war. According to a Gallup Poll in July 1950, 57% of people believed that the United States was “now actually in World War III.”<sup>102</sup> In October 1950, this figure decreased a bit to 45% only to rise to 50% in November, following the intervention of China. The belief that the United States was engaged in World War III with Communists made controlling inflation even more imperative. In a comparison of public opinion during the Korean War and World Wars, Campbell and Cain found that even before the United States entered Korea, the American public expected a world war to break out.

It is interesting to note that in May 1950, a full month before the start of the Korean conflict, 57 percent expected outbreak of war within five years. They no doubt were thinking of a different kind of war [world war], but it is an indicator of hostility existing in this country prior to open conflict (Campbell, et al., 1965, pp. 327-328).

Some American policy makers believed that a price increase was exactly what the Communists wanted. A report prepared for the Joint Economic Committee argued that if the U.S. government did not raise taxes to fight inflation, the country would drift “into that debauchery of the currency which Lenin and Stalin have favored for decades as the most powerful and most subtle sixth column propelling capitalistic countries toward communism” (*The Economic and Political Hazards of an Inflationary Defense Economy*, 1951, p. 2). This report was followed by another titled “Inflation and Communism” which reviewed works by Lenin and other Soviet authors who pointed out that inflation is “both a symptom of economic crises and of a progressive decay of the capitalist system” (*Inflation and Communism*, 1951, p. 21).

---

<sup>102</sup> The polling question, “Do you think the United States is now actually in World War III—or do you think the present fighting in Korea will stop short of another world war?”

Moreover, the belief that the United States was in World War III brought with it a sense of complete mobilization, which included a strong economic base. At the start of the war, Truman noted the connection,

We must continue to recognize that our strength is not to be measured in military terms alone. Our power to join in a common defense of peace rests fundamentally on the productive capacity and energies of our people. In all that we do, therefore, we must make sure that the economic strength which is at the base of our security is not impaired, but continues to grow.<sup>103</sup>

For the first year of the war, Truman had the full weight of the public on his side allowing him to raise an extraordinary amount of revenues.

#### *A War Finance Policy*

When it came time to propose a war finance policy, it was clear that inflation was the primary concern. When President Truman addressed Congress on July 19, 1950 to ask for an increase in defense appropriations, he also asked for a tax increase to pay for it. He explicitly stated that defense spending would have an inflationary affect on the economy and taxation would be the best means to combat it.

The dollars spent now for military purposes will have a magnified effect upon the economy as a whole, since they will be added to the high level of current civilian demand. These increased pressures, if neglected, could drive us into a general inflationary situation . . . We must make every effort to finance the greatest possible amount of needed expenditures by taxation. The increase of taxes is our basic weapon in offsetting the inflationary pressures exerted by enlarged government expenditures. Heavier taxes will make general controls less necessary.<sup>104</sup>

---

<sup>103</sup> “Special Message to the Congress Reporting on the Situation in Korea,” July 19, 1950; Public Papers of the President, Truman Library.

<sup>104</sup> “Special Message to the Congress Reporting on the Situation in Korea,” July 19, 1950; Public Papers of the President, Truman Library.

For the rest of 1950 through 1951, the Truman Administration pushed for increased taxation. On July 25, 1950, Truman asked Congress to raise taxes. Before the war started, Congress was in the process of reducing World War II taxes. The House of Representatives had H.R. 8920 under consideration, a tax bill that would reduce certain excise taxes, closed some long-standing tax loopholes, and increased corporation income tax rates (Keith, 1951, p. 193). In order to raise tax revenue for the war effort, Truman proposed to Congress to: (1) Eliminate the excise tax reduction and other revenue-losing provisions, but retain the loophole-closing, dividend withholding, and life insurance company provisions; (2) Adjust the revised corporate rate structure contained in the pending bill by increasing the normal corporate rate from 21 to 25%; and (3) Increase individual income tax rates to the ‘tentative’ levels adopted in 1945, by removing the reductions from those levels made in 1945 and 1948.<sup>105</sup> The result of the adjustment to the pending tax bill was estimated by the Truman Administration to increase government revenue by about \$5 billion.

The Truman Administration knew that \$5 billion would not be enough money to pay for the war outright. Moreover, they felt that an excess profits tax (EPT) would be necessary to fight inflation. However, they were worried about the difficulty of getting an excess profits tax through Congress.<sup>106</sup> The main source of the controversy, aside from general dislike of the tax by the business community, was what the EPT would look

---

<sup>105</sup> Harry S. Truman to Chairman Robert Doughton, July 25, 1950. Public Papers of the President, Truman Library.

<sup>106</sup> As late as June 20, 1950, only a week before the United States decision to intervene in the Korean War, Representative Eberharter proposed to include an EPT in the pending revenue bill but was defeated in the Ways and Means Committee (Keith, 1951, p. 193).

like and not whether one should be implemented.<sup>107</sup> The Administration was focused on speed; to fight inflation they needed to pull money out of the economy as quickly as possible.<sup>108</sup> Thus, in order to avoid a lengthy debate in Congress, the Truman Administration decided to table the EPT until after the election. With the EPT tabled, passage of the Revenue Act of 1950 took less than 45 days for Congressional approval.

As soon as Congress reconvened for a lame-duck session, work to enact an EPT began with the mandate to pass a bill before the end of the present session. On November 14, 1950, President Truman asked Congress to enact an EPT retroactively, effective July 1, 1950.<sup>109</sup> Truman asked that the legislation produce additional annual revenue of \$4 billion dollars. The EPT quickly passed the House: on November 30<sup>th</sup>, the Committee reported H.R. 9827 (the EPT Act of 1950) and it passed the House on December 4<sup>th</sup> by a vote of 378 to 20 (Keith, 1951, p. 198). The Senate followed close behind and passed a final version two weeks later (Keith, 1951; Witte, 1985, p. 139).

### *Inflation—Monetary Policy and Price Controls*

It is important to note that inflation was not just fought on the tax front.

Government expenditures unrelated to the war were reduced, price and wage controls

---

<sup>107</sup> For the Senate debate on the EPT amendment to postpone the tax, the Geroge-Millikin Amendment, see the Congressional Record of the Senate, 82<sup>nd</sup> Congress, 1<sup>st</sup> Session, Volume 96, 14054-14060.

<sup>108</sup> Many memos originating from the tax office to Secretary of the Treasury John Snyder emphasized speed. For example: “The need for substantial increases in taxes as quickly as possible to contain inflation is substantially more pressing than the budget results for the current fiscal year are likely to indicate.” John Campbell to John Snyder, October 13, 1950; Tax Program folder; Ecker-Racz Papers Box 4, Truman Library.

<sup>109</sup> In section 701 of the Revenue Act of 1950, Congress agreed to implement a corporate excess profits tax to take effect as of October 1 or July 1, 1950. Truman wanted the tax to be implemented as soon as possible as a result of rising business volume and prices. Harry S. Truman to Chairman Robert Doughton, November 14, 1950. Public Papers of the President, Truman Library.



were put in place, and monetary policy was tightened.<sup>110</sup> However, fiscal policy was seen as the only real, effective means to control inflation.

With regard to price and wage controls, the Defense Production Act granted President Truman the power to establish priorities and allocations systems, requisition personal property for defense purposes, expand productive capacity and extraction of strategic materials and, most importantly, invoke wage, price and credit controls. The result was the creation of the Office of Price Stabilization, and on January 26, 1951, Truman issued a mandatory wage and price freeze. Controls alone, however, were deemed ineffective at controlling inflation. The Truman Administration believed that controls would take a long time to be implemented. During that time, prices would rise unchecked. Taxation, on the other hand, had an immediate effect.<sup>111</sup> In July of 1950, the CEA wrote to President Truman,

In a situation such as the present, a prompt tax increase can perform a strategically important function. It can compensate for the fact that it takes a relatively long time to develop, and make effective, direct controls such as rationing and price control. A simple program for higher taxes can be put into effect quickly...If taxes are not imposed promptly, inflation becomes an accomplished act.<sup>112</sup>

---

<sup>110</sup> Harry S. Truman to Sec. of Treas., Ch. Of Bd. Of Governors of FRS, Dir. Of Def. Mob, and CEA Chairman, February 26, 1951. Committee on Fiscal and Monetary Policy, 1951 folder; Keyserling Papers, Truman Library. See also, Report, "Quarterly Report on the Economic Situation," April 6, 1951, Quarterly and Monetary Reports to the President 1951, folder; Clark Papers, Truman Library.

<sup>111</sup> "Although price and wage controls must go hand-in-hand with higher taxes to achieve an economically and politically defensible anti-inflation program, once assurance of controls has been given and they are announced, the immediate anti-inflationary job of taxes becomes even more critical. At best, it will take several months to make the controls fully effective. Pressure from all sides for price and wage increases will be very great. This will be the make-or-break period for the controls, when they need every possible immediate support from the fiscal side." Walter Heller to L. Laszlo Ecker-Racz, January 21, 1951; 1950 Tax Program I folder; Ecker-Racz Papers Box 4, Truman Library.

<sup>112</sup> Council of Economic Advisors to the Treasury Secretary, July 21, 1950; 1950 Tax Program II folder; Ecker-Racz Papers Box 1, Truman Library.

Moreover, controls were unattractive as they were difficult to implement, created a large bureaucracy, and hindered individual choice. A month after the war began, Truman explained to Congress that taxation was the preferred method over controls to fight inflation.

The more prompt and vigorous we are with these general measures, the less need there will be for all of the comprehensive direct controls which involve the consideration of thousands of individual situations and, thus, involve infinitely greater administrative difficulties and much greater interference with individual choice and initiative.<sup>113</sup>

Monetary policy, like controls, did not play a central role in fighting Korean War inflation. The Federal Reserve System is one of the chief agencies of the government charged with controlling inflation and is the only agency that has specific authority to combat inflation through monetary measures. The main tools at the disposal of the Federal Reserve (the Fed) for this purpose are (a) open market operations, (b) changes in the rediscount rates, (c) changes in reserve requirements of bank members, and (d) restrictions on the use of particular kinds of credit. However, during the Korean War, the Fed played a very small role in controlling inflation. Why? First, World War II debt inhibited the Fed's ability to tighten credit in order to keep inflation under control. Second, tightening credit was seen as unhelpful for the type of inflation being experienced—demand-pull and hoarding. Third, credit controls were perceived by the Truman Administration to be too narrow in scope with potential costly effects. Taxation, on the other hand, was considered to have the same effect with less cost.

---

<sup>113</sup> “Special Message to the Congress: The President’s Midyear Economic Report,” July 26, 1950; Public Papers of the President, Truman Library.

America's World War II debt created a unique moment in American history for monetary policy. Due to the sheer volume of debt issued during World War II, the primary focus of the Federal Reserve in 1950 was to assure the "orderly financing and refunding of the huge debt of the Federal Government."<sup>114</sup> The management of World War II debt was at odds with the Reserve's traditional powers to combat inflation "through its Open Market Committee operations, in which the discretionary purchase and sale of securities might be so conducted as to aid in burking the inflation spiral."<sup>115</sup> One report described the latter half of 1950 as a period of frustration for the Federal Reserve Board in being retrained from use of its traditional control mechanisms over mounting credit.<sup>116</sup>

The present problem of restraining the expansion of credit must be attacked under conditions differing vastly in degree, if not in kind, from those of any other inflationary period in the nation's history. The distinctive environment in which credit controls must function is fashioned in part of the elements from the past – the tremendous accumulation of public debt during World War II, and the policy of supporting the market for that debt.<sup>117</sup>

---

<sup>114</sup> Report, "Report on a Survey of the Problems of Inflation Raised in the President's Memorandum of February 26, 1951," March 2, 1951, Keyserling Papers, Truman Library. See also Harry S. Truman to Secretary of the Treasury, Chairman of the Federal Reserve, Director of Defense Mobilization and Chairman of the Council of Economic Advisors, February 26, 1951, White House Contacts Harry S. Truman folder; Keyserling Papers, Box 8, Truman Library. CEA member Roy Blough, "With about half of the total debt of the Nation in the form of Federal securities, the development of a disorganized market could be a major disruptive force. The action which then might be required by the Federal Reserve to restore financial order might involve larger purchases of Government securities than a flexible support program to maintain stability. Statement, Rough Blough before the Subcommittee on General Credit Control and Debt Management," March 12, 1952, Keyserling Papers, Box 8, Truman Library.

<sup>115</sup> Report, "Report on a Survey of the Problems of Inflation Raised in the President's Memorandum of February 26, 1951," March 2, 1951, Keyserling Papers, Truman Library.

<sup>116</sup> Report, "Report on a Survey of the Problems of Inflation Raised in the President's Memorandum of February 26, 1951," March 2, 1951, Keyserling Papers, Truman Library.

<sup>117</sup> Report, "Interim Report for the 4-Member Committee Appointed February 26," April 13, 1951, Committee on Fiscal and Monetary Policy folder, Keyserling Papers, Box 8, Truman Library.

How did World War II debt hinder the Federal Reserve's ability to combat Korean War inflation? To finance World War II, banks and other financial institutions, as well as many other investors, bought large quantities of government securities carrying relative low interest rates. Debt management in the postwar period aimed at preserving an orderly market for those securities without substantial increase in the interest charges, essentially pegging the rates (Meltzer, 2003, p. 583).<sup>118</sup> The Reserve's policy of market support rendered traditional tools to combat inflation ineffective. Market support required the Federal Reserve to be ready to buy at pre-determined prices whatever securities are offered in the market. The purchase of these securities supplied commercial banks with reserve funds, the basis for expansion of bank deposits. Three results followed: 1) the Fed lost any power of initiative as the volume of depositions came to be determined by the public, the commercial banks, and their customers; 2) the Fed stood ready to buy Government securities at fixed prices and the banks knew that no sacrifice would be involved in future sales; 3) a policy of undeviating market support rendered ineffective open-market operations as a tool in monetary management.

---

<sup>118</sup> CEA member Roy Blough commented on the dilemma of debt management and inflation on March 12, 1952, before the Subcommittee on General Credit Control on Debt Management. "There would seem to be three general kinds of problems involved in this subject of the relationship between monetary policy and the management of the Federal debt. At the bottom is the economic problem of how to manage the very large Federal debt with the least harmful influence on the economy...Under most economic conditions, a large public debt presents no problem for monetary policy. Under the following circumstances, however, a difficult problem areas in using monetary policy to stabilize the economy while managing the public debt: (1) when there are substantial issues maturing currently that require refunding, or when additional borrowing is necessary because revenues are insufficient to cover expenditures; and (2) when demand for goods and services has pushed employment and production to so high a level that any additions to demand will not result in great production but will give rise to inflationary pressures; and (3) when the combined total of demands for loanable funds by government and private borrows is in excess of supply of loanable funds available from the voluntary savings of individuals and corporations. Conditions of this character have existed during much of the time since the Korean attack in June 1950." Statement, Roy Blough before the Subcommittee on General Credit Control and Debt Management," March 12, 1952, Keyserling Papers, Box 8, Truman Library.

In addition to open market policies, the rediscount rate was also ineffective at combating inflation. The stabilized rate for short-term government debt was below the rediscount rate. Thus, when banks needed funds they found it cheaper to sell short-term securities to the Fed than to borrow from the Fed and pay the rediscount rate. Moreover, since banks were holding large amounts of short-term securities, they were in a position to follow this procedure without any inconvenience. Reserve requirements were also deemed ineffective. At the time of the Korean War, there was such large liquidity due to World War II debt that it made the increase in reserve requirements imposed by the Fed largely ineffective.

This policy of debt management limited the use of open market policies and changes in discount rates for purposes of counteracting inflation. The extremely large liquidity of banks, which resulted from the large holdings of securities with a stable market, made increase of reserve requirements largely ineffective. General credit policy, therefore, made less contribution to the fight against inflation in the postwar years than might otherwise have been possible.<sup>119</sup>

In addition to limiting the tools at the Fed's disposal, World War II debt altered decision-making in the Truman Administration. Because the debt was so large, maintaining the market for government securities was considered the primary objective for the Fed and the administration, even over fighting inflation. In November of 1950, the CEA expressed its commitment to maintaining the nation's debt in a letter to Joseph O'Mahoney, Chairman of the Joint Economic Committee.

A vital requirement is that the credit of the Government be preserved against doubt, and that the confidence of present holders of Government bonds and of potential investors must not be shaken by the sight of falling

---

<sup>119</sup> Leon Keyserling and Johnson D. Clark to Joseph C. O'Mahoney, November 20, 1950, White House Contacts – Harry S. Truman, 1947-1953 folder; Keyserling Papers, Box 8, Truman Library.

market prices induced by raises in interest rates through Federal Reserve action . . . This kind of [tight] monetary policy, at a time when the existing pattern of interest rates could easily be supported is not justified in our opinion if its positive contribution to an anti-inflation program is as dubious and as imponderable as advocates of the policy say it is, particularly when other measures are available which act more positively and which have fewer undesirable consequences.<sup>120</sup>

The Truman Administration believed that it could procure the same outcome—stabilizing prices— through fiscal policy and avoid the costly side effects of adjusting monetary policy.

Monetary restriction would be felt by Government credit as well as by private credit, with the possible result of embarrassing the Government in its debt management operations. Taxes, on the other hand, would not have a similar adverse effect on Government credit and would, of course, reduce the amount of borrowing which the Government was obliged to undertake.<sup>121</sup>

The Administration also believed that inhibiting credit expansion would be ineffective at targeting the type of inflation characterizing the American economy in late 1950. The type of inflation experienced after July 1950 was due to a hoarding psychology, not rapid credit expansion:

...methods of financing were not the initiating cause of inflation. Rather, the cause was the very intensive demand of consumers and business in anticipation of the defense program and this expected impact.<sup>122</sup>

Thus, it was believed that tightening credit would not have prevented the price rise.

The period from July 1950 until the present [1951] was characterized by a surplus in the Government budget and very rapid private credit expansion. Some concluded from these facts that inflation in this period obviously was caused by credit expansion, and that the conflict between debt

---

<sup>120</sup> Leon Keyserling and Johnson D. Clark to Joseph C. O'Mahoney, November 20, 1950, White House Contacts – Harry S. Truman, 1947-1953 folder; Keyserling Papers, Box 8, Truman Library.

<sup>121</sup> Council of Economic Advisors to Harry S. Truman, "Report on Monetary Policy and Reserve Requirements," January 25, 1952, Papers of Roy Blough, Box 9, Truman Library.

<sup>122</sup> Report, "Interim Report for the 4-Member Committee Appointed February 26," April 13, 1951, Committee on Fiscal and Monetary Policy folder, Keyserling Papers, Box 8, Truman Library.

management and credit control was responsible for the failure to prevent inflation. While it is true that the policy of debt management had bearing upon the Federal Reserve System's ability to pursue a more effective anti-inflationary policy, it is by no means certain that Federal Reserve policy could under any circumstances have prevented a substantial inflationary price rise...<sup>123</sup>

Moreover, a policy of tightening credit would not have inhibited financing plant expansion or inventory accumulation, as businesses had other means of financing. Once the war started, the majority of finance for business expansion came from internal sources.

Even if credit had not been available on easy terms, business in general could have financed plant expansion and inventory accumulation to considerable extent by other means. All corporations used 24.8 billion dollars for plant, equipment, inventory and other purposes during the last half of 1950. Of this amount 10.4 billion dollars was derived from internal sources, 1.2 billion from new capital issues, and 3.6 billion dollars from other sources of credit.<sup>124</sup>

Finally, the Truman Administration felt that monetary policy and credit controls were too narrow in scope, placing too much emphasis on businesses. Taxes, on the other hand, were more positive, more widely distributed, subject to better control, and less likely to restrict production.

The impact of monetary restriction falls first on business investment and consumer spending that are financed through borrowed funds . . . The reduction in spending means a direct reduction in demand and also has the secondary effect of holding down the money income of business firms and consumer who have supplied that demand. Their spending accordingly is also reduced. By these methods market demand is expected to be brought into line with the available supply of goods and services, with the result of halting the increase in prices. The impact of taxes, on the other hand, is more positive and more widely distributed; also it is subject to better

---

<sup>123</sup> Report, "Interim Report for the 4-Member Committee Appointed February 26," April 13, 1951, Committee on Fiscal and Monetary Policy folder, Keyserling Papers, Box 8, Truman Library.

<sup>124</sup> Report, "Interim Report for the 4-Member Committee Appointed February 26," April 13, 1951, Committee on Fiscal and Monetary Policy folder, Keyserling Papers, Box 8, Truman Library.

control, and less likely to restrict production. It falls in part on consumer spending and in part on business investment in general. It has the same kind of secondary effects as monetary restriction.<sup>125</sup>

The bottom line for the Truman Administration was that these other means to fight inflation were just not considered enough, even with a minimal tax increase, to keep prices down. In an interdepartmental fiscal committee meeting in August 1950—which included the chairmen and representatives from the Treasury, the Federal Reserve, the Budget Bureau, the National Security Resources Board and the Council of Economic Advisors—it was concluded that credit controls were not enough to check inflation.

In summary, several expressed variants of the opinion that credit controls cannot be successfully used as the sole or the principal means of checking inflation, and that the best service of such controls is as an interim device during the period before the power of taxation fully takes hold.<sup>126</sup>

While other tools were helpful, the Truman Administration believed that the best way to fight inflation was taxation and the purpose of other anti-inflationary policies was to aid taxation.

#### *Phase I: A War Finance Success Story*

The first six months of the war were a financial success for the Truman Administration. As a result, Truman was able to accomplish his fiscal goals. A budget surplus began in mid-December 1950 and continued to grow. It reached a climax in March 1951 with a surplus of four billion dollars, far exceeding that of any month in

---

<sup>125</sup> Council of Economic Advisors to Harry S. Truman, “Report on Monetary Policy and Reserve Requirements,” January 25, 1952, Papers of Roy Blough, Box 9, Truman Library.

<sup>126</sup> Memorandum, “The Interdepartmental Fiscal Committee Meeting – Met on August 25 from 2:30 to 4:30,” 8/30/1950; CEA folder; Blough Papers Box 12, Truman Library.



history.<sup>127</sup> Table 19 below demonstrates that Truman raised federal receipts enough to actually reduce the gross federal debt at the end of the 1951 fiscal year.

**Table 19: Federal Receipts, Outlays, and Debt during the Korean War (billions of dollars)**

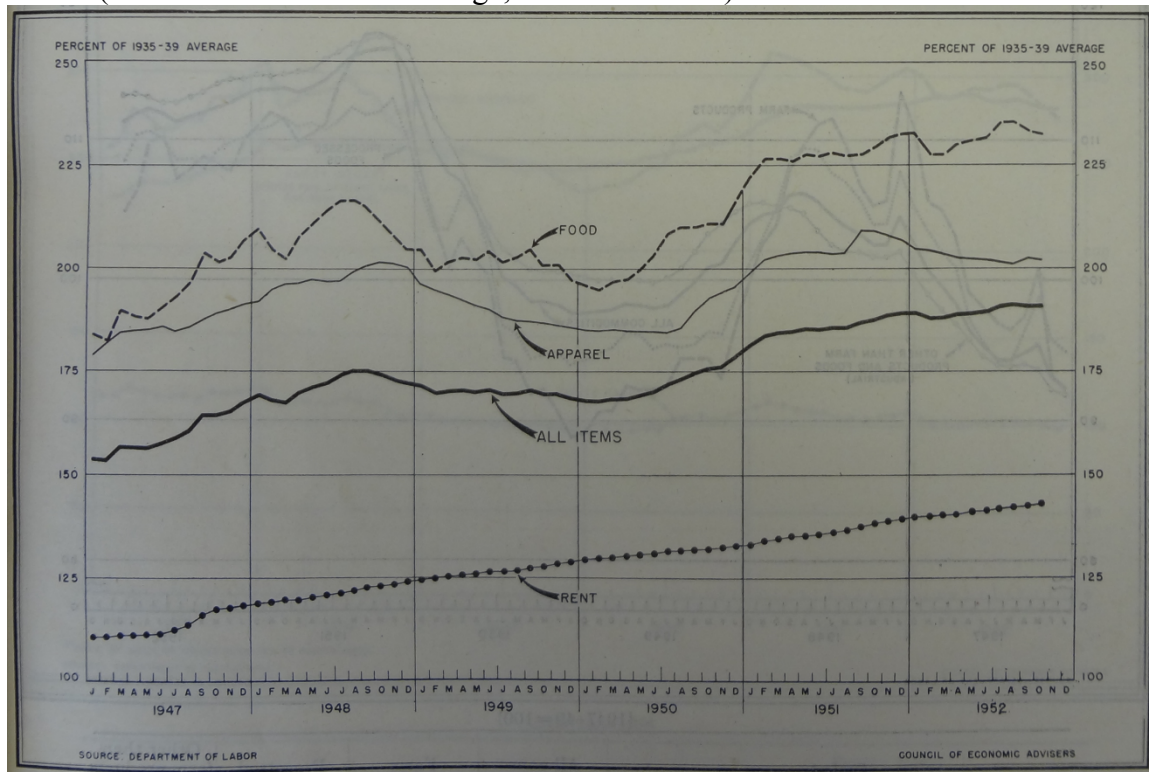
Fiscal Year	Tot. Fed. Receipts	Tot. Fed. Outlays	Nat. Sec. Outlays	Surplus or Deficit (-)	Gross Fed. Debt (End of FY)	GNP	Fed. Receipts/GNP	Fed. Outlays/GNP	Surplus or Deficit (-)/GNP
1950	39.4	42.6	13.0	-3.1	256.9	266.8	14.8	16.0	-1.2
1951	51.6	45.5	21.9	6.1	255.3	315.0	16.4	14.4	1.9
1952	66.2	67.7	42.0	-1.5	259.1	342.4	19.3	19.8	-0.4
1953	69.6	76.1	49.1	-6.5	266.0	365.6	19.0	20.8	-1.8

Edelstein, M. (2000). War and the American Economy in the Twentieth Century. The Cambridge Economic History of the United States: The Twentieth Century. S. L. Engerman and R. E. Gallman. Cambridge, Cambridge University Press. Table 6.6 p. 369.

Truman’s war finance plan worked. In early 1951 prices began to stabilize. The graph below displays the monthly consumer price index, showing a large uptick in prices starting in the summer of 1950, when the war began, and culminating in the early spring of 1951. However, by March of 1951, prices started to level off and remained fairly stable throughout the summer and early fall.

<sup>127</sup> “CEA Quarterly Report on the Economic Situation,” April 6, 1951 “CEA Monthly Report on the Economic Situation,” March 3, 1951; Quarterly and Monthly Reports to the President 1951-1952 folder; Papers of John D. Clark Box 2, Truman Library.

**Figure 12: Monthly Consumer Price Index from 1947–1952**  
 (Percent of 1935-1939 Average; 1935-1939=100)<sup>128</sup>



*Phase II: Mid-1951 to October 20, 1951*

Truman’s war finance success story changed abruptly. In February 1951, he asked Congress to enact revenue legislation to yield an additional \$10 billion annually. However, unlike the previous two requests, Truman only received half of what he asked for. Instead, Congress passed the Revenue Act of 1951, yielding \$5.4 billion in revenue. This section argues that Truman did too good of a job on the economic front. By garnering a surplus in revenue and stabilizing prices, he removed the fear of inflation

<sup>128</sup> Report, “Economic Indicators December 1951 – Prepared for the Joint Committee on the Economic Report by the Council of Economic Advisors,” 1952; OF 1565; Truman Papers, Truman Library.

from the public. Once the rationale for increased taxation was taken away, it became harder for him to convince the public, and consequently Congress, to accept a higher tax burden.

In addition, public support for the war drastically declined, increasing the political cost of asking the public to sacrifice for the war. As the economy started to stabilize, the events in Korea took a negative turn. In the spring of 1951, the war began to be perceived by the public as an unwinnable battle. The back and forth produced by the United States operations' Killer and Ripper in response to the Fifth Chinese offensive left the war at a bloody stalemate on the 38<sup>th</sup> parallel. More importantly, the public no longer believed it was engaged in World War III. Once the belief of an existing existential threat was removed, so was the public's expectation that defense expenditures needed to be increased. The result was a strong sentiment that further taxation was not warranted. Additionally, on April 11, 1951, Truman removed General MacArthur from Commander-in-Chief of the United Nations Command. This action was widely unpopular with the American public; 66% of Americans immediately disapproved of Truman's decision, lowering Truman's approval ratings dramatically.<sup>129</sup> In 1951, when Truman asked for more tax revenue, instead of Congress pushing through a bill in record speed and acquiescing to all of Truman's demands, there was congressional delay and Truman was disappointed.

---

<sup>129</sup> Polling Question: "Do you approve or disapprove of President Truman's action in removing General MacArthur?"

### *Fear of Inflation*

By mid-1951, a budget surplus and decreasing prices caused the public's fear of inflation to ebb. Within the Truman Administration, however, this fear was as strong as ever. Truman and his advisors believed that the effect of purchases for the war would once again place upward pressure on prices. Thus, his administration was ready to meet this renewed inflation with more taxes. However, because the public no longer feared inflation, they were not in favor of a tax increase. The Truman Administration, aware of this, attempted to convince the public that inflation was still a formidable foe that could wreak havoc on a fragile war economy.

The early months of 1951 were a continuation of 1950. However, midway through the year, "falling wholesale prices and stable industrial production were the dominant trends" (Hickman, 1955, p. 21). While industries related to defense experienced an expansion of activity, consumer demand declined, easing prices.<sup>130</sup> As shown in Table 20 below, the change in wholesale prices since the outbreak of the Korean War began to decrease in June of 1951. Furthermore, while consumer prices were still rising, starting in April 1951, they began to rise at a much lower rate.

---

<sup>130</sup> For an in-depth discussion for why consumer demand declined, see (Hickman, 1955).

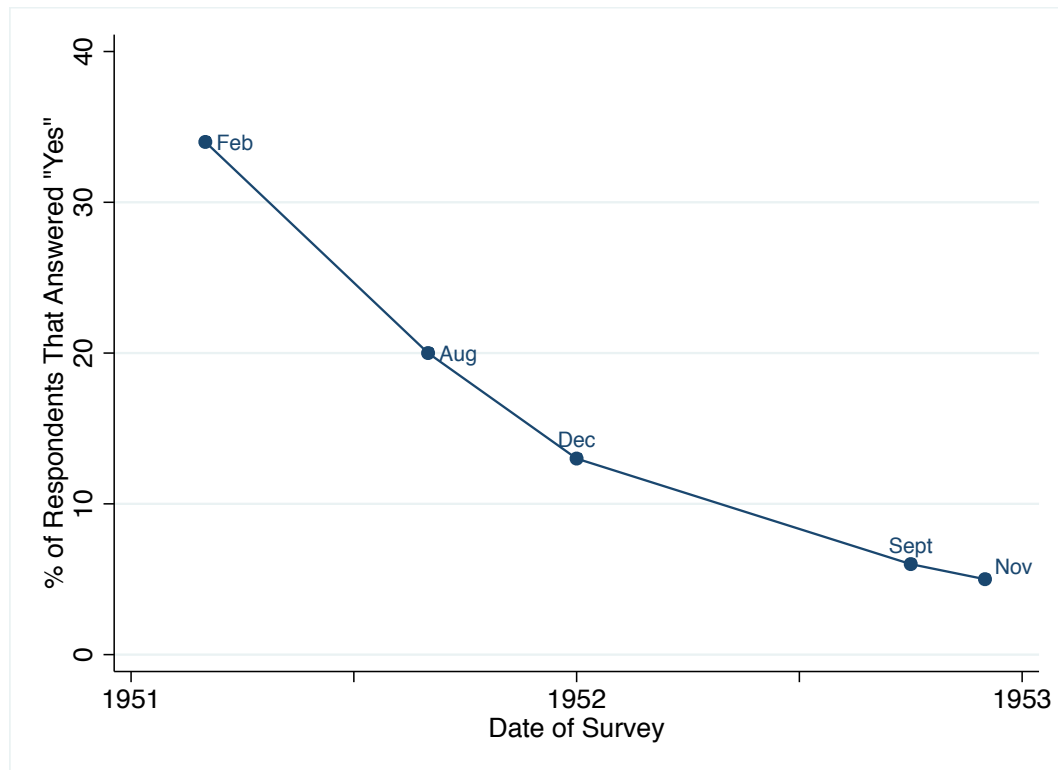
<b>Table 20: Percentage Price Change Since Korean Outbreak, January – September 1951*</b>		
Date	Wholesale Prices (All Commodities)	Consumer Price Index (All Items)
January 16	13.0	3.2
February 6	14.7	4.8
March 4	16.2	6.6
April 3	16.8	8.0
May 8	16.5	8.4
June 5	15.9	8.5
July 3	15.1	8.9
August 7	13.0	8.8
September 1	12.3	9.0
*Source: “CEA Weekly Reports 1951/1952,” Papers of Roy Blough, Box 10, Truman Library.		

More important than the actual stabilization of prices was the public perception of price change. By mid-1951 the public perceived prices were falling and, therefore, the fear of inflation abating. In October of 1950, 67% of Americans believed that prices would be higher in six months. By May, this figure fell to 51%, dropping to 50% in July. As the perception of rising prices began to change, so did the desire to raise further taxes for the war effort. As seen in the graph below, the percentage of Americans who felt that taxes should be increased declined dramatically.<sup>131</sup>

---

<sup>131</sup> Polling Question: “The Government has been asking for further tax increases. Do you think taxes should or should not be increased at this time?” This was not the only polling question that captured the declining support for increased taxes. In February and August 1951, Americans were asked, “In order to pay for the defense, would you approve of the government taxing another five percent of your (your husband’s) pay in taxes, on top of what you’re paying now?” In February, 41% of Americans responded that would approve another tax increase. By August, this figure declined to 35%.

**Figure 13: Public Support for a Tax Increase, 1951-1953: Percentage of Americans Who Believe Taxes Should Be Increased**



The Truman Administration felt differently. When prices began to slow down in early 1951, the CEA thought it was a perfect moment to continue their fight against inflation before the next surge, which they were sure was coming. A CEA Quarterly Report in April stated, “The immediate inflationary pressures seem somewhat abated, thus providing an ideal period in which to act firmly before the next upsurge.”<sup>132</sup> On June 8, 1951, Truman received a letter from his CEA stating,

The question uppermost in many minds is whether the events of the last few weeks mark the disappearance of inflationary dangers. Our judgment

<sup>132</sup> “CEA Quarterly Report on the Economic Situation,” April 6, 1951; Quarterly and Monthly Reports to the President 1951-1952 folder; Papers of John D. Clark Box 2, Truman Library.

is that inflationary pressures in the months and year ahead will be stronger than any yet confronted since the initial Korean outbreak. Consequently, we advise that an even stronger anti-inflationary program will be needed to contain these rising pressures.<sup>133</sup>

The Truman Administration quickly realized that the public did not share the same fear. Moreover, his administration was acutely aware that one of the reasons it was unable to pass legislation successfully was because of the public's new sentiment. In a memo to the President, CEA member John D. Clark not only pointed out that Americans were not in support of a tax increase because of the current economic climate of stable prices, but that the American people would not support a tax increase unless prices would continue to rise, renewing their inflation fear.

Events in the second and third quarters [of 1951] should disclose whether the phenomenon of 1951 was due to temporary causes or may be counted upon to continue, and those events may reactivate the inflationary movement so vigorously that the American people will eagerly support productive measures, including tax increases, which in the present quiet situation they are not disposed to accept.<sup>134</sup>

In an attempt to reverse the public's now-complacent attitude towards inflation, Truman and his staff went on a campaign to educate the public and Congress of the next wave of inflation they believed was on the horizon. On June 7, 1951, Truman held a press conference. He reminded the public that the United States' economy was operating at almost full utilization of available resources, the defense program was still rapidly expanding, the budgetary surplus of recent months was going to be replaced by a growing

---

<sup>133</sup> CEA to Harry S. Truman, June 5, 1951; White House Contacts Harry S. Truman 1947-1953 folder; Papers of Leon Keyserling Box 9, Truman Library.

<sup>134</sup> "Tax Policy," December 10, 1951; Drafts Proposed by John D. Clark for Council Reports, folder; Papers of John D. Clark Box 1, Truman Library. Emphasis added.

deficit, and incomes were still rising.<sup>135</sup> Truman then went to Congress with the same message:

These recent developments have led some people to think that the inflationary trend is ended. This is a dangerous assumption. We cannot accept it as a guide to national policy...If taxes and savings are not sufficiently increased; there would thus be a growing disparity between the incomes which people would desire to spend and the supply of consumer goods. This disparity represents the inflationary gap. If controls were to be relaxed, the inflationary gap would be greater—probably very much greater. The price-wage spiral would again be set in motion. Winning the battle against inflation is an essential element in our struggle for peace.<sup>136</sup>

Truman even tried to invoke the fears of World War II postwar inflation that was so prevalent in 1950. In his Annual Message to Congress, The President's Economic Report, he stated,

We contained inflation, under more difficult circumstances, during World War II, although we did not do a good enough job of forestalling postwar inflation. We must learn from past mistakes as well as from past successes.<sup>137</sup>

### *Support for the War*

The spring and early summer of 1951 were rough times for the pay-as-you-go policy. Not only was the rationale for a tax increase gone, the political cost of extracting more revenue had also risen due to lackluster support for the war effort. The bloody stalemate that ensued after the Fifth Chinese Offensive drastically changed the public's attitude vis-à-vis the war as well as the president. More importantly, the perception that the U.S. was fighting World War III had abated. The political climate to raise taxes was

---

<sup>135</sup> "The Presidential Statement on Inflation – Press Conference," June 7 1951; White House Contacts – Charles. S Murphy folder; Keyserling Papers, Truman Library.

<sup>136</sup> "Special Message to Congress – The President's Midyear Economic Report," July 23, 1951; Public Papers of the President, Truman Library.

<sup>137</sup> Ibid.



made even worse with an unpopular president. The firing of General MacArthur caused Truman's approval ratings to hit a new low. In the following sections, I provide a brief summary of military events leading up to the stalemate and the political climate that resulted. I then discuss how this new political climate affected war finance and hindered Truman's pay-as-you-go program.

In February and March of 1951, the United States led two offensives—Operation Killer and Ripper. The purpose of these operations was to restore the Eighth Army's line, extending east from Yanpyong to Hoensgong, to trap and kill all enemy that had penetrated that sector, and to disrupt possible Chinese plans for another offensive (Blair, 1987, p. 716). The operations had mixed results. The success of Operation Killer was hampered by poor weather and logistical difficulties. Few enemy soldiers were killed or captured. However, Hoensgong was recaptured and the territory south of the Han River was reoccupied. Operation Ripper, however, was slightly more successful and resulted in the recapturing of Seoul. The Chinese and North Koreans responded with the Fifth and Sixth offensives in April and May. These offensives resulted in staggering losses for the enemy. General Matthew Ridgway, General MacArthur's replacement, wrote:

The enemy has suffered a major defeat. Estimates of enemy killed in action submitted by field commanders come to total so high that I cannot accept it. Nevertheless, there has been inflicted a major personnel loss far exceeding in my opinion the loss suffered by the enemy in the April 22 offensive [70,000 casualties] (Blair, 1987, p. 900).

However, the costs of these successes were enormous. On May 24<sup>th</sup>, Omar Bradley revealed in Congressional testimony that at that time there were 69,276 American battle casualties and 72,679 non-battle casualties (Blair, 1987, p. 904). From this time onward, although fighting continued, little territory would change hands.

As a result of high casualties and a bloody stalemate, public opinion in support of the war dwindled. In July of 1950, a Gallup poll asked Americans whether or not they approved of President Truman's decision to send U.S. military aid to South Korea. At that time 78% approved. By early the next year, the public's approval for Truman's decision to intervene in Korea had greatly decreased. In February 1951, only 48% of Americans thought it was right for President Truman to have sent American forces to fight in Korea.<sup>138</sup> Campbell and Cain also found that support for Korea steadily declined.

The Korean conflict also failed to elicit the sustained period of support evidenced in World War I and, to a slightly lesser extent, World War II. Between October 1950 and January 1951 overt support for the conflict dropped from 65 percent to an average of 31 percent (Campbell, et al., 1965, p. 324).

Americans also felt they had sacrificed enough for the war. In July 1950, 44% of people answered that Americans had not been asked to make enough sacrifices in support of the war. Between July 1950 and February 1951, this survey was administered seven times. The average response was that 38% felt they had not been asked to sacrifice enough. In March 1951, this figure dropped dramatically, with only 20% of respondents feeling they had not been asked to sacrifice enough.<sup>139</sup>

In addition to reduced support for the war, Truman's approval ratings plummeted. Greatly affecting his ratings was the firing of General Douglass MacArthur in April. In June 1951, 58% of Americans believed that in the disagreements between Truman and MacArthur about how to carry on in Korea, MacArthur was right, whereas only 27% felt

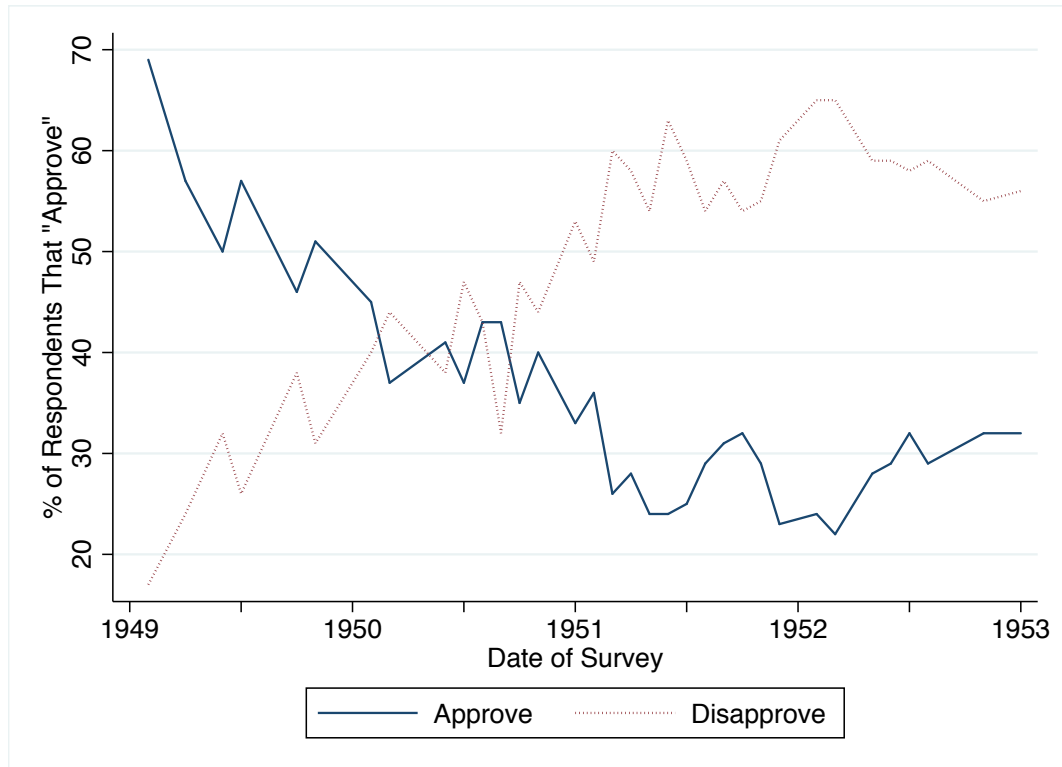
---

<sup>138</sup> July 1950 polling question: "Do you approve or disapprove of President (Harry) Truman's decision to send U.S. (United States) military aid to South Korea?" February 1951 polling question: "Do you think it was right or was it wrong for President (Truman) to send American forces to fight in Korea?"

<sup>139</sup> Polling question: "Do you think the people in this country have been asked to make too many sacrifices, or not enough sacrifices, to support the war in Korea?"

Truman was right.<sup>140</sup> At the time the Revenue Act of 1951 was being considered in Congress, the public's general approval for the President hit an all time low. The graph below shows Truman's approval rating at just above 20% during the spring of 1951. Truman now had little political capital to sway Congress to increase taxes.

**Figure 14: Truman's Presidential Approval Rating, 1949-1953**



In addition to decreasing public sentiment in favor of the war, the feeling that the country was in a world war was gone. The notion that it was necessary to economically mobilize for World War III went with it. After 1950, there were no more Gallup Poll questions asking the public if they believed the country was in World War III. Even the

<sup>140</sup> Polling question: "In the disagreements between President (Harry) Truman and General (Douglas) MacArthur about how to carry on the war in Korea, who do you think was most nearly right?"

American Federation of Labor Advisory Committee to the CEA was aware of the decreased fear.

Since the stalemate following the initial truce negotiations in Korea and the easing of the sense of imminent danger of war, the relaxed attitude toward defense needs has carried over into the expectation that defense expenditures are likely to be sharply curtailed.<sup>141</sup>

Starting in March of 1951, it was becoming quite noticeable amongst both the Truman administration and the Department of Defense that public opinion was shifting vis-à-vis the war effort and that this shift was affecting the ability to spend and fund the conflict. In a cabinet meeting in late March, Robert Lovett, Deputy Secretary of Defense, stated:

The Defense Department has 3 enemies – (1) Risk of visual aggression . . . (2) Inflation. That has cost us 2 billion out of every 10 billion since June. (3) *Relaxation*. This has been shown itself by reversal of attitude of Congress. In December Congress was talking full war mobilization. It was in an attitude of gluttony. Now the attitude is to minimize the need for vital projects.<sup>142</sup>

At the same time, the Defense Department identified that there was a change in the public's, and consequently Congress', attitude. The CEA and Treasury were trying to figure out what this change meant for the President's war finance policy. In a memo to John Snyder, the Secretary of the Treasury, the CEA stated that the public was no longer threatened by events in the Korean peninsula. Consequently, there was less Congressional interest to pass the tax bill.

---

<sup>141</sup> "Comments by the Advisory Committee of the American Federation of Labor to the Council of Economic Advisors" June 20, 1952; Council of Economic Advisors folder; Blough Papers Box 11, Truman Library.

<sup>142</sup> Robert Lovett in a Cabinet Meeting, March 20, 1951; March 1951 folder; Connelly Papers Box 2, Truman Library. Emphasis added.

A number of factors account for the lack of Congressional interest in tax legislation. The relaxation of public concern over the international situation is one important reason. Recent developments in Korea and in other troublesome areas have not been particularly alarming.<sup>143</sup>

It was clear to both the Defense Department and the Treasury that the public's perception of the threat affected economic mobilization for war.

By early April, the Council of Economic Advisors was trying to figure out why the revenue bill was stalled in committee. The CEA saw the same effect that was pointed out by the Defense Department and the Treasury. They knew that falling prices were mitigating the inflation fear but they also came to realize that there was a movement to cut expenditures:

The Reluctance of the [Ways and Means] Committee to take immediate action probably reflected in considerable part the heavy mail reaction from constituents. Objection was raised to further increases of taxes until prices had stabilized. There was also widespread feeling that expenditures could and should be greatly cut and no further tax increase should be made until this had taken place.

In the same report, the CEA went on to make the connection between the fact that the public no longer believed themselves to be in the next world war, the stalemate in Korea, and the ability to raise taxes:

Yet there is no blinking the fact that the sense of urgency which was pervasive in the first weeks following the China attack has abated under the influence of better news from Korea without new acts of physical aggression by communist states. The shift in public sentiment is reflected in the Congress, where the administration program for the defense period is now jeopardized by the feeling that it may not be necessary to subject the people to such burdens and restraints. The national leadership is challenged by this shift in public sentiment to make clear that the retarded impact of the defense program upon the civilian economy which has led to a more complacent view may actually have aggravated the situation in

---

<sup>143</sup> L. Laszlo Ecker-Racz, Memorandum to James Snyder, March 9, 1951; Papers of Ecker-Racz Box 4, Truman Library.

some respects. The economic program can be softened only at the price of real national danger.<sup>144</sup>

How the war was unfolding affected public attitudes, which in turn shaped the ability of the Truman Administration to fund the war effort. Once the public believed that it was not engaged in World War III, it no longer felt that the nation needed to mobilize to such a large extent. Consequently, Americans no longer felt that defense expenditures needed to be as extensive as they currently were. This belief naturally extended to fiscal policy—because expenditures should be reduced, taxes should not be increased, at least not by the amount Truman was asking for. In addition to the removal of an existential threat, the public was dissatisfied with the events of the war. As casualties mounted and little territory was being won, support for the war, as well as for the President, plummeted. The decreased support made raising taxes even more politically costly. Truman, with low approval ratings, had little capital to sway either the public or Congress.

### *The Revenue Act of 1951*

On February 2, 1951, Truman asked Congress to enact revenue legislation to yield at least \$10 billion annually. Truman recommended an immediate increase in personal income taxes to bring in \$4 billion in additional revenue. In addition, he recommended an increase in corporate income taxes to yield an additional \$3 billion and selective

---

<sup>144</sup> “Council of Economic Advisors Quarterly Report,” April 4, 1951; Quarterly and Monthly Reports to the President 1951-1952, folder; Clark Papers Box 2, Truman Library.

excise taxes to yield \$3 billion dollars. Lastly, he asked Congress to continue the program started in the previous year to close loopholes in the present tax laws.<sup>145</sup>

The removal of the inflation rationale, the existential threat of World War III, and high public support in favor of the war, coupled with the decline in Truman's approval ratings gave the administration little leverage to raise taxes. The passage of the Revenue Act of 1950 took only forty-five days. The passage of the Revenue Act of 1951 took nine months. Moreover, whereas in 1950, Truman got everything he asked for, in 1951, he got only half. Over the nine months the bill was in Congress, it became a shell of its former self. Aside from reduced revenue, the bill was weakened with a myriad of special provisions and exemptions. It is important to note that opposition to the bill was not restricted to conservatives. A group of liberal senators offered the most persistent and serious opposition that had ever been launched against a Finance Committee revenue bill (Witte, 1985, p. 141). The final bill raised individual income tax liabilities 11% for those with incomes under \$2,000 and 11.75% for those over that level, with a termination date of December 31, 1951. Corporate rates were raised to 30% on income under \$25,000 and 52% on income over that level (Witte, 1985, p. 142). The bill raised about \$5.4 billion in revenue.

### *Epilogue—1952 to July 26, 1953*

The years 1952 and 1953 were uneventful for war finance. In March 1952, faced with a 65% disapproval rating, President Truman announced that he would not seek reelection. In April, truce talks in Korea were still deadlocked, principally over the issue

---

<sup>145</sup> "Special Message to the Congress Recommending a 'Pay as We Go' Tax Program," February 2, 1951; Public Papers of the President, Truman Library.

of the exchange of prisoners. In November, Republican Dwight D. Eisenhower defeated Democrat Adlai Stevenson, carrying an 39 states on his way to the Presidency. In addition, the Republican Party also took control of Congress. Although President Eisenhower did not raise taxes, he did not want to lower them either. Like Truman, Eisenhower was committed to fighting inflation and a balanced budget. However, his party felt differently. The Excess Profits Tax Law was set to expire on December 31, 1953. To Eisenhower's disapproval, Republicans passed legislation that moved forward the termination date to June 30, 1953 (Witte, 1985, pp. 144-145). Fortunately, the war ended in on July 27, 1953, with the signing of an armistice.

## **Conclusion**

The financing of the Korean War demonstrates how the fear of inflation and the public's support for the war affects how the conflict was financed. When the fear of inflation and public support for the war was high, taxation dominated the war finance strategy. In 1951, when the fear of inflation decreased along with support for the war, it was no longer feasible to pay for the entire war by taxation. The stabilization of prices as well as an unpopular bloody stalemate made it too politically costly for taxes to be raised to the level needed to avoid a deficit. In the next chapter, "The Vietnam War," I demonstrate how these phases will be reversed. When the Vietnam War started, there was no fear of inflation. Thus there was no movement to increase taxes. However, rising prices created a fear. Once this fear was strong enough to increase taxes, the war was unpopular, hampering the ability of the Johnson Administration to raise significant amounts of revenue.



## Chapter 5: Lyndon Johnson's Financing of the Vietnam War Effort

*"I now understand, as I did not when I got here, that the really tough problem you have is the interlock between the bad turn in the war, the critical need for a tax increase, and the crisis of public confidence at home. If I understand the immediate needs correctly, the most important of all may be the tax increase, simply because without it both the dollar and the economy could come apart—and with them everything else."*

– McGeorge Bundy to President Lyndon Johnson, March 26, 1968.<sup>146</sup>

The United States' financing of the Vietnam War effort—domestic debt with a minimal reliance on taxation—has been connected to inflation, high interest rates, a balance of payments problem, a world financial crisis, and the end of the dollar-gold peg.<sup>147</sup> Johnson could have paid for a larger percentage of the war with taxes, similar to President Truman, effectively avoiding costly inflation and high interest rates. However, Johnson chose to rely on domestic debt for the first two years of the war, at which time he asked Congress for a 10% surcharge in August 1967. Although Johnson requested this surcharge in 1967, he was unable to get a war tax through Congress until June 1968. The surcharge did not take effect until three months after the government began to de-escalate the war (Stevens, 1976, p. 66). Why did Johnson choose to finance the war a manner that had such destructive long-term consequences?

---

<sup>146</sup> Quoted in (Berman, 1989, p. 193).

<sup>147</sup> For a discussion of the relationship between war finance and inflation, see Riddell (1988); war finance and the United States balance of payments position, see Dudley and Passell (1968); war finance and pressure on the dollar, see Stevens (1976 chap. 9-10); war finance and world financial crisis, see Collins (1996), Houben (2000) and, Stevens (1976). For the relationship between war finance and high interest rates: Memo, Arthur M. Okun to President Johnson, 5/20/1968, "Costs of Fiscal Inaction," EX BE 5, Box 25, WHCF, LBJ Library; Memo, Gardner Ackley to President Johnson, 10/13/1967, "Notes for Use in Talking with Reporters," EX BE 5, Box 25, WHCF, LBJ Library; Memo, Robert Kinter to President Johnson, 7/26/1966, "Current Banking and Money Market Problems," Confidential File, BE, Box 2, WHCF, LBJ Library.

The dominant narrative of Vietnam War finance is the classic narrative of guns versus butter. Johnson avoided asking Congress for a tax increase because he was afraid Congress would cut his Great Society welfare program.<sup>148</sup> Johnson's counterpart, Truman, drastically cut his Fair Deal to help put the Korean War on pay-as-you-go basis.<sup>149</sup> This variation in decision-making begs the question: why did Truman relinquish his welfare program and raise taxes to pay for the Korean War outright, whereas Johnson did not?

I argue that differing inflation fears and public support for the wars can explain the variation in outcome. While it is true that Johnson did not want to relinquish Great Society, unlike Truman, Johnson did not fear inflation. Because he did not fear inflation, he believed that the economy could absorb a large increase in government spending without raising taxes to pay for it. Consequently, Johnson could fund both programs simultaneously, without economic detriment.

Johnson did not fear inflation for three reasons. First, in March 1965, when Johnson sent ground forces into Vietnam, the dominant concern of his administration was to avoid a recession. Thus, Johnson believed that paying for the war outright by raising tax revenue was a harmful fiscal policy that could force the economy into a deeper

---

<sup>148</sup> Many scholars discuss Johnson's fear of losing his Great Society welfare program if he were to ask for an increase in taxes to pay for the Vietnam War (Halberstam, 1972, p. 606; Riddell, 1988, pp. 228-229; Stevens, 1976, p. 68).

<sup>149</sup> "I have sharply reduced expenditures for those programs which can be deferred or eliminated, even though these programs bring clear benefits to the Nation and would be highly desirable in normal times... Many desirable projects have been retarded or suspended since the beginning of the Korean emergency," Annual Budget Message to the Congress: Fiscal Year 1953, Jan 21, 1952; Public Papers of the President, Truman Library. "Truman, the first of three postwar Democratic presidents who tried to copy Franklin D. Roosevelt's politically successful New Deal domestic program, abandoned the more ambitious objectives of his Fair Deal Program as he adopted a foreign policy style of dramatic responses to foreign policy challenges," (Hammond, 1992, p. 204)

recession. Second, Johnson and his administration believed that the Vietnam War was different: the American economy of the mid-1960s could absorb a large increase in defense spending, whereas the American economy of the early 1950s could not. Johnson and his administration did not believe there was going to be high war inflation. Thus, while taxation to curb Korean War inflation may have been necessary, this time it was not. Third, any rise in prices that did result from the Vietnam War was of little concern to Johnson and his administration because they believed that the Vietnam War would be a short war. The Vietnam War was budgeted to end by fiscal year 1967. Because the source of inflation (the Vietnam War) would end there was no need to increase taxes to fight this inflation.

Why, then, did Johnson decide to try to increase taxes two year later? By 1967, the economic environment had policy makers considering the potential harm of rising prices. In the January 1967 State of the Union Address, Johnson announced that he would ask Congress to raise \$4.5 billion in tax revenues. It was not until eight months later, in August 1967, that Johnson formally asked Congress for a 10% tax surcharge on personal and corporate income tax. The 10% surcharge was not passed until June 1968, a year and a half after Johnson publicly declared to raise taxes to fund the war effort.

Two reasons account for the delay. First, while by 1967 the fear of inflation was high within the Johnson Administration, members of Congress were not similarly concerned. Second, the difficulty of implementing a tax increase in 1967 was compounded by public support for the war effort. Whereas during the Korean War, Truman acted to raise taxes at the onset of the war, when public support was at its peak, the Johnson Administration did not request a tax increase until two years into the

Vietnam War, when support for the war was beginning to falter. Declining support for the Vietnam War increased the political cost of a tax increase for both the Johnson Administration and Congress. As a result, the surcharge was not passed until 1968.

Table 21 below highlights the within-case variation:

**Table 21: Vietnam War Finance: Within-Case Variation**

		<u>Fear of Inflation</u>	
		High	Low
<u>Public Support for the War Effort</u>	High		No Tax Increase, March 1965 – 1966
	Low	Revenue & Expenditure Control Act of 1968, 1967 – 1969	

The rest of this chapter proceeds as follows. First, I provide a brief background of the Vietnam War, focusing on the economic cost of the war. Second, I tell the story of how the war came to be financed by domestic debt with only a minimal reliance on taxation. I start with the period of low inflation fear (the spring 1965 to fall 1966). I then proceed to the second war finance phase, 1967 – 1969, where the inflation fear had risen dramatically but public support for the war effort was low. I conclude with a review of the effect of Johnson’s war finance policy on the national economy.

### **Background**

The Vietnam War was costly. For the 8,744,000 personnel deployed by the United States and its allies, 153,303 came home wounded, while in-theater deaths totaled 58,220 (Leland & Oboroceanu, 2010, p. 11). Between 1965 and 1976, the Vietnam War

cost Americans \$142 billion dollars.<sup>150</sup> At the peak of the war, in 1968 and 1969, the cost of the war as a percentage of GDP was about 3.2% (Tuan, 1987).

**Table 22: United States' Budgetary Costs of the Vietnam War**

Fiscal Year	Vietnam War Full Cost \$Million	Vietnam Military Outlays as % of Total Outlays	Military Outlays As % of GNP	Total Military Outlay \$Million	Gross National Product \$Billion
1965	103	0.2		47,098	659
1966	5,812	10.5	0.8	55,377	717
1967	20,133	29.5	2.5	68,315	772
1968	26,547	34.0	3.2	78,027	829
1969	28,805	36.6	3.2	78,661	897
1970	23,052	29.6	2.4	77,881	952
1971	14,719	20.6	1.5	71,545	1,012
1972	9,261	12.2	0.8	75,800	1,101
1973	7,500	11.1	0.7	46,500	1,213
1974	3,800				
1975	2,500				
<b>TOTAL</b>	<b>\$142,222</b>				

Notes: Full Cost: Equals all expenditures incurred to fight the war. Full expenditures cover all forces, baseline and additional, and equipment and materials used in the war (versus incremental cost which covers the added costs of fighting the war over and above the normal costs of operating the baseline force in peacetime. The reason for the two estimates lies in the fact that the cost of the Vietnam War was partly borne by reducing Defense Department efforts and expenditures for other purposes (See Edelstein, 2000, p. 34)).

Beginning in fiscal year 1966, military assistance funds for South Vietnam, previously routed through the Military Assistance Program, were transferred to the direct responsibility of the military services and funded with the Department of Defense Budget. As a result, the totals for military assistance for South Vietnam since that time are included within the Pentagon's budget estimates for war costs.

Source: War Costs—U.S. Department of Defense; GNP and Military Outlays—U.S. Statistical Abstract. Taken from Tuan, N. A. (1987). South Vietnam Trial and Experience: A Challenge for Development. Athens, Center for International Studies Ohio University. Fiscal years 1974 and 1975 are taken from Riddell, T. (1975). A Political Economy of the American War in Indo-China: Its Costs and Consequences. Economics. Washington D.C, The American University, Table III - 2.

<sup>150</sup> This cost, \$142 billion, is estimated in current year currency. There are a myriad of estimates for the cost of the Vietnam War between 1965 and 1975. Low-end estimates, which are restricted to incremental costs, place the cost of the war between \$111 and \$114 billion in current year currency (See Daggett, 2010; Riddell, 1975, p. 98). For a discussion of what is included in full cost estimates see the footnote in Table 22.

The cost of the Vietnam War reflects not only the United States' war effort but also the funding of its allies. Beginning in 1964, the United States endeavored to involve the military forces of other countries in order to create an allied effort against the communists in Vietnam. This program, "More Flags," cost the United States an additional \$2.1 billion. In essence, the United States funded the involvement of South Korea, the Philippines, and Thailand (See Blackburn, 1994; Riddell, 1975, pp. 117, 136-137). In addition to funding its own war effort and the efforts of various allies, the United States funded a large percentage of the Government of South Vietnam's (GVN) war effort. As shown in Table 23, military assistance to the GVN between 1966 and 1975 totaled \$14.5 billion.

Fiscal Year	Military Assistance
1966	\$387.1
1967	1,203.5
1968	1,054.5
1969	1,498.6
1970	1,725.4
1971	1,771.9
1972	2,154.4
1973	2,642.3
1974	1,400.0
1975	700.0
<b>TOTAL</b>	<b>\$14,537.7</b>

Beginning in fiscal year 1966, military assistance funds for South Vietnam, previously routed through the Military Assistance Program, were transferred to the direct responsibility of the military services and funded with the Department of Defense (DOD) Budget. Consequently, military assistance funds since that time are included in DOD estimates of war costs. See U.S., Congress, House of Representatives, Committee on Armed Services, Hearings on Military Posture, 91<sup>st</sup> Congress, 2<sup>nd</sup> Session, 1970, p.7696.

Source: Riddell, T. (1975). A Political Economy of the American War in Indo-China: Its Costs and Consequences. *Economics*. Washington D.C, The American University, Table III - 9.

Around the time the United States sent troops into Vietnam (March 1965), President Johnson was moving forward with his Great Society welfare plan. The

budgetary cost of this “War on Poverty” program during the Johnson Years (1965-1969) amounted to \$239 billion, almost three times what Johnson spent on the war (Ott & Hughes-Cromwick, 1988, p. 53 Table 3.1). Total expenditures for Great Society at the peak of the program’s cost were 6.72% of GDP in 1969. One of the early components of Great Society was a tax cut. On June 21, 1965, three months after sending troops into Vietnam, Johnson signed H.R. 8371 into law (Bank, et al., 2008, p. 129). H.R. 8371 was an excise tax reduction with an estimated cost of \$1.3 billion annually.<sup>151</sup>

Table 24 below shows Johnson’s budget. As seen in columns 1 and 2, the military budget increased as rapidly as the non-military budget. The Vietnam War was the first war in American history in which the United States government was simultaneously financing a large war and large welfare program.<sup>152</sup> The result of this concurrent financing was a \$37.4 billion deficit created between 1965 and 1969.

---

<sup>151</sup> Memo, Stan Rose to Joe Califano, 5/7/68, EX FI 11, Box 56, WHCF, LBJ Library.

<sup>152</sup> “One consequence of this concurrent financing is the difficulty in isolating the source of a nation’s deficit. During WWI, WWII and Korea, the federal government undertook no other major expenditure or transfer program. Thus, it is possible to treat the movement of federal receipts and expenditures during these earlier war periods as overwhelmingly driven by the financing of national security. However, during the Vietnam War federal expenditures on transfer payments increased as did . . . spending on non-war goods and services. Thus, the financing of the Vietnam War was intertwined with the financing of these other activities, and the task of finding the purely war effects involves a complicated unraveling of various threads” (Edelstein, 2000, p. 376).

<b>Table 24: The Johnson Budget, 1965 – 1970 (in billions of dollars – current year currency)</b>						
	<u>Budget Increases, 1964 to 1970</u>			<u>Johnson’s Overall Budget</u>		
Fiscal Year	DoD-Military and Military Assistance	All Other	Total	Expenditures	Revenues	Surplus (+) Deficit (-)
1965	-3.7	+3.0	-0.7	118.0	116.9	-1.1
1966	+8.1	+8.5	+16.6	134.6	130.9	-3.7
1967	+13.1	+10.7	+23.8	158.4	149.6	-8.8
1968	+9.5	+11.0	+20.5	178.9	153.5	-25.4
1969 est.	+0.2	+4.9	+5.1	184.0	185.6	+1.6
1970 est.	+3.2	+7.8	+11.0	195.0	196.0	+1.0
<b>TOTAL</b>	<b>+30.4</b>	<b>+45.9</b>	<b>+76.3</b>	<b>968.9</b>	<b>932.5</b>	<b>-36.4</b>

Note: 1969 and 1970 revenue estimates assume the extension of the surcharges and present and excise tax rates for one year.  
Source: Memo, Joe Califano to the President, 12/16/68, FI 4, Box 25, WHCF, LBJ Library.

Why was President Johnson comfortable with allowing the deficit to rise? To understand the political and economic events that shaped Vietnam War finance, I focus primarily on President Johnson and his administration: specifically, his Council of Economic Advisors: Chairman Gardner Ackley (1964 – 1968), Arthur Okun (Chairman 1968 – 1969), Otto Ecksten, and James Dusenberry. Chairman Ackley was a veteran policymaker. He was the Assistant Director of the Office of Price Stabilization during the Korean conflict and a member of the Office of Price Stabilization during World War II. In an interview in 1977, Ackley reflected on his relationship with inflation as a government official, “I fought World War II in OPA. . . I’ve been an inflation fighter all my life” (Hargrove & Samuel, 1984, p. 258) Aside from Ackley’s personal experience, it is also important to note the role of the CEA vis-à-vis President Johnson. The CEA was in constant contact with President Johnson. As Ackley recalled, “LBJ encouraged us to



keep sending him a maximum amount of information on economic questions. We often sent three or four [memos] a day, certainly fifteen a week, on the average, maybe twelve, at the minimum” (Hargrove & Samuel, 1984, p. 227).

Other notable figures and agencies include the Treasury Department and its secretary, Henry Fowler, and the Bureau of the Budget (BoB) and its director, Charles Schultze. Together, the CEA, the Treasury, and the BoB made up the Troika, which was responsible for macro-economic policy.<sup>153</sup> The functional division of labor among Troika members began to develop informally in the 1950s and became structured during the Kennedy administration (Hargrove & Samuel, 1984, p. 6). Under President Johnson, each agency had a specific role. The Treasury made revenue estimates and the Secretary of the Treasury was the chief presidential spokesman for economic policy with both Congress and the public. The BoB was the chief advisor to the president on federal revenues and expenditures and the CEA served as the chief analyst of economic trends and explicator of alternatives for the president (Hargrove & Samuel, 1984, p. 7). The Troika informally expanded in 1966 to include William Martin, the Chairman of the Federal Reserve Board. The four-member group became known as the Quadriad.

Finally, conversations on Vietnam War finance included Special Assistant to the President, Joseph Califano, and Secretary of Defense Robert S. McNamara. Joe Califano played an important role in Vietnam War finance. While he did not advise on policy, he was the intermediary between the CEA and the President. Ackley described Califano’s role: “Much of our [CEA] contact with LBJ involved, or occurred through, Joe Califano,

---

<sup>153</sup> Explicitly excluded from the Troika were departments that represented strong constituencies such as Labor, Commerce, Agriculture, etc. (Hargrove & Samuel, 1984, pp. 7-8).

who had policy responsibility for domestic economic matters.” He continued on the importance of Califano, “...as far as I can recall, all important economic questions funneled through Joe” (Hargrove & Samuel, 1984, pp. 226-227). Defense Secretary Robert McNamara did more than just advise the president on defense matters and the budget for Vietnam; in conjunction with the CEA, he advised Johnson on war finance policy. McNamara’s advice was included in the majority of memos from the CEA to President Johnson. Moreover, Johnson would explicitly ask McNamara for economic advice.<sup>154</sup>

While I stress the executive, in order to understand the financing of the Vietnam War, it is also necessary to examine the role of Congress, and in particular the House Ways and Means Committee, chaired by Wilbur Mills (D-Arkansas), and the Senate Finance Committee, chaired by Russell Long (D-Louisiana). Lastly, integral to my analysis of Vietnam War finance is the role of the public and the relationship between public opinion and finance policy.

The evidence for this chapter comes primarily from archival documents procured from the Lyndon B. Johnson President Library. In addition, I analyze congressional testimony as well as materials prepared by the Joint Committee on the Economic Report. In order to understand public opinion for the war effort, I use various sources of polling and survey data: The Gallup Poll, Roper/Fortune Survey and ORC Public Opinion Index,

---

<sup>154</sup> Ackley described their relationship, “LBJ was very impressed with Bob McNamara’s mental capacities and used to try out ideas of all kinds of economic questions on him. We were always delighted to have him do so because McNamara almost invariable supported our views on what the correct answers were” (Hargrove & Samuel, 1984, p. 224).

using the iPoll databank at the Roper Center.<sup>155</sup> I complement polling data with data compiled by presidential aide Fred Panzer, the White House “poll person” during the Johnson Administration.

## **Vietnam War Finance**

### *Phase I: March 1965 to Fall of 1966—A Stimulant Not a Sedative*

From the introduction of ground troops until the fall of 1966, there was little fear in the Johnson Administration that financing the Vietnam War with domestic debt would result in inflation. More importantly, there was little fear that the financing of the war effort in conjunction with the financing of Great Society would lead to rising prices. The result was a war finance policy that emphasized domestic debt. Why did Johnson and his administration remain so confident that these two large projects could be simultaneously funded, without a rise in prices? Four variables contributed to this confidence: (1) fear of a recession; (2) initial price stability; (3) the belief that the Vietnam War would be a short war; and (4) the absence of an inflation lesson from the previous war.

First, when the Vietnam War started, the Administration was focused on combating recession, not fighting inflation. Instead of promoting fiscal policies that slowed down the economy, the administration was focused on cutting taxes to stimulate the economy. Second, prices were stable for the first year of the war. In early 1966, there was an increase in prices. However, this increase was short lived, and by April, the slowing of prices and fear of recession reemerged. Third, even when prices were rising in the spring of 1966, the administration believed that Vietnam was going to be a short

---

<sup>155</sup> [http://www.ropercenter.uconn.edu/data\\_access/ipoll/ipoll.html#.TihiaM3qo4g](http://www.ropercenter.uconn.edu/data_access/ipoll/ipoll.html#.TihiaM3qo4g).

war. The war was budgeted to end by June 1967. Thus, even if prices were rising there was no need to adjust fiscal policy, as the reason for the price rise (the war) was temporary. Fourth, there was no inflation lesson. The Johnson Administration believed that the inflation experienced during the Korean War was due to a hoarding psychology caused by the immediacy of the Korean War after World War II. Vietnam was different. The public of 1965 was not scared of shortages, and thus, there would not be inflation. Moreover, any demand-pull inflation that could result from the war would be mitigated by the abundant supply of material goods characterizing the U.S. economy at the time. Thus, there was no need to fear a repeat of Korean War inflation. The result of this lack “inflation fear” was a war finance policy that did not emphasize taxation but domestic debt.

### *Fear of Inflation*

When Johnson sent troops into Vietnam in March 1965, the dominant concern was combating a recession, not protecting the economy from a costly and inflationary war. A memo to Johnson from his CEA dated May 5, 1965, reflected the recession fear: “For the next two or three years, we should see the following as our dominant economic problem: Sustaining the growth of total demand and forestalling recession, by appropriate fiscal policies.”<sup>156</sup> It was not only Johnson and his advisors who believed that Johnson should be protecting the economy from a recession; many economists had the same

---

<sup>156</sup> Memo, Gardner Ackely to President Lyndon Johnson, 5/5/1965, BE 5 Box 23, “Thinking Ahead on Economic Problems, WHCF, LBJ Library. An alternative but consistent argument explaining why the CEA failed “to convince President Johnson to propose a tax increase in 1966 was that it was so ideologically committed to growth that it was insensitive to the early signals of growing inflation . . . For the CEA, the real danger was recession, which would lead to unemployment. Its policy instruments were trained and aimed to combat recession, not inflation” (Sloan, 1985, p. 92).

diagnosis. Of course, the prescription to forestall recession was to decrease taxes and increase the budget that included increasing government spending.

Yesterday the Council [of Economic Advisors] spent the day with 8 of its academic consultants. The group included Samuelson and Solow of MIT, Lintner and Duesenberry of Harvard, Musgrave of Princeton, and several others—all recognized as among the top economic experts in the country. Basically, their diagnosis is the same as ours. We will almost surely see a slower rate of growth over the next four quarters, with gradually rising unemployment...All agreed that they would like to see more fiscal stimulus in early 1966. In any case, they urged a strongly expansionary budget for fiscal 1967...They would like to see a \$7 or \$8 billion of combined stimulus, from increases in Administrative budget expenditures, income tax reductions, or possibly some new form of grants to State and local governments.<sup>157</sup>

The former CEA Chairman under President Kennedy, Walter Heller, captured the mood of the summer of 1965. He wrote that just before the escalation in Vietnam in July 1965, “many observers of the U.S. economic scene were expressing doubts about our ability to sustain prosperity into 1966” (Heller, 1966, p. 86).

The fear of a recession and the desire to stimulate the economy led the administration to believe that the American economy was able to absorb an increase in defense spending while also pursuing an expansive welfare program. Moreover, to raise taxes to fund the war effort outright would result in a harmful economic contraction. In a memo to Johnson on July 30, 1965, the CEA explained that both guns and butter were possible:

Our economy has lots of room to absorb a defense step-up. There is still a \$15-\$20 billion margin of idle industrial capacity and excessive unemployment. Our productive capacity is growing by \$25-30 billion a year, making room for both more butter and, if needed, more guns...In the first half of 1966, the impact on output and employment will be more

---

<sup>157</sup> Memo, Gardner Ackley to President Lyndon Johnson, 6/2/1965, BE 5, Box 23, WHCF, LBJ Library.

significant. But it means extra insurance against slowdown or recession during that period – not a threat of overheating.<sup>158</sup>

President Johnson articulated this same sentiment, that both guns and butter were possible, to the public. In his 1966 budget message, he argued that the United States was a “rich nation” that could “afford to make progress at home while meeting obligations abroad.” He explained, that it was for “this reason, [he had] not halted progress in the new and vital Great Society programs in order to finance the costs of our efforts in Southeast Asia” (Gibbons, 1995, p. 218).<sup>159</sup>

Stable prices throughout 1965 reinforced the belief that inflation was not on the horizon and confirmed that no new taxes would be needed to finance the war. In November 1965, the CEA believed that prices might even decrease in 1966. “Our best expectation is that the rise of consumer prices and wholesale prices in the next 12 months will be no greater than in the past 12 months, and could be smaller.”<sup>160</sup>

Prices, however, briefly rose in the spring of 1966, resulting in a push to increase taxes to fund the war effort. The spring price rise was directly connected to war expenditures. In the words of Walter Heller, “One did not have to be a Cassandra to argue that the disquieting signs of too much demand were already clear enough in early 1966 to call for further restrictive action like a moderate tax increase” (Heller, 1966, p.

---

<sup>158</sup> Original emphasis. Memo, Gardner Ackley to President Lyndon Johnson, 7/30/1965, “Economic Aspects of Vietnam,” BE 5, Box 23, WHCF, LBJ Library.

<sup>159</sup> For another work that argues the Council of Economic Advisor’s believed that both guns and butter were possible see Pickens (1988, p. 196). For the relationship between the prominent economic ideology, “Keynesian Expansionism” or “the New Economics” and the belief that both guns and butter was possible see Hammond (1992, pp. 201-209).

<sup>160</sup> Memo, Gardner Ackley to Bill Moyers, Jack Valenti, and Joe Califano, 11/29/1965, “Briefing Materials – The Outlook for Price-Cost Stability,” BE 5, Box 23, WHCF, LBJ Library.

88). As Heller stated, the remedy to this problem was a tax increase. In May, Bureau of the Budget (BoB) Director Charles Schultze argued for a tax increase to avoid inflation:

In short, under almost every conceivable circumstance—except a Vietnam settlement between July and November—a decision to raise taxes at least for the remainder of the year and early 1967 is clearly warranted. And even under that circumstance, the risks of serious inflation, in my view, far outweigh the dangers of having a tax increase extend a few months past the date of a possible Vietnam settlement.<sup>161</sup>

Exactly when and to what extent to increase taxes was up for debate among Johnson's advisors. CEA Chairman Garner Ackley and BoB Director Schultze preferred a tax increase immediately. While Treasury Secretary Fowler and Johnson's advisor Joe Califano felt an immediate tax increase should be considered, they were not strongly committed to one. Defense Secretary McNamara preferred to wait until he knew more about the course of the war.<sup>162</sup> Fowler, Califano, McNamara, and President Johnson were hesitant to increase taxes due to inflationary uncertainty:

Our best forecasts are bound to be imprecise, but we do not know the direction nor the extent of the error. In choosing among policies it is therefore important to consider what freedom of maneuver would be available to deal with the unexpected. If demand turned out significantly softer than expected, it would be essential to move very quickly in order to avoid a recession. On the other hand, if demand were stronger than expected, delay in action to moderate it could be costly, but not as damaging as in the opposite case...It seems clear that if we regard a recession as the worst possible outcome, and take seriously the possibility

---

<sup>161</sup> Memo, Charles Schultze to President Lyndon Johnson, 5/11/1966, "The Effect of a Tax Increase," FI 9, Box 55, WHCF, LBJ Library.

<sup>162</sup> "Ackley and Schultze strongly believe the economic situation requires a tax increase as soon as possible. I [Califano] believe Fowler shares their views, but does not feel as strongly about it. Fowler considers it difficult to make a decision at this time. McNamara says that he will not know until June the answer to two key questions: (1) whether he can get by without a supplemental until January 67, and (2) by what amount his expected expenditures for fiscal 67 are likely to increase...McNamara would withhold making a decision until June 15. Fowler notes this will mean nothing would go to Congress until July 15. Fowler believes that this may be too late to present a tax bill to the Congress for passage in this session and that Congress might be quite annoyed at receiving a tax bill at that time." Memo, Joe Califano to President Johnson, 5/7/1966, Confidential File, BE (1966), Box 2, WHCF, LBJ Library.

that demand may be weaker than our forecast, we should not ask for a tax increase.<sup>163</sup>

Before any decision had been made, prices stabilized by the fall of 1966, and the fear of recession reemerged. As prices stabilized, the impetus to increase taxes to fund the war effort was delayed.<sup>164</sup> In October, Treasury Secretary Fowler wrote to President Johnson, boasting of American price stability while fighting a war, “Our record of price stability in the face of the impact of active hostilities and persistently enlarging defense needs is the envy of nations throughout the world.”<sup>165</sup> By December of 1966, not only had prices stabilized but it was again believed by the Administration that the economy would slide into a recession.<sup>166</sup> Joe Califano advised President Johnson that “the economy is more likely to need a stimulant in the next several months than a sedative.”<sup>167</sup> Thus, the Vietnam buildup was once again almost welcomed to improve the economic outlook. As an August 7, 1966, article in *Business Week* stated, “In a cold mathematical view, the Vietnam build-up thus far ordered by President Johnson changes the economic outlook for the better” (Helsing, 2000, p. 195).

---

<sup>163</sup> Memo, Joseph Barr, Charles Schultze, and Gardner Ackley to President Johnson, 12/14/1966, “A Second Look at the Economic Outlook and Policy for 1967,” BE 5, Box 25, WHCF, LBJ Library.

<sup>164</sup> Treasury Secretary Fowler to President Johnson in October 1966: “Our recent price performance shows encouraging signs. The index of raw materials prices, which moves far in advance of wholesale and consumer prices, has dropped almost fifteen percent since March. Wholesale industrial prices have held steady since July. The rise in wholesale food prices has been reversed in recent weeks. These developments should be favorably reflected in consumer prices in coming months.” Memo, Henry Fowler to President Johnson, 10/15/1966, “The Current Economic and Financial Situation,” BE 5, Box 24, WHCF, LBJ Library.

<sup>165</sup> Memo, Henry Fowler to President Johnson, 10/15/1966, “The Current Economic and Financial Situation,” BE 5, Box 24, WHCF, LBJ Library.

<sup>166</sup> Joe Califano to President Johnson in December 1966, “It is clear that the models uniformly involve a projected rate of growth below our target. Indeed, projected growth is sufficiently slow that – with bad luck – the economy might stall and head into recession.” Memo, Joe Califano to President Johnson, 12/21/1966, “Your FY ’68 Tax Decision,” FI 11-3, Box 18, WHCF, LBJ Library.

<sup>167</sup> Memo, Joe Califano to President Johnson, 12/21/1966, “Your FY ’68 Tax Decision,” FI 11-3, Box 18, WHCF, LBJ Library.



While war inflation was becoming a worry in early 1966, the move to raise taxes stalled. It was believed by the administration that the price rise culprit (the war) would end soon.<sup>168</sup> The administration budgeted the war to end by June 1967. In February 1966, Schultze wrote to President Johnson, “The military expenditure estimate of \$2.2 billion has been checked with Secretary McNamara. It assumes current military plans in Vietnam...It also assumes that the shooting stops on June 30, 1967.”<sup>169</sup> Once the war ended, prices would stabilize. Thus, an anti-inflationary fiscal policy, such as a tax increase, would no longer be warranted. That said, if Vietnam were to continue, then it was agreed by the administration that the war would result in inflation and be a threat to the American economy. In April 1966, Treasury Secretary Fowler, Bureau of the Budget Director Schultze and CEA Chairman Ackley all agreed that if the projected decline in defense expenditures in January 1967 with the end of the war did not take place, and Vietnam continued, a tax increase would be necessary to halt inflation,

Given the January fiscal program, both tax rates and expenditures, we would expect intensifying price pressures for the rest of the year...However, the January budget program projects a decline in defense expenditures in the first half of 1967. On that assumption we would expect only a moderate pace of advance in overall demand early next year...However, the 1967 Budget program was planned on the assumption that Vietnam hostilities would be over by the end of the 1967 fiscal year. To deal with the possibility (or probability) that we will have to continue military operations in Vietnam after that date, we have considered the

---

<sup>168</sup> For dissenting arguments see Downes (2009) and Schuessler (2012, Chapter 3).

<sup>169</sup> Memo, Charles Schultze to President Johnson, 2/18/1966, Agency File, Box 7, NSF, LBJ Library. Moreover, in a Memo from Fowler, Schultze, and Ackley to President Johnson, they stated, “The pattern of defense outlays in the fiscal 1967 budget assumes a phasing out of our capabilities for continued hostilities in Vietnam.” Memo, Henry Fowler, Charles Schultze, Gardner Ackley to President Johnson, 4/8/1966, “Troika Review of the Economic and Fiscal Outlook” BE 5, Box 2, WHCF, LBJ Library. In a letter from Schultze to President Johnson in January of 1967, Schultze stated, “Rather than request an amount not based upon firm requirements, it was decided to request funds based on the assumption that combat operations would terminate on June 30, 1967.” Letter from Schultze to President Johnson, 1/24/1967, National Security File, LBJ Library. See also (Gibbons, 1995, pp. 216-217).

economic implications of raising FY1967 defense outlays \$4 billion above the January estimates. This would make a major difference in prospects for the first half of 1967, implying a clearly inflationary economy in the absence of restraining fiscal measures.<sup>170</sup>

Finally, taxes were not raised to finance the war because there was no inflation lesson carried over from the previous war. Although the Korean War was characterized by high inflation, with consumer prices rising over 11.5%,<sup>171</sup> the Johnson Administration believed that this time was different. Thus, the administration felt no need to safeguard against inflation by raising taxes to pay for the war. Before Johnson sent troops into Vietnam, two different 1964 CEA Staff Memorandum rejected any similarity to the Korean War. In August, Ackley wrote to President Johnson, “There is no likelihood that an over-all excess demand inflation will develop like that following the World War II or accompanying the Korean conflict.”<sup>172</sup> In October, Ackley reiterated that they did not expect inflation similar to that experienced during the Korean War: “...but we do not expect a repeat of the 3%-a-year crawling inflation of 1956 and 1957, much less the trotting inflations of the Korean War of 1945-48.”<sup>173</sup>

The Korean War was different for two reasons. First, the American economy had the capacity to absorb a defense increase:

The economy can absorb the reasonable foreseeable demands of the Vietnam conflict and essential civilian needs within the framework of a free market

---

<sup>170</sup> Memo, Henry Fowler, Charles Schultze, Gardner Ackley to President Johnson, 4/8/1966, “Troika Review of the Economic and Fiscal Outlook” BE 5, Box 2, WHCF, LBJ Library.

<sup>171</sup> Memo, Heyes Redmon to Bill Moyers, 12/4/1965, EX FI 4, Box 22, WHCF, LBJ Library.

<sup>172</sup> Report to the President, CEA Staff Memorandum – “The Outlook for Price Stability in 1965,” 7/8/1964. BE5-1 Box 28, WHCF, LBJ Library.

<sup>173</sup> Report to the President, CEA Staff Memorandum – “The Outlook for Price Stability in 1965 – A Second Look,” 10/8/1964. BE5-1 Box 28, WHCF, LBJ Library.

economy—without the resort to the harsh economic controls that have characterized past wars.<sup>174</sup>

Second, and, more importantly, the American consumer was different. The American consumer in 1950 had World War II inflation in mind when the Korean War started. The 1950s consumer, fearing a repeat of World War II supply shortages, hoarded when the Korean War started, driving up demand. The result was an increase in prices. The 1960s consumer was different. The 1960s consumer did not recall the price increase of the previous war. Thus, he did not hoard and prices remained stable.

The analogy with Korea simply does not hold water. We started the Korean War with defense purchases running at a \$12 billion rate; we doubled them in 9 months and tripled them in 15. Our defense capability is incomparably greater today. Even so, the real reason for the surge in prices in late 1950 and early 1951 was not the pressure of defense orders or outlays...Fresh memories of wartime rationing and shortages drove households in a hoarding binge. The consumer [in 1965] has been living in a world of plentiful supplies and well-stocked shelves for a dozen years now. He is not about to panic.<sup>175</sup>

There was no reason to fear inflation.<sup>176</sup> Thus, there was no reason to raise taxes. Five months into the war, the Johnson Administration still believed that a repetition of Korea was unlikely. In August 1965, CEA Chairman Ackley argued that, “On prices, the only

---

<sup>174</sup> Memo, Henry Fowler to President Johnson, 10/15/1966, “The Current Economic and Financial Situation,” BE 5, Box 24, WHCF, LBJ Library.

<sup>175</sup> Memo, Gardner Ackley to President Lyndon Johnson, 7/30/1965, “Economic Aspects of Vietnam,” BE 5, Box 23, WHCF, LBJ Library.

<sup>176</sup> A consistent and additional argument made regarding the Vietnam-Korean analogy and war finance is differences in mobilization. “In 1965, most of the administration’s economic and military planners did not see a parallel to Korea because, in their view, the economy could handle an escalation...The force level in 1965 was much greater, so it would seemingly not require drastic measures...Budget director Charles Schultze pointed out that ‘one of the accomplishments over the past 4 years has been to build a military force with the capability of moving into a situation like this, giving us time to make the appropriate evaluation.’ This probably led many to assume that the war could be handled adequately without going on a war footing” (Helsing, 2000, pp. 191-193).

really serious hazard is possible fear of war scarcities. But a repetition of the Korean scare psychology seems unlikely.”<sup>177</sup>

*War Finance Policy Outcome – Phase I*

With no fear of inflation, there was no need to raise taxes to fund the war effort. Moreover, the administration believed that Johnson could simultaneously fund the war and his Great Society program without inflation. Both guns and butter were possible. Ackley was representative of opinions reaching Johnson: “Nobody can seriously expect that the kind of program you outlined is going to overheat the economy, strain industrial capacity, or generate a consumer buying boom.”<sup>178</sup> Secretary of Labor Willard Wirtz supported this view of the economy: “He is aware of no danger that the 1967 budget could be ‘too expansionary,’ and does not believe that unemployment is approaching a ‘safe minimum’—which he would regard as closer to 3% than to 4%.”<sup>179</sup> While Johnson and his administration were confident that taxes to fund the war were not necessary, they were not oblivious to the potential of overheating the economy. Rather, the administration offered a piecemeal approach to fiscal restraint. The administration put together a patchwork program consisting of graduated withholding rates for individual taxpayers, accelerated schedules of corporate tax payments, and social security tax

---

<sup>177</sup> Memo, Gardner Ackley to President Johnson, 8/25/1965, “The Price Situation and Outlook,” BE 5-1 Box 28, WHCF, LBJ Library. See also a memo to Joe Califano from former Bureau of the Budget Director Kermit Gordon when talking about price controls, “. . . a buying frenzy which followed the invasion of South Korea in June 1950 – cannot be entirely ruled out if the military situation in Vietnam should take an ominous turn; but there are persuasive reasons for expecting that the American people today would react more calmly to grave military developments than they did in 1950.” Memo, Kermit Gordon to Joe Califano, 1/25/66, “Why economists dread mandatory price control,” BE 5-1, Box 28, WHCF, LBJ Library.

<sup>178</sup> Memo, Gardner Ackley to President Lyndon Johnson, 7/30/1965, “Economic Aspects of Vietnam,” BE 5, Box 23, WHCF, LBJ Library.

<sup>179</sup> Memo, Gardner Ackley to President Lyndon Johnson, 11/16/1965, “Secretary Wirtz’s Views on Attached Price Memorandum,” EX BE 5-1, Box 28, WHCF, LBJ Library.

payments of the self-employed, and postponed the scheduled reduction in the excise taxes on automobiles and telephone service (McLure Jr., 1972, p. 49).

*Phase II: January 1967—June 1968*

In January 1967, President Johnson announced in his State of the Union that he would ask Congress to raise \$4.5 billion in tax revenues in order to combat rising prices due to the Vietnam War effort. Johnson requested a 6% surcharge on corporate and individual income taxes to finance the war effort.

Now we have been greatly concerned because consumer prices rose 4.5 percent over the 18 months since we decided to send troops to Vietnam . . . I recommend to the Congress a surcharge of 6 percent on both corporate and individual income taxes—to last for 2 years or for so long as the unusual expenditures associated with our efforts in Vietnam continue . . . this surcharge will raise revenues by some \$4.5 billion in the first year.<sup>180</sup>

Although President Johnson stated in January that he would ask Congress for a tax increase, he did not formally make a request to Congress until August 1967. It took almost a year for Congress to pass the surcharge. The Revenue and Expenditure Act of 1968 was signed into law in June of 1968. What changed? Why did Johnson decide to request a tax increase to pay for the Vietnam War two years after the war started? In addition, why did Johnson wait eight months to formally request a surcharge? And why did it take Congress almost a year to pass the tax increase?

I argue that the Johnson Administration decided to raise taxes in response to an increasing fear of inflation. Rising prices in conjunction with the realization

---

<sup>180</sup> *Public Papers of the Presidents of the United States: Lyndon B. Johnson, 1967*. Volume I, entry 3, pp. 2-14. Washington, D. C.: Government Printing Office, 1968.

that the war would continue resulted in a new anti-inflationary war finance policy. Unfortunately for President Johnson and the American economy, there was an 18-month delay between the announcement of a tax increase and the signing of a revenue bill into law. This delay furthered decreased the percentage of the war that needed to be financed by taxation.

The tax bill was delayed due to differing fears of inflation and public opinion vis-à-vis the war effort. First, while the fear of inflation was high within the Johnson Administration, there was an internal disagreement as to how quickly prices would rise. Disagreement existed within and among members of the CEA, the Bureau of the Budget, the Treasury Department, the Labor Department, the Secretary of Commerce, the Department of Defense, and advisor Joe Califano as to the extent of inflation and, therefore, what the tax increase should look like and when it should be requested. These differences in opinion resulted in an eight-month delay between the time when Johnson publically announced he would increase taxes and the formal Congressional request.

In addition, Congress held a different view of America's economic health. The epicenter of the Congressional tax debate took place in the House Ways and Means Committee, Chaired by Wilbur Mills. Mills, a Democrat from Arkansas, began serving as a congressman in 1939 and had been chairman since 1957. Throughout 1967 and early 1968, Mills, as well as other members of the Committee, was unconvinced that severe inflation was actually happening or going to happen. Furthermore, Mills was not convinced that the rise in prices would be mitigated by a tax increase. He believed that the source of the rise was

not “demand-pull” but “cost-push.” In other words, the cause of inflation was not demand driven, as industrial supply was able to keep up with consumer demand, but was rather caused by collective bargaining and government spending. Business was passing along the expensive cost of wage settlements to consumers through higher prices. In response, consumers insisted on higher wages, perpetuating an inflation cycle.<sup>181</sup> Thus, a tax increase to finance the war would not stop inflation. Mills believed the only way to prevent further inflation would be to cut government expenditures.

Second, Congress was also hesitant to support a tax increase due to low public support for the Vietnam War. Support for the war declined steadily from January 1967 to the end of the war. Low support raised the political cost of supporting the administration’s tax increase, which was directly tied to funding the war effort.

The fall of 1967 was characterized by a tax stalemate and on October 3, 1967, Mills shelved the surcharge. In 1968, the debate on the tax bill was reopened. Three events in 1968 increased the fear of inflation in Congress, breaking the stalemate. First, the Tet offensive in Vietnam demonstrated to the administration as well as to Congress that the war was far from over. Military expenditures were only going to expand, placing even more pressure on the budget and an already overheating economy. Second, inflation was rising to levels last seen during the Korean War. Third, in March, an already weakened dollar was put to the test with an international speculative gold run. The only

---

<sup>181</sup> For a discussion of Congressman Mills’ inflation beliefs, see Zelizer (1998 chap. 8).

long-term fix to the dollar crisis was to control inflation. These events—the expansion of the Vietnam War, rising prices, and the effect of inflation on the dollar—forced a compromise.

As a result, although Johnson was eventually able to get his fiscal policy passed, it took him a year and a half to do so. The following section reviews changing inflation fears followed by the effect of low public support for the war effort on Johnson's war finance policy. I conclude with a discussion of the war finance policy chosen and its effect on the overall American economy.

### *Fear of Inflation—The Call for a Tax Increase*

In January 1967, Johnson publically announced that he intended to raise taxes to fund the war effort. The realization that the war was going to continue and, therefore, place further pressure on prices created a high fear of inflation within the administration. Thus, with the belief that inflation was inevitable, the Johnson Administration felt that the best way to mitigate it was to raise taxes.<sup>182</sup>

---

<sup>182</sup> The Johnson Administration preferred fiscal policy to monetary policy and price and wage controls to protect the American economy from inflation. In a memo from Fowler to Johnson: "The economy needs additional measures of fiscal restraint rather than more monetary restraint. The corporate surcharge, rather than a further turning of the monetary screws, would be a desirable move toward a better balance between fiscal and monetary policy. The surcharge would be a moderate deterrent to investment spending and inventory accumulation. This would contribute to holding down price increases, particularly in the critical capital goods sector... The flexibility of the surcharge is a considerable virtue in the present situation. Should inflationary pressures begin to subside in the months ahead the corporate tax increase can easily be terminated with a minimum of friction, and it will have served its immediate purpose. On the other hand, should additional revenues be needed to maintain a budget surplus or the economy becomes more explosively inflation by January, the surcharge can readily be stepped up and would go along well with a companion surcharge on the individual income tax." Memo, Henry Fowler to President Johnson, 8/27/1966, "Interim Report on your Economic Programming Assignment of Last Week," FI 11, Box 56, WHCF, LBJ Library. Taxation was also preferred to price and wage controls, "A particularly disturbing aspect of the price picture is the growing expectation of price and wage controls. Eighteen percent of the purchasing executives replying to a National Association of Purchasing Agents survey in February [1968] expect controls to be imposed. Only 4% did in



As previously discussed, the administration budgeted the war to end by June 30, 1967. The war, however, only escalated. On January 24, 1967, Schultze wrote to President Johnson asking for an additional \$12.3 billion in supplemental appropriations for FY1967 to support expanding military operations in Southeast Asia.<sup>183</sup> The unanticipated escalation placed further pressure on the budget. Ackley estimated an \$11 billion budget deficit for FY1967 and an \$18 billion deficit for FY1968.

Here is the picture for FY 1967: Expanded hostilities in Vietnam, and the fact that the January budget was based on an assumed end of hostilities by June 30, 1967, require a roughly \$10 billion increase of defense spending in FY 1967 to about \$67 billion...With revenues now estimated at \$116 billion, the Administrative deficit will be about \$11 billion...For FY 1968, further spending increases will be necessary. Defense spending will rise another \$6 billion (we plan no supplemental)...leaving an Administrative deficit of about \$18 billion.<sup>184</sup>

The realization that the war would continue prompted the administration to request a tax increase. On the morning of December 8, 1966, McNamara, Fowler, Ackley, Schultze, Connor, Clifford, and Ginsburg met to discuss the economy. The result of the meeting was the general agreement that “a tax increase would probably be necessary to reduce the deficit in the administrative budget. The most generally discussed increase was a 5 percent surcharge on corporate and individual income taxes, which would raise roughly \$4.5 to \$5 billion annually.”<sup>185</sup>

---

November [1967]... We have taken every opportunity to state that everyone in the Administration detests controls and regards them as no solution for our present problems.” Memo Arthur Okun to President Johnson, 3/23/1968, “Our Recent Price Record,” EX FB 11-3, Box 61, WHCF, LBJ Library.

<sup>183</sup> Letter, Charles Schultze to President Johnson, 1/24/1967, NSF, Box 7, Agency File, LBJ Library.

<sup>184</sup> Memo, Gardner Ackley to President Johnson, 1/4/1967, “Briefing Paper on Economic Policy for 1967,” Confidential Files, BE(1966), Box 2, WHCF, LBJ Library.

<sup>185</sup> Memo, Joe Califano to President Johnson, 12/8/1966, FG 11-3, Box 18, WHCF, LBJ Library.

### *Delaying the Request*

While there was agreement that a tax increase was necessary, how much and when it should be requested was still up for debate. The primary dispute between Johnson and his advisors was the extent of inflationary pressure and the course of the war. There was a fear that the economy could soften and a tax increase would hurt growth. Moreover, while it was apparent that the war would continue, the extent of future mobilization was uncertain. Thus, exactly how much pressure the war would place on prices was indeterminate. These uncertainties created an eight-month delay between the announcement of intent to raise taxes and an official Congressional request.

The Johnson Administration was split on the tax increase. Advisors were divided among the ‘do-it-now’ hawks and ‘wait-and-see’ doves. On June 12, Joe Califano summarized the split in a memo to Johnson:

With the exception of Wirtz and Ginsburg, there is a general sentiment for a tax increase. Wirtz is presently opposed to one. Ginsburg has deep reservations about moving forward on the basis of present economic information; he fears that you will have a tax increase on the books with a soft economic situation in January [1968]. Fowler strongly favors a tax increase, as do Ackley and Schultze although they are not as vehement as Joe [Califano] is. Trowbridge is inclined to favor a tax increase, but with an effective date later than Fowler, Ackley and Schultze prefer. McNamara believes there must be a tax increase because of the budget deficit situation, but believes that the amount of it cannot be determined until the decisions on Vietnam are made when he returns from his trip.<sup>186</sup>

A week later, on June 17, 1967, Fowler, Ackley, Schultze, Trowbridge, Wirtz, McNamara, and Califano agreed that the tax proposal should not be sent to Congress until after the recess. They recommended that they “begin intensive discussion among

---

<sup>186</sup> Memo, Joe Califano to President Johnson, 6/12/1967, EX FG 11-3 Box 60, WHCF, LBJ Library.

ourselves as soon as McNamara returned from Vietnam and have some feel for the cost of whatever decisions are made subsequent to his trip”<sup>187</sup>

By July, Johnson’s advisors agreed on a tax program. They recommended that Johnson should immediately ask Congress for a tax program larger than what he suggested in January. Instead of a 6% surcharge, they recommended that Johnson request a 10% surcharge on both individual and corporate taxes.<sup>188</sup> On August 14, 1967, Treasury Secretary Fowler described the President’s tax program before the House Ways and Means Committee. He directly connected the tax increase to rising Vietnam costs and, consequently, rising inflation:

...that decision was reached by the President because of the hard and inescapable facts. These are that the special Vietnam costs are being incurred at a rate in excess of \$22 billion per year; that without the temporary surcharge the budget deficit in the current fiscal year would increase to unacceptable levels; and that we are witnessing a return of long-term interest rates to levels near their peaks of late last summer...government borrowing will increase the pressure on the money market and contribute to high interest rates...the surcharge is a measure of insurance against the risk that without the temporary tax increases the levels of growth will give rise to unacceptable inflationary pressures.<sup>189</sup>

#### *Fear of Inflation—Just Not High Enough*

Throughout 1967, Johnson found himself in a similar situation to President Truman in 1951. While Johnson and his administration feared inflation and, therefore, asked Congress for a tax increase, Congress was not convinced. Congress in 1951, as in

---

<sup>187</sup> Memo, Joe Califano to President Johnson, 6/17/1967, EX FG 11-3 Box 60, WHCF, LBJ Library.

<sup>188</sup> “We recommend the following program: Speed up corporate tax collection; Postpone reduction of excise tax on automobiles and telephone service; 10% corporate tax surcharge and 10% on individual income tax; exempt lowest income brackets; keep civilian expenditures within the January budget and reduce non-Vietnam defense expenditures.” Memo, Henry Fowler, William Wirtz, Alexander Trowbridge, Robert McNamara, Charles Schultze, Gardner Ackely, and Joe Califano to President Johnson, 7/22/1967, FI 11, Box 56, WHCF, LBJ Library.

<sup>189</sup> Memo, Henry Fowler to President Johnson, 8/14/1967, EX BE5, Box 25, WHCF, LBJ Library.

1967, did not fear inflation. Without this inflation fear, Congress was leery of implementing a politically costly tax increase. This hesitancy only further delayed passage of the surtax.

Johnson announced his intention to raise taxes in January 1967. Within a month of his announcement, it was clear that support in Congress would be hard to get. In February 1967, the Congressional Joint Economic Committee (JEC) concluded hearings on Johnson's Economic Report. The crux of the report was that there was no support for the tax proposal unless the economy started to overheat. Gardner Ackley reported the results of the hearings to Johnson:

The jury is still out on the key issues of taxes and wage policy...Only a couple of the outside witnesses before the JEC and none of the Committee members actually supported the tax proposal. A fair number, however, withheld their judgment, admitting that the bullish economic developments might swing them in favor of tax action by May or June.<sup>190</sup>

Wavering prices throughout 1967 reinforced Congressional skepticism. At times, prices rose and, at other times, it appeared that inflationary pressures were softening. This oscillation in prices created doubt that a tax increase was indeed necessary, making it harder for the Johnson Administration to successfully sell the surtax to Congress. By May 1967, the administration was at best able to convince Americans that a recession was no longer imminent. A memo from Ackley to Johnson illustrates the effect wavering prices had on the tax increase:

Our economic statistics have wiggled around in recent months without establishing a clear pattern...Last month's indications of a big rebound in consumer buying have now gone up in smoke. Autos have picked up significantly, but other consumer markets still look soggy according to the

---

<sup>190</sup> Memo, Gardner Ackley to President Johnson, 2/25/1967, "Reactions to your Economic Policy Program," BE 5, Box 25, WHCF, LBJ Library.

latest reports... On the other hand, there has been bullish news in some areas. The outlook is now sufficiently bright to kill the talk of recession, to produce general agreement among the experts that the economy will be moving ahead rapidly by the end of the year... Taking account of these favorable factors on the horizon, nearly all economic forecasters are reaching the objective technical verdict that we are building up steam for a new surge. Still, the surge has not started. There is no compelling hard evidence to convince the non-expert that it lays ahead. Thus, we could not make an airtight case today to the Congress that fiscal restraint will be needed.<sup>191</sup>

Two months later, fear of inflation in Congress was still low. In July, the JEC completed its midyear hearings on the economy. The Johnson Administration was hoping that Congress would be swayed by expert testimony that inflation was pending and a tax increase was necessary. Congress was unresponsive. Ackley provided a snarky description of the hearings, explaining that while “most of what the specialists presented was fully consistent with our forecasts” the “Committee wasn’t sharp enough to see it.” The hearings concluded with more delay. Ackley explained, “...the impact of the hearings were not all we would have wished. [Senator] Proxmire (we are told) plans to issue a statement soon saying we should wait on any tax increase decisions until economic indicators show unexpected strength, or the Administration is ready to predict a sizable increase in defense spending over the Budget.”<sup>192</sup>

In the late summer and fall of 1967, the administration thought it obtained what was needed to propel the tax increase forward, rising prices and the support of businesses and academics. Ackley expressed this hope, “The Consumer Price Index rose by 0.4% in July, larger than any monthly increase since last August....The only comfort is that it is

---

<sup>191</sup> Memo, Gardner Ackley to President Johnson, 5/22/1967, “Economic Situation and Strategy,” EX FG 11-3, Box 60, WHCF, LBJ Library.

<sup>192</sup> Memo, Gardner Ackley to President Johnson, 7/1/1967, “Joint Economic Committee Hearings,” EX FG 11-3, Box 60, WHCF, LBJ Library.

another timely argument for the tax increase.”<sup>193</sup> In October, a group of academics drafted a statement in favor of Johnson’s fiscal policy: “The economic case for a tax increase...is based on the fact that rapidly rising federal expenditures will be injected into an economy in which total expenditures are moving steadily upward and that the interplay of these increases threatens renewed inflation.”<sup>194</sup> By September, the National Association of Business Economists (NABE) joined the academics, sending a statement of support to Ways and Means signed by 455 business leaders.<sup>195</sup> In October, Ackley reported that 90% of economists favored a tax hike and 75% expected that the surcharge would be enacted effective January 1.<sup>196</sup>

The Johnson Administration was unable to capitalize on the mounting evidence that inflation was indeed present and a problem. While evidence was mounting for an anti-inflationary policy, what that policy would be was up for debate. Chairman Mills believed that the cause of inflation was not demand-push but cost-push. The current rise in prices was not caused by high consumer demand but businesses passing along higher

---

<sup>193</sup> Memo, Gardner Ackley to President Johnson, 8/21/1967, “Economic News Notes,” EX FG 11-3 Box 60, WHCF, LBJ Library.

<sup>194</sup> The economists responsible for drafting and circulating the statement are Professors G.L. Bach of Stanford and Walter W. Heller, former CEA Chairman, from the University of Minnesota, and Dr. Joseph A. Pechman, Director of Economic Studies at the Brookings Institution. Memo, Gardner Ackley to President Johnson, 8/16/1967, “Economists’ Statement on Tax Policy,” EX FG 11-3, Box 60, WHCF, LBJ Library.

<sup>195</sup> Memo Gardner Ackley to President Johnson, 8/13/1967, “The Growing Consensus on Tax Policy,” EX FG 11-3, Box 60, WHCF, LBJ Library.

The statement read: “We, the undersigned members of the business community, believe that: (1) congress should enact a temporary uniform tax increase on corporations and individuals for such period as the Vietnam war requires; and (2) the Congress and the Administration should control and reduce Federal expenditures - civilian and military - to the maximum degree that is consistent with the nation's security and economic soundness. The combined result of the tax increase and expenditure reductions should hold the deficit to manageable proportions. These steps are necessary to prevent a federal deficit so large that it could lead to dangerous inflation, spiraling interest rates, tight money, and a serious weakening in our balance of payments positions.” “Statement of Principles,” 9/13/1967, EX FG 11-3, Box 60, WHCF, LBJ Library.

<sup>196</sup> Memo Gardner Ackley to President Johnson, 10/27/1967, “Meeting with Business Economists,” EX BE 5, Box 25, WHCF, LBJ Library.

costs of negotiated wage settlements to consumers through higher prices. Mills believed that the remedy to cost-push inflation was not a tax increase but a decrease in government spending. Thus, while the Johnson Administration was advocating for a tax increase, Mills was advocating for a decrease in government spending. Mills warned that the surcharge was not the “proper medicine” to “take care of the price increases that we are experiencing” (Zelizer, 1998, p. 268).<sup>197</sup> The difference in proposed policy created a stalemate between Mills and Congress and the Johnson Administration.

### *Public Support for the War*

By January 1967, public support for the war had plummeted. Low support increased the political cost to the Johnson Administration to ask for a tax increase and for members of Congress to support it. This cost further delayed the implementation of the surtax and, therefore, decreased the percentage of the war paid for by taxation.

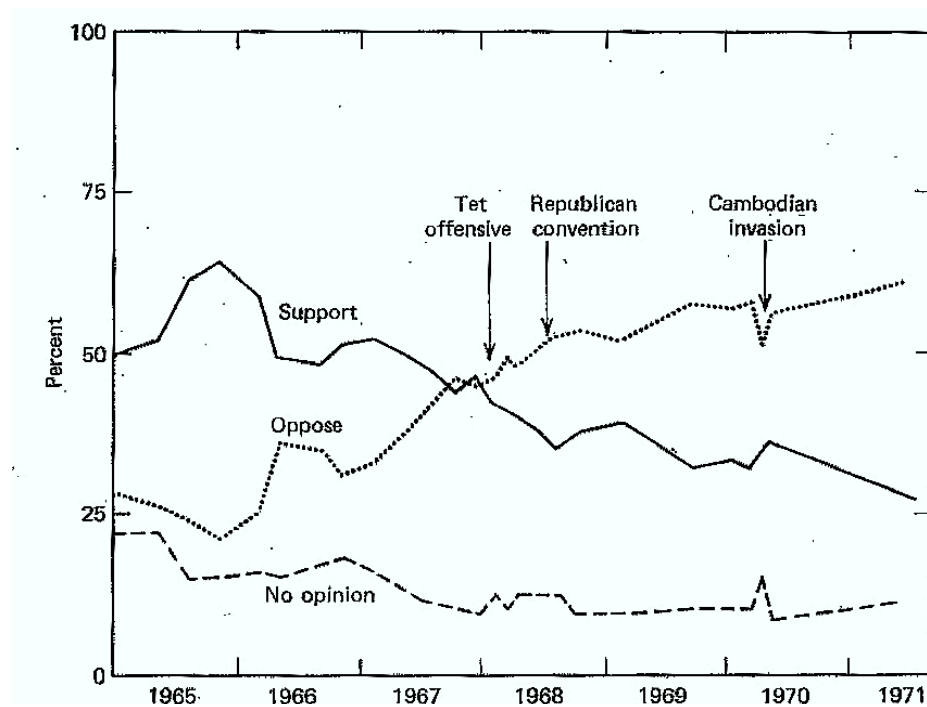
Public support for the war was at its highest between March 1965, when American troops entered Vietnam, and the early months of 1966. By mid-1966, however, support had dropped to levels more familiar to the later stages of the Korean War (Mueller, 1973, p. 53). The graph below shows trends in support for the war in Vietnam. Aside from a couple of interludes in late 1966 and early 1967, the loss of support was never regained. A Rand report found similar trends: “The single largest decline in public support occurred as it became evident—in the spring of 1966—that the war would be neither low-cost nor brief. Support for the war then stabilized at about 50% for approximately a year. But in the spring of 1967, it fell permanently below 50%.

---

<sup>197</sup> For further discussion of cost-push and demand-push inflation and its effect on the tax surcharge, see Simpson (1988).

Thereafter, a steady decline set in at roughly a constant rate until support declined to an all-time low of 28 percent in May, 1971” (Lorrell, Kelly Jr, & Hensler, 1985, p. 20).<sup>198</sup>

**Figure 15: Trends of Support for the Vietnam War**



In retrospect, National Security Council member Chester Cooper, whose tasks included dealing with groups in opposition to the war, also placed the decrease in public support for the war in 1966-1967.

The war wasn't really popular in 1964, it just wasn't unpopular. By 1965 the marches and teach-in began...there was plenty of opposition to the war without the casualties. But the casualties were the kind of thing that was oppressive...It was getting so that by 1966 and 1967 one could meet people whose sons or husbands had died or had been seriously wounded in

<sup>198</sup> Lorell et al. continued, "Throughout the Korean conflict and through 1967 during the Vietnam War, those dissatisfied with the government's war policy overwhelmingly preferred a drastic escalation to quickly resolve the conflict on favorable terms. After 1967 the growing opposition increasing favored de-escalation and withdrawal."



Vietnam. In 1964 and 1965 this was a very rare thing. And it was then that the reality of this war came home.<sup>199</sup>

Johnson was very aware of declining public support. Every week Johnson received a memo that summarized weekly mail received. Throughout 1967 and 1968, the first line of that summary pertained to U.S. policy in Vietnam.<sup>200</sup> For example, on March 29, 1968, at the height of the surcharge debate, there were 550 letters classified as pro-war and 5 times as many letters (2,958) classified as against the war.<sup>201</sup> A White House summary of all mail received in 1967 on the subject of U.S. policy regarding Vietnam found that there were 10,644 classified as pro and 47,267 classified as con.<sup>202</sup>

More importantly, support was constantly discussed amongst senior officials. Lorell and Kelly argue that public support for the war, while discussed often throughout 1966, became even more salient in March 1967, when General Westmoreland requested 200,000 more troops. Opponents of Westmoreland's request argued that public support for the war could no longer be maintained unless the costs of the war—especially casualties—could be stabilized or decreased. In a memo to McNamara, the Assistant Secretary of Defense Alain Enthoven said, “I see this war as a race between, on the one hand, the development of a viable South Vietnam and, on the other a gradual loss in public support, or even tolerance for the war” (Lorrell, et al., 1985, p. 66).

How did this declining public support affect war finance?

---

<sup>199</sup> Interview, Chester Cooper, March 10, 1982, quoted in (Lorrell, et al., 1985, p. 79).

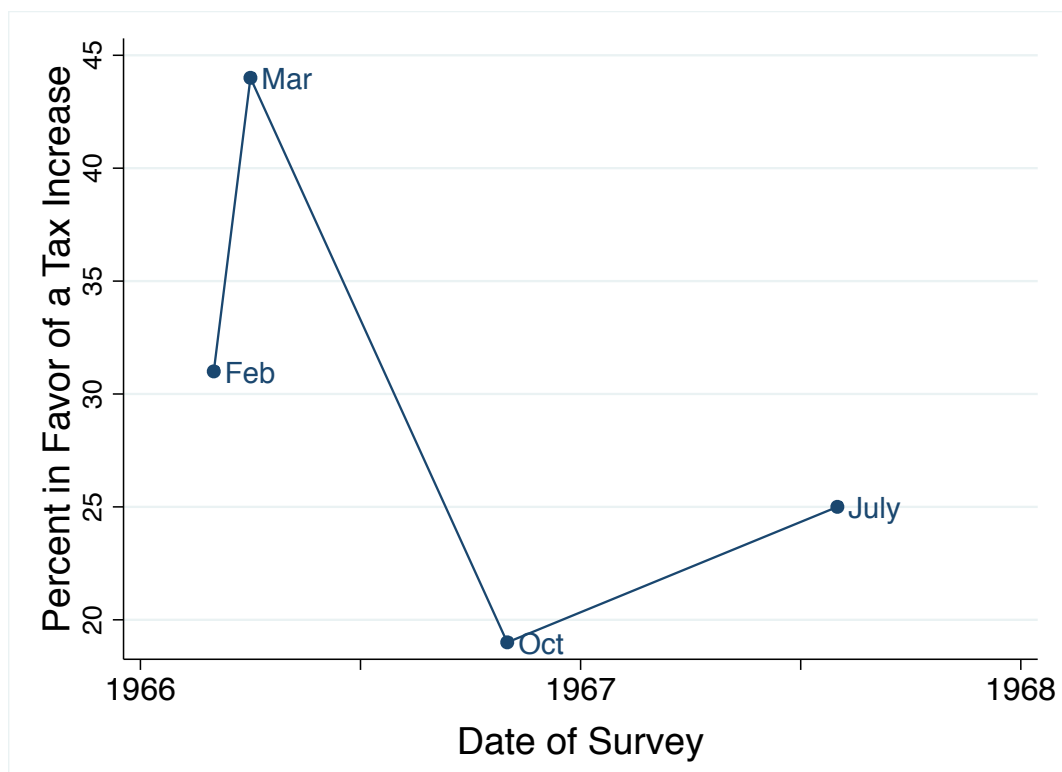
<sup>200</sup> The mail was classified as “Viet-nam – U.S. policy, general” and categorized every letter, card, or telegram received as “pro, con, or comment.” See Papers of LBJ, Mail Summaries, LBJ Library.

<sup>201</sup> Memo Whitney Shoemaker to President Johnson, 3/29/1968, Mail Summaries, Box 1, LBJ Library. Note. In 1967, Whitney Shoemaker was Johnson's public correspondence assistance.

<sup>202</sup> The rest—7,011—were classified as “comment.” White House Mail Room, Volume Mail Receipts, Recapitulation for 1967, 1968, Mail Summaries, Box 1, LBJ Library. Verba et. also state, “We were told that the President avidly followed the polls on the war” (Verba, et al., 1967, p. 318).

First, the public did not want to pay for an ailing policy. Between March 1965 and July 1967, there were four surveys asking the public if they would be in favor of a tax increase to pay for the war in Vietnam.<sup>203</sup> As shown in the graph below, in October 1966, three months before Johnson announced the he would seek a tax increase, only 19% of people polled responded that they would favor “an income tax increase to help pay for the war in Vietnam.”

**Figure 16: Percentage of Americans in Favor of a Tax Increase, 1966-1968**



<sup>203</sup> February 1966: A NORC / Stamford University Survey asked, “Would you approve or disapprove of the following in order to continue fighting (in Vietnam)...increasing taxes at home?” 31% responded they were in favor, 67% disapprove, and 3% didn’t know. March 1966: A Harris Survey asked, “As far as you personally are concerned, if President (Lyndon B.) Johnson said it was necessary to raise taxes to pay for the war in Vietnam, would you favor or oppose raising the income tax?” 44% responded they were in favor, 49% were opposed and 7% were not sure. October 1966 – July 1967: A Gallup Poll question asked, “The suggestion has been made that income taxes be increased to help pay for the war in Vietnam. Would you favor or oppose an income tax increase for this purpose?” 19% responded they were in favor, 73% oppose, and 8% no opinion.

In 1965, Verba et al. found that there was a direct correlation between support for the war and willingness to pay for it. Those who favored increasing the war were more likely to be willing to pay the costs of that increase. The correlations between the escalation scale and the economic costs and welfare cost indices were .37 and .30, respectively. Conversely, there was a tendency for those who favored de-escalation to oppose the payment of these costs. The correlation between the de-escalation scale and willingness to pay economic and welfare costs was -.10 and -.18, respectively (Verba, et al., 1967, pp. 323-324). Verba et al. also found that the pattern of consistency could also be observed when looking at the mean escalation score in relation to willingness to see taxes raised and aid to education cut “if needed to continue the war.” Those who approved reducing aid to education and raising taxes had the highest mean escalation score, while those who opposed raising taxes and reducing education had the lowest (Verba, et al., 1967, p. 324 fnt 317).

Congress was aware of the public sentiment, both for the war and the relationship between the war and the tax increase. Consequently, members were reluctant to support the tax bill. On January 13, 1967, three days after Johnson delivered his State of the Union address announcing the surcharge, Fowler met with various Democrats in Congress to survey their support for the surcharge. Representative Frank Karsten (D-MO) responded that lack of public support would inhibit his ability to support a tax increase. Fowler summed up Karsten’s response for Johnson,

No sympathy in Missouri for the Vietnam War. It is impossible to convince the people out there of either the need or the existence of the war. The party 'is in a helluva fix in Missouri unless Vietnam is settled.' He would much prefer a corporate tax increase only and thinks it would be

rough sledding in any event for the tax bill. Will reluctantly support bill.<sup>204</sup>

In August 1967, when Johnson officially requested the surcharge, he also requested that his staff secretly survey Democratic members of Congress to find out the current state of opinion for the war and tax increase. In all, 169 interviews were conducted during August and September (137 representatives and 32 senators). Of the 169 interviews, 104 were categorized as negative with respect to the war (Gibbons, 1995, pp. 804-808). Typical of the responses of the survey were Senator John Pastore (D-RI) and Representative Julia Butler Hanson (D-WA), both influential and respected members who supported the administration on the war. Pastore commented that “our problem is Vietnam—boxes coming back, casualties going up—back home not a good word from anyone for us and this attitude is reflected in the Senate” (Gibbons, 1995, p. 806). Congresswoman Hansen was reported as saying that the “present course of action in Vietnam will defeat not just the President but the Democratic Party”; that the public “wants the war over quickly, not because it wants to win but because it wants out. People would rather pull out without victory if this would avoid new taxes. They think Vietnam is not worth the tax increase” (Gibbons, 1995, p. 806).

Aside from Congressional delay, public support for the war had a more indirect effect on Vietnam War finance. The fear of low public support by the Johnson Administration contributed to an overall war finance policy characterized by a low percentage of the war paid for by taxation. The Johnson Administration did not want the public to interact with the war. Once taxes were raised, the administration believed that

---

<sup>204</sup> Memo, Henry Fowler to President Johnson, 1/13/1967, FI 11, Box 56, WHCF, LBJ Library.

the public would become more aware of the course of the war, including unpopular casualties. Thus, Johnson deliberately chose to avoid public scrutiny by attempting to shield the costs of the war through a war finance policy that did not raise taxes. Secretary of State Dean Rusk explained this logic at a staff conference on October 5, 1967.

The Administration made a deliberate decision not to create a war psychology in the United States. There have been no war bond campaigns, etc. The decision was made because it is too dangerous for this country really to get worked up. Maybe this was a mistake; maybe it would have been better to take steps to build up a sense of a nation at war. The course we have taken has meant expecting a great deal of our men in Vietnam, against the background of a home front going about business as usual (Gibbons, 1995, p. 906).

It has been suggested by scholars that the lesson Johnson took from the Korean War was not a fear of inflation but a fear of casualties and public opinion. Historian Paul Hammond argued,

The resource costs of the [Korean] war were never a serious issue. It was the human costs—the casualties suffered by American military personnel in Korea—that ultimately sapped American support for the war. The optimistic lesson of this period, when the United States economic power was at its postwar zenith in comparison with other national economies, was that political leadership, not resource limits, was the more serious constraint on the realization of American foreign policy objectives. The pessimistic lesson was that the American public would not sustain its initial support of a foreign war (Hammond, 1992, p. 204).

There is evidence for Hammond's claim. In a July 21, 1965, National Security Council meeting, Johnson's Undersecretary of State, George Ball, directly compared public opinion in Korea and Vietnam. He argued that mounting casualties would produce increasing pressures on the president to escalate the war beyond prudent levels and cause a serious fall-off in public support. He stated in retrospect, "In a long war, I said the President would lose the support of the country. I showed him a chart I had prepared showing the correlation between Korean casualties and public opinion..." (Lorrell, et al.,

1985, p. 52).<sup>205</sup> Thus, Johnson did not want to “loose the flood of debate on Vietnam for which a tax increase proposal would provide the tempting occasion” (Heller, 1966, p. 94).

*1968—Rising Prices, A Global Financial Crisis, and Tet*

Congress reopened the tax surcharge debate in January 1968. The first few months of the new year were a continuation of 1967. The fear of inflation was still low among members of Congress and the standoff between Johnson and Mills over the extent of budget cuts remained. In March, the JEC released its 1968 Economic Report. On the issue of the tax increase the majority report “decided against making a recommendation on a tax increase at this time.” Frustratingly for the Johnson Administration, the report “acknowledged the current economic strength and inflationary pressures” but remained unconvinced that “a ‘boom’ will materialize or that a tax increase will head off price increases ‘at least for the year ahead.’”<sup>206</sup> Three events in the spring of 1968 created a high enough inflation fear to break the deadlock. First, prices began to rise at historic rates, and there was clear evidence that consumer demand was responsible. Second, in March, a global financial crisis was attributed to the devaluation of the dollar. Third, there was even further escalation of the Vietnam War, starting with the Tet Offensive in January. Taken together, these three events raised the fear of inflation high enough to break the stalemate and get the surcharge through Congress.

---

<sup>205</sup> The Chart from George Ball’s NSC briefing can be found on page 53 of Lorell (1985). It is important to note that Lorell discusses the interpretation of Ball’s presentation by senior policy members. He argues that senior policy makers ignored Ball’s presentation and forgot the Korean War experience.

<sup>206</sup> Memo Arthur Okun to President Johnson, 3/18/1968, “Joint Economic Committee Report,” EX FB 11-3, Box 61, WHCF, LBJ Library.

First, throughout the spring, prices were rising at historic rates. The increases from December 1967 to March 1968 were the largest the U.S. economy had experienced in over a decade. There was a 1.1% increase in the consumer price index, higher than any quarterly increase in 10 years; the over-all wholesale price rise of 1.3%, exceeding any quarterly increase since mid-1965; and the 1.1% rise in wholesale industrial commodities topped any quarter since late 1956.<sup>207</sup> New CEA Chairman Arthur Okun reported to Johnson that “the 4% rate of price increase we are now experiencing is the most rapid in 17 years. This Nation has never been willing to tolerate that much inflation for very long.”<sup>208</sup> In May 1968, the CEA forecast that the rate of inflation would be more costly than a tax increase,

An extra 2% rate of price increase costs the average American who is defenseless against inflation twice as much as the penny-on-a-dollar surcharge. For the poor who are exempted from the surcharge, the cost of inflation is even relatively greater: Inflation is indeed the cruelest tax and—unlike the surcharge—it is not temporary.

The memo concluded with grim words from Okun, “The financial mess that would follow failure of the surcharge could jeopardize our 87-month record prosperity. It could bring on a recession and a slump. Even a mild recession would cost \$30 or \$40 billion of production and 1 ½ million jobs”<sup>209</sup>

The case for the surcharge was supported by the perceived source of rising prices. As discussed above, throughout the fall of 1967, Mills argued that prices were rising due to cost-push not demand-push inflation. By late spring 1968, the entrenched belief in

---

<sup>207</sup> Memo, Arthur Okun to President Johnson, 5/27/1968, “Prices and Wages in the First Quarter,” EX FG 11-3, Box 61, WHCF, LBJ Library.

<sup>208</sup> Memo, Arthur Okun to President Johnson, 5/20/1968, “Added Notes on the Costs of Fiscal Inaction,” FI 11, Box 56, WHCF, LBJ Library.

<sup>209</sup> Memo, Arthur Okun to President Johnson, 5/20/1968, “Costs of Fiscal Inaction,” EX BE 5, Box 25, WHCF, LBJ Library.

Congress that the American economy was suffering cost-push inflation was challenged. Congress now acknowledged that demand-push inflation was evident. In April, Okun wrote a letter to Mills urging him to accept the tax increase, citing new demand-push inflation, “Particularly worrisome is the increasing evidence that, in the early months of this year, consumers have been spending more freely. This development is adding further to the demand-pull pressures that emerged in the second half of 1967 and exacerbated our cost-push inflationary problems.”<sup>210</sup> Adding support to the administration’s cause was a May report by the Bureau of Labor Statistics on price and wage developments during the first quarter. Okun described the report to Johnson, “It is unpleasant reading about growing inflationary tendencies on all fronts. Troublesome cost-push forces have been compounded by a surge of demand throughout the economy. The need for prompt fiscal restraint to cool off demand is the clear lesson conveyed by the hard facts.”<sup>211</sup> When Mills decided to accept the surcharge in June, he acknowledged that the shift from cost-push to demand-pull inflation was the primary cause (Zelizer, 1998, p. 276).

Second, the rise in prices was recognized as a contributing factor to a global economic crisis.<sup>212</sup> In March 1968, there was a speculative run on gold which *Time*

---

<sup>210</sup> Letter Arthur Okun to Chairman Wilbur Mills, 4/8/1968, EX FG 11-3, Box 61, WHCF, LBJ Library. Interestingly, the inflation in 1968 was partly caused by the Federal Reserve’s response to its belief that the tax increase would pass. The Fed, expecting that Congress would recognize and act on the need for the surcharge, expanded money supply vigorously in the first half of 1967 (McLure Jr., 1972, p. 56).

<sup>211</sup> Memo, Arthur Okun to President Johnson, 5/27/1968, “Prices and Wages in the First Quarter,” EX FG 11-3, Box 61, WHCF, LBJ Library.

<sup>212</sup> The 1968 Crisis had a myriad of causes beyond the financing of the Vietnam War. What is pertinent for this discussion is that the devaluation of the dollar as a result of inflation was a primary contributor and that regardless of the cause of the crisis, Mills and the Johnson Administration acknowledged that a more permanent solution was to ensure a stable dollar by controlling inflation. For a discussion of these causes see Collins (1996, pp. 396-422).



magazine called the “largest gold run in history, a frenetic speculative stampede that . . . threatened the Western world” (Collins, 1996, p. 396). This economic crisis raised the fear of inflation to high enough levels to break the stalemate. The Johnson Administration believed that the crisis was directly connected to the failure to pass the surtax. In a memo from Treasury Secretary Fowler to President Johnson on March 4, 1968, he stated that one of four causes of the crisis was “General uncertainty about the international monetary system, caused by worry in Europe among other things over the failure to pass the tax bill.”<sup>213</sup> In May 1968, in a memo from Okun on the cost of not passing the surcharge he also argued that “an international financial flare-up against the dollar would have widespread costs: impairing the value of financial assets held by Americans in bonds and stocks; costing jobs and profits for our companies that trade abroad, and; harming the national prestige so vital to our security”<sup>214</sup>

Mills believed that the dramatic impact of the March gold crisis helped LBJ accept his demands to help pass the surcharge: "President Johnson...was scared almost out of his body when he woke up to the fact that people in Europe were having trouble exchanging dollars for foreign currency." For his part, Johnson agreed that the crisis provided an important impetus, but he emphasized its impact on his opposition: "The international crisis had done what we could not do: arouse the American public and many congressional leaders to the need for decisive action." Mills did indeed subsequently report that the "severe run on the dollar in the international market during the early

---

<sup>213</sup> Memo, Henry Fowler to President Johnson, 3/4/1968, “Gold Problems, NSF Agency File, Box 65, WHCF, LBJ Library.

<sup>214</sup> Memo, Arthur Okun to President Johnson, 5/20/1968, “Costs of Fiscal Inaction,” EX BE 5, Box 25, WHCF, LBJ Library.

months of 1968" and the "drastic outflow of gold" were "important to...[the Ways and Means Committee] in reaching a decision to agree to the surtax proposal" (Collins, 1996, p. 411).

Third, adding to the fear of inflation was the escalation of the Vietnam War. On January 30, 1968, the Communist forces of Vietnam launched an offensive campaign against the forces of the Government of South Vietnam, the United States, and their allies. In response to the offensive, Johnson sent 11,000 additional Marines and airborne troops. The Joint Chiefs of Staff had recommended 13,500 more troops. Johnson addressed the nation on March 31, 1968. He announced that responding to the Tet Offensive would cost Americans \$2.5 billion for FY1968 and \$2.6 billion for FY1969.<sup>215</sup>

These projected increases in expenditures for our national security will bring into sharper focus the Nation's need for immediate action: action to protect the prosperity of the American people and to protect the strength and the stability of our American dollar. On many occasions I have pointed out that, without a tax bill or decreased expenditures, next year's deficit would again be around \$20 billion. I have emphasized the need to set strict priorities in our spending. I have stressed that failure to act and to act promptly and decisively would raise very strong doubts throughout the world about America's willingness to keep its financial house in order. Yet Congress has not acted. And tonight we face the sharpest financial threat in the postwar era—a threat to the dollar's role as the keystone of international trade and finance in the world.<sup>216</sup>

Rising prices driven by consumer demand, a global financial crisis tied to a weak dollar, and the realization that the war was far from over created such a high fear of inflation that it broke the deadlock. Johnson agreed to further reductions in spending and Mills agreed to the surcharge.

---

<sup>215</sup> *Public Papers of the Presidents of the United States: Lyndon B. Johnson, 1968-69*. Volume I, entry 170, pp. 469-476. Washington, D. C.: Government Printing Office, 1970.

<sup>216</sup> *Public Papers of the Presidents of the United States: Lyndon B. Johnson, 1968-69*. Volume I, entry 170, pp. 469-476. Washington, D. C.: Government Printing Office, 1970.

### *The Revenue and Expenditure Control Act of 1968*<sup>217</sup>

On June 28, 1968, Johnson signed H.R. 15414, the surcharge, into the law. The bill promised to increase federal revenues by \$15.5 billion in 1969, with about \$11.6 billion coming from the surcharge (Zelizer, 1998, p. 277). In addition to a 10% surcharge on individual and corporate taxes, the bill sped up corporate tax payments and raised excise taxes on automobiles and telephones. The bill also mandated that federal expenditures be reduced by \$6 billion in FY1969, exempting cost related to the Vietnam War, interest on the debt, veterans services, and social security. Moreover, the legislation required that requests for future “built-in” spending increases be reduced by \$10 billion (Zelizer, 1998, p. 277).<sup>218</sup>

### **Monetary Policy and the Federal Reserve**

Why did Johnson decide to pursue a tax increase when he could have chosen to let the Federal Reserve fight inflation through monetary policy? Johnson could have avoided bringing the surtax to Congress and kept his Great Society intact, yet he chose not to. The following section will argue that it was the preference of both the Johnson Administration and the Federal Reserve to increase taxes to pay for the war. By 1967, the Fed and the Johnson Administration were working together in order to force Congress

---

<sup>217</sup> The long title of the bill is “An act to increase revenues, to limit expenditures and new obligational authority, and for other purposes.” For the Congressional explanation of the bill see (“Revenue and Expenditure Control Act of 1968: Explanation of the Bill H.R. 15414 As Agreed to in Conference,” 1968).

<sup>218</sup> The bill stated that “total new obligational and loan authority provided for the fiscal year 1969 is to be reduced by \$10 billion” (“Revenue and Expenditure Control Act of 1968: Explanation of the Bill H.R. 15414 As Agreed to in Conference,” 1968).

to pass the surcharge. However, when inflation became severe and passage of the surcharge seemed unlikely, the Fed acted autonomously.

*Johnson, Congress, and the Preference for Low Interest Rates: March 1965 to Fall 1966*

The Johnson Administration was averse to high interest rates. Johnson had a particular distaste for them. He believed they placed additional pressure on homebuilding, threatened the solvency of savings and loans associations, and penalized small businessmen, farmers, and moderate homebuyers. In a 1978 interview, Gardner Ackley described Johnson's distaste for high rates: "...when he refused to go for a tax increase, the Federal Reserve tightened money and interest rates went up—which he thought was just usury and transfer robbery from the poor guy to the private banker...It made him ill to think about those bankers collecting 12 percent interest" (Hargrove & Samuel, 1984, pp. 232-233).

In 1966, to Johnson's dismay, the Fed maintained a restrictive monetary policy to combat inflation. The CEA warned Johnson on multiple occasions that the Fed would be forced to act and the raising of rates would have negative effects in sectors of the economy that Johnson valued, primarily housing.<sup>219</sup> In making the case for a tax increase, Ackley told Johnson that if he did not raise taxes the Fed would tighten money, placing their economic values at risk,

...if we do not restrain demand by a tax increase, the Fed will inevitably be forced to tighten money a great deal more: putting further pressure on homebuilding; threatening the solvency of many savings and loans associations; penalizing small businessmen, farmers, and moderate-income homebuyers. A tax increase would

---

<sup>219</sup> A myriad of authors discuss how the 1966 interest rate increase affected disintermediation and housing (Bell, 1968; Brownlee, 1968; Fand, 1968; Maisel, 1967).

allow the Fed to keep monetary policy about where it is, or even loosen up a little.<sup>220</sup>

In an October report to President Johnson from Treasury Secretary Fowler, Fowler also pointed out the connection between increased interest rates and its effect on residential housing.

This situation...reflects the adaptation of monetary and fiscal policies which have dampened inflationary forces and minimized the inevitable adjustments that characterize a free market economy operation under heavy and shifting power. One of these adjustments—in residential construction—has been too drastic.<sup>221</sup>

Once the Fed raised rates, there was an outcry from many in Congress.

Congressmen Al Ullman (D-OR) of the House Ways and Means Committee echoed the concerns Ackley identified above. On July 7, 1966, he wrote to President Johnson, “High interest rates will not do the job. They are inflationary in themselves. They have not succeeded in slowing investment in plant capacity, nor—with the single exception of housing—have they slowed the rising level of personal debt. They have instead contributed significantly to higher costs that are certain to be reflected in the consumer price index.”<sup>222</sup> Ullman was not the only member of the Ways and Means to dislike the

---

<sup>220</sup> Memo, Gardner Ackley to President Johnson, 5/10/66, “The Case for Higher Taxes,” FI 9, Box 55, WHCF, LBJ Library.

<sup>221</sup> Report Fowler to President Johnson, “The Current Economic and Financial Situation,” 10/15/1966, EX BE 5, Box 24, WHCF, LBJ Library.

In an interview Ackley recounted how many times he warned the president of the Fed’s actions. Referring to a time in the spring of 1966, when a White House staffer suggested the president should condemn tight money, Ackley responded, “I went back through my files and pulled out about ten different places in which we had said in so many words, ‘If you don’t have a tax increase, one of those things you’re really going to get is tight money and high interest rates. That is the choice you have to make.’ So I said, ‘We told you so!’” (Hargrove & Samuel, 1984, pp. 232-233).

<sup>222</sup> Ullman commenced the letter stating, “In my judgment, unless corrective action is taken soon, the tight money policies imposed by the Federal Reserve Board and supported by recent action of your Administration will destroy the gains we have made...I submit, Mr. President, that this Administration cannot afford either politically or economically to be swept along, compounding the initial folly of the Federal Reserve Board, by engaging in such high interest rates policies as 5 ¼ percent sales participation

state of monetary policy. Chairman Wilbur Mills also condemned tight money. Mills told Ackley that he was going to meet with members of the Fed in attempt to prevent them from further increasing interest rates.<sup>223</sup>

By late 1966, Johnson and the Fed began to work together to coordinate economic policy. The Troika—the CEA, Treasury, and BoB—was expanded to include the Fed and became the Quadriad. In addition, there were regular lunches between the CEA and the Fed as well as staff members from both agencies attending meetings (Hargrove &

---

offerings and increased Federal loan rates. Every instrument of government should be marshaled to restore the healthy balance of monetary and fiscal policy required for continued prosperity.” Johnson responded to Ullman’s letter with similar concerns. “As you know, my views on tight money and high interest rates are not much different than your own. I am therefore giving full and prayerful consideration as to whether and what kind of additional steps I might recommend, so that some of the burden of restraint can be taken off of monetary policy.” Letter, Congressman Al Ullman to President Johnson, 6/72/66, BE 5-2, Box 31, WHCF, LBJ Library. Letter, President Johnson to Congressman Al Ullman, 7/7/66, BE 5-2, Box 31, WHCF, LBJ Library.

The stress monetary policy placed on residential housing was a continual concern for President Johnson. On May 20<sup>th</sup>, 1968, the CEA sent two memos to President Johnson. Both memos stated the Fed would be forced to maintain a tight monetary policy without a surcharge and the primary effect would be on the housing market. In the first memo CEA Chairman Arthur Okun informed Johnson that the surcharge was less costly for homebuyers than current monetary policy. Moreover, the current state of affairs could lead to a housing shortage. “For the average homebuyer, an extra half point of mortgage interest is about as costly as the surcharge. And it lasts for a decade or more...Another depression in homebuilding could mean a real housing shortage. In 1966, we had some excess vacancies; but they’re gone now. And it would impair the long-term ability of the homebuilding industry to meet urgent national needs.” In a second memo, delivered later that afternoon, Okun went on to present specific economic predictions. “The 1966 mortgage famine and the long recovery of home-building through 1967 cost the Nation at least 500,000 new homes. If tight money has to hold down inflation in the year ahead, we could lose 1 million new homes in 1968-70...Compared with late 1965 when we first needed tax action, mortgage interest rates and bank loan rates are up 1 ½ percentage points. Nobody can tell how much higher they could go. But 8% mortgage money is now present in some places and, with fiscal inaction, 10% is not outside the realm of possibility.” Memo, Arthur Okun to President Johnson, “The Costs of Fiscal Inaction,” 5/20/1968, EX BE 5, Box 25, WHCF, LBJ Library. Memo, Arthur Okun to President Johnson, “Added Notes on the Costs of Fiscal Inaction,” 5/20/1968, EX BE 5-2, Box 30, WHCF, LBJ Library.

<sup>223</sup> On August 20, 1966, Ackley relayed a conversation he had with Mills to President Johnson: “He condemned tight money and said that he was seeing four members of the Federal Reserve Board next week. He wanted to stop them from tightening further. He felt that tight money was sure to slow down investment. When I noted that business goes right on borrowing at high interest rates if they can turn a profit, he said, “Yes but the way the Fed is tightening, the money just won’t be available.” I also noted that plant and equipment would be the last to be hit by tight money. Homebuilding, public works, and small business take the brunt of it.” Memo, Gardner Ackley to President Johnson, 8/20/1966, “Conversation with Wilbur Mills,” FI 9 – Box 55, WHCF, LBJ Library.

Samuel, 1984, pp. 236, 249). The result of this coordination was the “policy mix model” in which Johnson would raise taxes and the Fed would ease monetary policy.<sup>224</sup>

Johnson’s advisors also believed that if they coordinated economic policy with the Fed, it would be easier to get a tax bill through Congress. Specifically, they hoped to reassure Congress that once the surcharge was passed, the Fed would simultaneously stimulate the economy. In August, Ackley advocated to get the Fed on record as promising to ease monetary policy if Johnson increased taxes.<sup>225</sup> Three months later, in November, the CEA still believed that the key to passing a tax increase was the Fed. In the words of Ackley, without action by the Fed, a tax increase for next year is quote a damn close question.”<sup>226</sup>

Consequently, there was a movement to coordinate fiscal and monetary policy. On August 22, Kermit Gordon wrote to President Johnson. Gordon agreed with Fowler’s suggestion that the Fed be brought into meetings on the economy, “An effective program of tax restraint should be accompanied by an easing of monetary policy. To lay the basis for a shift in monetary policy, I would suggest that Chairman Martin be brought into Administration discussions of the shape of the tax program.”<sup>227</sup> By December, Martin was working closely with the Troika. A memo from Undersecretary of the Treasury

---

<sup>224</sup> For the policy mix model see Memo, Joseph Barr, Charles Schultze, and Gardner Ackley to President Johnson, “A Second Look at the Economic Outlook and Policy for 1967,” 12/14/1966, BE 5, Box 25, WHCF, LBJ Library.

<sup>225</sup>“I believe that we could and should get the Fed on record promising to adjust the monetary policy screws (and especially help to relieve the mortgage famine) in return for a new fiscal program. Congress needs to be reminded that we can have a less restrictive monetary policy, but only by adopting a more restrictive fiscal policy.” Memo, Gardner Ackley to President Johnson, 8/9/1966, “An Immediate Tax Program,” FI 9, Box 55, WHCF, LBJ Library.

<sup>226</sup> Memo, Joe Califano to President Johnson, 11/8/1966, EX FI 4, Box 23, WHCF, LBJ Library.

<sup>227</sup> Memo, Kermit Gordon to President Johnson, “Secretary Fowler’s Memorandum on a Tax Increase Program,” 8/22/1966, EX FI 11, Box 56, WHCF, LBJ Library.

Joseph Barr, Bureau of the Budget Chairman Charles Schultze, and CEA Chairman Gardner Ackley confirmed the cooperation. “We told you that our reports were preliminary, and that we would continue our work, in close cooperation with Chairman Martin and his staff...the Federal Reserve staff have made independent projects (using the same Federal spending assumptions). By and large, they are very close to ours.”<sup>228</sup>

*The Federal Reserve: January 1967 to June 1968*

The Fed preferred that Johnson raise taxes for a myriad of reasons. First, the United States was facing a severe balance of payments problem. The only long-term solution was to stabilize the dollar via a tax increase. Second, raising interest rates would compound the 1967 sterling crisis. Third, high interest rates were creating a problem of disintermediation, the replacement of investment flows through financial intermediaries such as banks with direct investments such as bonds or other securities. Finally, by late 1967 inflation was so severe that the Fed felt that it could not manage it alone. Thus, from January 1967 to June 1968 the Fed did everything it could to aid passage of the surcharge, lowering rates every time passage seemed imminent and raising them when passage seemed unlikely.<sup>229</sup>

---

<sup>228</sup> Memo, Joseph Barr, Charles Schultze, and Gardner Ackley to President Johnson, “A Second Look at the Economic Outlook and Policy for 1967,” 12/14/1966, BE 5, Box 25, WHCF, LBJ Library.

<sup>229</sup> The Fed eased monetary policy in January 1967 when Johnson announced he would raise taxes in his State of the Union address. By June, Johnson had yet to send the surcharge to Congress. The Fed, fearing rising prices, tightened monetary policy. Once Johnson formally requested the surcharge in August, the Fed once again ceased raising rates. In September, the economy was overheating. This time, the Fed restrained from raising taxes to help sway members of Congress that the surcharge was necessary. It was believed by all members of the Federal Open Market Committee that if the Fed tightened monetary policy, Congress would see no need to slow down the economy by fiscal means. However, once Congress shelved the surcharge and adjourned for the year, the Fed saw no hope of a tax increase. As a result, Fed members felt they had to fight inflation alone and tightened monetary policy.



By the fall of 1967, the Fed wanted the tax bill to be passed just as much as the Johnson Administration. First, the United States was facing a worsening balance of payments problem. The chief cause was inflation. Thus, a tax increase was a remedy to control rising prices. Federal Reserve Associate Economist Robert Solomon made the case before the September 1967, Federal Open Market Committee Meeting.

Our price level is now on an upward tilt and that will certainly not help our competitive position. One not very startling conclusion from all this is that the domestic case for the tax increase is strongly reinforced by balance of payments considerations...On the basis of this review, the road to balance of payments improvement appears to have three elements: recovery in Europe; avoidance of inflation here; and a tightening of the Commerce Department program on direct investment.<sup>230</sup>

The Fed's urgency for a tax increase was compounded with the 1967 Sterling Crisis. In November rumors circulated that the British pound would be devalued and sterling came under heavy pressure and on November 18, the British Prime Minister announced that the pound would indeed be devalued (Cairncross & Eichengreen, 2003) . The primary effect of tightening monetary policy was an increase in interest rates. Any increase in rates would place further pressure on the Sterling. The Fed feared that if interest rates were raised further, there would be a rush to purchase more dollars, placing further pressure on the pound. However, if the surcharge was passed, prices would stabilize without having to resort to higher interest rates. Fed Economist Robert Solomon testified before the FOMC in December:

...there is considerable unease in the financial world regarding 1) the viability of sterling at the new exchange rate, 2) the U.S. balance of payments, and 3) the price of gold both in London and at the U.S.

---

<sup>230</sup> Robert Solomon, September 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 29-30.

Treasury. A further erosion in the U.S. gold stock is, in turn, very likely to stimulate speculation by private gold buyers *and to induce central banks* that have heretofore been content to hold dollars to change their policies and buy gold from the United States. What *options* are open to the United States? The first one is forceful *restraint* against inflation...I have left to the end the problem of most direct concern to this Committee—what monetary policy should do. The balance of payments calls for restraint and if fiscal restraint is inadequate, monetary restraint is in order. There is only one consideration, from the international side, that argues against a significant shift toward greater monetary restraint: sterling is in a very uncertain condition even at its new par value. If sterling were forced off its present parity, the consequences for the international monetary system could be extremely severe.<sup>231</sup>

Vice Chairman Alfred Hayes concurred with Solomon's statement and recommendation.

After Congress failed to pass the surcharge, he stated, "We must also have in mind the possible adverse effects of any substantial interest rate adjustments on sterling—which is in a decidedly delicate state."<sup>232</sup>

In addition to the balance of payments problem, the Fed preferred to raise taxes to avoid the problem of disintermediation that was negatively affecting the banking sector.<sup>233</sup> In the September 1967, FOMC Committee Meeting, Federal Reserve Board Member William Sherrill expressed his hope that the tax would be passed as high interest rates would result in serious disintermediation.

With the President's fiscal policy recommendations now before Congress, there was some hope that a balanced program of public policies would be in effect in late 1967 or early 1968. Moreover, even a small increase in short-term interest rates at present could result in a serious problem of disintermediation, and in his judgment the potential gains from firming somewhat were not sufficient to warrant running that risk.<sup>234</sup>

---

<sup>231</sup> Robert Solomon, December 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 44-47.

<sup>232</sup> Alfred Heyes, December 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 49.

<sup>233</sup> For an in depth discussion of the negative effects of financial disintermediation see (Vernon, 1973).

<sup>234</sup> William Sherril, September 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 43.

At the same meeting, George Clay, President of the Federal Reserve Bank of Kansas City, articulated the same fear.

Presumably a monetary policy of less ease in terms of credit expansion would be reflected in upward pressure on interest rates, Mr. Clay said. The issue involved was not whether interest rates were likely to rise, but whether the benefits sought under such a policy outweighed the costs. One factor was the risk of financial disintermediation and its attendant effects.<sup>235</sup>

In the fall, prices rose at an alarming rate. In September, Alfred Hayes reported “the money stock had increased at a 9 percent annual rate in the past six months, the fastest for any six months in more than twenty years.”<sup>236</sup> Despite this rise, the Fed purposely held down rates in order to persuade Congress that a tax increase was urgent. The administration and members of the Fed believed that if the Fed tightened monetary policy then Congress would see no need for a tax increase. Almost every board member agreed that raising rates would interfere with passage of the surcharge. Chairman Martian summed up the tone of the meeting,

With fiscal policy strongly simulative pending action on the President's tax program, the simple logic of the economic situation implied the desirability of changing monetary policy, as it probably had as much as two months ago. But the overriding need at this point was to get some restraint from fiscal policy through a tax increase, and in his judgment that would be less likely if Congress came to believe that adequate restraint was being exercised by monetary policy.<sup>237</sup>

---

<sup>235</sup> George Clay, September 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 55.

<sup>236</sup> Alfred Hayes, December 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 30 - 33.

<sup>237</sup> Voting FOMC Members present: Chairman William Martin, Vice Chairman Alfred Hayes, Andrew Brimmer, Dewey Daane, Darryl Francis, Sherman Maisel, George Mitchell, J.L. Robertson, Charles Scanlon, William Sherrill, Eliot Swan, and Edward Wayne. A few other members comments—Vice Chairman Alfred Hayes: I would hate to see an excessive rise in interest rates interfere with the vitally needed action on higher taxes. Member Sherman Maisel: It was necessary to do as much as possible to obtain the tax increase, and not to let Congress say, "The Federal Reserve is running the economy. Why should we move?" Member Andrew Brimmer: The most important consideration at the moment was the

Thus, while monetary policy should be tightened, they preferred to wait and see.

Two months later, in December 1967, the Fed reversed their position and began to tighten monetary policy. On October 3, 1967, Congress shelved the surcharge, and in December Congress adjourned. The Fed interpreted these actions as a sign that the surcharge was not going to get passed. More importantly, even if it did pass in early 1968, it would be too late. The economy was now in an inflationary cycle and the monetary brakes needed to be applied on immediately. Many members of the FOMC felt that fiscal action was desperately needed, as monetary policy alone would not be able to control inflation. However, they felt they had to try. Chairman Martin compared the current inflation to a horse running loose and monetary policy, while it could not return the horse to the barn, could at best keep it from running too fast.<sup>238</sup> Vice Chairman Alfred Hayes had the same concerns. He believed that the prospects for a tax increase in

---

need to encourage fiscal action, which the members of the Committee had favored for some time. In his view any shift toward firming now would lead to rapid reactions in financial markets that would have seriously adverse effects on Congressional attitudes toward the President's program and would jeopardize its enactment. While he was not at all sure how soon Congress would act and how much of a tax increase would be approved, he thought it would be a serious mistake to reduce the chances of favorable action by firming monetary policy now. Moreover, Chairman Martin was scheduled to testify on the tax increase in hearings before the House Ways and Means Committee this week, and a move toward restraint by the Open Market Committee today, even if it was a modest one, could well complicate the discussion of the relations between fiscal and monetary policy that was likely to develop at those hearings. September 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System.

<sup>238</sup> “From the standpoint of economic considerations alone, it would have been desirable to adopt a firmer monetary policy a number of months ago. It had been clear then, however, that the overriding need was for a tax increase, and that a firming of monetary policy would make Congressional action on taxes less likely. Now it was clear that any tax increase would come later than it should, and perhaps too late. He certainly had done everything he could to help the Administration *persuade* Congress of the need for enactment of a tax increase in this session, but those efforts had been futile. There was no doubt that the System was faced with a serious problem at present. To his mind, the economic statistics for the third quarter demonstrated that the horse of inflation not only was out of the barn but was already well down the road. To pursue the analogy, he did not think the horse could be returned to the barn by monetary policy, but it could be prevented from trotting too fast.” William Martin, December 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 97-98.

early 1968 were at best dubious and further inflationary pressure was imminent. Thus, monetary policy had to be tightened in order to protect both the U.S. economy and the long-term stability of the dollar.<sup>239</sup>

The first six months of 1968, until the surcharge passed in June, was a repetition of 1967. The Fed preferred that taxes be raised. The United States was still facing a balance of payments problem,<sup>240</sup> the Sterling was still under pressure,<sup>241</sup> and disintermediation was hindering investment.<sup>242</sup> However, with no passage in sight, the Fed maintained a tight monetary policy throughout the spring. Martin concluded the

---

<sup>239</sup> “But a more important development since our last meeting has been the demise of any hope for a tax increase during this session of Congress. I cannot help feeling that the prospects for a tax increase in early 1968 are at best dubious. Accentuation of inflationary pressures and a further growth in inflationary psychology appear to be highly likely if excessive demands are piled on top of pre-existing cost pressures. The growth of inflationary attitudes must be checked both in the interest of longer run domestic stability and because of the adverse effects on international confidence in the stability of the dollar. As I said earlier, recent developments have clearly increased the vulnerability of the dollar. The decline in the gold stock announced last week has made this dramatically clear. There is no escaping the fact that our fiscal situation is in sad disarray. It is all the more important that monetary policy behave responsibly. It seems to me that all the fundamentals call for a more restrictive stance, although I am under no illusion that monetary policy can by itself solve all our domestic and international problems... The receding hope of tax action is significant, since we have been inclined to refrain from tightening monetary policy for fear that this might have an adverse effect on the Congressional climate for tax legislation. Unfortunately, the climate was bad enough anyway. The fear of tipping sterling over the devaluation brink was also an inhibiting element.” Alfred Hayes, December 12, 1967 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 49-50.

<sup>240</sup> FOMC Associate Economist Daniel Brill testifying to the FOMC, “Given the problems of inflation and the worsening of our balance of payments situation that have resulted from the excessive pace of activity, there can be no question that fiscal restraint is needed.” Daniel Brill, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 58.

<sup>241</sup> Chairman Martin on Sterling: “If the British were forced onto a floating exchange rate, additional problems would be posed for the United States. Fiscal action in this country would certainly buttress the position of the pound. In fact, one reason the British had delayed drawing on the Fund was that they hoped to be able to tie that action to a change in U.S. fiscal policy.” William Martin, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 23.

<sup>242</sup> Vice Chairman Hayes: “Disintermediation has begun to add pressure on resources available to commercial banks as well as on thrift institutions as rates on money market instruments have moved up.” Alfred Hayes, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 69. Board Member J. L. Robertson: “Pending that time, I favor keeping monetary policy just as tight as we can without producing a drastic and irreversible wave of disintermediation at banks and other savings institutions alike.” J.L. Robertson, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 91.

February 1968 FOMC committee with a plea for a tax increase: “Chairman Martin said he thought it was important to continue to press for a tax increase, however questionable the prospects.”<sup>243</sup>

In early 1968, the Fed maintained a tight monetary policy without much debate. The Tet Offensive in January meant increasing defense expenditures that would only add further pressure to already increasing prices.<sup>244</sup> With no passage of the tax bill in sight, the Fed continued to believe that it had to fight inflation alone. However, by the end of May, passage of the surtax once more seemed plausible. At the monthly FOMC meeting, Chairman Martin reported that he thought there was a good chance that the bill would be brought to the floor:

...the Chairman said present indications were that there would be a test vote in the House tomorrow on a tax increase...If that bill was not approved—and it probably would not be—it was likely, but not certain, that a bill calling for a tax increase and a \$6 billion expenditure cut would be brought to a vote in a week or so. Chairman Mills probably would be reluctant to bring the bill to the floor unless he felt that it was likely to pass. After talking with Mr. Mills, he (Chairman Martin) thought there was a good chance that the bill would be brought to the floor.<sup>245</sup>

---

<sup>243</sup> Chairman Martin, February 6, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 109.

<sup>244</sup> Vice Chairman Hayes on defense expenditures and a tax increase: “There are, of course, major uncertainties in the budgetary prospects. In the first place, the underlying assumptions of no further escalation in Vietnam and no military involvement in Korea leave open to considerable...on balance the budget will remain strongly expansionary unless a sizable tax increase is enacted. The obvious conclusion is that the tax rise is most urgently called for in order to limit the budget's stimulating effects, to make more manageable the Treasury's financing program, and to improve our international position through a demonstration of fiscal responsibility—and, over the longer run, through a strengthening of our competitive position doubt the estimated rise of only \$3 billion in cash defense spending.” Alfred Hayes, February 6, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 55.

<sup>245</sup> William Martin, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 22.

Once again, the Fed wanted to aid passage of the bill. However, many members were fearful for a repeat of September 1967. If the Fed eased monetary policy and taxes were raised then the economy would only rise further. The Fed also feared a recession. If the surcharge passed and the Fed did not ease monetary policy, then the economy would constrict too much. Fed economist Daniel Brill expressed the fear, “Assuming passage of the Conference Committee bill, I am convinced that to avoid a recession next year the current tautness in financial markets would have to ease promptly.”<sup>246</sup> The Fed chose not to tighten nor loosen monetary policy. Once the surtax was passed in June, the board eased monetary policy, lowering the discount rate on August 16, 1968.

## **Conclusion**

Comparing the financing of the Korean and Vietnam wars demonstrates the importance of leadership preferences and the effect of public opinion in both facilitating opportunities and constraining leadership behavior. Both Truman and Johnson preferred to avoid economic ruin. Neither leader wanted the U.S. economy or its citizens to be subject to high inflation. Truman, however, feared inflation immediately. Mindful of inflation before and after World War II, he wanted to avoid the mistakes he believed was made by his predecessor. He believed that Roosevelt did not raise taxes high enough and borrowed too much, thus, creating inflation. In order to protect the U.S. economy, Truman not only raised taxes immediately but also announced he would pay for the entire war with taxes. What would have been a politically costly endeavor was facilitated by

---

<sup>246</sup> Daniel Brill, May 28, 1968 at 9:30am, F. O. M. C. Meeting. Washington, D.C., Board of Governors of the Federal Reserve System, pg 59.

public support for the war and, therefore, Truman's policy. Thus, when Truman submitted his tax proposal to Congress, it was approved immediately.

President Johnson, on the other hand, was not afraid of high inflation, believing that the economic conditions that created Korean War inflation were not present for the current war. When inflation did arise a year and a half into the war, Johnson attempted to raise taxes to curb it. Whereas Truman was aided by public opinion Johnson was constrained. By 1967, support for the war had ebbed. Consequently, when he asked Congress for a tax increase he was unable to get it. The American economy was subject to two years continual rising prices until Congress finally agreed to increase taxes to fund the war.



## **Chapter 6: External War Finance—British Financing of the Crimean War and World War II**

When does a state go outside its borders to fund a conflict? External war finance can be costly. Aside from potentially high interest rates, states that borrow from abroad are in danger of losing autonomy.<sup>247</sup> The debtor state is at the whim of the creditor state. When is a state forced to engage in this costly external war finance? In Chapter 2, I argue that the source of war inputs—whether they are procured from inside or outside a state’s borders—and a state’s currency reserves explain this variation. In sum, when a state needs to procure inputs for the war effort from outside its borders and does not have the currency to pay for those goods, it will be forced to borrow from abroad to meet its war finance needs.

To test this hypothesis I compare British financing of the Crimean War and World War II. During the Crimean War, the British financed the war domestically through a combination of taxation and domestic debt. In contrast, the British engaged in a loan from the United States in the form of Lend-Lease aid to finance part of World War II. In order to receive this loan, the British were subject to the demands of the United States Government. In addition to costly debt, Britain was forced to surrender some of its autonomy. To receive the aid, Britain was forced to strip itself of its non-liquid assets, including the sale of investments in the United States. In addition, the United States subjected Britain to unwanted financial audits and visits from American policymakers

---

<sup>247</sup> While the external war finance may be economically cheaper if another state is offering a loan at low interest rates or an interest free loan or grant (see Chapter 3 discussion of external war finance during the Cold War), this chapter is focused primarily on those instances when states have to resort to external war finance and not when they prefer to.

who came to ensure the British were using Lend-Lease aid properly. Why did Britain resort to costly external finance during World War II and not in the Crimean War?

During the Crimean War (1853-1856), the British Government was at the height of the industrial revolution and London was the global financial center. Consequently, the British were able to produce a majority of inputs for the war inside their own borders. There were two exceptions: fresh meat and animal fodder purchased in from the Ottoman Empire and mercenaries from Switzerland, Germany, and Sardinia. Instead of purchasing these goods in the local currency, the British were able to pay in pounds as; the pound was the dominant reserve currency of the time. Thus, there was no balance of payments problem or currency shortage. Consequently, the British had no need to resort to external war finance. The war was paid for domestically through a combination of debt and taxes.

In contrast to the Crimean War, where the British were able to procure a majority of inputs for the war internally, in order to fight World War II, they had to purchase a significant amount of inputs abroad, primarily from the United States. As the pound sterling was no longer the global reserve currency, the British had to pay for the goods in gold or dollars. Unfortunately, at that time, the British Government was facing a dollar shortage and was unable to continue paying for the goods. In order to continue procuring goods for the war, the British had to resort to external war finance: a \$30 billion dollar loan in the form of Lend-Lease Aid.<sup>248</sup>

---

<sup>248</sup> While the British had to borrow various currencies to fight a global war, this chapter solely focuses on the primary source of external war finance with the United States and the need for dollars.

## **British Financing of World War II**

When it came to financing the domestic aspect of World War II, the British Government was cost-effective. The country raised taxes to keep inflation down, borrowed cheaply at a set rate of 3%, and borrowed progressively with a bond campaign that reached the entire population.<sup>249</sup> Nonetheless, they had to rely heavily on external war finance to pay for the war effort. What explains this outcome? To match German war production, the British would have to supplement their own military supplies. The British were not just fighting an enemy with the ability to out produce; they were supplying their own war effort and that of the Empire. In order to supplement supply, the British turned to the United States. They ordered a wide range of supplies, from raw materials to aircrafts, rifles, and ammunition. To procure these goods, the British needed dollars.

However, dollars, like other material inputs for the war, were in short supply. First, before the war, the British were facing a heavy adverse trade balance with the United States and a general decline in dollar-earning exports from the Sterling Area.<sup>250</sup> Second, the British had a limited war chest with few dollar securities and little gold. Finally, the British had no access to dollar credit from the United States as a result of U.S. law, specifically the Johnson and Neutrality Acts. Initially the British attempted to finance dollar purchases themselves. However, the amount of goods needed was just too great, and they ran out of currency. Eventually, the United States intervened and “gave”

---

<sup>249</sup> A myriad of authors have detailed British domestic financing of World War II (Hancock & Gowing, 1949; Murphy, 1950; Sayers, 1956; Whiting, 2004, Chap. 2).

<sup>250</sup> The Sterling Area will be elaborated upon later in the chapter. In brief, the Sterling Area is a group of countries whose currency is the pound or whose currency was pegged to the pound.

the British the goods they needed under the Lend-Lease Act. Thus, in order to continue financing the war, the British had to turn to external war finance, borrowing dollars primarily from the United States but also from Canada, and gold from South Africa and the Belgian Government in exile.

British external war finance can be understood in four distinct phases. The first phase (Phase I) lasted from September 1939 to May 1940. Phase I directly coincided with the Phony War, the period in which there were no major military operations. Before the war escalated, the British knew they were going to need dollars to purchase supplies from the United States. The United States agreed to sell goods to Britain, but only under the strict conditions of “Cash-and-Carry.” Britain had to pay for all purchases outright with dollars and was responsible for transporting the goods back to Britain. The British agreed, believing that they could supply the dollars themselves through an elaborate mechanism of import and export controls. The British restricted all imports that used dollars to war necessities and promoted exports to the United States to increase the flow of dollars into the country. By May 1940, this system was failing. First, promoting exports was impractical as all industry had to be used to produce inputs for the war. Second, the amount of dollars needed was just too great.

Phase II of British external war finance lasted from June to December 1940, from the evacuation of British forces at Dunkirk to the announcement of the plan to lease war supplies to the British. Over a couple weeks in 1940, the course of war finance changed for the British. Between May 20<sup>th</sup> and June 4<sup>th</sup>, the British evacuated their army – but not

most of their supplies – from the European Continent and France fell.<sup>251</sup> The implications for military supplies were enormous. The arms and materials lost in France were modern equipment: arms that had just been produced, delivered, and incorporated in the field (Hall, 1955, p. 133). Losses on such a scale required the British to compensate with even larger purchases of goods from the United States. Larger purchases meant more dollars. The British warned the United States that it was going to be dollar bankrupt by Christmas 1940. Unfortunately, American policymakers' hands were tied by the Johnson Act and isolationist public opinion. The Johnson Act prohibited any person under American jurisdiction to loan money to any foreign government in default on its payments to the United States. The British Government, who defaulted on its World War I debt, was barred from U.S. credit.<sup>252</sup> In order to compensate for these limitations, on December 17, 1940, President Roosevelt announced a new idea: the United States was going to “give” supplies to the British and the method of repayment to be sorted out once the war ended.

The third phase of external war finance ranged from Roosevelt's December 17th press conference announcing the Lend-Lease Act through 1942. This period was a perilous time for the British war effort and its economy. First, to pass this “gift” through Congress, signed into law March 11, 1941, the British had to prove to a skeptic American public that they were really out of dollars. Second, Lend-Lease only applied to orders placed after implementation. It did not cover orders already placed. Compounding the British dollar problem, by the end of 1941, the British did not have enough liquid assets

---

<sup>251</sup> France doesn't finally fall until the surrender on June 22, although its defeat was seen as inevitable by June 4.

<sup>252</sup> For a discussion of British war debt default, see Morton (1943, pp. 281-285).

to complete existing orders let alone place new badly needed ones. Thus, the British had to strip itself of non-liquid assets, selling investments in the US, borrowing gold from the Belgium Government in exile, and shipping gold from South Africa. The British did not finish paying off their pre-Lend Lease dollar expenses until late 1942.

The final phase of British war finance began in January 1943. By 1943, British holdings of dollars were increasing. When the British were negotiating Lend-Lease, they argued that a safe minimum of dollar reserves was \$600 million; by 1943, the British held \$1 billion. Once the British reached \$1 billion, American policymakers felt that the Lend-Lease program was no longer necessary. The British were now able to purchase war inputs from the U.S. outright, similar to the “Cash-and-Carry” program. The British, however, felt differently. They now had to convince the United States to continue the program. The British argued that they still faced a balance of payments problem. First, the increase in dollars was temporary, due to American soldiers in Britain. Second, the British were responsible for the Empire. Thus, they had dollar commitments to countries other than the United States. In fact, they were under just as much dollar pressure as before.

By the time the war was over, Britain had paid cash for \$4,404.7 million in goods and received \$27,023 million in Lend-Lease aid from the United States (R. G. D. Allen, 1946, p. 533). John Maynard Keynes described the financial state of Britain’s dollar and gold reserves in August 1945, as “without exaggerating and without implying that we should not recover from it, a financial Dunkirk” (Hancock & Gowing, 1949, p. 546).

In the rest of this section, I provide background information on the state of British military production and the British economy. First, I review British assistance to the

Empire, the state of British military production vis-à-vis German military production, the dollar cost of the war, and the Sterling Area and currency management. Then I discuss each phase of British external war finance in sequence. I conclude with a summary of the British financial position at the end of the war and a discussion of Lend-Lease aid extended by the United States.

### *Background*

#### *Supplying an Empire*

Britain not only had to supply itself with goods to fight the war but also to support the war effort of the Empire. Britain supplied goods for World War II in various countries such as India, Egypt, Iraq, Jordan, and Syria. For example, as shown in Table 25, in the first fifteen months of the war, the United Kingdom supplied 90.7% of the Empire's munitions and a total of 69.5% of munitions throughout the course of the war.

	Sept. – Dec. 1939 and 1940	1941	1942	1943	1944	First half 1945	Total
Total Supplies (\$ Millions)	9,200	13,000	19,900	24,800	24,700	9,300	100,900
Percent from:							
UK	90.7	81.8	72.6	62.4	61.2	66.1	69.5
Canada	2.6	5.2	8.6	8.8	8.9	10.0	7.9
Eastern Group (mainly Australia, New Zealand, and India)	1.1	1.5	1.9	1.9	1.2	1.7	1.6
Purchases in US	5.6	9.1	4.7	2.4	1.5	1.2	3.7
US Lend-Lease	-	2.4	12.2	24.5	27.2	21.0	17.3
Percentage of Munitions from U.S.							21.0

Source: Hancock, W. K. and M. M. Gowing (1949). *British War Economy*. London, His Majesty's Stationery Office, pp. 373.

While this figure is impressive, taken in a comparative prospective, British war production was no match for Germany. Table 26 below compares British and German

production throughout World War II. Germany outproduced Britain in almost every aspect of war supply until 1941. Britain was smaller than Germany in GDP and territory, and relied heavily on imported food and fuels. Even when the country's war production was at full capacity, it still needed to import inputs for the war from the United States in order to compete.

In addition to weapons, the British were also in great need of raw materials. Military events during the first year of the war compounded the need for a number of important strategic resources. The defeat in Norway in April 1940 deprived Britain of its main peacetime source of timber, papermaking material, and iron ore. In the summer of 1940, with North African contracts broken due to the war, Britain found itself deprived of a large proportion of its imported steel-making materials, of phosphates, flax, hemp, pit prompts, and a number of other essential commodities. Finally, with the closing of the Mediterranean route, trade with the Balkans was disrupted, removing another source of timber and materials (Postan, 1952, p. 155). While the British attempted to secure these raw materials at home, their need was just too great; they would have to import goods from abroad. The primary source of these goods would be the United States. In April 1939, total estimates of iron and steel requirements from the United States amounted to £12.6 million. This figure exponentially increased in the second year of the war; by July 1940, it came to £100 million (Postan, 1952, p. 156).<sup>253</sup>

---

<sup>253</sup> See Appendix D for a comparison of the amount of raw materials produced in the UK versus imported for the years 1939-1941.



**Table 26: War Production of the United Kingdom and Germany,  
1939 - August 1945**

	1939	1940	1941	1942	1943	1944	1945	Total
UK								
<i>Thousands</i>								
Rifles, carbines	18	81	79	595	910	547	227	2,457
Machine pistols	-	-	6	1,438	1,572	672	231	3,920
Machine guns	19	102	193	284	201	125	15	939
Guns	1	10	33	106	118	93	29	390
Mortars	1.3	7.6	21.7	29.2	17.1	19.0	5.0	100.9
Tanks and SPG	0.3	1.4	4.8	8.6	7.5	4.6	2.1	29.3
Combat aircraft	1.3	8.6	13.2	17.7	21.2	22.7	9.9	94.6
<i>Units</i>								
Major naval vessels	57	148	236	239	224	118	64	1,156
Germany								
<i>Thousands</i>								
Rifles, carbines	451	1,352	1,359	1,370	2,275	2,856	665	10,328
Machine pistols	40	119	325	232	234	229	78	1,257
Machine guns	20	59	96	117	263	509	111	1,176
Guns	2	6	22	41	74	148	27	320
Mortars	1.4	4.4	4.2	9.8	23.0	33.2	2.8	78.8
Tanks and SPG	0.7	2.2	3.8	6.2	10.7	18.3	4.4	46.3
Combat aircraft	2.3	6.6	8.4	11.6	19.3	34.1	7.2	89.5
<i>Units</i>								
Submarines	15	40	196	244	270	189	0	954

Source: Harrison, M. (1998). *The Economics of World War II: An Overview. The Economics of World War II: Six Great Powers in International Comparison*. M. Harrison. Cambridge, Cambridge University Press, Table 1.6, pg 15-16.

### *Cost of the War*

The British were engaged in total war. Between 1939 and 1945, defense expenditure as a percentage of total government expenditure averaged 81.3% and totaled £22,846.4 million. At the height of the war in 1944, war expenditure comprised 54% of national income (Hancock & Gowing, 1949, p. 75).

<b>Table 27: British Defense Expenditure as a Percentage of Total Government Expenditure</b>								
<b>(Millions of Pounds Sterling; Years ended 31 March)</b>								
	1938/39	1939/40	1940/41	1941/42	1942/43	1943/44	1944/45	Total (1939 – 1945)
Total Expenditure	1,018.9	1,408.2	3,970.7	4,876.3	5,739.9	5,909.3	6,197.5	28,101.9
Defense Expenditures	254.4	626.4	3,220.0	4,085.0	4,840.0	4,950.0	5,125.0	22,846.4
Defense as a Percentage of Total Expenditure	25%	44.5%	81.1%	83.8%	84.3%	83.7%	82.7%	81.3%
Source: (1951). Statistical Digest of the War. C. S. Office, His Majesty's Stationery Office and Longmans Green and Co, Table 173, pg 1995.								

### *The Sterling Area and Currency Management*

To understand British external war finance, one must first understand the Sterling Area. The Sterling Area was an informal organization that emerged from the London-centered international market of the nineteenth century. It consisted of all members of the British Commonwealth, apart from Canada, and some non-members of the Commonwealth, such as the Irish Republic, Burma, Iceland, Iraq, and Jordan. During this period these countries sold their products for sterling so that they could use the currency either to finance their imports from the United Kingdom or to clear their

accounts with third parties. Consequently, they kept most of their currency reserves in London. Before the war, there were no exchange restrictions between member countries. Any member was free to convert their money into dollars (which were kept in London) and draw dollars out as they saw fit. However, there was an informal agreement that at a time of dollar shortage, the various member countries would exercise a degree of restraint in dollar purchases or dollar expenditures (Gaitskell, 1952, p. 170). During World War II, when dollars were needed to purchase supplies for the war from the United States, the Sterling Area formalized non-convertibility. It restricted members from freely converting their balances into dollars at any time (Gaitskell, 1952, pp. 170-171). The British Treasury, via the Exchange Equalization Account, was tasked with the responsibility of managing Britain's and the Area's foreign exchange reserve.

While the British maintained an adverse trade balance with the United States before the war, creating a dollar deficit, the rest of the Sterling Area countries had a dollar surplus. British dependent territories always had a dollar surplus arising out of their sales for raw materials and South Africa was one of the world's largest gold producers (Gaitskell, 1952, p. 172). Why did the British borrow from the United States? They could have procured dollars and gold from other commonwealth countries that had a favorable balance of trade with the U.S. or large amounts of gold reserves. In brief, the British did secure dollars from Sterling Area countries; however, they were unable to procure enough to purchase the amount of goods necessary to fight the war.

It is important to note that when the British reported their dollar finances to the United States, they only reported British reserve and not that of the Sterling Area. Separating the British dollar deficit from the Sterling Area troubled American

policymakers. A report from the Interdepartmental Committee to President Roosevelt on policy decisions relations to the dollar position of Lend-Lease countries described the Sterling Area-British-dollar relationship:

The present financial arrangements with the British appear to be rather inconsistent. When British request that additional lend-lease aid be granted and that they be relieved of the necessity of making various dollar payments, they count only the United Kingdom's gold and dollar balances and most of the dollar receipts of the Sterling Area as being available. They exclude the gold and dollar holdings of South Africa, Australia, New Zealand and India, which together are at least as large as those of the United Kingdom. When, however, they compute the dollar expenditures, which must be made, the British count not only the payments which the United Kingdom must make, but also the payments which their Dominions and Possessions, including South Africa must make.<sup>254</sup>

It appeared to American policymakers that the British were undercounting dollars. The reality of the situation, however, was that the British were not. What the British excluded from the balance sheet were the gold and dollar commitments of other countries in the Sterling Area. Thus, the British were in fact over-reporting their dollar reserves.

### **Phase I: September 1939-May 1940: The Phony War to Dunkirk, The Policy of Cash and Carry**

From the start of World War II to May 1940, the British bought war supplies from the United States with British currency reserves under the U.S. policy of "Cash-and-Carry". The UK had to purchase all goods from the United States in cash and was responsible for transporting those goods across the Atlantic. Even pre-war contracts had to be made in full before the goods could leave American ports (Hall, 1955, p. 102). This

---

<sup>254</sup> Memo, The Department of State to the British Embassy, 1 January 1943, *Foreign Relations of the United States, 1943* (Washington, D.C.: U.S. Government Printing Office), 1940, III: 50 (hereafter *FRUS*, with appropriate year, volume, and page numbers).

period of self-reliance was short-lived. The ability to purchase goods in dollars was made difficult due to short dollar supply, a worsening balance of payments position, and the inability to float debt on the U.S. market. Even before the supply disaster at Dunkirk, the British had already realized they would need to seek dollars from outside their borders.

In the years preceding the war, the UK was facing a worsening balance of payments problem vis-à-vis the US. When the First World War broke out, the United Kingdom was at the climax of its exporting power. Moreover, unprecedented sums of British capital were invested in the development of overseas economies, specifically the United States.<sup>255</sup> In 1939, the situation was very different. The old stable export industries had been languishing, and a net deficit on the international balance of payments had announced that the nation, even in advance of war, was already beginning the process of overseas disinvestment (Hancock & Gowing, 1949, p. 107). According to a State Department memo in 1938, UK exports to the U.S. were as low as they had been four years earlier. Moreover, the British Chancellor of the Exchequer forecast that the Sterling Area would have a negative balance of payments with the United States for the first year of the war (September 1939 to August 1940) of £117 million sterling or \$470 million.<sup>256</sup> Finally, an official estimate issued by the United States Department of Commerce in August 1939 put British investments in the United States at around \$2,300 million. The total in 1914 was put at \$4,140 million (Hall, 1955, pp. 102, Ftnt 101).

---

<sup>255</sup> For a discussion of British investments abroad, specifically in the United States, see Feis (1930) and Morton (1943).

<sup>256</sup> Memo, The Department of State to the British Embassy, 21 February 1940, *FRUS, 1940*, III: 97-98.

Exacerbating the balance of payment problems were short-term balances, dollar commitments, and the Neutrality Act of 1934. The British Ambassador to the United States reported that short-term obligations in 1939 were not available to purchase supplies in the United States. Aside from being low in amount, they were needed to maintain banking relationships. “Britain’s short-term obligations to the United States at the end of August 1939, were estimated at \$67 million. Furthermore, banking relations generally required the maintenance of certain minimum balances, so that the short-term balances could not be available in full for expenditure.” Moreover, the ambassador stated that the Neutrality Act exacerbated the British dollar commitments, saying,

the passage of the Neutrality Act has caused the withdrawal by the United States of an unknown but substantial amount of short-term credit formerly available to the United Kingdom. Lastly, the London exchange market was over-sold on United States dollars when the war broke out to the extent of \$107 million, and this had to be covered shortly after by the sale of gold<sup>257</sup>

The British Government, aware of its dollar woes and knowing dollars were crucial to war outcome, was worried. Less than a month into the war, in October 1939, the British were trying to explain to the Americans that they had to protect their dollar holdings. The American Ambassador to Britain, Joseph Kennedy, described the British fervor to U.S. Secretary of State Cordell Hull: “I have just spent an hour with [British Chancellor of the Exchequer Sir John] Simon and [British Board of Trade President Oliver] Stanly and their two topside men...Every time you mention getting any money

---

<sup>257</sup> The Neutrality Act of 1934 forbid loans to belligerents, any party at war, by private persons or firms. In 1937, the act was amended to include a “cash-and-carry” provision, allowing the sale of materials and supplies to belligerents in Europe as long as they paid cash for goods. Memo, British Ambassador to the United States Marquess Lothian to Secretary of State Hull, 1 March 1940, *FRUS, 1940*, III: 104.

out of the country, they talk about the length of the war and that they must protect themselves by not sending American dollars...’’<sup>258</sup>

### *Attempt at Self-Sufficiency*

With the inability to borrow dollars from the United States, the British had to procure the currency themselves.<sup>259</sup> Thus, they began an internal campaign to both promote the flow of dollars into the country and keep any they had from flowing out. The government did this through a series of import controls and export promotion. On September 1, 1939, the House of Commons passed the Import and Exports Customs Powers (Defense) Act. According to the British Board of Trade, “the object of the order is to limit with effect from the 5<sup>th</sup> September imports of luxuries and of goods of which there are sufficient home supplies in order to conserve exchange for the additional purchases of other products required in war time.”<sup>260</sup> Ambassador Kennedy explained the Act to Secretary of State Hull,

The British government is desirous of maintaining such exports as are possible in order to acquire foreign exchange but certain exports have been put under license in order to (1) conserve essential products needed for prosecuting the war and (2) preventing certain essential supplies reaching the enemy. Stanly told me that the

---

<sup>258</sup> Ambassador Joseph Kennedy to Secretary of State Cordell Hull, 16 October 1939, *FRUS, 1939*, VII: 222.

<sup>259</sup> The British attempted to secure currency on their own for two reasons. First, as explained above, credit from the United States was closed. Second, the British initially did not envisage the United States as a major source of war supplies. In the First World War, the British had spend some \$1,500 million (out of total purchases in the United States amounting to \$7,200 million) on American munitions, but they did not intend to repeat even this fairly limited expenditures. Up to the spring of 1939 they were still envisioning modest land forces. ‘The view that we shall in the next war as in the last require gigantic supplies of steel and munitions for a huge land army,’ wrote the Chairman of the Supply Board in March 1939, ‘...rests on a policy which the Government determinedly refuse to accept as a basis for peace supply arrangements’ (Hall, 1955, pp. 107-108).

<sup>260</sup> Ambassador Joseph Kennedy to Secretary of State Cordell Hull, 3 September 1939, *FRUS, 1939*, VII: 214.

import list will of necessity be drastic in order to conserve available resources of foreign exchange.<sup>261</sup>

The restriction of imports from the United States angered American officials.

Two incidents were particularly troubling. On November 1, 1939, the British Government announced that expenses from the U.S. were going to be larger than expected. Consequently, they needed more dollars. Thus, the British were going to stop importing apples and pears from the U.S. and purchase Turkish instead of American tobacco.<sup>262</sup> The British defended their decision to frustrated American policymakers.<sup>263</sup> In defense, the British Government sent a memo to the U.S. explaining that the war would necessitate an increase in expenditures. Thus, they would have “to concentrate the dollar resources available to us on the purchase of commodities essential for the prosecution of the war, to prohibit the importation, except under license, of a large variety of goods.”<sup>264</sup> In addition, British Ambassador to the US, Philip Kerr, Marquis of Lothian, explained his government’s decision to Hull in March 1940, “British consumption of and dollar expenditure on non-essential agricultural products must be increasingly restricted as an imperative condition of financing the war until it reaches a

---

<sup>261</sup> Ambassador Joseph Kennedy to Secretary of State Cordell Hull, 2 September 1939, *FRUS, 1939*, VII: 213.

<sup>262</sup> For the announcement of the curtailment of importation of apples and pears see: Ambassador Joseph Kennedy to Secretary of State Cordell Hull, 13 November 1939, *FRUS, 1939*, VII: 226. For the announcement that the British would substitute Turkish tobacco for American tobacco see: Memorandum of Conversation, by the Secretary of State, 22 January 1940, *FRUS, 1940*, III: 89.

<sup>263</sup> Hull warned the British Ambassador to the US, Philip Kerr, Marquis of Lothian, that while the U.S. “Government has in mind very full every phase of the British situation as a belligerent engaged in a terrific war for its existence and the consequent need for many war regulations and restrictions of a temporary and abnormal nature” the policies were detrimental to American commercial interests. He went on to say that the British Government will “soon reach a stage where the advantages of these discriminations and restrictions will be decidedly less than the bad reactionary effects in this country.” Memorandum of Conversation, by the Secretary of State, 22 January 1940, *FRUS, 1940*, III, 90

<sup>264</sup> Ambassador Joseph Kennedy to Secretary of State Cordell Hull, 1 November 1939, *FRUS, 1939*, VII: 225.



successful conclusion.”<sup>265</sup> While American policy makers were upset, those at the State Department were sympathetic to Britain’s actions. They understood that foreign exchange was limited and the British needed to preserve every available dollar.

Of course, we knew the situation in which Great Britain found herself, struggling with all her resources against a powerful foe. The expenses of Britain’s war efforts were rising by leaps and bounds. Everything that was not an immediate necessity to life or limb had to be subordinated to the purchase of direct war material... Total British purchases in the United States had risen sharply. Foreign exchange was limited, and every cent of it was being mobilized... Most non-military supplies which could be purchased elsewhere must be sought in alternative markets in order to save Britain’s vital dollar exchange.<sup>266</sup>

Besides import reduction, the British sought to promote exports to the United States. The government encouraged exports of jute, rubber, tin, whisky, and furs because they were recognized as good dollar earners (Sayers, 1956, p. 241). Moreover, the government forced exporters to bill clients at the official sterling-dollar exchange rate, which was higher than the free rate that was currently being used. Finally, the British Government also enforced ‘dollar-invoices,’ versus the often-used sterling-invoices. The goal was to bring in as much hard-currency from the bulk of certain exports with as little administrative interference as possible (Sayers, 1956, p. 241).

Fear of dwindling dollar reserves also affected how the British purchased war inputs from the United States. The British Government believed itself to be too sparsely supplied with dollars to justify any considerable expenditure on American finished munitions, and was determined to limit its purchases as stringently as possible to indispensable materials and tools for use by British workers in British factories (Hancock

---

<sup>265</sup> Memo, British Ambassador (Lothian) to Secretary of State Hull, 1 March 1940, *FRUS, 1940*, III: 104.

<sup>266</sup> Memorandum of Conversation, by the Chief of the Division of European Affairs [Jay Pierrepont] (Moffat), 25 January 1940, *FRUS, 1940*, III: 91.

& Gowing, 1949, p. 106). The case of the British Air Ministry demonstrates the emphasis on what the British chose to purchase from the US in order to conserve dollars. While Britain stressed unmanufactured goods, the chief exception was aircraft production. The Air Ministry intended on purchasing everything the Americans could produce, even investing in U.S. production capacity, spending £100 to £150 million in the first year (Hall, 1955, pp. 110-111). The shortage of dollars, however, forced the Air Ministry to drastically revise its program: £2 million for machine tools and £3 million for materials, chiefly aluminum and magnesium. Its second priority was airframes and engines to value £15-£17 million (Hall, 1955, p. 111).

#### *Self-Sufficiency Failing*

Unfortunately, even before the supply disaster at Dunkirk, the British system of import and export control was proving itself to be inadequate. First, the British underestimated the amount of imports needed from the United States. Moreover, the strategy of important unfinished materials was failing; they needed the more expensive furnished munitions. In July 1939, it was projected that the minimum expenditure for the army from the United States during the first year of the war was going to be £8.1 million for first priority requirements, £10-15 million if second priority requirements were included, and if there were no financial restrictions, £50 million. Also foreseen were essential imports: raw materials were to be about £25.7 million. The total imports for the

war from the United States were expected to be about £75 million at most (Hall, 1955, pp. 111-112). This figure was drastically revised upward in January to £197million.<sup>267</sup>

In February 1940, the British Ministry of Defense upwardly revised the amount of imports needed when they decided to increase purchases of airplanes from the United States. Three times as many orders for planes were placed by the French and British in the first half of 1940 as had been in all of 1939—over 8,000 planes and 13,000 engines (Stettinius Jr., 1944, p. 22). It is important to note that the British were not just purchasing planes but financing the building of American factories and training of American workers to increase plane production (Hall, 1955, pp. 289-290; Stettinius Jr., 1944, p. 22). British Ambassador Lothian wrote to Secretary of State Hull regarding the effect of the order on currency reserves: “The decision which has just been taken in principle to adopt a supplementary Anglo-French programme of aeroplane purchases in the United States, costing perhaps \$1,000 million for that purpose alone, brings the

---

<sup>267</sup> The first statement of British requirements in the United States for the first year of the war, January 30, 1940:

<b>Statement of British requirements from the US, January 30, 1940</b>		
<i>Class of Purchase</i>	<i>\$ Million</i>	<i>% of Total</i>
Raw Materials	196	27.3
Foodstuffs	52	7.2
Tobacco	28	3.9
Petroleum	52	7.2
General manufactures	92	7.2
Machine tools	124	17.2
Merchant Ships	24	3.3
Munitions: Aircraft and engines	78	10.8
Army equipment	52	7.2
Navy equipment	12	1.7
Other	10	1.4
Totals Munitions	152	21.1
<b>Total requirements</b>	<b>720</b>	<b>100.0</b>

exhaustion of our resources measurably nearer, and shows how the scale of war requirements is capable of rising.”<sup>268</sup> Lothian continued warning the Americans that before the war was over, Britain’s foreign capital assets might be obliterated. “Whether the amount of Britain’s foreign capital assets, and the amount of her adverse balance of payments, are taken at the highest or at the lowest estimates, Britain has to face the possibility that her foreign capital assets may be wholly exhausted before the war is over.”<sup>269</sup>

Second, in order to fight the war, Britain had to focus all of its manufacturing on the war effort, forcing it to abolish its export drive. Moreover, despite government exhortations, British exporters had been given little practical encouragement in the opening months of the war. They found themselves hampered by the export licensing mechanism, which had been established by the Board of Trade to conserve scarce materials for home use and to prevent exported goods from reaching countries through which they could be filtered to the enemy (Hancock & Gowing, 1949, p. 116). In July 1940, the British Embassy sent the State Department a memo explaining their need to abolish the export drive,

The natural tendency of all democracies engaged in rearmament is to believe that it is possible to expand the production of guns and to enjoy a full supply of butter at the same time. His Majesty’s Government has found by bitter experience that this is not true and that full production cannot be secured solely by expansion and development of munitions and auxiliary industries, other industries being left unaffected. The establishment of requisite priority for labor, materials, machines tools,

---

<sup>268</sup> Memo, British Ambassador (Lothian) to Secretary of State, 1 March 1940, *FRUS, 1940*, III: 101.

<sup>269</sup> Memo, British Ambassador (Lothian) to Secretary of State, 1 March 1940, *FRUS, 1940*, III: 101.

etc., necessarily involves the early curtailment of production for domestic civil consumption.<sup>270</sup>

Table 28 below shows the value of British imports and exports between 1938 and 1945.

One can see that the value of total exports continuously declined until 1945.

Unfortunately, declining exports were coupled with drastically increasing imports, thus exacerbating an already worsening trade deficit.

	1938	1939	1940	1941	1942	1943	1944	1945
Total Imports	920	866	1,152	1,145	997	1,234	1,309	1,104
Total Exports	471	440	411	365	271	234	266	399
Trade Deficit	-449	-446	-741	-780	-726	-1,000	-1,043	-705

Source: (1951). Statistical Digest of the War. C. S. Office, His Majesty's Stationery Office and Longmans Green and Co., Table 142.

As a result of increased purchases for the war and dwindling exports, British holdings of gold and dollar reserves fell rapidly. On March 1<sup>st</sup>, the British reported that at the current rate of purchases, within two years the UK would have given the United States all of its dollar assets.<sup>271</sup> The British were not exaggerating. Table 29 below shows the worsening balance of payments between the British and the United States.

<sup>270</sup> Aide-Memoire, The British Embassy to the Department of State, 3 July 1940, *FRUS, 1940*, III: 43.

<sup>271</sup> "As a result of the war United Kingdom purchases in the United States will increase very largely. The pre-war average was about \$460 million a year. Present estimates are that purchases will amount to at least \$720 million in the first year of the war, and well over \$2,000 millions in the first two years of the war. These are only minimum figures; substantial new requirements are bound constantly to arise and are already arising. The increase in purchases will be repeated in the main by aircraft, engineering products and munitions. There will be no equivalent increase in the United States purchases of British goods... If the war goes on for much more than two years the United Kingdom will have transferred to the United States all of its easily negotiable dollar securities, most of its gold and a part of its "direct" investments in the United States and of its assets in other countries outside the United Kingdom" Memo, British Ambassador (Lothian) to Secretary of State Hull, 1 March 1940, *FRUS, 1940*, III: 106-107.

Between December 1939 and June 1940, UK holdings of gold and dollars decreased by \$528 million, or \$655 million if the sale of securities is included.

	1939		1940				
	31 Dec.	31 Jan.	29 Feb.	31 Mar.	30 April	30 May	29 June
UK holdings of gold and dollars	2,100	2,002	1,954	1,883	1,772	1,694	1,572
Change on the month		-98	-48	-71	-111	-78	-122
Add sale of securities		-16	-26	-30	-30	-18	-7
Total drain in the month		-114	-74	-101	-141	-96	-129

Source: Hall, H. D. (1955). North American Supply. London, Her Majesty's Stationery Office, Table 7, pg 250.

On March 15, 1940, the eve of the Battle of Dunkirk, British Prime Minister Churchill told President Roosevelt that “We shall go on paying dollars for as long as we can, but I should like to feel reasonably sure that when we can pay no more you will give us the stuff all the same” (Hall, 1955, p. 243).

### **Phase II: May 1940-March 1941, Dunkirk to Lend-Lease**

The events of late May and early June of 1940 drastically changed British war finance. The fall of France and the evacuation of Dunkirk forced the British to assume a far greater share of the responsibility for defeating Germany than they had previously estimated. First, the British assumed all of France’s contracts with the United States. Second, when the British evacuated the continent, they left all of their newly produced war supplies. Third, the British now realized that the war was widening and needed as many inputs as they could procure to fight the Germans. Instead of rationing currency and conservative purchases, the British threw all the dollars they had into the war, on the hope that the United States would continue providing supplies once they ran out. The

drain on dollars was happening so fast the British believed that they would run out by Christmas.

American policymakers, bound by the Johnson Act and constrained by isolationist public opinion, were unable to provide a direct currency loan. Thus, they had to figure out away to supply the British. In the words of President Roosevelt, the United States was going to “give” the British what they needed and sort out payment later.<sup>272</sup> Before the British were to receive this gift, they had to convince the American public they were dollarless. As early as July 1940, Secretary of the Treasury Henry Morgenthau told the British that they expected Britain to sell all foreign dollar assets, including South American securities and direct investments in the United States. After months of negotiations and the stripping of British dollar assets, the Lend Lease Bill, H.R. 1776, was signed into law on March 11, 1941.

### *New Demands*

On May 10, 1940, the Churchill Government took power in Britain. That same day, the Germans launched their offensive in the west, invading France and the Low Countries, ending the Phony War. To the surprise of the British, the Germans achieved a sudden and unexpected breakthrough. Consequently, ten days later on May 20, the British Government commenced Operation Dynamo, evacuating the British Expeditionary Forces (BEF) from Dunkirk. On May 27, the Belgian army capitulated and three days later, the French First Army surrendered. By June 4, when the last ship

---

<sup>272</sup> Franklin D. Roosevelt, Press Conference, December 17, 1940, *Public Papers of the Presidents of the United States*. Washington, D.C.: United States Government Printing Office.

drew away from Dunkirk, 337,000 Allied soldiers had been saved from capture (Keegan, 1990, p. 81).

The Battle of France and Dunkirk were significant to British war finance for two reasons. First was the loss of supplies. When the French surrendered and the British evacuated, they did not just lose a battle but arms and materials. These were not just any arms, but recently produced equipment that had been delivered and incorporated in the field.

“We had lost,” Churchill wrote, “the whole equipment of the Army to which all the first fruits of our factories had hitherto been given: 7,000 tons of ammunition, 90,000 rifles, 2,300 guns, 120,000 vehicles, 8,000 Bren guns, 400 anti-tank rifles... We had very little field artillery, even for the Regular Army. Nearly all the new 25-pounders had been lost in France. There remained about five hundred 18-pounders, 4.5 inch and 6-inch howitzers. There were only 103 cruiser, 132 infantry, and 252 light tanks. Fifty of the infantry tanks were at home in a battalion of the Royal Tank Regiment, and the remainders were in training schools. Never has a great nation been so naked before her foes” (Sayers, 1956, p. 133).

The loss of supply at Dunkirk did not go unnoticed by the Americans. On June 12, 1940, Ambassador Kennedy wrote to Secretary of State Hull describing the effect of supply on the British ability to fight.

The condition of Britain’s preparedness equals [*sic*] her ability to fight the kind of war Hitler wages still appears to be appallingly weak. I am of the opinion that outside of some air defense the real defense of England will be with courage and not with arms... The point of all this is the fact that the preparedness for carrying on a war here is pitiful, this in spite of the fact that production and war effort are now for the first time going ahead in excellent fashion.<sup>273</sup>

---

<sup>273</sup> Ambassador Kennedy finished his memo with, “The United States would have nothing to work with, with these two countries in their present condition. Unless France and England are dealing or will deal Germany really crippling blows at her industrial production and seriously affect her strength in the air and in tanks as a result of these battles, the United States will have plenty to worry about in their own country. The cry should be prepare for anything right there, right now.” The Ambassador in the United Kingdom (Kennedy) to the Secretary of State, 12 June 1940, *FRUS, 1940*, III: 37.



The Dunkirk evacuation did not just strip the British of already meager supply; it also changed their mentality. Before Dunkirk, the British were content to hide behind the Maginot Line—the main French fortifications—in the belief that rearmament and economic warfare were continually sapping Germany’s ability to fight (Weisiger, 2008, p. 139).<sup>274</sup> Now British survival depended on the efforts of the next weeks and days. In order to compensate for the loss of supply and the widening of the war, the British increased orders from the United States. Instead of emphasizing unfinished goods, as they did during the Phony War, to ration dollars, the British asked for everything.

Churchill had every reason to be worried; except for tanks, the Germans were outpacing British production of all principal army weapons. In December, Churchill wrote to Roosevelt that British production was still not as high as German production, “It takes between three and four years to convert the industries of a modern state to war purposes. Saturation point is reached when the maximum industrial effort that can be spared from civilian needs has been applied to war production. Germany certainly reached this point by the end of 1939. We in the British Empire are now only about half-way through the second year.”<sup>275</sup>

---

<sup>274</sup> For a discussion of British strategy see Ripsman and Levy (2008).

<sup>275</sup> The British Prime Minister (Churchill) to President Roosevelt, 20 December 1940, *FRUS, 1940*, III: 19.

	Rifles (thousands)		Machineguns (thousands)		Field and medium artillery		Medium anti- aircraft artillery		Tanks	
	Ger.	UK	Ger.	UK	Ger.	UK	Ger.	UK	Ger	UK
Last 4 months of 1939	279	18.7	12.7	6.9	773	Nil	192	224	247	314
First 4 months of 1940	310.4	26.8	14.7	7.4	675	51	317	234	283	287
May 1940	101.6	11.1	5.2	2.9	217	63	86	94	116	128

Source: Postan, M. M. (1952). British War Production. London, Her Majesty's Stationary Office, 109, Table 12.

In addition to having to compete with German production, the British war effort was expanding beyond continental Europe.<sup>276</sup> The British needed arms to defend the British Isles against direct attack by Germany and the Suez Canal against direct attack by Italy. In the light of Japanese infiltration into French Indo-China, Great Britain, Australia and New Zealand were also in need of arms for the defense of Singapore and the Southwest

<sup>276</sup> To give an idea of the effect of Dunkirk and the widening of the war the table below show the British War Office requirements under the pre and post-Dunkirk programs:

	Requirements as Stated	
	April 1940	Aug. – Oct. 1940
Number of Divisions for which required	36	55
Date by which delivers was to be completed	Aug. 31, 1941	Nov. 30, 1941
Tanks: medium, light, and infantry	7,096	10,444
Carriers	11,647	14,568
Wheeled vehicles and motor cycles	376,299	575,008
Field, medium and anti-aircraft guns,	12,667	22,676
2-pdr. Tank and anti-tank guns	13,561	20,670

Source: Postan, M. M. (1952). British War Production. London, Her Majesty's Stationary Office, pg 130, Table 13.

Pacific (Stettinius Jr., 1944, p. 44). The only way for the British to confront these new demands for increased supplies war to increase its purchases from the United States.

### *Increasing Orders and Decreasing Reserves*

British purchases from the U.S. increased immediately. Only five days after the last British ship left the continent, the British and French spent \$43 million on American arms surplus; \$16 million of that contract was for France (Hall, 1955, p. 135).<sup>277</sup> On July 5, 1940, the British Government wrote to the Americans asking for destroyers, powerboats, airplanes, guns, rifles, and ammunition.<sup>278</sup> The British stressed that these supplies were necessary if they wanted to win the war.<sup>279</sup>

---

<sup>277</sup> The content of the arms surplus order illustrates the extent of Britain's supply disaster and the country's desperation for weapons. For example, the order included 500,000 Enfield rifles, some of them used in World War I, some never used, but all manufactured in 1917 and 1918 and packed away in grease for more than 20 years (Stettinius Jr., 1944, p. 25). For an account of the American effort to supply reserve stocks to the British, see Stettinius Jr. (1944, pp. 25-28).

<sup>278</sup> Prime Minister Churchill wrote to President Roosevelt on June 11, 1940 regarding the specific issue of destroyers. "Having saved British Expeditionary Force we do not lack troops at home and as soon as Divisions can be equipped on much higher scale needed for Continental service they will be dispatched to France...I already cabled you about aeroplanes including flying boats which are so needful to us in the impeding struggle for the life of Great Britain. But even more pressing is the need for destroyers. Italian outrage makes it necessary for us to cope with much larger number of submarines which may come out into the Atlantic and perhaps be based on Spanish ports. To this the only counter is destroyers. Nothing is so important as for us to have 30 or 40 old destroyers you have already had reconditioned." The British Prime Minister (Churchill) to President Roosevelt, 11 June 1940, *FRUS, 1940, III: 52*.

<sup>279</sup> "His Majesty's Government do not wish to discuss in this *Aide-Memoire* the military consequences of the collapse of France further than to say that the economic and manufacturing resources of almost the whole of Europe are now at the disposal of the Nazi and Fascist Powers for the purposes of attack on Great Britain, now almost the last free country left in Europe. They would only repeat what they have said before, that the immediate sale of destroyers and power boats, aeroplanes and seaplanes, and guns, rifles and ammunition of all kinds is of the upmost importance if the impending attack on Great Britain is to be beaten off before winter sets in...if victory over Nazi aggression is to be achieved, they must seek from the United States equipment, supplies of aircraft and other munitions and essential raw materials on an altogether larger scale than hitherto. This is partly because the Nazi successes in Europe have deprived the Allies of many sources of supply to which they have hitherto had access and partly because incessant bombing is likely to reduce their own manufacturing capacity, while intensive submarines and air blockade is likely to reduce the quantity of food-stuffs and materials they can import from abroad." The British Embassy to the Department of States, *Aide-Memoire*, 5 July 1940, *FRUS, 1940, III: 42-43*.

Three months later, Prime Minister Churchill repeated the supply message to President Roosevelt. On October 27, 1940, Churchill wrote, “The equipment of our armies, both for home defense and overseas, is progressing, but we depend upon American deliveries to complete our existing programme which will certainly be delayed and impeded by the bombing of factories and disturbances of work.”<sup>280</sup> On November 1, 1940, British Orders to the United States totaled \$3,205.9 million and the British still owed \$1,984.4 million to complete them.<sup>281</sup> This increase was still not enough. On December 20, 1940, British Prime Minister Churchill wrote to President Roosevelt requesting an immediate order of 2,000 more aircraft a month.<sup>282</sup>

Further increasing British orders to the United States and further exacerbating British dollar reserve deficiencies was the takeover of French contracts. Outstanding French commitments to the United States totaled over \$500 million (Stettinius Jr., 1944, p. 30). The French had thousands of contracts for planes, machine tools, raw materials, trucks, powder, explosives, and guns. Many of the contracts covered supplies the British needed to fight the war. Others were for special French equipment, unhelpful for the British war effort. There was no time to sort through the contracts to figure out what was

---

<sup>280</sup> The British Prime Minister (Churchill) to President Roosevelt, 27 October 1940, *FRUS, 1940*, III: 16.

<sup>281</sup> See Appendix E for a breakdown of British munitions orders in November 1940.

<sup>282</sup> “In the face of these dangers, we must try to use the year 1941 to build up such a supply of weapons, particularly aircraft, both by increased output at home in spite of bombardment, and through ocean borne supplies, as will lay the foundation of victory... Without that reinforcement reaching us is a substantial measure, we shall not achieve the massive preponderance in the air on which we must rely to loosen and disintegrate the German grip on Europe... May I invite you then, Mr. President to give earnest consideration to an immediate order on joint account for a further 2,000 combat aircraft a month?” The British Prime Minister (Churchill) to President Roosevelt, 20 December 1940, *FRUS, 1940*, III: 22-24.

needed and not needed. Thus, the British decided to take responsibility for all of them (Stettinius Jr., 1944, p. 30).

It is important to note that the British did not just purchase inputs for the war from the United States; they also invested heavily in the creation of American war production, especially before the implementation of the Lend-Lease Bill. In the words of U.S. Secretary Treasury Henry Morgenthau at the Congressional Lend-Lease hearings, as of yet the American people had made no financial sacrifice, “not one dollar,” in assisting Great Britain to defend the United States (Hall, 1955, p. 287). Between the start of the war and January 4, 1941, the British spent \$198 million for capital and extra ordinary charges in financing American industry:

<b>Table 31: British financing of American Industry, 1939 - January 1941</b>	
	(\$ million)
Land	5
Buildings	59
Machine tools (including jigs and tools)	101
Plant alterations	6
United States development costs	2.5
Rental on leased equipment	7
Training of personnel (US)	6
Expediting charges	11
Income tax (US)	0.5
<b>Total:</b>	<b>198</b>
Source: Hall, H. D. (1955). <u>North American Supply</u> . London, Her Majesty's Stationery Office, pg. 289.	

The effect of these increased orders and capital investments drained British dollar reserves even faster than during Phase I of British external war finance. It was clear that British dollar requirements for the next year far exceeded what the British held. In the

month of July, the dollar war chest decreased by \$210 million to \$1,280 million in gold and dollars. The Chancellor of the Exchequer warned the British Government on August 22 that new expenditures looming in the United States would run the deficit up to \$3,200 million by June 1941—an amount far beyond the resources of the Treasury. In the last six weeks the drain had been \$352 million. The Chancellor then reported that “mere continuance of such losses... would run us out of gold by the end of December” (Hall, 1955, p. 251). Table 32 below gives an idea of the drain on British dollars and its inability to purchase the goods with cash. Between July of 1940 and June 1941, there was an adverse trade balance between the Sterling Area and the United States of \$1.5 billion dollars.

<b>Table 32: Conjectural Balance of Payments Between the Sterling Area and the United States, July 1940 to June 1941</b>			
<b>(In Millions of Dollars)</b>			
United Kingdom imports from the United States	1,892	United Kingdom exports	180
Rest of sterling-area imports from the United States	280	Rest of sterling-area exports	440
		<b>Adverse Balance</b>	<b>1,552</b>
	2,172		2,172
Source: Hall, H. D. (1955). <i>North American Supply</i> . London, Her Majesty's Stationery Office, Table 5, pg 247.			

### *The Origins of External War Finance*

The British were no longer able to finance the war on their own. They needed to turn to external war finance. On July 5, in the same memo asking the Americans for more supplies after Dunkirk, the British warned American policymakers that their ability to continue paying for goods was coming to an end.

So long as gold and other foreign assets at their disposal permit, His Majesty's Government will of course continue to pay cash for essential

armaments, raw materials and food stuffs. They feel however that they should in all frankness inform the United States Government that it will be utterly impossible for them to continue to do this for any indefinite period in view of the scale on which they will need to obtain such resources from the United States. Their immediate anxiety arises from the necessity of entering into long term contracts.<sup>283</sup>

They hoped, however, when they ran out, the U.S. government would continue to deliver the goods anyway. Unfortunately for the British, American policymakers had to wait until after the November presidential election to aid the British. When the British sent Sir Frederick Phillips to the United States after Dunkirk to negotiate future purchases, he received “no commitments or promises of any kind of credits, nor would this be possible before the election” (Sayers, 1956, p. 367). Thus, British policy was based on the assumption that financial aid of some kind would be quickly forthcoming after the November presidential election (Sayers, 1956, p. 368).

That aid ultimately came in the form of the Lend-Lease Act. The origins of Lend-Lease appear to lie in the United States Treasury Department.<sup>284</sup> According to the administrator of the Lend-Lease program Edward Stettinius, Jr., “Treasury lawyers found an old statute of 1892, the Secretary of War ‘when in his discretion it will be for the public good,’ could lease Army property ‘not required for public use,’ for a period of not longer than five years” (Stettinius Jr., 1944, p. 63). President Roosevelt embraced the concept and attempted to sell it to the American public in his December 17, 1940 press conference. He stated that a simple person would assume the only way to aid the British would repeal the Neutrality and Johnson Acts. However, there was another way to aid an ally and that was a gift.

---

<sup>283</sup> The British Embassy to the Department of States, Aide-Memoire, 5 July 1940, *FRUS, 1940*, III: 44.

<sup>284</sup> Hall (1955, p. 256) attributes the origins of Lend-Lease directly to President Roosevelt.

It is possible...for the United States to take over British orders, and, because they are essentially the same kind of munitions that we use ourselves, turn them into American orders. We have enough money to do it. And thereupon, as to such portion of them as the military events of the future determine to be right and proper for us to allow to go to the other side, either lease or sell the materials, subject to mortgage, to the people on the other side...Now, what I am trying to do is to eliminate the dollar sign. That is something brand new in the thoughts of practically everybody in this room, I think—get rid of the silly, foolish old dollar sign.<sup>285</sup>

On January 10, 1941, H.R. 1776 was introduced on the floor of the House of Representatives “to promote the defense of the United States and for other purposes.” The act gave President Roosevelt a wide-ranging amount of discretion. First, he could extend aid to any country he saw fit, “to manufacture in arsenals, factories, and shipyards under their jurisdiction, or otherwise procure, to the extent to which funds are made available therefore, or contracts are authorized from time to time by the Congress, or both, any defense article *for the government of any country whose defense the President deems vital to the United States.*” Moreover, payment in return for this “gift” was also subject to the President.

The terms and conditions upon which any such foreign government receives any aid authorized under subsection (a) shall be those *which the President deems satisfactory, and the benefit to the United States may be payment or repayment in kind or property, or any other direct or indirect benefit which the President deems satisfactory.*

The only two limitations was the limit of goods that could be dispensed, \$1,300,000,000, and the time frame, set to expire on June 30, 1943.<sup>286</sup>

---

<sup>285</sup> Franklin D. Roosevelt, Press Conference, December 17, 1940, *Public Papers of the Presidents of the United States*. Washington, D.C.: United States Government Printing Office.

<sup>286</sup> Emphasis added. A copy of the Lend-Lease Act can be found in Stettinius Jr. (1944, pp. 335-339).



### **Phase 3: December 1940 – March 1941 Interim War Finance**

The Lend-Lease Act was introduced to Congress in January. The British were only semi-relieved. First, Lend-Lease only applied to orders placed after its inception. The British needed dollars immediately. On January 2, British Prime Minister Churchill wrote to President Roosevelt asking him how he expected the British to continue making payments between January and February 15, the earliest date Lend-Lease was expected to be ratified.<sup>287</sup> Second, the Roosevelt Administration still had to get the bill through Congress. Successful ratification meant convincing a skeptical public that the British were really dollar bankrupt. The British, out of necessity, slowly and reluctantly whittled their dollar assets until the implementation of Lend-Lease.

American response to Lend-Lease and the British was mixed. While many Americans wanted the British to beat the Germans, they were reluctant to aid them beyond selling supplies for cash. Public opinion was overwhelmingly in favor of cash and opposed to credit. When Lend-Lease was proposed in December 1940, only 36% of Americans were in favor of the British receiving credit from the United States to purchase war materials. However, once Lend-Lease was introduced to Congress, this

---

<sup>287</sup> “We are deeply grateful for all your understanding of the problems which will be thrown up in the interval before Congress approves your proposals [Lend Lease]. It is not only a question of total amounts but of how we are to live through a period which may perhaps extend to February 15<sup>th</sup>. What would be the effect upon the world situation if we had to default on payments to your contractors who have their workman to pay? The idea that in the interval we shall either have to default or be stripped bare of our last resources is full of danger and causes us profound anxiety. I feel sure this will be ever in your thoughts. What is to be done about the immensely heavy payments still due to be made under existing orders before delivery is completed? Substantial advance payments on these same orders have already denuded our resources.” Churchill concluded the letter warning, “Without prompt and effective solution of these problems Hitlerism cannot be extirpated from Europe, Africa and Asia.” The British Prime Minister (Churchill) to President Roosevelt, 2 January 1941, *FRUS, 1941* (Washington, D.C.: U.S. Government Printing Office), 1941, III: 2.

figure increased dramatically. In January 1941, 54% of Americans believed Congress should pass the Lend-Lease Bill.

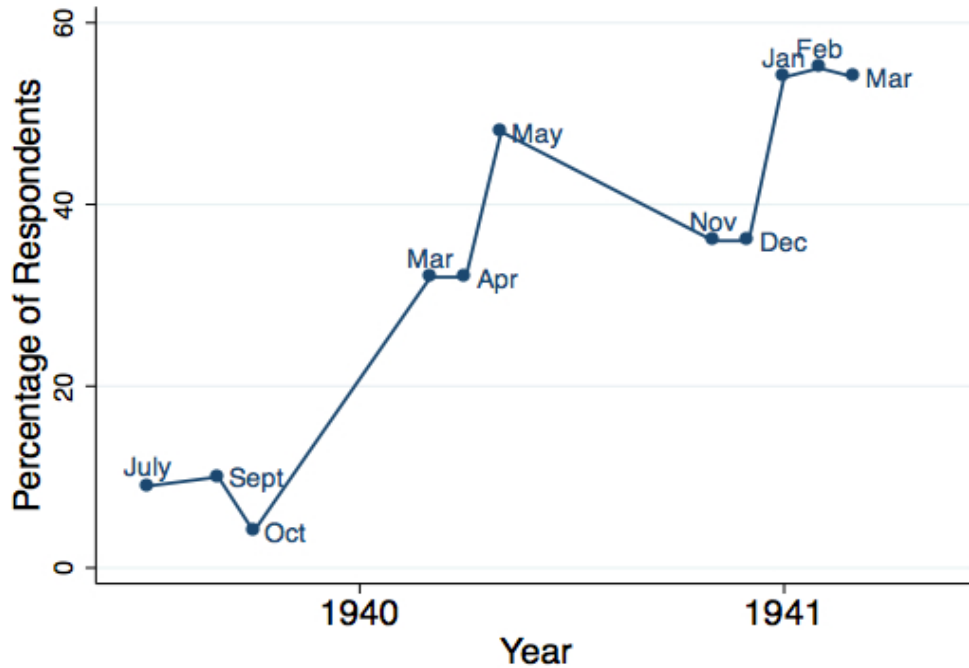
There are myriad reasons for American skepticism, ranging from British inability to pay back a loan to strong isolationist beliefs.<sup>288</sup> While these reasons were important for the overall passage of the Lend-Lease Act, only one had real implications for the British Government. Americans were leery of the British proclaimed financial position. They did not believe the British were actually out of dollars (Hall, 1955, p. 267). One of the most persistent complaints heard at the congressional hearings on the Lend-Lease Bill was that the legislation was unnecessary because Britain was nowhere near being as financially strapped as she made out to be (Kimball, 1969a, p. 761). Ironically, President Roosevelt did not help the British cause. In his December 17 press conference introducing Lend-Lease, a reporter asked the president to clarify that the coverage of Lend-Lease only extended to future orders. The president responded, “Yes, I think so. They have plenty of exchange, you know. There doesn’t seem to be very much of a problem about payment for existing orders, but there might be a problem about paying for additions to those orders or for replacement of those orders now.”<sup>289</sup>

**Figure 17: Trend in American Public Support for Selling of Goods to British in Cash vs. Extending Credit**

---

<sup>288</sup> In regards to British ability to pay back American debt: A Fortune Survey carried out by the Roper Organization in November and December 1940, asked a sample of Americans if the U.S. government extended credit to Britain, “what do you think our chances would be of getting paid [back], good, fair or poor? In November and December 63% of respondents believed that the chance of American’s being paid back was poor, 23% believed it was fair, and only 5% thought the chances of being paid back was good. In both surveys 10% responded that they didn’t know. The question was phrased, “If we should give them (Britain) credit, what do you think our chances would be of getting paid, -- good, fair or poor?” Fortune Survey. Lincoln, NE, Roper Center for Public Opinion Research, The University of Connecticut. For a discussion of American public opinion and Lend-Lease, see Kimball (1969b).

<sup>289</sup> Franklin D. Roosevelt, Press Conference, December 17, 1940, *Public Papers of the Presidents of the United States*. Washington, D.C.: United States Government Printing Office.



290

<sup>290</sup> Given the inconsistency in polling data during the period in question, 1939-1941, there is no consistent polling question or survey source regarding cash versus credit. Thus, the graph above is a compilation of various surveys regarding the extension of credit to England in order to purchase goods from the United States. All questions can be found at the Roper Center, [http://www.ropercenter.uconn.edu/data\\_access/ipoll/ipoll.html#.TihiaM3qo4g](http://www.ropercenter.uconn.edu/data_access/ipoll/ipoll.html#.TihiaM3qo4g). In July 1939, a Fortune Survey asked the American public, “If England and France go to war against the dictator nations, should we sell them food for cash, credit or not at all?” 69% of adults sampled answered cash, whereas only 9% answered credit, 15% responded not at all and 7% responded they did not know. In September 1939, a Gallup Poll asked a sample of Americans, “If the Neutrality Act is changes should England and France be required to pay cash for goods or should we give them credit if they cannot pay?” 87% of adults sampled answered cash, whereas only 10% responded credit, 3% responded no opinion. In October 1939, a Fortune Survey asked, “Would you insist on payment in cash or would some form of credit be alright?” 95% responded cash, 4% responded credit, and 1% responded Don’t Know. In March 1940, a Gallup Poll asked, “If it appears that Germany is defeating England and France, how far do you think the United States should go in helping England and France? Should we let them buy goods here on credit supplied by our government?” 32% of responded Yes and 60% responded No, 8% responded No Opinion. In April 1940, a Gallup Poll asked, “If during the next year England and France are unable to pay cash for materials bought in this country, should we sell them goods on credit?” 32% responded Yes and 62% responded No, 6% responded No Opinion. In May 1940, a Gallup Poll asked, “If England and France are unable to pay cash for airplanes they buy in this country, do you think we should sell them planes on credit supplied by our government?” 48% responded Yes, 46% No, 6% No Opinion. In November and December 1940, a Fortune Survey asked, “Should we sell (supplies to Britain) only for cash or give them credit?” 57% responded cash, 36% responded credit, and 7% responded they did not know. Beginning in January 1941, the questions changed and became more consistent. A Gallup Poll asked, “Do you think Congress should pass the President’s Lend-Lease bill?” In January 54% of American responded Yes, and in February and March 55 and 54% of Americans responded Yes, respectively.

### *The Stripping of British Assets*

American policymakers believed that, in order to sway public opinion and convince Congress to pass the bill, the British needed to prove how broke they were. Thus, Treasury Secretary Henry Morgenthau began a campaign to ensure and demonstrate the British were dollar bankrupt. First, he exerted pressure on London to begin liquidating British-owed direct investments located in America, ship South African gold to the United States, and force French gold held to Canada turned over the United States (Kimball, 1969b, p. 159; Sayers, 1956, pp. 370-371, 383-384).<sup>291</sup> He even suggested that a ‘liquidator’ be sent from London to the United States with the power to make sales (Hall, 1955, p. 273). Moreover, he suggested that the British should provide a further \$2,000 million in cash before arms began to be supplied under Lend-Lease (Hall, 1955, p. 268).<sup>292</sup> Second, he asked for permission to give the Foreign Affairs Committee a full statement of British financial reserves and commitments.

Morgenthau’s requests were resented in Britain. Prime Minister Churchill once again messaged President Roosevelt, not only reminding the president of Britain’s financial position but also suggesting that forcing British to sell its assets was morally wrong.

---

<sup>291</sup> For pressure exerted by Morgenthau for the British to sell their direct investments in America to aid in the passage of the Lend-Lease bill, see Blum (1967, pp. 220-223).

<sup>292</sup> Secretary of State Hull relayed Morgenthau’s message to British Treasury Representative Sir Frederick Phillips, “I suggested three or four points which I thought would facilitate the passage of the bill and preserve increasingly favorable public opinion in support of the policy to aid to Great Britain; that one of these suggestions was that if the British intend to make any kind of payment during the next twelve months or so for military supplies procured in this country, now is the one accepted time for them to do so in the form of collateral with a minimum of a billion and a half or two billion dollars.” Memorandum of Conversation, by the Secretary of State, 11 January 1941, *FRUS, 1941*, III: 5.

The more rapid and abundant the flow of munitions and ships which you are able to send us, the sooner will our dollar credits be exhausted. They are already as you know very heavily drawn upon by payments we have made to date. Indeed as you know orders already placed or under negotiations, including expenditures settled or pending for creating munitions factories in the United States, many times exceed the total exchange resources remaining at the disposal of Great Britain. The moment approaches when we shall no longer be able to pay cash for shipping and other supplies. While we will do our utmost and shrink from no proper sacrifice to make payments across the exchange, I believe that you will agree that it would be wrong in principle and mutually disadvantageous in effect if, at the height of this struggle, Great Britain were to be divested of all saleable assets so that after victory was won with our blood, civilization saved and time gained for the United States to be fully armed against all eventualities, we should stand stripped to the bone.<sup>293</sup>

Moreover, while the British did have non-liquid gold and dollar assets, in addition to direct investments in the United States, such as access to Belgian and South African gold and potential access to French gold in Canada, they preferred not to liquidate these assets nor use these funds. They wanted to keep the South African gold to maintain confidence in sterling and for other needs outside of purchases in the United States. Some gold was needed to sustain the Greeks and Turks, who required some dollars for essential war supplies. Moreover, Belgian and French gold was at best a slow and uncertain option (Hall, 1955, p. 261). Finally, the British believed that it was a threat to their interest to show the world, including Germany, just how broke they were. In the words of British Historian Duncan Hall, “This was the kind of information no great Power had ever disclosed so completely in time of war” (Hall, 1955, p. 269).

Unfortunately, the British hands were tied. They needed dollars desperately. Aware of their dollar position, the American Government no longer allowed them to

---

<sup>293</sup> The British Prime Minister (Churchill) to President Roosevelt, 20 December 1940, *FRUS, 1940*, III: 25.

place orders for goods freely. Every order had to be consulted with the State Department. In mid-December the British reported that their reserves were now down to \$574 million and payments of at least \$1,005 million were due before the end of February (Hall, 1955, p. 260). By December 30, the British dollar position deteriorated further. Arthur Purvis, Director-General of the British Purchasing Commission, wrote to President Roosevelt,

(a) Between 23<sup>rd</sup> December and the end of February the British Purchasing Commission would have to pay out \$400 million on existing, and essential, continuation orders; (b) It needed to spend \$250 on new orders; (c) the remaining cash reserves on the 28<sup>th</sup> December were \$385 million. (Of this only some \$295 was available; the rest was locked up in various ways); (d) Newly accruing resources from the sale of securities in the period could not amount to \$100 million; (e) These reserves were the last balance of the Exchange Control and had to cover much else besides the purchase of arms in the USA. (Hall, 1955, p. 263).

The British began to liquidate their assets, both to continue purchasing goods in cash but also to do anything they could to aid the passage of Lend-Lease. In December 1940, Phillips suggested the United States might be interested in buying British gold situated in South Africa. Roosevelt took the offer and Churchill was outraged. On December 31<sup>st</sup>, he wrote to President Roosevelt,

Sending the warship to Cape Town to take up the gold lying there may produce embarrassing effects. It is almost certain to become known. This will disturb public opinion here and throughout the Dominions and encourage the enemy, who will proclaim that you are sending for our last reserves. If you feel this is the only way, directs will be given for the available Cape Town gold to be loaded on a ship (Sayers, 1956, p. 384).<sup>294</sup>

Roosevelt was not deterred. The U.S. immediately diverted a ship, the USS Louisville, to Simonstown, where on January 10, 1941, it took upon £42 million of gold, arriving safely in New York on January 26 (Kimball, 1969a, p. 765).

---

<sup>294</sup> For British concerns regarding the shipment of South African gold, see Kimball (1969a, pp. 763-764).

In addition to South African gold, the British had claim to £87 million of Belgian gold, £23.5 million of Dutch gold, and £285 million of French gold held in Canada, and the Americans wanted it (Sayers, 1956, p. 370). In regards to French gold held in Canada, the Canadian Government was hesitant to transfer it to the British. Canadian Prime Minister Mackenzie King opposed the loan and the British never made use of the French gold (Kimball, 1969a, p. 766). The British did, however, get a loan from Belgium. The British received \$300 million in gold from the exiled Belgian Government (Sayers, 1956, p. 371).

In February 1941, there was renewed pressure by the Roosevelt Administration to demonstrate that the British were scraping the bottom of the barrel. Thus, the British rapidly arranged the sale of American Viscose Corporation, despite the fact that the British Government was against the sale, as the sale of Viscose would not provide nearly enough dollars needed to cover current purchases. The sale of American Viscose was an unknown corporation to the American investing public. In order to promote the sale, the British even undertook an advertising campaign. A deal was negotiated, a minimum price was paid by a New York banking syndicate and the Treasury received 90% of any price paid by investors when public marketing took place (McCurrach, 1948, p. 31). Unfortunately for the British, the dollars procured via the Belgium loan and the sale of Viscose was not enough to meet present contracts.

On January 21<sup>st</sup>, Purvis sent Morgenthau a list of orders that were deemed imperative to be placed in this interim period. The value of the order (cost of product and capital assistance) was \$1,259 million, \$884 million for United-States-type equipment and \$375 million for British-type (Hall, 1955, p. 271). In order to meet this cost, it was

agreed that the Reconstruction Finance Corporation would loan the money to the British and finance plant production. A \$425 million dollar loan was extended against collateral in the form of British securities in the United States, valued at some \$500 million (Hall, 1955, p. 276).

The ratification of Lend-Lease could not come fast enough. On March 11, 1941, the House of Representatives accepted the bill by a vote of 317 to 71. President Roosevelt signed the act into law that afternoon. Within three hours after signing the bill, the president issued a directive putting the Lend-Lease program in motion. The directive declared the defense of Great Britain vital to the defense of the United States.<sup>295</sup>

From mid-March 1941, the U.S. Government paid for new contracts for munitions and defense. However, the UK had to continue to pay cash for existing pre-Lend Lease orders until those contracts ran out. The British Government still had to preserve all the dollars it could find. It would complete these payments by mid-1943.

### *Reverse-Lend Lease*

A quick note should be said on the Reverse-Lend Lease program. In December 1941, the United States declared war on Germany, Japan, and the other Axis powers. In January 1942, a contingent of American troops arrived to Northern Ireland, marking the beginning of what came to be known as reverse Lend-Lease or reciprocal aid (Stettinius Jr., 1944, p. 274). That spring, the United States entered into negotiations with the British and the dominions, primarily Australia and New Zealand, regarding the provision

---

<sup>295</sup> Franklin D. Roosevelt, Press Conference, March 11, 1943, *Public Papers of the Presidents of the United States*. Washington, D.C.: United States Government Printing Office.



of aid for U.S. armed forces in Europe.<sup>296</sup> The British were happy to supply aid to their ally; however, they were concerned with the details of the financial operations of the British dollar pool as they were still paying cash for pre-existing Lend-Lease orders.<sup>297</sup> On April 18, 1942, the British Embassy sent a memo to the U.S. State Department reiterating their support for aiding U.S. troops and reminding American policymakers of the strain the war had placed on the British economy and its gold and dollar reserves.

His Majesty's Government are anxious to grant reciprocal Lend-Lease aid to the United States of America on the most generous scale possible and are well aware of the political importance attaching to the matter, but the extent of the assistance which they can give is necessarily affected by their financial position. The United Kingdom is already defraying war expenditure equal to sixty percent of the national income and the rates of taxation in force are the heaviest of any of the United Nations...It seems quite inappropriate in present circumstances that we should be required to ship to the United States currently minded gold, which can surely be of little value as an addition to the United States resources, to pay for munitions which will be as much at the disposal of the United States as at ours.<sup>298</sup>

The British then suggested that in order to extend reciprocal lend-lease aid, there should be no more transferring of gold or dollar assets to the United States from the Sterling Area.

H.M.G. suggests as a general principle that from now on there should be no such transfer of capital assets or of gold between the United States and the sterling area, and that at the same time the sterling area should not accumulate dollars over and above an adequate working balance. If this is to be done a new settlement involving the remaining pre-lend-lease contracts is urgently required. If arrangements can be made to carry this general principal into effect, H.M.G. would hope not only to extend reciprocal lend-lease aid on the desired scale, but also to avoid difficulties

---

<sup>296</sup> Memorandum of Conversation, by the Assistant Secretary of State (Acheson), 19 March 1942, *FRUS*, 1942, I: 537.

<sup>297</sup> Memorandum of Conversation, by the Assistant Secretary of State (Acheson), 2 April 1942, *FRUS*, 1942, I: 540-541.

<sup>298</sup> Memorandum of Conversation, by the Assistant Secretary of State (Acheson), 18 April 1942, *FRUS*, 1942, I: 544-545.

and possible criticism arising out of the bringing of borderline or doubtful cases within the ambit of the lend-lease system.<sup>299</sup>

The Reciprocal Aid Agreement with the United Kingdom was signed on September 3, 1942. In regards to financing it was agreed that the “common articles and services which each Government may authorize to be provided to the other shall be in the form of reciprocal aid so that the need of each Government for the currency of the other may be reduced to a minimum.”<sup>300</sup> President Roosevelt, in a November 1943 press conference, reported that as of June 30, expenditures of about \$1,171,000,000 had been made for reverse Lend-Lease aid. The United Kingdom has expended about \$871,000,000:

Goods & Services	\$331,000,000
Shipping	\$169,000,000
Airports, barracks, hospitals, other construction	\$371,000,000
Total	\$871,000,000 <sup>301</sup>

During the summer of 1943, after the British had completed dollar payments on most of their \$3,600,000,000 worth of pre-Lend-Lease contracts, they agreed to extend the principle of Reverse Lend-Lease to include many raw materials and foodstuff shipped to the United States. Until then they had needed dollars in exchange to pay for supplies ordered from American manufactures (Stettinius Jr., 1944, p. 284). Reverse Lend-Lease now included rubber, rope fibers, chrome, asbestos, tea, coconut oil, cocoa and many

---

<sup>299</sup> Memorandum of Conversation, by the Assistant Secretary of State (Acheson), 18 April 1942, *FRUS*, 1942, I: 544-545.

<sup>300</sup> For the entire reciprocal aid agreement, see For an account of the American effort to supply reserve stocks to the British see, Stettinius Jr. (1944, pp. 334-347).

<sup>301</sup> This figure extends from June 1, 1942, when Reverse Lend-Lease procedures were standardized, to June 30, 1943. Franklin D. Roosevelt, Press Conference, November 11, 1943, *Public Papers of the Presidents of the United States*. Washington, D.C.: United States Government Printing Office.

other raw materials and agricultural products from the UK and its colonies free of charge, formally paid for by the United States.

#### **Phase IV: January 1943-August 1945**

The final phase of British external war finance began on January 1, 1943. The British once again had to prove to American policymakers and the American public that Lend-Lease was necessary. That month an American report by the Interdepartmental Committee to President Roosevelt on Policy Decisions Relating to Dollar Position of Lend-Lease Countries found that British dollar reserves were nearing \$1 billion. It was agreed when Lend-Lease was signed that the British dollar minimum should be \$6 million. With such high reserves, U.S. policymakers began to question the continuation of aid.

The report stated that the British held, as of November 30, 1942, an aggregate of \$928 million of gold and dollars. This total of \$928 million represented an increase of \$770 million from the low point of May 1941, and an increase of \$430 million since January 1942.<sup>302</sup> It then recommended that UK balances be above the desired minimum of \$600 but below \$1 billion.<sup>303</sup> Throughout 1943, gold and dollar holdings of the British Government continued to rise against the recommended \$1 billion dollar ceiling. In January 1944, Hull reported to Roosevelt that the “British Government’s liquid dollar

---

<sup>302</sup> Report of Interdepartmental Committee to President Roosevelt on Policy Decisions Relating to Dollar Position of Lend-Lease Countries, 1 January 1943, *FRUS, 1943*, III: 49.

<sup>303</sup> Judging the total British position at this time, we conclude that the balances now held by the United Kingdom are adequate. In this connection, it will be recalled that in the Spring of 1941 the British suggested that they should have a “minimum working balance of \$600 million required to meet contingencies everywhere”...It is recommended, in the light of present circumstances, that the United Kingdom’s gold and dollar balances should not be permitted to be less than about \$600 million nor above about \$1 billion.(Report of Interdepartmental Committee to President Roosevelt on Policy Decisions Relating to Dollar Position of Lend-Lease Countries, 1 January 1943, *FRUS, 1943*, III: 49.

exchange assets have continued to rise and are now over \$1.7 billion, or \$1,350 million more than at the time the Lend-Lease Bill was presented in Congress.”<sup>304</sup>

The British once again had to defend their gold and dollar reserve levels. First, they argued that the rise in dollar reserves was temporary, due to an increase in spending by American troops abroad. The Chancellor of the Exchequer explained to newly appointed Undersecretary of State Edward Stettinius Jr. that Britain’s dollar balance in 1944 was entirely due to large expenditures in the Empire, which would end once the war was over.<sup>305</sup> Moreover, because the British agreed to give raw materials to the United States under the policy of reverse Lend-Lease, they were no longer exporting these materials for sale. Thus, they were not receiving dollars for them, further lowering their currency reserves. Again, Anderson to Stettinius, “As a result of the recent reductions in Lend-Lease and the increases in Reverse Lend-Lease, however, it is estimated that the net increase in British gold and dollar balances will only be \$300,000,000.”<sup>306</sup>

Second, and more importantly, they argued that there were in an equally or more perilous dollar position as they were in 1941. Between 1939-1942, the British financial problems were caused by a shortage of dollars for the purchase of imports from the United States. Now, the current financial position was due to greater dollar and gold

---

<sup>304</sup> Hull continued, “In addition to the gold and dollar holdings of the British Government, residents of the United Kingdom hold \$320 million of private dollar balances and about \$1,150 million of long-term investments in the United States.” Memorandum to President Roosevelt, 4 January 1944, *FRUS, 1944*, III: 33.

<sup>305</sup> “Sir John Anderson stated that the improvement in Britain’s dollar balance during 1944 would be almost entirely due to the large expenditures of United States troops within the Empire. In 1944, the British expect to receive \$585,000,000 from this source in the United Kingdom and \$475,000,000 in the rest of the sterling area, making a total of over a billion dollars...The element in this situation which is most disturbing, Sir John Anderson stated, is the fact that the receipts from United States troops, particularly those in the British Isles, constitute only a temporary source of income.” Memorandum of Conversation, by the Under Secretary of State (Stettinius), 19 April 1944, *FRUS, 1944*, III: 49.

<sup>306</sup> Memorandum of Conversation, by the Under Secretary of State (Stettinius), 19 April 1944, *FRUS, 1944*, III: 49

liabilities of the Sterling Area. British Chancellor of the Exchequer explained this situation to Secretary of State Morgenthau in a letter sent on September 3, 1943.

In the North American Continent our financial problem has been largely solved by the generosity of the United States Government and of the Dominion of Canada. In many other parts of the world however, we have to provide the finance for the war. We can only do this in the main by borrowing local currencies against a credit in sterling to the respective countries, and thus we are incurring unfunded indebtedness on a vast scale. We could not continue this policy indefinitely without having some proportion of liquid assets out of which the more pressing part of the liquid indebtedness could be met if called for from time to time. But our liabilities, which are liabilities of the United Kingdom alone, are several times as great as our reserves, and the disproportion between our reserves and liabilities is also reflected in their growth.<sup>307</sup>

The British then explained that they were responsible for meeting the local cash expenditures for the area of hostilities from Tunis to Burma. “At the present time the United Kingdom’s local cash expenditure in Egypt, the Middle East and India, over and above the supplies shipped across the seas, is amounting to some \$ 2½ billion annually, the greater part of which has been borrowed from the countries concerned.”<sup>308</sup>

In addition to increased liabilities, the British were in an even worse currency position. The gold and dollar balances were not just that of the UK, but also the pooled reserves of the Sterling Area. Woods informed Morgenthau, “As you know, the members of the Sterling Area turn over to us their surplus dollar earning in exchange for sterling

---

<sup>307</sup> The British Chancellor of the Exchequer (Woods) to the Secretary of the Treasury (Morgenthau), 3 September 1943, *FRUS, 1943*, III: 78.

<sup>308</sup> The Memo continued tying war finance to war outcome, “The recent increase in British liquid assets is thus an essential component in a careful (though nevertheless vulnerable) financial policy by which, though with the most dangerous risks to our postwar position, we have managed to finance a vast war expenditure in India, the Middle East and elsewhere—an expenditure which is, of course, vitally essential to the prosecution of the war. . . Only if we are left free to pursue our existing policy can we hope successfully to finance our vast and essential commitments outside North America.” Memorandum by the British Treasury: The Overseas Assets and Liabilities of the United Kingdom, 14 September 1943, *FRUS, 1943* (Washington, D.C.: U.S. Government Printing Office), 1943, III: 82-83.

credit. But this carries with it an implied obligation on our part to turn back, so far as we can, the sterling into dollars when other parts of the sterling area need them.”<sup>309</sup> Thus, given the fact that some of their dollars did not technically belong to the British Government, their reserves were inadequate once overseas liabilities were taken into account<sup>310</sup>

By November, the American policymakers agreed they should not restrict British and dollar resources to a rigid ceiling. Assistant Secretary of State Dean Acheson confirmed that the British argument was valid.

The British contend that the increase in their gold and dollar balances does not reflect an improvement of their financial position. On the contrary, their net overseas position is deteriorating at a rate of about \$2.5 billion a year. Some growth of their liquid reserves is, they argue, indispensable to the delicate system by which they finance the war on credit through a large part of the world. To allow such growth could not legitimately be criticized. The British argument appears to be valid.<sup>311</sup>

Thus, British reserves were allowed to rise and Lend-Lease continued until the end of the war.

---

<sup>309</sup> The British Chancellor of the Exchequer (Woods) to the Secretary of the Treasury (Morgenthau), 3 September 1943, *FRUS, 1943* (Washington, D.C.: U.S. Government Printing Office), 1943, III: 79.

<sup>310</sup> “The liabilities are liabilities solely of the United Kingdom and not of any other part of the Sterling Area. But the quick assets cannot be regarded as wholly available for the United Kingdom’s requirements. A large part of them has been acquired under the pooling arrangement referred to above by which all parts of the Sterling Area sell to the United Kingdom for sterling any dollars which they earn in excess of their own small direct requirements. These arrangements carry with them an implied obligation on the UK, so far as is possible, to provide dollars for other parts of the Sterling Area, which have retained no significant dollar holdings of their own, when subsequently they have a legitimate need for them.” Memorandum by the British Treasury: The Overseas Assets and Liabilities of the United Kingdom, 14 September 1943, *FRUS, 1943* (Washington, D.C.: U.S. Government Printing Office), 1943, III: 83.

<sup>311</sup> Memorandum by the Assistant Secretary of State (Acheson), 2 November 1943, *FRUS, 1943* (Washington, D.C.: U.S. Government Printing Office), 1943, III: 98.

## Epilogue: 1944—Post War Finance

From the beginning of the war, the British worried about the post-war economy. They worried that if they spent all of their dollars, they would be unable to sustain badly needed imports—both for reconstruction but also the resumption of daily life—once the war was over. Thus, throughout the war, they told U.S. policymakers they would need dollars once the conflict ended. In March 1940, British Ambassador Lothian wrote to Secretary of State Hull,

The more Britain is impoverished by the war, the less she will be able after the war to maintain the import surplus which has been the counterpart of the export surplus of other countries.<sup>312</sup>

This message was repeated again in December 1940 when Churchill wrote to President Roosevelt:

We here would be unable after the war to purchase the large balance of imports from the United States over and above the volume of our exports which is agreeable to your tariffs and domestic economy. Not only should we in Great Britain suffer cruel privations but widespread unemployment in the United States would follow the curtailment of American exporting power.<sup>313</sup>

The British were right to be scared. They feared that once Germany capitulated then Lend-Lease aid to Britain would end. Lend-Lease aid came to be conceived of by British and American policymakers in stages. Stage I would end with the overthrow of Germany; Stage II with the overthrow of Japan; and Stage III would be reconversion to a peacetime economy. Once Stage I was over, Lend-Lease aid was to be reduced as it

---

<sup>312</sup> Memo, British Ambassador to the United States Marquess Lothian to Secretary of State Hull, 1 March 1940, *FRUS, 1940*, VIII: 102.

<sup>313</sup> The British Prime Minister (Churchill) to President Roosevelt, 20 December 1940, *FRUS, 1940*, VIII: 25.

would need to be diverted to the U.S. war effort against Japan. How long Stage II would last and to what extent aid would be reduced was unknown. In addition, during Stage II, the British would still be facing high military costs for the occupation of Europe. Finally, the British did not know if any aid would be forthcoming from the Americans for Stage III, after the war was over. Fanning their fears was a statement by Under Secretary of State Stettinius Jr., who warned them in April 1944 that Lend-Lease would have to end with the war.<sup>314</sup>

The British were worried for two reasons. First, the war obliterated their export industry. Most industry in Britain was converted to produce goods for the war. Reconversion to civilian production would take time. With no exports, they would be unable to procure dollars to purchase imports after the war ended. In April 1944, Undersecretary of State Stettinius Jr. went to the UK to see how Lend-Lease aid was being implemented. He reported back to Secretary of State Hull that the British were

very concerned over the possibility of a diminution of the volume of Lend-Lease during the period between the end of the European war and the end of the Pacific war. Their import requirements will not decline, since they will need continued food imports and imports of raw materials for a substantial volume of continued war production. The British stated that they see no possibility of increasing their exports to any extent, however, in order to pay for these imports until after the Japanese war is over. They feel that financial assistance of some sort from this country during that period will be necessary.<sup>315</sup>

Second, as discussed in the previous section, by 1944, Britain had incurred liabilities greater than its available resources. In January 1944, the British told the

---

<sup>314</sup> In April 1944, Stettinius told the British that Lend-Lease would end when hostilities ceased. "It was pointed out to the British that whatever the financing arrangements for the period between the end of hostilities in Europe and in the Pacific might be, it is clear that Lend-Lease must draw to a close when general hostilities cease." The Under Secretary of State (Stettinius) to the Secretary of State, 22 May 1944, *FRUS, 1944*, III: 27.

<sup>315</sup> The Under Secretary of State (Stettinius) to the Secretary of State, 22 May 1944, *FRUS, 1944*, III: 27.



Americans “\$365 million of their liabilities represented a specific claim against an equivalent amount of dollars.” Second, they claimed that their “short-term sterling liabilities to overseas countries were five times the amount of their gold and dollar holdings and these liabilities were increasing at a rate of \$2.5 billion a year.”<sup>316</sup> Thus, dollars were needed to procure imports but also to pay back debts owed in other parts of the world.

These issues got directly addressed at the Second Quebec Conference in September 1944. In Quebec, Churchill pressed President Roosevelt to ensure adequate Lend-Lease aid during Stage II and Stage III. Unfortunately for the British, American public opinion would not allow it. By mid-1944, businessmen and foreign traders were lobbying vigorously for the return of trade to normal commercial channels. Conservatives, concerned by the vast expenditures of the war and the mounting national debt, insisted, as Senator Arthur H. Vandenberg of Michigan stated, that American participation in reconstruction should be on a “strictly business basis.” Democratic and Republican congressmen agreed that Lend-Lease was exclusively an instrument of war and must not be extended afterward, a position the administration never challenged (Herring Jr., 1971, p. 264).<sup>317</sup>

Anti Lend-Lease sentiment continued throughout 1945. The surrender of Japan delivered the final blow. In August, the Truman Administration began preparations to liquidate Lend-Lease. On August 13, without waiting for advice from the president, the

---

<sup>316</sup> The Under Secretary of State (Stettinius) to the Secretary of State, 22 May 1944, *FRUS, 1944*, III: 34

<sup>317</sup> For a comprehensive discussion of Congressional resistance to the continuation of Lend-Lease aid, see Herring Jr. (1971). For a discussion of Anglo-American negotiations regarding Stage II see Hancock and Gowing (1949, pp. 524-533).

Army terminated shipments of munitions to the United Kingdom. That same day, without first consulting the British, Truman ordered the termination of all Lend-Lease on V-J Day, “in order that the best faith may be observed toward Congress and the administration protect itself against any charge of misuse of Congressional authorization” (Herring Jr., 1971, p. 276).

### **A Review—The Cost of External War Finance**

External war finance came at great cost, in both monetary terms and in the form of lost autonomy. The British were stripped of their dollar assets and badly needed gold and dollar reserves to resume life after the war. Moreover, they were straddled with an enormous amount of dollar debt that would take over 50 years to pay back; the last payment was made on December 29, 2006 (Rohrer, 2006). Table 33 below provides a summary of Lend-Lease aid to the British Empire.

What this summary does not include was the cost beyond the Lend-Lease loan to the British. Between September 1939 and June 1945, the British external disinvestment added up to a total of £4,198 million. Of this total, £1,118 millions represented the sale of capital assets, £2,879 millions the increase in external debt and £152 millions the reduction of gold and dollar reserves (Hancock & Gowing, 1949, p. 548).

	Total	1941 March to December	1942	1943	1944	1945	
						January to June	July to August
Total aid to British Empire...	30,073	1,082	4,757	9,031	10,766	3,604	833
Ships	2,107	65	195	1,078	540	160	69
Munitions destined for:							
UK	8,648	86	987	2,797	3,807	822	149
Australia	899	8	152	280	225	180	54
New Zealand	144	-	52	58	21	8	5
South Africa	194	-	40	88	55	10	1
India	1,422	8	230	371	555	227	31
Colonies	325	8	74	129	89	23	2
Other war theatres	3,902	76	610	1,205	1,349	493	169
Other goods destined for:							
UK	7,422	576	1,404	1,782	2,405	1,094	181
Australia	483	6	83	165	167	52	10
New Zealand	95	1	17	35	28	11	3
South Africa	67	-	20	29	18	-	-
India	766	1	87	175	295	157	51
Colonies	235	2	20	32	75	97	9
Services	3,334	245	786	807	1,137	270	99

\*Note: Table taken from (1951). Statistical Digest of the War. C. S. Office, His Majesty's Stationery Office and Longmans Green and Co., Table 178.

External war finance also cost Britain its autonomy.<sup>318</sup> Throughout the war, the British Government was forced by the United States to prove that the country was really dollar bankrupt. As a result, it had to sell its dollars assets at lower than market prices against its will. More importantly, the government was subject to various audits by the United States. These audits were in the form of information disclosure. The British were

<sup>318</sup> It is interesting to note that Britain was not the only country to receive Lend-Lease aid. Lend-Lease was also extended to countries within the British Empire—Australia, New Zealand, South Africa, and India—as well as the Soviet Union, China, Free France, and other allied nations. However, Britain was the only country that the United States demanded that it strip itself of its gold and dollar assets. Russia, a country with large gold reserves, was never asked to surrender its gold holdings.

told repeatedly that they must provide dollar balance statements. They also were subject to onsite audits. The United States sent a Lend-Lease program administrator to Britain multiple times to ensure that the British were not profiting from Lend-Lease aid and for evidence that Lend-Lease aid was actually necessary.<sup>319</sup> The extent to which the United States violated British autonomy is evidenced in Stettinius Jr.'s recounting of scrap metal when in Britain in April 1944.

Several things about the British and steel picture disturbed me. In Bristol, I had seen the steel frameworks of many blitzed buildings still standing. And in London, near the American Embassy, I saw day after day the huge steel girders of some large buildings which had been wrecked in the air raids many months before...It seemed to me that the British were not making the most of their scrap collections, and I pointed this out at Ashorne Hill. I told them we could not continue to supply them under Lend-Lease at the present rate unless they were collecting all the scrap iron and steel they possible could at home (Stettinius Jr., 1944, p. 252)

By accepting aid from the United States, the British subjected themselves to costly external war finance.

When World War II began Britain's war finance policy was self-sufficiency. The British, raised taxes and floated domestic debt to finance the war. Knowing the country needed to procure inputs for the war from abroad, the British government hoarded its currency reserves to pay for them. However, as the war unfolded the British found themselves unprepared for the amount of resources it would need to effectively confront the Germans. In order to continue fighting, the British not only increased internal production of goods but also increased its purchases from abroad. Orders from abroad, specifically the United States, increased so much and so rapidly that the British ran out of

---

<sup>319</sup> For a detailed account of Stettinius Jr.'s trips to Britain, see his work on the subject Stettinius Jr. (1944, pp. 240-273).

gold and dollars to pay for it. To sustain the war effort, it would have to engage in a dollar loan abroad. In order to receive the loan the British government had to cede to the demands of the United States.

### **Crimean War Finance**

Why did the British resort to costly external war finance during World War II and not in the Crimean War? I hypothesize, and tested above, that state's will resort to foreign war finance when it needs to procure inputs for the war effort from outside its borders and does not have the currency to pay for those goods, it will be forced to borrow from abroad to meet its war finance needs. During the Crimean War, in contrast to World War II, the British were able to produce a majority of goods for the war within its territory. There were two exceptions to British production: meat and fodder to feed animals and troops. Meat and fodder was purchased from the Ottomans and mercenaries were hired primarily from Italy as well as Switzerland and Germany. Because the pound was the dominant reserve currency of the time, the British were billed in sterling and not the countries' respective native currency. Consequently, there was no need for the British to pay in another currency and resort to an external war finance loan.

In this section, I present a brief description of the Crimean War, its cost, and the state of British finance mid-century. Then I discuss the location of inputs for the war effort, the state of military manpower in Britain, and how goods procured abroad to supplement supply deficiencies were financed.

## *Background*

The Crimean War was a two-and-a-half-year conflict in which England and France joined forces with the Ottoman Empire and Sardinia against Russia. While the catalyst for the dispute was possession and control of Christian holy sites in Ottoman territory, the aim of the Anglo-French alliance was to check Russia's power.<sup>320</sup> The first open act of hostility took place on March 18, 1853, when Napoleon III decided to send a squadron from Toulon to an island off the coast of Greece. Britain followed suit on June 2, 1853, and British ships were sent to the entrance of the Dardanelles. After failed diplomatic negotiations, the Ottomans declared war in October 1853. In the same month, the British decided to deploy their fleet to the Turkish Straits and Black Sea to protect Turkey. Britain and France officially declared war on March 22, 1854. Throughout the year, the war became increasingly unpopular in Britain.<sup>321</sup> By January 1855, the war was so unpopular that British Prime Minister George Aberdeen was forced to resign and dissolve parliament. The war continued until the Treaty of Paris was signed in March 1856.

The Crimean War, while shorter in duration and less intense than World War II, was still economically costly.<sup>322</sup> The war cost the British Government around £70 million (Hughes, 1960, p. 26).<sup>323</sup> At the height of the war in 1855, military expenditures were

---

<sup>320</sup> For a summary of events at the start of the war, see Rich (1991).

<sup>321</sup> For an excellent work on the effect of war on popular opinion in Britain and domestic politics, see Anderson (1967).

<sup>322</sup> It should be noted that in stark contrast to the geographical scope of World War II, the vast majority of the fighting in the Crimean War took place in the relatively limited area of the Crimea.

<sup>323</sup> Other estimates of the British cost of the Crimean war are very similar to Hughes' estimate: "Sir George Lewis estimated the total cost of the war at £77,600,000. He arrived at this result by comparing the total expenditure of the three years—1854 to 1856—the last year including also expenditure in the nature of war expenditures—with that of the preceding three years, and assuming that the difference of cost was

56.8% of total government expenditures.<sup>324</sup> The Crimean War was paid for through a combination of taxation and domestic debt. By the end of the war, about 50% of the war costs were paid for by taxation and the rest was met by the creation of public debt.<sup>325</sup>

**Table 34: British Government Revenues and Expenditures, 1853-1856 (£ million)**

Fiscal Year	Navy	Army and Ordnance	Total forces	Total govt. revenues	Total govt. expenditures	Surplus or deficit	Percent Military of total expenditures
1853	7.3	10.2	17.5	54.8	51.2	+3.5	34.2
1854	12.9	13.4	26.3	59.5	65.7	-6.2	40.0
1855	21.4	28.8	50.2	65.7	88.4	-22.7	56.8
1856	16.8	20.5	37.3	72.3	75.6	-3.3	49.3

Source: Source: Hughes, J. R. T. (1960). *Fluctuations in Trade, Industry and Finance*. Oxford, Oxford University Press, Table 6, pg 25.

At the time of the Crimean War, the British economy dominated the world both industrially and financially. In the middle of the century, spurred by gold discoveries in Australia and California, the Industrial Revolution, and increasing world demands for

---

due to the war. But as Mr. Chisholm truly points out, only the expenditure on the army and navy should be taken into account . . . this estimate of the cost of war—the total of which is £69,277,000” (Buxton, 1888, p. 149); “Total war expenditure may be taken as £69,277,694.2 The net creation of public debt during the war years 1854-7 amounted to £39,715,208. On the other hand the Exchequer balances emerged at the end of the war £7,584,433. Thus net public borrowing amounted to £32,130,775 or 46 per cent of total war expenditure” (Anderson, 1963, p. 318); Hirst puts the cost of the Crimean War for England at 74 million sterling (Hirst, 1915, p. 297).

<sup>324</sup> While the Crimean War was not the most expensive war the British fought to date, it was the costliest per soldier. Innovations from the Industrial Revolution were integrated into the war effort. The British Army was fighting with the newly developed Minié rifles and new ironclad ships. As a result, the average cost per soldier was £122.1; almost double the cost per soldier than the previous war (Hughes, 1960, p. 26).

<sup>325</sup> “On 6 March 1856, when peace negotiations had begun, Earl Grey asserted in the House of Lords that 'somewhere between two-thirds and three-quarters of the whole expenses of the war have been met not by taxation, but by loans'. The government spokesman, Lord Stanley of Alderley, the President of the Board of Trade, agreed to the figure of two-thirds. He took £49,047,522 as the cost of the war to that date, and gave £17,045,030 as the amount raised by taxation and £33,659,000 as that raised by loans. It was only the large extent to which taxation covered the running-down costs of the war in 1856-7 that allowed the proportion of total war expenditure met by borrowing to fall a good deal lower. Total war expenditure may be taken as £69,277,694. The net creation of public debt during the war years 1854-7 amounted to £39,715,208. On the other hand the Exchequer balances emerged at the end of the war £7,584,433. Thus net public borrowing amounted to £32,130,775 or 46 per cent of total war expenditure” (Anderson, 1963, p. 318). For a discussion of Crimean War debt see Anderson (1967, p. 317) and Ferguson (1999, pp. 70-75).

British exports, Britain consolidated its commercial and financial leadership. World demand for British goods skyrocketed during the 1850s. The value of British exports in 1848 was £53 million. In nine years, this figure more than doubled, to £122 million in 1857 (Hughes, 1960, p. 4).<sup>326</sup> At the same time British exports were increasing, Britain profited from an 1848 gold discovery in California and an 1851 discovery in Australia. Thus, gold was flowing into the country at a rapid rate and Britain became the center for the world distribution of much of this new gold (Hughes, 1960, p. 12).

The implications of this financial dominance were two fold. First, most countries at this time were trading with or in Britain. That meant that these countries were using pounds to complete these transactions. Because the volume of transactions was so high throughout much of the 19<sup>th</sup> century, the pound sterling was the prevailing reserve currency.<sup>327</sup> Second, as the prominent reserve currency, states were willing to accept pounds for transactions instead of their native currency. When a state has low currency reserves and needs to purchase goods from another country, it will need to purchase more of that currency. These purchases create an additional transaction costs. If a state bills Britain in pounds, it avoids paying this transaction cost in the future. Thus, when Britain needed to purchase goods and men for the Crimean War effort from abroad, states accepted sterling instead of their own currency.

---

<sup>326</sup> Promoting British exports was the rise in free trade ideology and the repeal of a myriad of protectionist laws (Hughes, 1960, p. 7).

<sup>327</sup> A reserve currency is a currency held by countries as part of their foreign exchange reserves to meet foreign currency payments and manage its trade balance (Moles & Terry, 1997).



## **Crimean War Finance**

### *Inputs for the War Effort*

A majority of inputs for the war were secured on the Isle of Britain. As mentioned above, the Crimean War was the first major war the British fought where the innovations of the industrial age were given full play. Until the late 1850s, guns were smoothbore muzzle-loading canons. The Minié rifle and the Enfield rifle, an improved version of the Minié rifle, had been introduced in the British army in 1853 (Baumgart, 1999, p. 79). In addition to arms, the new ironclad, steam-propelled ‘floating batteries’ with revolving gun turrets put the Industrial Revolution on the high seas (Hughes, 1960, pp. 24-25).

Regarding other inputs for the war effort, there is scant data on what was used and where it was procured. However, we can infer from economic data describing the period that the basic needs of the army in terms of iron, coal, textiles, and food were procured in Britain. With regard to cotton, the years immediately preceding and during the Crimean War were historically prosperous. Beginning in 1851 and 1852, there was continued new investment and additions to old factories, while existing capacity continued to be fully employed. One government reporter expressed awe at the cotton industry in 1853: “At no period during the last seventeen years that I have been officially acquainted with the manufacturing districts of Lancashire have I known such general prosperity” (Hughes, 1960, p. 79). The British were even supplying cotton to their Turkish ally during the war. About half of the increase in cotton exports in 1855 went to Turkey. The Sultan’s government received a loan of £5 million from Britain to aid in purchasing goods in

Britain for their war effort. As a result, Turkey's cotton imports from Britain rose dramatically (Hughes, 1960, p. 84).

Iron and coal follow the same pattern as cotton, with periods of heavy investment and rising output arriving immediately before war broke out. The expansion of iron production in Britain began in 1851, and dependence upon coal in the iron-making process gave British coal producers a new market that enabled them to achieve an extensive enlargement of their production. Moreover, the proximity of British coalfields to the newly developed iron ore deposits provided iron producers with adequate fuel supplies to exploit the advantages of their abundant ore supply (Hughes, 1960, pp. 141-142). Thus, with abundant supply and production at home, there was no need for Britain to look elsewhere for primary war inputs.

One area where inputs for the war were not secured in Britain was in the area of fresh meat and fodder. However, the reason for procuring inputs abroad was not due to insufficient British production but to shipping. Animals and hay were shipped to Balaklava, a port city on the southern part of the Crimean peninsula, and redistributed throughout Crimea for the war. When the war began, Britain was shipping meat and fodder from the British isle to Crimea. However, in the late fall and winter of 1854, the British began to encounter serious shipping constraints. The first disaster was a storm on November 14, 1854, when four-fifths of the pressed hay on board was lost. This supply disaster was followed by harsh winter weather that rendered sailing vessels useless.<sup>328</sup> Therefore, in order to feed the troops and animals, the British purchased these goods from the Ottoman Empire.

---

<sup>328</sup> For a detailed list of goods, see (*Report of the Board of General Officers*, 1856, pp. 358-359).

How did Britain pay for these goods? When a state purchases a good from abroad, it typically must sell its currency and buy the currency of the exporting state in order to finalize the purchase. However, because the pound was the dominant reserve currency at this time, the British government was able to pay for food and hay with its currency instead of Ottoman Lira.<sup>329</sup> Thus, the British did not need to call upon its Turkish currency reserves or engage in an external loan with the Ottomans to pay for these supplies.

### *Military Manpower*

Relative to the other belligerents, the British army system was the weakest in regards to manpower.<sup>330</sup> Until 1847, men enlisted for life or 21 years. There were two problems with this policy: soldiers in the ranks were worn out by age and there was no reserve of discharged soldiers in civilian life to fill out the regiments in the event of a major conflict (C. Barnett, 1970, p. 280). Making matters worse, there was no compulsory service in Britain and volunteers were not forthcoming due to high civilian wages and general anti-war sentiment.<sup>331</sup> Thus, when the Crimean War began, the British army was much smaller than that of its French ally. Moreover, most of the army's 153,000 men were scattered throughout the colonies and hence unavailable for war

---

<sup>329</sup> A letter from the commissariat officer in Constantinople describes the financial details: "...we offer as a substitute for oxen (which is out of our power to supply) an equivalent number of sheep reckoning ten sheep to one ox...at the rate of 5*l.* sterling for ten sheep...Should the total stipulated number of sheep not be accepted by the commissariat within two months from the date of the contract, or by such a date as may be fixed therein, the sum of 1*s.* sterling per day for every ten sheep to be paid for their keep, and after the stipulated term all losses by death to be for the account of the Government (*Report of the Board of General Officers*, 1856, p. 362).

<sup>330</sup> A myriad of authors have discussed the state of the British army at this time (C. Barnett, 1970, Chap. 12; Baumgart, 1999, Chap. 8).

<sup>331</sup> Bayley (1977, Chap. 1) provides a description of British army recruiting before the Crimean War.

against Russia. In the summer of 1854, the British army of the east numbered 21,500 men; the French army was about triple the size (Baumgart, 1999, p. 78). Casualties from disease further weakened the numerical strength of the army. In December 1854, British Secretary of War Sidney Herbert estimated British strength at 20,000. By the end of January effective strength had fallen to 13,000 due to rigors of winter (Baumgart, 1999, p. 78). Unfortunately for the British, there was no trained reserve to be called up to compensate for such high losses.<sup>332</sup>

Unable to secure more manpower in Britain, the British had to look outside its borders. In December 1854, the Aberdeen government tabled a foreign enlistment bill that allowed the British Government to hire foreign mercenaries. The British Government found success in Germany, Switzerland, and Italy. Apart from Italy, recruiting activities had to be conducted clandestinely due to diplomatic friction (Baumgart, 1999, p. 79). About 10,000 men were recruited from Prussia and other German states, 3,000 men from Italy, and eleven officers and 3,000 men from Switzerland (Bayley, 1977, pp. 157-158).<sup>333</sup>

---

<sup>332</sup> The war cost the lives of nearly half a million men, a larger total than that of any other European war fought in the hundred years after the congress of Vienna. High-end estimates of Anglo-French losses: “The French lost nearly 100,000 men and the British 60,000. Two-thirds of the total casualties were from disease and hardship, not from battle” (Taylor, 1954, pp. 81-82). Low-end place British losses near 20,000: “British forces suffered 18,058 fatalities in the Crimean War. Of these casualties only 1,761 were killed by enemy actions, the rest died of wounds or disease” (Judd, 1975, p. 192).

<sup>333</sup> 9,310 men were recruited from Germany and 3,084 from Italy. For a list of offices of the Swiss Legion by name see Bayley (1977, p. 156). The Italian Legion was primarily comprised up of men from Sardinia (Piedmont), but also included men from Lombardy, Parma, Modena, Tuscany, Rome, Hungary, and Naples. It should be noted that the Italian Legion was separate from the Sardinian war effort.

*Paying for Mercenaries*

The cost for the German, Swiss, and Italian mercenaries, broken down in Table 35 below, totaled £1,119,141.<sup>334</sup> How did the British confront these costs? When it came time to negotiate pay for mercenaries, the British were able to pay in pound sterling and not in Swiss Francs, Prussian Thalers, or Lira.

**Table 35: Cost of Hired Mercenaries for the Crimean War (£)**

	Recruiting, embodying and concentrating	Clothing	For bounty, including kit	Pay for Officers	Pay of NCOs and men	Subsistence	Gratuities on joining and discharge	For conveyance home	Total
German s	96,380	30,135	57,378	76,408	190,717	27,470	186,472	22,280	687,800
Swiss	22,820	22,820	18,960	25,715	61,133	9,112	79,791	8,430	235,486
Italians	6,840	6,840	20,526	56,401	-	11,567	78,069	8,501	195,855
Total									1,119,141

Bayley, C. C. (1977). *Mercenaries for the Crimea: The German, Swiss, and Italian Legions in British Service, 1854-1856*. Montreal, McGill-Queen's University Press, 149-150.

Swiss mercenaries were paid in pounds. Recruits were to be paid a bounty of £10. Of this sum £6 was payable on enlistment and the rest was withheld until disbandment in order to cover the cost of possible damage to barracks and equipment (Bayley, 1977, pp. 100-101). In addition to troops, the British also had to hire and pay a recruitment committee to find and enlist men. Each committee member would be paid £1 per day and £5 per each person they persuaded to enlist (Bayley, 1977, p. 101). Finally, the British began to recruit Swiss officers. The pay for each of the officers enlisted was negotiated individually; all were paid in pounds. The British recruitment practices in Germany paralleled those in Switzerland. The British hired recruiters to enlist men to

<sup>334</sup> It should be noted that the cost of hiring mercenaries amounted to less than 1% of the entire cost of the war.

fight on behalf of the British. These recruiters were also paid in pounds, collecting double the amount of Swiss recruits (£10 per recruit), as well as each mercenary (Bayley, 1977, p. 85).

Unlike German and Swiss mercenaries, the Sardinian Government had ulterior motives to fight on behalf of the Anglo-French alliance. At the time of the Crimean War, Austria controlled the Lombardy region of northern Italy. The Sardinians hoped that fighting in the Crimean War would increase their leverage vis-à-vis the Austrians with the end goal of gaining independence in order to unify Italy. Sir James Hudson, head of the British legation at Turin, was instructed to take on 10,000 Sardinian regulars into British pay. Hudson approached Sardinian foreign minister Dabormida and was assured Sardinia would send 15,000 soldiers to be an independent force under Sardinian command.

The Sardinian Government did not want the British to pay for its troops. It was believed that accepting financial help from Britain would place Sardinia in the embarrassing position of supplying what were virtually mercenaries instead of an equal ally (Hearder, 1996, p. 829). Thus, the costs of the troops were to be borne by the Sardinians. Unable to pay for the troops outright, they negotiated a loan from Britain. On January 26, 1855, Sardinia signed a military convention with Britain and France. According to its terms, Sardinia was to furnish 15,000 men “under the command of a Sardinian general” and France and Britain were to “guarantee the integrity” of Sardinia during the war. A supplementary convention between Sardinia and Britain was signed on the same day, under which Britain was to lend Sardinia £1,000,000, half of which was to

be paid at once, and the other half six months later; the interest on the loan was to be 4% and Britain was to pay for all the transport needed by Sardinia (Hearder, 1996, p. 834).<sup>335</sup>

A brief note should be said regarding Britain's ally, France. While France was not as economically well endowed as Britain, the French could afford a larger, better-trained army. Relative to both the British and Russian armies, the French army was well-equipped and well-trained due to their recent experience fighting in North Africa, and had more efficient logistical and medical-support systems. The French expeditionary force was by far the largest and made most of the major breakthroughs in the war (Kennedy, 1987, p. 175). Thus, the British did not have to support an ally, as they would have to do during World War II. French involvement lowered the cost of war to Britain, decreasing the need to rely on external war finance.

### **Crimean War Finance Conclusion**

The Crimean War was paid for through a combination of taxation and domestic debt. To confront the Russian army, the British government was able to procure all its imports for the war from within its borders except fresh meat, fodder, and manpower. Poor weather conditions affected British ability to ship food to its men and hay for its animals in the Crimean in a timely manner. As a result, the British Government had to secure these goods from the Ottomans. In addition, the British had to look abroad for soldiers. With the inability to conscript and low volunteers, the British Government had to import troops from abroad, hiring mercenaries from Switzerland, Germany, and

---

<sup>335</sup> According to Bayley, interest on the loan was 3%. However, both Bayley and Hearder are consistent in that the amount of the loan was £1,000,000 and Britain would furnish troop transports at her own expense to carry the force to Crimea (Bayley, 1977, p. 76).

Sardinia. The dominance of the pound as the reserve currency allowed the British to for these inputs not in their native currency but in pounds. As a result, the British avoided the need to purchase other currencies to pay for these goods, effectively avoiding the need to turn to costly external war finance.

## **Conclusion**

When a state goes to war leaders strive to both win the war and avoid economic ruin. During the Crimean War the British financed the war domestically, avoiding costly external debt. When fighting World War II, the British did their best to protect their domestic economy, financing the war through various taxes, debt with a low interest rate set at 3%, and a bond campaign. This domestic war finance policy was economically prudent. It was progressive, inhibited inflation, and kept interest rates low.

Unfortunately for the British, their plan would be partially foiled. Needing to procure imports from abroad to fight the Germans and lacking the currency to pay for them, the British had to engage in external war finance. The result was a costly loan from the United States. These two cases demonstrate that states' war finance preferences are bound by their capacity to cope with low currency reserves. Moreover, when a state is forced to engage in external war finance they can be subject to the demands of the creditor state.



## Chapter 7: Bureaucratic Capacity and External War Finance—The Financing of the Russo-Japanese War

The previous chapter discussed under what conditions states are constrained by their capacity to cope with a balance of payments problem and, therefore, resort to external war finance. In contrast, this chapter explores under what condition a state's domestic bureaucratic capacity constrains a state's war finance choices. I hypothesize that when a state has low bureaucratic capacity, taxation will comprise a low percentage of its war finance strategy. Conversely, when a state has high capacity, *ceteris paribus*, taxation will comprise a larger percentage of its war finance strategy. Low capacity occurs when bureaucracies are inefficient or ineffective at extracting taxes from society to support the war effort. This capacity to tax is dependent on the state's revenue administration and the state's level of monetization. Low extractive tax capacity does not imply capitulation. Given that the state continues the war, we should expect to see a war finance strategy that reflects higher levels of borrowing, printing, or external war finance. To test my hypothesis, I compare Russian and Japanese financing of the Russo-Japanese War.

The Japanese financed the war through a combination of taxation and debt. The Japanese Government raised revenue by increasing existing taxes and implementing new ones. Tax revenue accounted for about 15% of the cost of the war. The war with Russia was the first war fought by modern Japan to include taxation into its war finance strategy.<sup>336</sup> The rest of the war was financed through debt, primarily foreign but also

---

<sup>336</sup> The previous military conflict of modern Japan was the Sino-Japanese War of 1894-1895. The expenses of the Sino-Japanese War were approximately ¥200 million, a sum roughly 2.5 times the average general

domestic.<sup>337</sup> Of the debt to fund the war, 78% was raised abroad (Miller, 2005, p. 466). Parallel to the British need to import goods to effectively fight World War II, the Japanese needed to import ships, steel, and iron to effectively fight the Russians. The Japanese Government, running a balance of payment deficit in the years preceding the war, did not have the currency to pay for the needed imports. Thus, the government had to seek external financing. Japan floated four loans in London and New York. Each successive loan was more successful and at a lower interest rate than the last.

Russian financing of the Russo-Japanese War was more economically costly than that of its Japanese rival. Unable to raise tax revenue to pay for the war effort, the Russian Government financed the war through a combination of domestic and foreign debt. For the first six months, the Russians paid for the war via issues of domestic debt. However, it became clear that foreign debt would be necessary. In order to maintain the newly implemented gold standard, the Russian Government could only issue a certain amount of domestic debt. Constrained by this commitment, the government sought money elsewhere. The government could either print or float its debt on foreign markets. Opting for the less costly option, the Russian Government attempted to float its debt in London but its creditworthiness came under attack from the English press. Russia then

---

budgetary expenditures in the five years preceding the outbreak of war (1889-1903), ¥81 million. ¥117 million, nearly 50%, was obtained by the issue of government bonds. Part of the remainder of the war expenses was supplied by means of transfer within the national treasury, namely, from the fiscal revenues of the year in question, but the greater part was supplied from treasury surplus funds accumulated in the past and by means short terms loans from the Bank of Japan (Takao, 1965, p. 441).

<sup>337</sup> The Japanese also raised a small amount of domestic debt by means of public loans, exchequer bonds, and temporary loans. It should also be noted that in order to prevent inflation, the Japanese Government attempted to reduce money in circulation and decrease pressure on prices by encouraging decreased spending and increased savings. To ensure saving, regulations were made for the issue of savings loan bonds by the Hypothec Bank (Hoad, 1904, p. 38).

turned to its French ally and financed the remainder of the cost of the war by floating debt in France. Whereas the interest on Japanese debt lowered throughout the war, the interest on Russian debt increased, increasing the cost of war for the Russian Government.

Why was the Japanese Government able to use taxes to finance a larger percentage of the war than Russia? Moreover, how were the Japanese able to secure cheap credit abroad whereas the Russian Government was unable to? First, I argue that the Japanese Government had the bureaucratic capacity to raise taxes for the war effort, whereas the Russian Government did not. In the decades preceding the war with Russia, Japan monetized its society with the introduction of the yen and created an effective revenue administration. As discussed in Chapter 2, monetization allows states to collect revenue, observe and evaluate resources with more accuracy, and broaden the tax base. Thus, as a state's level of monetization increases, when combined with the administrative capacity to audit, collect and process revenue, so does the state's ability to collect more varieties and more efficient forms of taxation. These two institutions allowed the Japanese Government to easily change tax rates when necessary, implement new taxes, and collect and process revenue. Russia, on the other hand, lacked these institutions. Russia's economy was only partially monetized. While the ruble was the dominant currency, a significant portion of Russia's tax base was being paid in kind. Moreover, Russia's administrative capacity to collect tax revenue was marred with inefficiencies. Thus, if Russia wanted to continue with the war effort, it would have to turn to other sources of revenue.

For different reasons, both states chose to engage in external war finance; however, Japan's experience was economically less costly. While the Japanese exercised their capacity to raise taxes, they needed foreign currency to continue financing the war. Thus, the Japanese Government engaged in external war finance, floating its sovereign debt in the United States and London. Japanese creditworthiness was contingent not on their domestic institutions or their regime type but on a gold indemnity received from China before the war, the aid of an American investment bank, and success in military battles against Russia. Russia, on the other hand, had no other choice but to seek loans abroad. Russia's creditworthiness wavered with military outcomes, declining as it experienced military losses. Russia's credit also worsened, as it appeared it would no longer be able to repay its debt due to worsening economic conditions and domestic disturbances.

### **Background—The Russo-Japanese War**

The Russo-Japanese war was an eighteen-month conflict between Russia and Japan, fought between 1904 and 1905. The war was rooted in the imperialist desires of Russia and Japan to expand in the Pacific. Two territories were of particular interest, Manchuria and Korea. In the years leading up to the war, Russia was in the process of completing the Trans-Siberian railway connecting St. Petersburg to the Pacific. The quickest route was through Manchuria to Port Arthur. Like the Russians, the Japanese had interests in the region. After the Sino-Japanese War (1894-1895) via the Treaty of Shimonoseki, China ceded the Liaodong Peninsula (south east Manchuria) and Korea to the Japanese. On February 6, 1904, after years of negotiations over its rival ambitions,

Tokyo broke off talks with Russia and withdrew its minister from St. Petersburg. Two days later, on February 8<sup>th</sup>, the Japanese declared war and attacked the Russian fleet at Port Arthur.<sup>338</sup>

The war was a military and political debacle for the Russian Government. The Russian army, fighting over 6,000 miles from Moscow and St. Petersburg, experienced continual losses. These losses created a large anti-war sentiment in Russia that contributed to the Russian Revolution of 1905.<sup>339</sup> In early 1905, Tsar Nicholas II entered into negotiations with the Japanese to end the war. With the Treaty of Portsmouth signed on September 5, 1905, the Russians evacuated Manchuria and Japan regained control over Korea.

It is important to note that at the turn of the century both Japan and Russia shared many similarities. Beginning in the 1860s, both countries began a period of political and economic transformation. The transformation period in Japan began with the Meiji Restoration in 1868, which was followed by the abolition of feudal divisions in 1871, and the Meiji Constitution in 1890. In Russia, this period began in 1861 with the emancipation of the serfs.<sup>340</sup> The “Great Reforms” continued for the latter half of the 1800s through 1917 (Riasanovsky, 2000, pp. 422-434).

The theme of these reforms was political centralization and economic modernization. Both countries were in the process of reorganizing their societies: the Japanese Government dissolved the local village as the center for political activity and

---

<sup>338</sup> Many authors have discussed the origins of the Russo-Japanese War (Nish, 2005; Repington, 1905; Schimmelpenninck van der Oye, 2005).

<sup>339</sup> For a discussion of the effect of losses on Russian public opinion, see Yoshifuru (2005).

<sup>340</sup> For a discussion of Russian economic and political transformation in comparison to Japan, see Black et al. (1975).

economic revenue and replaced it with administrative townships loyal to the central government; the Russian Government formed new local assemblies, *zemstvos*, that strengthened the role of the gentry in local self-government and emphasized the class principle within that government (Riasanovsky, 2000, p. 423). In addition to new administrative centers, this period was one of bureaucratic reform. Japan and Russia were developing their bureaucracies. Both governments were attempting to create a value system that stressed the predominance of common interests over individual interests, the belief that central government should play a leading role in development, and the moral virtue of dedication and sacrifice to the national interest as defined by authoritative political figures (Black, et al., 1975, p. 18).

Economically, in the 1860s, both countries were underdeveloped and pre-modern. From the 1860s until the beginning of the Russo-Japanese War, both countries experienced continual transition from an agrarian and rural to an industrial and urban way of life. In addition to the timing of their transformation, their per capita levels of growth mirrored each other. The two countries also had similar growth rates of industrial outputs. Table 36 below presents comparative economic data. Not only does it suggest on par growth rates in the years before the war, there were similarities in the distribution of products produced—agriculture versus manufacturing—and the share of labor force in each industry.

**Table 36: Comparative Economic Data (in percentages)**

	Japan		Russia	
	1889-1902	1902-1940	1860-1900	1900-1940
Gross National Product: Average Annual Rate of Growth	2.8	3.4	2.5	3.9
	1887-1902	1902-1932	1885-1900	1900-1913
Average Annual Rate of Growth of Industrial Output	5.5	6.1	6.7	3.6
	1887	1940	1900	1940
National Product by Sectors of Origin:				
Agriculture	41	16	55	29
Manufacturing	20	53	33	45
Services	39	31	12	26
	1887	1940	1900	1940
Share of Labor Force:				
Agriculture	73	55	77	54
Manufacturing	13	31	12	28
Services	14	25	11	18

Black, C. E., M. B. Jansen, et al. (1975). The Modernization of Japan and Russia: A Comparative Study. New York, The Free Press, pg 165-166.

These reforms caused both countries to experience a rapid rise in the potential tax revenue that could be extracted. Both Russia and Japan had rising industrialization and urbanization. These forces combined to vastly increase the tax base and place the entire populaces of the two nations within the direct purview of public policy (Black, et al., 1975, p. 145). Moreover, the potential to extract revenue was increasing, as the ability of the state to reach its citizens was expanding with the advent of modern technology and its application to communications through railroads and postal, telegraph, and telephones systems (Black, et al., 1975, p. 145). Given these similarities of political centralization, bureaucratic reform, economic environments and growth patterns, and expanding tax

base, why was the Japanese Government able to raise taxes to finance the war and the Russia Government was not? Moreover, why was Russia's war finance policy so much more politically and economically costly than Japan's?

### Japanese War Finance

The war with Russia cost Japan ¥1,986,126,924.<sup>341</sup> It was eight times more costly than the previous war, the Sino-Japanese War (Takao, 1965, p. 444). A fifth of the male working population was mobilized for some form of war service. A million men were sent to the front and casualties mounted over 100,000 (Pyle, 1973, p. 56). Table 37 below provides the various estimates and disaggregation of the war costs.

<b>Table 37: Japanese Expenditures in the Russo-Japanese War (Yen)</b>					
	Estimates drawn up before the war (December 1903)	First estimates (March 1904)	Second estimates (December 1904)	Third estimates (December 1905)	Total
War Expenditures	157,651,515	420,000,000	876,025,409	532,450,000	1,986,126,924
Extraordinary military expenses	155,971,036	380,000,000	760,000,000	450,450,000	1,746,421,036
Ordinary budget	...	380,000,000	700,000,000	450,450,000	1,530,450,000
Urgency measure	155,971,036	...	...	...	155,971,036
Extraordinary defrayal	...	...	60,000,000	...	60,000,000
Extraordinary affairs expenses	1,680,479	40,000,000	116,025,409	82,000,000	239,705,888
Ordinary budget	...	40,000,000	80,000,000	79,500,000	199,500,000
Supplementary budget	...	...	7,200,000	2,500,000	9,700,000
Urgency measure	257,894	...	...	...	257,894
Extraordinary defrayal	1,422,585	...	28,825,409	...	30,247,994

Source: Ogawa, G. (1923). *Expenditures of the Russo-Japanese War*. New York, Oxford University Press.

<sup>341</sup> Lower estimates for the cost of the war for Japan: Allen places the cost at ¥1,500 million (G. C. Allen, 1972, p. 48). Takao places to cost of the war at ¥1,730 million (Takao, 1965, p. 444).



## ***Taxation***

### *Tax Capacity*

I argue the Japanese Government was able to finance a significant portion of these costs via tax revenue because it had the capacity to do so. Japan began to build its tax capacity in 1868 with the Meiji Restoration. In the period from the beginning of the Restoration to the onset of the Russo-Japanese War, the Japanese Government monetized its society and created the administrative capacity to audit, collect, and process revenue.

Before the Meiji Restoration, Japan was ruled by the feudal regime of the Tokugawa family.<sup>342</sup> Under this system of government, there was neither a central currency nor a central administrative tax bureaucracy. During this period, gold, silver, and copper coins of different weights and fineness were in circulation as well as an assortment of notes. At the time of the Restoration, there were 1,694 different issues of paper money in circulation, with their relative values frequently changing and many counterfeits (Patrick, 1965, p. 194). Moreover, the source of note issue was not the central government but local towns and villages.

The primary form of revenue in Tokugawa Japan was a land tax, payable in rice by farmers, levied on the basis of crop-sharing arrangements. This form of revenue was highly unstable, fluctuating with the vagaries of the weather (Goldsmith, 1983, pp. 5-6). Other taxes were also inefficient forms of revenue. Under this regime, the citizens had also been subjected to a large number of miscellaneous taxes that scarcely repaid the cost of collection (G. C. Allen, 1972, p. 47). Moreover, taxes at this time were levied on the villages as a whole, rather than on individual plots, and then allocated by a consultative

---

<sup>342</sup> For a discussion of the civil bureaucracy during the Tokugawa period, see Inoki (1964).

process within the village (Bird, 1977, p. 164). Thus, tax revenue collected did not reach the central government.

Japan had to monetize society before any administrative reforms could be successfully implemented. The yen was introduced in 1871 and the central government became the sole issuer of currency. For the next 30 years, the Japanese Government removed all previous forms of coins and notes from circulation.<sup>343</sup> As shown in Table 38 below, by the time of the Russo-Japanese War, almost all locally-issued paper money and national bank notes were taken out of circulation. The yen was now the dominant currency.

End of Year	Local Paper Money	National Bank Notes	Bank of Japan Notes
1881	118.9	34.0	-
1885	93.4	30.2	4.0
1890	40.1	26.4	102.9
1895	15.7	22.3	110.5
1900	5.1	1.6	179.8

Allen, G. C. (1972). *A Short Economic History of Modern Japan 1867 - 1937*. London, George Allen & Unwin LTD, pg 51.

In addition to monetizing society, the Japanese Government reformed and created a variety of institutions that allowed it to raise more taxes during the Russo-Japanese War than it would otherwise had been able to. These improvements included reforming the land tax, consolidating miscellaneous taxes, transferring revenue extraction from local villages to the central government, transferring loyalty from villages to the central government, hiring competent bureaucrats, and establishing a Ministry of Finance

<sup>343</sup> In 1881, the chief financial objectives were the redemption of the inconvertible paper money and the accumulation of a specie reserve which could serve as a backing for a new issue of convertible notes (G. C. Allen, 1972, p. 50).

and national bank. These reforms increased the ability of the Japanese Government to collect tax revenue and increase the tax burden on society.

The primary tax reform began in 1873 with the Land Tax. Instead of paying the tax in rice, the tax was now to be paid in currency. Moreover, the Land Tax was now based on the land instead of the harvest, making it more stable as harvests varied from year to year (Bird, 1977, p. 165).<sup>344</sup> In addition, the government created a more efficient tax structure by removing miscellaneous taxes and implementing nationwide taxes on specific goods. In 1875, the whole system was drastically transformed, and in the course of the next five years, the number of taxes was reduced from nearly 1,600 to 74 (G. C. Allen, 1972, p. 42).

In addition to removing various inefficient miscellaneous taxes, the Japanese Government diversified the various taxes with which it collected revenue. This diversification increased the sources of potential revenue. Between 1885 and 1895, the primary taxes collected were on land and liquor. After 1895, the government implemented and increased taxes on income, liquor, tobacco, sugar, textiles, and beverages, as well as custom duties (Ishi, 1988, p. 4). Initially, the Land Tax alone made up about four-fifths of the total tax revenue. In 1876, total tax revenue was ¥57,800,000, of which ¥50,000,000 came from the Land Tax. By 1883, total tax revenue was ¥69,200,00, of which ¥39,000,000 came from the Land Tax (G. C. Allen, 1972, p. 47).

The government also created a tax bureaucracy to collect and process revenue. First, the government assumed responsibility for local administration. Before the Meiji

---

<sup>344</sup> For a discussion of the creation of the Land Tax, see Ike (1947).

Restoration, local lords received and kept local taxes. Now these revenues were due to the central exchequer (G. C. Allen, 1972, pp. 40, 43). Second, beginning in 1888, the government transferred loyalties from the natural village to administrative towns. By the time of the Russo-Japanese War, over 76,000 Tokugawa hamlets had been reduced to some 12,000 administrative towns and villages (Pyle, 1973, p. 58).<sup>345</sup> Third, the government created a competent bureaucracy. The government replaced leaders from old regimes with civil servants who were university educated, passed the required civil service exam, and assured tenure.<sup>346</sup> Finally, in March 1882, the government advised the immediate establishment of a central bank to deposit collected revenue (G. C. Allen, 1972, pp. 43, 50).

In the period immediately before the Russo-Japanese War, Japanese tax capacity was reinforced and broadened. In order to pay the domestic debt from the Sino-Japanese War (1894-1895), the government instituted a national business tax and a registration tax for the first time; in addition, the trade in leaf-tobacco was brought under a government monopoly and increases were made in the Land Tax, the tax on alcoholic beverages, the tax on the consumption of sugar, etc. As a result of these measures, the total tax revenue in the ten years following the Sino-Japanese War, approximately ¥124,000,000, was

---

<sup>345</sup> Transferring loyalties from hamlet to the administrative towns and villages was hard. The first step in this direction came in 1901 when Home Ministry officials in the Bureau of Local Affairs began a campaign to encourage the locally-elected heads of towns and villages to establish policies for the future development of their units (Pyle, 1973, p. 59). The second step was to place all communal lands and property under administrative control (Pyle, 1973, p. 59). The government also integrated local citizen groups into the state administrative structure so that they might act as mediating links between local government and local society. Pyle (1973) discusses other measures taken to build loyalty to the central government such as reorganization of village youth groups into a national hierarchy under its guidance.

<sup>346</sup> For an in depth description of the creation of a rational legal bureaucracy in Meiji Japan, see Inoki (1964) and Silberman (1978).

roughly double that of the ten years preceding the war, ¥65,000,000 (Takao, 1965, p. 433).

What was the result of these reforms? These reforms allowed the Japanese Government to increase taxes when it saw fit and to collect more revenue than it would otherwise have been possible. As shown in the table below, the amount of revenue collected was increasing rapidly. In 1868, taxes were only about 10% of central government expenditures, and in 1872, it had increased to 40%. Once the Land Tax was imposed in 1873, taxes tended to cover all expenditures until 1877. By 1902, Japan's ratio of national and local tax revenue to national income was increasing faster than its western counterparts, 15.0% in Japan, 10.7% in Britain, and 6.5% in the United States (Sato, 1973, p. 14).

<b>Table 39: Japanese Ordinary Revenue (in million yen)</b>			
	1893-94	1903-04	1906-07
Land Tax	38.8	46.9	85.6
Income Tax	1.2	8.2	21.8
Patent Fees	-	7.0	19.4
Drink Excise	16.7	53.1	59.2
Shoyu (Soy Sauce) Excise	1.3	3.5	5.3
Sugar Excise	-	6.9	16.8
Customs Duties	5.1	17.4	31.8
Stamp Duties	0.8	14.2	27.4
Receipts from Public Undertakings and State Property	11.6	55.7	104.7
Miscellaneous Receipts	10.3	11.5	20.5
<b>Total</b>	<b>85.8</b>	<b>224.4</b>	<b>392.5</b>
Source: Allen, G. C. (1972). <i>A Short Economic History of Modern Japan 1867 - 1937</i> . London, George Allen & Unwin LTD, pg 40.			

By the time of the Russo-Japanese War, Japan had emerged with a uniform currency system, a central bank, a system of note-issuing commercial banks, a government-owned bank to finance foreign trade, a postal saving system, a few small private savings banks,

and a Deposit Bureau in the Ministry of Finance (Goldsmith, 1983, p. 34). These institutions allowed Japan to raise more taxes than it otherwise would have been able.

*Taxation and the Russo-Japanese War*

The Japanese raised taxes twice during the war. One month into the war, in March 1904, the Diet approved a myriad of tax increases and new taxes. This first scheme of war taxation increased the following taxes: land, income, business, sake, soy, sugar excise, mining, registration, bourse, shooting licenses, as well as various import duties. In addition, the Japanese imposed consumption taxes on woolen textiles and kerosene; increased the amount of stamps to be affixed to documents; and put into operation the tobacco manufacture monopoly. The government raised taxes again a year later. This second scheme of increased taxation further increased the various taxes, increased import duties, implemented a travelling tax, stamp duties on checks, a placer tax, imposed a consumption tax on textiles other than woolens, and established a succession tax (*Report on the War Finance*, 1906, p. 25).

There was some increase in the Land Tax, but the sharpest rise was in various excise taxes on such consumer commodities as textiles, kerosene, sugar, and salt. Indirect taxes rose 300% in five years: from ¥96 million in 1903 to ¥152 million in 1905 and to ¥231 million in 1908 (Pyle, 1973, pp. 56-57). The government also reduced spending and responsibilities for public works and education as financial responsibilities for these services were increasingly delegated to local government, causing local taxes to grow alarmingly and bringing their total to over 40% of the national tax revenue after the turn of the century. Dominated by wealthy families, the town and village assemblies resorted to a variety of regressive taxes, the most oppressive being the household tax.

<b>Table 40: Japanese Tax Revenue for the Russo-Japanese War (yen)</b>		
Scheme of Increased Taxation		
Description of the tax		Amounts received
Land-tax	First	23,878,406.907
	Second	18,472,698.898
	Total	46,325,471.498
Income tax	First	6,686,818.153
	Second	6,740,970.099
	Total	13,427,788.252
Business tax	First	5,262,636.922
	Second	6,010,094.236
	Total	11,272,731.158
Tax on liquors	First	1,775,367.326
	Second	4,694,731.606
	Total	6,470,098.932
Soy tax	First	1,697,471.684
Sugar excise	First	4,995,320.998
	Second	1,468,661.140
	Total	6,463,982.138
Textiles consumption tax	First	5,362,520.470
Tax on patent medicines	Second	78,217.847
Mining tax	First	79,844.970
	Second	822,771.245
	Total	1,565,637.520
Bourse tax	First	560,050.255
	Second	1,120,548.730
	Total	1,680,598.985
Tax on sake from Okinawa Prefecture	First	9,374.665
	Second	28,123.997
	Total	37,498.662
Customs duties	First	8,132,793.800
	Second	3,895,908.987
	Total	12,028,702.787
Travelling tax	Second	2,211,767.980
Succession tax	Second	650,060.280
Salt tax	Second	481,441.993
Stamp receipts	First	2,693,194.464
	Second	15,512,803.664
	Total	18,205,998.128
Tobacco monopoly profit	First	15,014,459.765
Receipts from salt monopoly	Second	12,469,451.727
Grand Total	First	80,123,074.292
	Second	74,017,908.984
	Total	154,140,983.276

(1906). Report on the War Finance. Tokyo, Ministry of Finance (Ōkurashō), pg 28.

Levied on all families, it became the most important source of local government revenue, more than doubling between 1900 to 1909 (Pyle, 1973, pp. 56-57). The table above provides the total amount of tax revenue collected by each scheme.

### **External War Finance**

While the Japanese were successful in raising tax revenue to pay for its domestic war costs, they needed foreign currency in order to fight the war effectively. The Japanese needed to import ships, iron, and steel. To purchase these goods, the Japanese needed foreign currency. However, in the years leading up to the Russo-Japanese War, the Japanese had a consistent balance of payments deficit. Low on foreign currency, the Japanese were unable to pay for these goods themselves. Thus, they needed to engage in foreign war finance. The Japanese Government sent representatives to London and the United States to negotiate a loan.

The conventional wisdom in international relations suggests that Japan, a non-democracy, would be unable to float debt or be subject to extraordinary high interest rates to secure the loan.<sup>347</sup> Moreover, Japan was still a novice on foreign markets. Seeking a foreign loan to finance the war with Russia was only Japan's second experience in foreign debt. Japan however, floated four bond issues, one every four to six months, each

---

<sup>347</sup> For a discussion of the relationship between regime type and creditworthiness, see Chapter 1. Moreover, Sussman and Yafeh (2000) argue that Japanese creditworthiness in London was not due to the establishment of modern institutions but to the adoption of the gold standard and military victories over Russia. The study evaluates the effect of major reforms on bond yields using a dataset on sovereign debt traded in London between June 1870 and August 1914. The great majority of Meiji reforms—including the establishment of the Bank of Japan and the introduction of 'modern' monetary policy, the promulgation of the Meiji Constitution, and introduction of parliamentary elections—produced no quantitatively significant market response in London.



more successfully subscribed than the last and at lower interest rates.<sup>348</sup> Japan's success on foreign markets can be attributed not to regime type but to a gold indemnity received from China after the Sino-Japanese War and continual battlefield success against Russia.

### *Inputs for the War*

Even before the Russo-Japanese War, the Japanese were purchasing warships from abroad.<sup>349</sup> Shipyards had been forbidden to build ocean-going ships in Tokugawa times, the period before the Meiji Restoration. While the current Japanese Government was expanding its production capacity, this expansion was still not enough to effectively fight the Russians. By the early 1880s, the Japanese Government managed to build a 1000-ton wooden side-wheel steamer and a royal yacht. Not until 1894 (after six years of construction) did the yard at Yokosuka complete a 4,217-ton protected (lightly armored) cruiser with French ordnance. Guns, engines and armor of the naval revolution lay far beyond Japan's infant industries (Miller, 2005, p. 467). Thus, they had little choice but to purchase ships from abroad.

In the 1870s, the Japanese navy purchased a few small cruisers and torpedo boats, and three British corvettes costing \$1 million each that were obsolescent before the Sino-Japanese War (Miller, 2005, p. 467). In the 1880s, a Japanese commission visited England and ordered a pair of sleek protected cruisers of 4,150 tons, mounting a 12.6-inch turret gun, costing \$1.7 million each. Two more protected cruisers were ordered from France, costing \$2.2 million apiece. By the late 1890s, a 14,850-ton battleship cost

---

<sup>348</sup> Over-subscription is the case when a new issue has generated applications for securities in excess of the amount available (Moles & Terry, 1997, p. 411).

<sup>349</sup> For a detailed account of the location of procurement of warships for the Imperial Japanese Navy from 1869-1945, see Jentschura, Jung and Mickel (1977).

about \$5 million and the Imperial navy bought four of them and six first class cruisers of 9,800 tons, mainly from Britain (Miller, 2005, p. 469).

The onset of the war with Russia not only increased demand for warships built abroad but also increased demand for imported iron and steel. Though the total tonnage of foreign-made warships exceeded that produced domestically until 1914, Japanese capacity to build and equip larger warships continued to improve following the Sino-Japanese War (Yamamura, 1977, p. 121). After the war with China, the Japanese Government made a large effort to produce more warships internally. This rise in internal production increased the demand, supplied by imports, for iron and steel (Yamamura, 1977, p. 126).

In 1888, a group of private individuals established Nihon Steel. The mill was legally charged with “meeting the needs of the military as its primary objective” and planned to produce 60,000 tons of steel (Yamamura, 1977, p. 127). Unfortunately for the government of Japan, the mill’s capacity in 1904 failed to exceed 40,000 tons. The nation’s total demand, however, neared 310,000 tons of steel because of the naval expansion plan of 1903, the continuing buildup of the army, and the growing demand by the rapidly expanding railroad network and other industries. The total combined output of all military furnaces and Yawata failed to exceed 60,000 tons, so more reliance had to be placed on imported steel to meet the demand (Yamamura, 1977, p. 127).<sup>350</sup>

---

<sup>350</sup> For a history of Japan’s iron and steel industry and its need for imports in the 1800s and its move towards self-reliance, see Yonekura (1994).

### *Balance of Payments Problem*

Before the Sino-Japanese War, Japan was able to purchase warships from abroad as a result of a balance of payments surplus. This surplus created an excess of foreign currency that could be used for purchase of goods abroad. After the Sino-Japanese War, Japan's foreign trade showed an excess of imports over exports every year until long after the Russo-Japanese War (Takao, 1965, p. 447). The annual average of foreign trade between Japan (and its colonies) and abroad between 1899-1903 yielded an import surplus of ¥26 million. Between 1904-1908, the annual average surplus of imports over exports increased to ¥105 million.<sup>351</sup> To make matters worse, Japan's primary export, silk, had suffered due to a world recession, with prices falling 30% in 1903 (Miller, 2005, p. 470). This adverse trade balance created a dearth of foreign exchange balance. As shown in Table 41 below, Japan's foreign exchange balance was negative beginning in 1903 and worsened throughout the war.

---

<sup>351</sup> Foreign Trade of Japan Proper (excluding trade between Japan proper and colonies) (in million yen) (G. C. Allen, 1972, p. 229)

Year	Import	Export
1899-1903 (annual average)	270	244
1904-08	442	337

<b>Table 41: Japanese Foreign Exchange Balance, 1901-1906</b>	
Year	Foreign Exchange Balance (¥ mill.)
1901	16
1902	26
1903	-6
1904	-131
1905	-326
1906	-24
Source: Goldsmith, R. W. (1983). <u>The Financial Development of Japan, 1868-1977</u> . New Haven, Yale University Press, pg 38.	

Consequently, Japan did not have the currency to import the goods needed to effectively fight the war. In order to compensate for this lack of foreign exchange, Japan went to London to float a loan.

#### *Japan's Initial Creditworthiness*

At the time of the Russo-Japanese war, Japan was still a novice on the foreign currency market. When Japan opened itself to world trade in 1859, it had no credit standing or national currency (Miller, 2005, p. 465). Moreover, it had little experience in floating loans. Except for two relatively small foreign loans in the 1870s (to finance Japan's first seventeen miles of railroad and nominally to pay off feudal pension rights), the government adopted the policy of opposing the inflow of foreign direct investment or portfolio capital (Patrick, 1965, p. 189).

How was Japan able to float four successful loans? First, it built credit through a \$185 million gold indemnity received from China in 1897 (Miller, 2005, p. 468).<sup>352</sup> Initially, the indemnity was to be paid in silver. Since China had to finance the indemnity by borrowing in Europe anyway, the Japanese were successful in negotiating for it to be paid in pounds sterling in London, readily convertible into gold (Patrick, 1965, p. 207). Thus, the funds remained in London and were used to purchase armaments (Takao, 1965, p. 447). The Japanese knew that the pounds held abroad would not be enough to finance their military buildup. Thus, the Japanese began to stabilize their currency. Using the indemnity as a basis, in 1897, Japan adopted the gold standard and pegged the Yen at 0.75 grams of gold, equivalent to £2.57 or \$0.49, a value it maintained for 35 years (Miller, 2005, p. 468).

Stabilizing Japanese currency aided in floating debt, but stabilization alone was not enough. As will be discussed below, Japan's success was also due to its partnership with American investment bank Kuhn, Loeb and Co., as well as battlefield success.

#### *Foreign Loans and the Financing of the Russo-Japanese War*

At the start of the war Japan dispatched Korekiyo Takahashi, vice governor of the Bank of Japan, to raise money overseas. At the beginning of the war, Japan was not well positioned to receive a loan. Aside from its lack of financial experience, as described above, few western observers thought Japan could beat the world's largest army and a fleet with more battleships. Moreover, British Prime Minister Arthur Balfour was

---

<sup>352</sup> The Indemnity was 1.8 times the cost of the Sino-Japanese War (Takao, 1965, p. 422).

hesitant to extend credit to Japan, worried about offending Russia, an ally of England's other ally, France (Miller, 2005, p. 471).

In April 1904, Takahashi persuaded a London banking group to agree in principle to float a bond issue of £10 million, secured with Japanese customs receipts as collateral. The bankers, however, were only prepared to underwrite an initial tranche of £5 million, despite Japan's need for more (Sherman, 1983, p. 68). Fortunately for the Japanese war effort, while in London, Takahashi was seated at a dinner next to Jacob H. Schiff, head of New York Banking house of Kuhn, Loeb & Co.<sup>353</sup> Schiff, who disagreed with Russian treatment of its Jewish population, offered to aid the Japanese in floating its loan.<sup>354</sup> In the words of author Edward S. Miller,

What ensued was an international financial coup. Meiji Japan, a minor league borrower that had raised only \$60 million abroad since its origins thirty years earlier, tapped into global lending markets by issuing bonds with a face of \$408 million that netted it, after discounts and charges, \$343 million, about half of the debt-funded cost of the war. (Miller, 2005, p. 472).

Why were the Japanese so successful? First, Schiff, on behalf of Kuhn, Loeb & Co., agreed to underwrite the remaining £5 million in New York through a syndicate headed by the firm. The expertise of Kuhn, Loeb & Co. allowed Japan to act like a seasoned debtor. Kuhn, Loeb, & Co. set the pace throughout the war. Although they underwrote only 44 percent of the foreign bonds, they set the conditions for every issue (Miller, 2005, p. 474). Second, Japan was aided by its military successes. No longer was the country seen as a weak adversary who would be overtaken by the larger Russian

---

<sup>353</sup> For a detailed account of Takahashi's trip to London and meeting with Schiff, see Smethurst (2007).

<sup>354</sup> Schiff, on numerous occasions, refused to participate in Russian loans and used his influence to prevent the entry of Russia into the money markets of America because of the ill-treatment of the Jews by the Russian Government (Adler, 1921, p. 16).

army. On May 1<sup>st</sup>, Japan achieved a decisive victory against Russia on the Yalu River. On May 10<sup>th</sup>, £10 million in 6% bonds were issued in London and New York. It was a huge success and immediately oversubscribed (Sherman, 1983, p. 68). On April 1, 1905, *The Economist* wrote, “The striking success which has attended the issue of the new Japanese loan, both here and in the United States, ought to present itself to the Tsar and his advisers as a potent argument in favor of peace...Japan’s credit has improved with successive victories, while that of Russia has declined with her corresponding defeats” (Sherman, 1983, p. 69).

As shown below, each loan proved more successful than the last. The first two loans had interest rates at 6%, but by 1905, after myriad battlefield successes, it was perceived by many in Europe and the United States that Japan was going to win the war. In March and July, the interest rate was lowered to 4.5%. Moreover, Russia’s allies, France and Germany, were also subscribing to the loan.<sup>355</sup>

---

<sup>355</sup> For a detailed description of each issue, see Miller (2005, p. 475) and Report on the War Finance (1906, 32-34) . For a superb graphical representation of the fluctuation in prices of various Japanese public loans in the London Market correlated to military events, see (*Report on the War Finance*, 1906). For further discussion of the relationship between military success and interest rates and subscription, see Sherman (1983, p. 69).

Month Issued	May 1904	November 1904	March 1905	July 1905
Face Amount, dollar equivalent	\$50,000,000	\$58,000,000	\$150,000,000	\$150,000,000
Net proceeds to Japan	\$45,000,000	\$50,000,000	\$124,000,000	\$124,000,000
Placement	50% New York 50% London	50% New York 50% London	50% New York, Some French buyers 50% London. Sub-distributions in Germany, orders from all of Europe. 70% of London issue sold to continental investors	33% New York 33% London 33% Germany Many Austro-Hungarian buyers in Germany. French borrowers in all locations
U.S. underwriters	Kuhn Loeb and 2 N.Y. banks	Kuhn Loeb and N.Y. syndicate, some western U.S. banks	Kuhn Loeb and wide national syndicate of banks	Kuhn Loeb and wide national syndicate of banks
Final Maturity	1911	1911	1925	1925
Final life	7 years	7 years	20 years	20 years
Interest rate	6.00%	6.00%	4.5%	4.5%
Subscriptions as a percent of offering	New York 500% London 3300%	New York 500% London 1300%	New York 700% London 110%	New York 500% London 1000% Germany 900%
War Situation	Russian fleet damaged in surprise attack. Japanese army takes Korea, advances into Manchuria, wins border battles.	War stalled. Port Arthur held out. Russian fleet sortied but escaped back to base. Dogger Bank incident unnerved London.	Fall of Port Arthur. Russian Pacific Fleet scuttled. Japanese army redeploys. Battle of Mukden great Japanese victory.	Battle of Tsushima May 27. Russian Baltic Fleet annihilated. Quiet in Manchuria. June: Roosevelt's mediation offer accepted.
Miller, E. (2005). Japan's Other Victory: Overseas Financing of the War. <u>The Russo-Japanese War in Global Perspective: World War Zero</u> . J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolff and S. Yokote, Brill Academic Publishers. 2, pg 473.				

### *Conclusion—Japanese War Finance*

Japanese financing of the Russo-Japanese War both was fiscally responsible and aided the war effort. As a result of increased tax capacity, the monetization of the



economy with the introduction of the Yen, and a new effective and efficient tax structure, the Japanese were able to finance a portion of the war with taxes. While only 15% of the war was financed by taxation, it must be noted that it was the first war fought by Japan to incorporate taxation into a war finance strategy. More importantly, the Japanese Government did not have to resort to other costly means of war finance, such as printing.

In order to fight the war effectively, the Japanese also needed to engage in foreign war finance. Regardless of how much tax revenue the Japanese gathered to pay for the war effort, they needed foreign currency to buy badly needed war supplies from abroad. The Japanese were victorious not only in battle but also financially. The small country that had only once before floated a foreign loan was able to secure vast amounts of credit at a low interest rate. Its creditworthiness was due in part to a gold indemnity from China but mostly from the aid of United States' investment bank Kuhn, Loeb & Co. Kuhn Loeb, under the leadership of Jacob Schiff, took the country under its wing. The bank set the timing and terms of all of the issues and used its influence to get investors to subscribe to the loan. Finally, the government was aided by a series of military victories. At war outset, the outcome seemed inevitable: Russia would easily beat Japan, making investment in Japanese sovereign debt risky. Once Japan proved itself to be a formidable belligerent, investors were eager to extend their credit.

### **Russian War Finance**

The war was as costly, if not more so, for the Russians. The total expenditure caused by the Russo-Japanese War amounted to 3,016 million rubles (Michelson,

Apostol, & Bernatzky, 1928, p. 68).<sup>356</sup> For the years 1904 and 1905, war expenditure consumed 40% of the total revenue (Long, 1974, p. 222). Russia attempted to raise taxes and curtail expenditures to pay for the war, raising the urban property tax (33%), excise taxes on beer (33%), yeast and matches (100%), and fuel oils (20%), as well as increasing stamp and death duties (50%). The government also increased the sale price of vodka (a state-owned monopoly), customs duties on certain imports, and railway charges for the transports of passengers and goods. This tax effort, however, was only able to pay for about 5% of the war (Michelson, et al., 1928, p. 68).<sup>357</sup> Russia, unlike Japan, was unable to incorporate taxation effectively into its war finance strategy. I argue that this difference arose because the Russian Government lacked the administrative capacity to extract revenue.<sup>358</sup>

In order to continue funding the war effort, the Russian Government would have to finance the war by other means. Initially, the government attempted to finance the war by domestic debt and was successful in doing so for the first few months of the war. However, at the time of the Russo-Japanese War, the Russian Government was committed to maintaining the gold standard, introduced only seven years earlier in 1897. In order to maintain the gold standard, the government required that all notes issued be

---

<sup>356</sup> Ananich places the cost of the war at 6.554 billion rubles. However, this estimate includes the interest on domestic and foreign loans, which amounted to 3.944 billion rubles. When this interest on the debt is excluded, the war cost is 2.610 billion rubles (Ananich, 2005, p. 68). Michaelson et al. place the cost of the war at 2,295 million rubles (including 2,113 million rubles spent in the years 1904-1906, and 182 million rubles spent in the succeeding years) later in the text (Michelson, et al., 1928, p. 235).

<sup>357</sup> This figure, 5%, probably overestimates the amount of the war paid for by tax revenue as it includes both tax revenue and curtailing expenditure. The amount of money raised via curtailing expenditure and raising taxes was 177 million rubles. The curtailment of expenditure, authorized by the Finance Bill of 1904, was effected only after the beginning of the war, by reducing the appropriations by 130 million rubles. The increased rates of taxation were effective from 1905 to 1907 (Michelson, Apostol, & Bernatzky, 1928, p. 68).

<sup>358</sup> Russian tax revenue totals in 1904 and 1905 were actually below that of 1903 (Gorlin, 1977, p. 247).

backed by gold. This strict reserve ratio meant there was a limit to how many paper notes could be in circulation. After the first few months of the war, the government realized that it would violate this ratio if it continued to fund the war domestically.

In order to continue financing the war, the government had to either print or float its debt abroad. Choosing the less costly option, the Russian Government turned to foreign markets. Russia called upon its French ally to extend its credit. Again unlike Japan, as the war unfolded, credit became more costly as interest rates rose. Repeated Russian losses to the Japanese, combined with deteriorating finances due to the war and domestic social unrest, made Russian debt a risky investment. In addition, Russia did not fully participate with the demands of the French Government and its banking houses. Therefore, in order to continue securing credit, the Russian Government had to pay higher interest rates, increasing the cost of the war.<sup>359</sup>

## ***Taxation***

### *Tax Capacity*

Russian tax capacity can be characterized by three weaknesses: low monetization, a regressive tax structure, and an inefficient administrative capacity. Together these weaknesses inhibited the Russian Government from raising taxes to fund the Russian war effort.<sup>360</sup>

I argued in Chapter 2 that the more monetized a society is, the more effective its ability to tax. As I demonstrated earlier, the Japanese were able to finance a larger

---

<sup>359</sup> According to Michaelson et al., 81% of the war was met by loans amounted to 2,450.5 million rubles and the rest was paid for by the free balance of the Treasury (which amounted in 1904 to 381 million rubles) and several special funds which amounted to 7.5 million rubles (Michelson, et al., 1928, p. 68).

<sup>360</sup> Tax capacity was so weak in 1905 the Russians began to re-reform the tax system. See Gorlin (1977).

percentage of the war than it would have otherwise through the widespread use of the yen and the reformation of the Land Tax to be paid in currency rather than rice. In contrast to Japan, at the time of the Russo-Japanese War, Russia was only partially monetized. While there was widespread use of the ruble and there were no other competing currencies in use, there was still a significant portion of society that was not using it. Russia's large peasant population was often paid in kind as the bulk of the peasants' income was consumed within the households without reaching the market (Kahan, 1989, p. 64). Consequently, the Russian Government did not have access to this income to extract in the form of tax revenue.

Russian capacity to finance the war via tax revenue was also strained by the structure of the tax system. In Chapter 2, I argued that a state could collect taxes in a variety of forms. Direct taxes, taxes on incomes, are the most efficient form of revenue. Indirect taxes rely on the whim of citizens and enterprises engaging in an economic transaction, whereas a direct tax on income is independent of citizens entering the market. Moreover, direct taxes yield a higher return relative to the effort of collection. In the decades before the war, Russia's primary source of tax revenue was not from direct taxes but from more inefficient indirect taxes.<sup>361</sup> In 1903, the year before war outbreak, only 6.6% of total revenue collected was from direct taxes (Michelson, et al., 1928, p. 24). As shown in the table below, of the indirect taxes collected, the excise taxes on

---

<sup>361</sup> The personal income tax was drafted in 1905 and sent to the Duma in 1907.

items of mass consumption, such as alcoholic beverages, sugar, tobacco, matches, and petroleum, were the most significant (Kahan, 1989, p. 61).<sup>362</sup>

<b>Table 43: Russian Per Capita Taxation, 1885-1905 (in Rubles)</b>			
Year	Total Taxes	Excise Taxes	Excise Taxes as a Percent of Total Taxes
1885	6.41	2.43	37.9%
1890	7.12	2.83	39.7%
1895	8.15	3.29	40.4%
1900	8.83	4.10	46.4%
1905	9.53	5.59	58.7%

Source: Kahan, A. (1989). Russian Economic History: The Nineteenth Century. Chicago, The University of Chicago Press, pg 93.

The problem with this emphasis on indirect taxation was twofold. First, its regressive nature meant that tax burden was heaviest on the low-income strata of the population (Kahan, 1989, p. 62). Not only did this segment of the population engage in fewer commercial transactions because of its poverty level, a large portion of these taxes was also waged on those peasants that were paid in-kind. Thus, there were fewer points at which the government could extract revenue relative to a direct income tax that targeted the entire the population. Moreover, attempting to extract more revenue from an already impoverished class of people limited government revenue.<sup>363</sup> Second, the landed nobility was not taxed (Kotsonis, 2004, p. 224). By not seeking revenue from wealthier

<sup>362</sup> The preference for indirect taxes can be explained by the greater ease in collecting such taxes, given the cultural level of both the taxpayers and the bureaucracy, and by the fact that they were less injurious to the wealthier classes (Kahan, 1989, p. 61).

<sup>363</sup> This scenario was exacerbated as the economic strength of the agricultural population was undermined in the year before the war. The harvests of 1903 were poor and in nineteen provinces, the harvest was considered very poor when compared with those of past years (Long, 1974, p. 214).

citizens, the Russian Government further limited the amount of tax revenue that could be collected.

Finally, Russia was constrained by its administrative capacity to extract revenue. Like Japan, in the decades before the Russo-Japanese War, Russia was reforming its tax structure.<sup>364</sup> In an attempt to ease the tax burden of the peasantry, Alexander III increased direct taxes. This new direct tax system targeted urban and business income by increasing rates on urban property taxes (1883), and introducing death duties and gift taxes (1882), a levy on interest bearing depositions and securities (1885), business income taxes (1885), and an impost (1893) on revenue from urban house and apartment ownership (Bowman, 1993, p. 257). Finally, in 1898 business tax reform also introduced several new taxes on corporations and banks: a 0.15% tax on nominal capital, surcharge on excess profits, and personal income taxes on corporation directors (Bowman, 1993, pp. 260-261). While it appeared that Russia was increasing its tax capacity, and the government did increase the amount of taxes collected, the administrative capacity to extract revenue was actually very low, inhibiting the state's ability to collect the amount of revenues needed to fund a costly war.<sup>365</sup>

The ability to collect business taxes illustrates the lack of capacity. In 1885, the Russian Government imposed a three percent tax on corporate profits. In 1893, this three percent flat tax was raised to five percent and made progressive. The Russian Ministry of Finance, for each year beginning in 1885 and thereafter, decreed a certain sum of revenue

---

<sup>364</sup> Part of this reform was the shifting of a tax system that emphasized estates or collectives to the individual (Kotsonis, 2004).

<sup>365</sup> In 1885, taxes as a percent of national income were 12.8%. This figure increased only slightly in the years preceding the war to 13.2% in 1900 (Kahan, 1989, p. 93). For a table of the amount of direct and indirect taxes collected by the Russian government from 1861 to 1913 and a table of per capita taxation between 1885 to 1913, see Kahan (1989, p. 62 and 93).

to be collected from businesses.<sup>366</sup> Provincial tax offices were allocated their share and they in turn divided this up into smaller sums to be collected by each district. Each district was then assigned portions to business taxpayers. There were myriad problems with collecting this tax, including but not limited to auditing, tax evasion, and enforcement.

The first problem with collecting tax revenue was auditing businesses. Each business was assigned a tax officer to estimate how much profit the business produced. To estimate profits, the tax offices categorized each enterprise according to its 'external signs,' information readily available from looking at the kind of business license it held (Bowman, 1993, p. 263; Kotsonis, 2004, p. 227). They also consulted with experts to estimate the average profitability which one could normally expect for each type of trade and industry in a given area. Armed with percentages of normal profitability for each category of trade industry, tax offices then set about calculating the profits of each enterprise (Bowman, 1993, p. 263). Lacking the required knowledge, state agents could never be sure if their assessments of a locality were too high or too low, and they tended to allow arrears to grow unchecked (Kotsonis, 2004, p. 227).

Exacerbating the inaccuracy of the estimated profits, until 1898, no precise guidelines existed in the law codes describing what actually constituted corporate net profits. On the advice of the State Council, the definition of net profits was left for interpretation by administrative instructions (Kahan, 1989, p. 62). In addition to creating problems for the tax officers, businesses exploited this vagueness. Corporations paying

---

<sup>366</sup> Between 1885-1887, the annual sum to be collected was 2.558 million rubles (Bowman, 1993, p. 262).

the tax sent in accounts designed to obfuscate by being either ‘unusually brief’ or ‘excessively complete.’ It was common for corporations to create purely fictitious balance sheets for public consumption in order to hide real profits and reduce taxes (Bowman, 1993, p. 264).<sup>367</sup>

In addition to auditing difficulties, there was massive tax evasion. The structure of the tax system was such that businesses needed to self-report. Knowing from experience that the Finance Ministry often assigned levies which were beyond the taxpaying ability of individual merchants and industrialists and that it was foolhardy to pay what the tax collector asked for more would be asked for later, businesses engaged in tax evasion (Bowman, 1993, p. 259). A Finance Ministry report commented that it believed everyone, ‘everywhere,’ ‘equally’ tried to avoid the income taxes (Bowman, 1993, p. 259).

Finally, capacity was limited by the inability to enforce the tax. In order to collect these new direct taxes, the government reformed its bureaucracy. In order to estimate what sum each individual taxpayer should pay, two new institutions were created in 1885: inspectors and district tax officers. Five hundred tax inspectors were dispersed to preside over the tax offices which were composed of both finance officials and merchants or industrialists (Bowman, 1993, p. 262). The inspectors were given unprecedented powers to assess and collect revenue. Inspectors and tax offices had to estimate profits of

---

<sup>367</sup> The records of the Moscow finance office and the Moscow Municipal Duma show that verification of all data except for business licenses was very superficial. Sections where information about turnover and profits should have been recorded frequently remained empty. While inspectors were given wide discretionary powers, they often remained ignorant of how to define ‘net income,’ ‘turnover’ or ‘productivity.’ Moscow finance office records also indicate that, initially, only about 22 of a sample of 1000 taxpayers even provided statements and only two of these provided the required information about turnover (Bowman, 1993, p. 265).



privately-owned enterprises without recourse to trade books. In a model of understatement, the Department of Trade and Manufacturing explained the difficulties of the first year:

Tax inspectors, only just appointed in 1885, were not able to collect sufficiently complete data; therefore the new tax offices, lacking the necessary information, could not always execute their duties with complete success. Moreover, it is necessary to keep in mind that the law of 15 January 1885 by no means required a precise definition of turnover and profits of enterprises, possible only with the obligatory presentation of their trade books by taxpayers, but only required [enough] information [so that] turnover and profits could be hypothetically determined by the tax offices” (Bowman, 1993, pp. 262-263).

Five hundred inspectors were just too few for the enormous task of verifying information in a suspicious and often hostile environment.

Russian tax capacity inhibited the government’s ability to include taxation into its war finance strategy. The government’s ability to extract revenue was marred by its low level of monetization, its regressive tax structure, and a weak bureaucracy unable to audit society and collect and process revenue. In order to finance the war, Russia would have to resort to other forms of revenue.

### **Domestic Debt**

Once the Russian Government realized that it was unable to finance the war via taxation, it began to raise domestic debt. However, this method of war finance was short-lived. At the time of the Russo-Japanese War, the Russian Government was zealously committed to maintaining the gold standard. In the latter half of the nineteenth century,

Russia's economy was characterized by an unstable and inconvertible paper currency.<sup>368</sup> This instability harmed Russia's ability to seek credit abroad, affected foreign trade, and therefore cut into customs duties, a primary source of revenue.<sup>369</sup> The Russian Government realized that if it were to maintain and expand its international status, it would have to reform its currency. Thus, the primary goal of Russian economic policy was to achieve a state of convertibility of its currency by adhering to the gold standard. In order to fulfill this goal in the period before the war, the government built up its gold reserve and, in 1897, officially adopted the gold standard.<sup>370</sup>

After a series of failed attempts at maintaining convertibility in the past, this time was going to be different.<sup>371</sup> Thus, the Russian Government set very conservative and strict provisions to maintain it. The required gold reserve was to cover 50% of the first 600 million rubles of the new State Bank notes and 100% for any amount of paper notes above this level (Kahan, 1989, p. 51). This convertibility ratio meant that the Russian Government could only issue as many paper notes as it had gold. If the Russian Government wanted to continue paying for the Russo-Japanese War effort via domestic

---

<sup>368</sup> A convertible currency is a currency that may be freely or partially exchanged, or converted, into another. That is, there are few or no restrictions on the right of individuals, companies, or institutions to purchase and sell the currency (Moles & Terry, 1997, p. 112).

<sup>369</sup> For a discussion of the effect of unstable currency on Russia's economy in the latter half of the 19<sup>th</sup> century and the government's various attempts to stabilize it, see Crisp (1953b).

<sup>370</sup> During the earlier part of the period, prior to 1897, the prevailing monetary unit, called the *credit ruble*, represented a nonconvertible paper currency, defined in terms of quantity of silver that it was supposed to represent. The credit ruble was made convertible during a short period of the early 1860s, but as a result of the loss of foreign exchange and precious metals, the attempt was aborted. Thus, the credit ruble was not supported by a fixed amount of reserve of precious metals; its exchange rate abroad fluctuated (Kahan, 1989, p. 50).

<sup>371</sup> Crisp notes, "The maintenance of this large gold reserve was a luxury, especially in view of Russia's position as a debtor state, but was felt to be necessary for purposes of elasticity and to sustain foreign confidence" (Crisp, 1953b, p. 168).

debt, it therefore had to violate this ratio.<sup>372</sup> On March 17, 1904, new Minister of Finance, Vladimir Kokovtsov, in his report to the Committee of Finance, insisted that the gold standard be maintained at all costs and then proposed to contract foreign loans in order to strengthen Russia's gold reserves and pay for the war (Long, 1974, pp. 214-215).

Once again, if Russia was going to continue fighting the war, it would have to seek money elsewhere. As Kokovtsov's report suggested, the Russian Government decided to search for funds abroad. Witte summarized Russia's predicament in the spring of 1905 in a letter to General A. N. Kuropatkin, the Russian Chief of Staff, stating that Russia would have to seek funds abroad, specifically France, if it were to continue with the war.

Peace, however, was out of reach for the moment, and Russia would have to continue to borrow in France. In December 1904, the State Controller, watchdog of Russia's finances, frankly forewarned that 'we must count on the fact that further [foreign] financial operations are ahead of us whether or not they can be completed on terms favorable to us' (Long, 1974, p. 222).

### **External War Finance**

By the end of the first month of the war, the necessity for a new Russian loan was already being bruited in Paris (Ananich, 2005, p. 450). Throughout 1904, Russia was successful at floating its debt on French markets. Loans floated thereafter, however, were either under-subscribed or more costly at higher rates.<sup>373</sup> While Japan's credit was improving throughout the war, Russia's was declining. Whereas Japan floated its debt

---

<sup>372</sup> In February 1904, the tsarist treasury had 905.8 million rubles in gold on hand and 680 million rubles of paper currency in circulation. According to the law of 1897, the State Bank could still print another 200 million. In March 1904, the Finance Committee calculated that more than 700 million rubles could be mobilized, enough for war until January 1905 at the cost of two million rubles a day. But in the case of military defeats or protracted war, the government would be bankrupt by early 1905 (Ananich, 2005, p. 452).

<sup>373</sup> Under-subscription occurs when a new issue of securities fails to attract enough buyers in the primary market to sell all the securities on offer (Moles & Terry, 1997, p. 570).

under the advisement of U.S. banking houses, Russia had an adversarial relationship with the French Government. This tense relationship made it difficult for the Russian Government to secure badly needed funds in the second year of the war. Moreover, Russia's creditworthiness decreased with continual military losses and a series of violent domestic events. By the spring of 1905, French investors thought Russia would be unable to pay back its debt. While Russia continued to secure credit, it was only able to do so at great economic cost.

The Russian Government immediately looked to its French ally for financial aid.<sup>374</sup> Negotiations began in April 1904, with the arrival of Edouard Noetzlin (Banque Parisbas) and Baron Hottinguer (Hottinguer et Cie.) to St. Petersburg (Ananich, 2005, p. 452). At the outset, the Russians upset the French Government. Russian Finance Minister Kokovtsov, having no previous experience arranging foreign loans, bypassed the French Government by dealing directly with French bankers (Long, 1974, pp. 215-216). This action fiercely upset the French Government, commencing a relationship of distrust that would negatively affect the Russians later in the war.<sup>375</sup>

---

<sup>374</sup> While the Franco-Russian Alliance became official in 1894, the creditor-debtor financial relationship had been developing rapidly since 1890 (Long, 1974, p. 213). The Franco-Russian Alliance did not require France to support Russia against Japan unless England attacked Russia. However, the Russian Government believed it was France's duty to extend its abundant financial resources (Long, 1972b, p. 344). While the French Government was not in favor of the war, it willingly loaned money to Russia. For a discussion of the extension of French credit abroad, see (Feis, 1930).

<sup>375</sup> According to Long, since the loan was to be a large issue the attitude of the French Government was crucial. The French Foreign Minister Theophile Delcassé and Finance Minister Rouvier were concerned that a big issue of securities would lower the prices of other Russian securities on the Paris Bourse. Rouvier also wanted to prevent a large outflow of gold from France. However, they agreed to the loan because it would be politically embarrassing to refuse since the bankers had already agreed to negotiate. On April 23<sup>rd</sup>, Raffalovich informed Kokovtsov that "in the French ministry of finance, which is not especially disposed to a large Russian loan, everyone understands the obligations that result from the alliance" (Long, 1974, p. 217).

Regardless of French objections, negotiations continued. On May 2<sup>nd</sup>, Kokovtsov met with the French ambassador to St. Petersburg, Maurice Bompard, to discuss the condition of the loan as agreed upon between the bankers and the French Government. The sum of 800 million francs was authorized under the condition that only 400 million be made available immediately. In case of an unfavorable market, the operation would be halted (Ananich, 2005, p. 453). The Russian Government was against splitting the loan. Kokovtsov and Witte attempted to strengthen their bargaining position, threatening that they would float their loan in Germany instead (Ananich, 2005, p. 453; Long, 1974, p. 216). The French Government, unwilling to change the terms, agreed to a high interest rate of 6.5%, as well as preference for French companies in foreign purchases (Ananich, 2005, p. 453).<sup>376</sup> On May 12, 1904, the loan agreement was signed. The loan was a success and the entire 800 million francs (300 million rubles) were issued (Long, 1974, p. 218).<sup>377</sup>

To continue financing the war, the Russian Government needed to float another loan. The next round of negotiations with France began in October 1904. This time French bankers took the initiative of offering another loan. Although the Russians continued to suffer defeats, Paris continued to be confident of an eventual Russian victory. The May loan had been enormously profitable for those who had taken part and now Crédit Lyonnais sent its representatives to St. Petersburg (Ananich, 2005, p. 454). To the French Government's dismay, this next loan issue also included the Germans. A

---

<sup>376</sup> Long states that the interest on this debt was at 5% not 6.5% (Long, 1974, p. 217).

<sup>377</sup> The Russian Government received a guaranteed price of 94, thus actually 282 million rubles, and the banks issued the bonds at 99, making a substantial profit (Long, 1974, p. 218).

Russo-German trade agreement signed in mid-1904 included Russia's right to place a loan on the Berlin exchange.<sup>378</sup>

Once again, this loan was successful. The German banks of Mendelssohn, Bleichroeder, the Disconto Gesellschaft, and Handelsgesellschaft granted Russia a loan of 231 million rubles, issued on January 12, 1905 (Long, 1974, p. 224). The loan was sold at 4.5% and was so profitable for the German bankers that the Deutsche Bank's board met in the last days of March to discuss a larger loan to Russia through a different consortium of bankers. But the loan of 1905 turned out to be the last major Russian operation on the Berlin exchange (Ananich, 2005, pp. 454-455).

#### *Decreasing Creditworthiness and Increasing Economic Cost*

In the spring of 1905, Russia's financial fortunes took a sharp turn. While the Russian Government was in dire need of more foreign finance to continue the war effort, military losses and domestic unrest began to reflect on Russia's creditworthiness. In March, the Russian Government and French financiers agreed to a loan of 600 million francs at 6% (Long, 1974, p. 227). The French bankers, however, never signed the loan.

The primary reason was the Battle of Mukden. In March 1905, the Japanese forced the Russian Manchurian Army to retreat. The Russians lost about 85,000 men and the army disbanded as a fighting unit (Acton, 1910, p. 598). The blow to Russia's prestige was starkly visible in the capitals of the world (Esthus, 1981, p. 400). The loss at Mukden was followed by the loss of thirty-two vessels in the Tsushima Straits in May

---

<sup>378</sup> The French Government did not want Germany to be included in the loan because it wanted to ensure that Russian military contracts were placed in France and not elsewhere.

1905. It was becoming evident that Russia would not win the war. Even the French Foreign Minister Delcassé told the Japanese Minister in Paris that a continuation of the war after the battle at Mukden appeared to him utterly useless (Esthus, 1981, p. 400).

Though Delcassé's message did not go to St. Petersburg, two other important communications were shortly transmitted from Paris to the Russian capital. On March 13<sup>th</sup>, French bankers wired their delegates in St. Petersburg instructing them to break off negotiations on a 600 million franc loan. This cancellation of credit was a disaster that rivaled the defeat at Mukden, for it would be very difficult for Russia to go on with the war without the continued infusion of French money. The other message to St. Petersburg was sent by Russian Ambassador A. I. Nelidov. The Ambassador was convinced that Russia should make peace at once, and he urged his government to avail itself of the services of Delcassé in approaching Japan (Esthus, 1981, p. 400).

Even before the Russian losses at Mukden and Tsushima, France's willingness to extend credit was waning due to deteriorating domestic conditions in Russia. In January 1905, Russian officials massacred a group of demonstrators marching in St. Petersburg.<sup>379</sup> Russia's bloody suppression outraged the Russian population, leading to hundreds of thousands of workers striking and protesting throughout the country. The massacre, referred to as Bloody Sunday, quickly received international attention. A wave of protests reverberated throughout the world, and mass demonstrations took place in major cities around the globe. Nowhere were the demonstrations more outspoken than in France (Sablinsky, 1976, p. 275). Consequently, the French Government and its citizens

---

<sup>379</sup> For a detailed accounts of the event leading up to the massacre, see (Sablinsky, 1976; Surh).

no longer desired to extend their credit.<sup>380</sup>

The combination of military losses and political upheaval in Russia also caused French financiers to doubt the ability of Russia to repay its debt.

In January 1905, A. L. Guernaut, head of the department in the French Ministry of Finance dealing with foreign loans, told French Finance Minister Maurice Rouvier, that Russia might not be able to pay the interest on the debt contracted in France. He advised that France's policy of 'indefinite' lending to Russia be stopped and that the Russian government be informed that its appeals for French credit had reached their limit. (Long, 1972b, p. 344)

When the French financiers refused to sign the loan, Delcassé explained to the French ambassador to Russia that French Finance Minister Rouvier had been studying the internal situation in Russia and the military reverses and was of the opinion that "henceforth great prudence must be shown in the matter of loans to Russia" (Long, 1974, p. 228).

The Russian Government was in a precarious position. Its French ally was no longer going to extend its credit. Moreover, on March 18<sup>th</sup>, it was reported that the German market was incapable of absorbing any more Russian bonds because only part of the 500 million marks granted to Russia had been subscribed (Long, 1974, p. 230). On April 8<sup>th</sup>, Russia told the French Government that unless they received a foreign loan, Russia could continue the war no longer than 12 months without abandoning the gold standard (Long, 1974, p. 231).

---

<sup>380</sup> For a detailed discussion of the various groups protesting further extension of credit and their methods of protests, see (Long, 1972a).



In order to continue funding the war effort, the Russian Government reverted back to domestic debt and short terms loans floated in London. On March 24, 1905, the finance committee discussed a five percent domestic bond issue for 200 million rubles. Kokovtsov stated that the rates were lower than the previous foreign loans, but last-minute demands by the Russian banks raised commissions further. The high rate made clear that the government's dire situation and the finance committee accepted the loan for lack of other options (Ananich, 2005, p. 457). The domestic loan was not enough and Kokovtsov had to return to Mendelssohn in German. Germany could only extend short-term loans. The finance committee authorized Mendelssohn to raise up to 200 million rubles, but in the end only 150 million could be placed at the rate of 7.28% (Ananich, 2005, p. 457).

The Russian Government, unable to float any more badly needed external debt, began peace negotiations. On September 5, 1905, the Treaty of Portsmouth was signed, formally ending the war.

## **Conclusion**

Japanese and Russian financing of the Russo-Japanese War highlights the effect capacity on war finance. Weak bureaucratic capacity to extract tax revenue limited Russia's war finance strategy. Unable to pay for the war by taxation, Russia turned to other more economically costly forms of war finance. Initially the Russian Government floated domestic debt. However, in choosing to maintain the gold standard, domestic debt was no longer a feasible method to finance a costly war. If Russia wanted to continue fighting, the government could either print or turn to foreign war finance. In the

spring of 1904, the Russian Government asked its French ally for credit and France complied. For the first year of the war, Russia had access to cheap credit as French and German investors had a high demand from Russian debt. However, the financing of the war became extremely costly in the spring of 1905 as investors no longer perceived Russia to be able to win the war or pay back its debt.

Japan, on the other hand, was extremely successful at financing its war effort. After successfully reforming its tax system and its bureaucratic capacity to extract revenue in the years prior to the war, Japan, for the first time, was able to finance a portion of the war with taxes. Japan, however, needed currency other than yen to effectively fight the Russians. Similar to Britain during World War II, Japan needed to import goods to fight the war. Thus, Japan needed currency. A series of balance of payments deficits left Japan with a shortage of reserve currency. Thus, the country had to engage in foreign war finance. Japan successfully floated loans in the United States and England. Under the guidance of a U.S. investment bank and aided by a series of battlefield successes, Japan was able to finance the war at a low cost.

## **Chapter 8: Conclusion**

### **General Findings**

When fighting a war, leaders are in a constant balancing act, weighing their desire to win the war, stay in power, and protect the domestic economy. The response to each of these desires, in conjunction with the limits of state capacity, determines how wars are financed. Because each method of war finance—taxation, domestic debt, external funding, and printing—has different economic and political costs, leaders can decide how costly the policy will be. Leaders control these costs by choosing to what extent the war finance strategy is inflationary and visible as well as who in society is going to pay if the war is to be funded domestically.

Leaders exercise these choices while confronting fears of inflation and worsening public opinion. When fear of inflation is high, leaders will attempt to protect the domestic economy through an anti-inflationary war finance policy that emphasizes taxation. President Truman, as discussed in Chapter 4, went to great lengths to guard the United States economy during the Korean War from rising prices. Influenced by the financing of World War II and confronting post-war inflation while in office, Truman financed the entire war by taxation. The Korean War is still the only war in United States history to be financed entirely by taxation. The ability to generate this war finance anomaly was made feasible by public opinion. The U.S. public, also scarred by the World War II inflation, was in favor of an anti-inflationary war finance policy. Moreover, public support for the war was high, as many Americans believed that the

Korean War was World War III. The shared desire for an anti-inflationary war finance policy and high support for the war lowered the political cost to raising taxes.

The opposite scenario, low inflation fear and low public support, is illustrated by President Johnson's financing of the Vietnam War. In Chapter 5, I demonstrated that, in the first two years of the Vietnam War, Johnson did not fear inflation. He believed that the causes of inflation in the previous war were not present in the current U.S. economy. Whereas the U.S. economy in 1950 was destined for inflation, the U.S. economy in 1965 was able to absorb the costs of a war without rising prices. This belief caused Johnson to pursue a war finance policy based not on taxation but domestic debt. By 1967, rising prices caused a shift in U.S. war finance policy. Now fearing inflation, Johnson attempted to raise taxes to pay for the continuing war effort. The ability to pass this legislation was hampered by the lack of public support for anti-inflationary policies and the war. Whereas Johnson feared inflation, many Americans and Congressmen did not. Moreover, by 1967 public support for the war was in sharp decline. Thus, the political cost to raising taxes for an ailing policy was high. Consequently, Johnson's war finance tax bill was stalled in Congress for almost a year. The result was a war financed primarily by domestic debt and only minimally by taxation.

Chapters 4 and 5 emphasize the role of leaders' preferences while holding capacity constant. Often, leaders are constrained by their state's capacity to tax and cope with a balance of payments problem. The findings of this work suggest that while the low capacity to tax affects war finance by inhibiting a state's ability to incorporate taxation into its war finance strategy, it is not as constraining as low currency reserves. When a state has low tax capacity, it still has other war finance options. Leaders can

raise money through foreign debt, domestic debt, and printing. In Chapter 7, I demonstrated that Russia, limited by its level of monetization and administrative ability to extract tax revenue was unable to incorporate taxation into its war finance strategy. However, it was still able to finance the war via foreign and domestic debt.

When a state is facing low currency reserves in the face of a balance of payments problem, that state has no other choice but to turn abroad for resources. A leader may attempt to promote the flow of currency into the state through increasing exports or decreasing imports but the dynamics of war suggest this effort is unsustainable. Thus, foreign funding is necessary to continue the fight. This constraint is evident in Chapters 6 and 7 with British financing of World War II and Japanese financing of the Russo-Japanese War. In both of these cases, the respective governments were financing their wars domestically at cheap economic cost through a combination of taxation and domestic debt. Both states, however, were constrained by their need to procure inputs from the war effort abroad while facing low currency reserves. While the Japanese were able to secure cheap credit in the United States and England to finance their war with Russia, the British fared far worse having to incur a costly loan from the United States.

### **Implications**

The findings of this work have major implications for the study of the dynamics of war, the guns versus butter tradeoff, the relationship between citizens and war, and the timing of war finance.

The importance of foreign war finance has multiple implications for our understanding of the dynamics of war. First, states that are able to produce inputs for a

war domestically will be less financially constrained than states that need to import goods to fight. Second, if a state does import goods, it is critical that it has the necessary currency reserves to pay for them. These reserves allow the state to finance this aspect of the war effort without having to rely on a third party at potentially high economic costs. As discussed in Chapter 6, the British Government during World War II had to engage in costly external war finance because it needed to import critical supplies from the United States—munitions, airplanes, raw materials—and did not have the currency to pay for them. During the Crimean War, when almost all goods for the war were procured domestically, Britain had no need to import large quantities of expensive inputs for the war effort. Thus, it was not subject to the demands of a third party. When Britain did have to purchase goods in theater, the state was able to pay for those goods in its own currency, as pound sterling was the dominant reserve currency at the time. The role of reserve currency in the financing of the Crimean War suggests that states whose currency is treated as a reserve currency have more financial flexibility and power when fighting wars.

Finally, in regards to foreign war finance, states that have access to cheap credit abroad will be more successful at financing a war than states without this access. As discussed in Chapter 7, the Japanese were much more successful at financing the Russo-Japanese War than the Russians. While both states were able to sustain their war effort with foreign debt, the Japanese were able to do so at a lower economic cost. In Chapter 3, I demonstrated that the reliance of foreign war finance has been increasing since 1945. Thus, not only is foreign war finance a critical component to war, its use has been

increasing over the past fifty years. These findings suggest the importance of financial centers, third parties, and alliances in war.

This work also suggests that the concept of guns versus butter is somewhat misleading. Policy makers do not have to choose how to allocate a fixed amount of funds to finance a war. Funds are not always fixed. States can borrow domestically, procure funding abroad, or print. Only when the fear of inflation is high, does the guns versus butter trade off become relevant. During the first years of the Vietnam War, President Lyndon Johnson believed that both guns and butter were possible, as there was no fear of inflation. The guns versus butter tradeoff became important in 1967, when inflation began to negatively affect the United States economy. Only when prices were rising did the government curb domestic spending and raise taxes. In contrast to Johnson's war finance policy, President Truman feared inflation from the moment the Korean War began. Thus, he engaged directly in the guns versus butter trade off, raising taxes and decreasing spending immediately to protect the domestic economy.

In addition to determining the importance or presence of a guns versus butter tradeoff, how a state finances war determines the connection between its citizens and the war effort. When a state is fighting a war, only a fraction of its citizens are mobilized as soldiers and participants in war industry. How a war is financed may be the only direct link between all members of society and the war. When a war is paid for by taxation, particularly direct taxes or domestic debt in a form of a bond campaign, every member of society is conscious of the policy they are paying for, the war. Wars financed via these means allow citizens to evaluate their leader's foreign policy choices and sanction that leader if they disagree. If a leader chooses to finance a war by printing or funding from

abroad, that direct connection between citizens and the war is lost. Leaders, consequently, are able to shield their policy choices, lowering the political cost to fighting war. A plethora of literature in international relations suggests that the popularity of interstate wars depends on their costs. Additionally, this literature suggests the fate of leaders of democratic regimes and even war outcome are particularly susceptible to popular support. This study suggests that leaders can partially control the effect of support for war. Controlling this cost is particularly important in longer wars when the rally around the flag effect has faded.

War finance is a dynamic process, as how a state finances war can change throughout the conflict. This work also suggests that the timing of war finance matters. I argue in Chapters 4 and 5 that support for the war can increase or decrease the political cost to raising taxes. When support for the war is high, the likelihood of taxation financing a larger percentage of the war increases. Conversely, when support for the war is low, the likelihood that taxation plays a larger role in a state's war finance strategy decreases. President Truman raised taxes as soon as the Korean War began and stated that he intended to pay for the entire war by taxation. He was able to pass these taxes through Congress immediately, as support for the war was high. When he attempted to raise taxes a year later to continue financing the war entirely by taxation, support for the war had waned. Thus, he was only able to get half of the revenue he requested. President Johnson, in contrast, attempted to incorporate taxation into his war finance policy two years into the Vietnam War when support for the war was in sharp decline. Thus, it took him almost a year for Congress to pass his tax bill through Congress. Timing was a crucial element to policy implementation for both Truman and Johnson. If



a leader wants to finance a war via taxation, it should be done early in the war when the rally around the flag effect is at its peak and support for the war is high.

### **Future Research**

As this work is the first cross-national study of interstate war finance, there are various avenues for future research. Below, I suggest future research avenues either expanding on this study or influenced by this study.

First, this work focuses solely on long wars, wars over six months long. As discussed in Chapter 2, short wars have different dynamics than long wars. How is war finance different for these wars? Are leaders constrained by the same set of assumptions? How does the immediacy of the war effort affect the political and economic costs of confronting an enemy? This study also does not take into account civil war finance. Civil wars necessarily divide the domestic population and weaken state capacity. How do these new domestic socio-economic conditions affect war finance? Do these states increase their reliance on printing and external war finance as my argument would suggest, or do they resort to other means of war finance?

For this work, the study of war finance begins once war has been initiated. I do not take into account how the war began or who initiated it. Wars, however, are not fought in a vacuum. States often prepare for war, including financial mobilization before the war starts. Moreover, it is conceivable that states that initiate a war have already mobilized their economy to fight the pending conflict. Thus, how does pre-war mobilization affect war finance? Do states that initiate conflict face different war finance constraints or opportunities than those that do not?

Another avenue of research to be explored is the effect of war finance on war outcome. Does the manner of war finance affect war outcome? The finding in Chapter 7 on the financing of the Russo-Japanese War suggests that war finance the Japanese victory. The war became so economically costly for the Russians by the fall of 1905 that the Russian Government chose to sue for peace. The Japanese throughout 1905, on the other hand, experienced a cascade of foreign credit, reinforcing their war effort. The findings in other chapters do not put forward such a direct connection between war finance and war outcome. Thus, if war finance does affect war outcome, under what conditions does it do so?

In addition to war outcome, does the manner of war finance affect the dynamic of war? Specifically, does it have a signaling effect? How a state finances its war could signal state capacity and resolve. A state financing a war by taxation (a) signals that the state has the capacity to raise taxes, and thus, it has access to a renewable source of revenue; (b) implies that the state is capable of fighting a long war, and (c) suggests public support for the war is high enough to allow political leaders to raise taxes. On the other hand, if a state is financing a war via printing, one might expect that state either to be constrained by low capacity or low support for the war. Low capacity and low support suggest a potentially weak war effort. In this situation, the state will have to resort to printing and the domestic economy will experience inflation in the near future.

Moreover, does war finance effect the negotiation of conflict outcome? The manner in which a state confronts the cost of conflict has implications for negotiating settlement. Did the citizens sacrifice to pay for the war? If they did, how did this sacrifice affect the state's war aims? Do the citizens now expect higher results to

compensate for their sacrifice? Does the state now have costly debt they need to repay? The answers to these questions are essential for understanding the belligerents' needs and, therefore, mediating conflict resolution.

Another area of research to be explored is the relationship between the location of the war and war finance. When a state is fighting a war that is geographically far away, such as Britain during the Crimean War, it may change war finance. States fighting far away often purchase goods in theatre. As discussed in Chapter 6, the British purchased food and fodder in Turkey and Crimean instead of shipping these goods from the Isle of Britian. These purchases comprised an incredibly small percentage of British war purchases and the British were able to pay for these goods in pounds, as pounds were the dominant reserve currency at the time. However, if these purchases were much larger it may have placed stress on British balance of payments. Thus, under what conditions does the location of fighting affect war finance?

This study also suggests the importance of alliances. In Chapter 3, I demonstrated that during the Cold War, 72% of belligerents borrowed from either the United States or Soviet Union. In Chapters 6 and 7, I discussed the role of international credit when states are facing a balance of payments problem or do not have the tax capacity to finance the war outright. Turning abroad to finance a war may be critical to the war effort or to protect the state's economy. Taken together, these findings suggest that alliances may be critical to war outcome.

Throughout this work, I argued that regime type does not affect war finance. I argued that works suggesting democracies are better able to borrow and tax and, therefore, will ignore crucial elements of state capacity as well as leader's fears of

inflation and support for the war effort. However, it is possible that regime type affects war finance in more implicit ways that I was unable to capture statistically or qualitatively. Given that this is the first systematic study of interstate war finance and the scope of this project, this work takes place at a higher level of aggregation with cruder measures of regime type. In regards to democratic regimes, it is possible that parliamentary or presidential regimes finance their wars differently. In regards to authoritarian regimes, it is possible that a military regime will tend to finance wars differently than personalist or single-party regimes. Each type of electoral system mentioned above interacts with society in a different way, possibly effecting war finance.

### **Concluding Remarks**

The findings of Chapter 3 demonstrate that the majority of interstate wars over the last two hundred years have been financed not by taxation but debt. Moreover, the minimal role of taxation has remained consistent over the last two hundred years. This trend is unfortunate as society is best served by financing as much of the war as possible by taxation. Taxation, especially direct taxation, lowers the economic cost of the war by avoiding costly debt, warding off inflation, and increases creditworthiness if a state also incorporates debt into its war finance strategy by signaling state ability to pay back its debt. Moreover, taxation is a renewable source of revenue and does not have to be politically costly if raised when support for the war is high. Borrowing, even when at artificially low rates, still induces an economic cost due to its regressive nature, costly debt, and potential loss of state autonomy. The ability to tax is bound by state capacity to do so. However, it is to the benefit of states with low tax capacity at war onset to

increase that capacity as the war unfolds. In addition to the benefits mentioned above, the higher tax capacity will increase the feasibility of paying back costly debt once the war is over.

In addition to financing a war via taxation, given the constraining nature of low currency reserves when importing goods to fight a war, it is in the interest of states to either maintain a high level of reserves or be allied with a third party whose economy holds a reserve currency. States with the ability to pay for badly needed imports for the war will be better able to fight the war and lower the war's economic cost.

While leaders can be constrained by state capacity, they still have a lot of control over war finance. Wars are painful tragic events. Lives are lost, economies are ruined, and states are destroyed. The monetary costs of war can be exacerbated or mitigated by how it is financed. The manner of war finance can protect or destroy the domestic economy, promote or obstruct political transparency, and aid or hinder the war effort.

## APPENDICES

### Appendix A The Data Set - Long Wars 1823-2003

War	State	Start	End
Franco-Spanish	Spain	1823	1823
Franco-Spanish	France	1823	1823
Russo-Turkish	Turkey	1828	1829
Russo-Turkish	Russia	1828	1829
Mexican-American	United States	1846	1848
Mexican-American	Mexico	1846	1848
First Schleswig-Holstein	Denmark	1848	1848
First Schleswig-Holstein	Germany	1848	1848
La Plata	Argentina	1851	1852
La Plata	Brazil	1851	1852
Crimean	Russia	1853	1856
Crimean	Turkey	1853	1856
Crimean	United Kingdom	1854	1856
Crimean	France	1854	1856
Franco-Mexican	Mexico	1862	1867
Franco-Mexican	France	1862	1867
Lopez	Paraguay	1864	1870
Lopez	Brazil	1864	1870
Lopez	Argentina	1865	1870
Spanish-Chilean	Spain	1865	1866
Spanish-Chilean	Chile	1865	1866
Franco-Prussian	Germany	1870	1871

<b>War</b>	<b>State</b>	<b>Start</b>	<b>End</b>
Franco-Prussian	France	1870	1871
Russo-Turkish	Russia	1877	1878
Russo-Turkish	Turkey	1877	1878
Pacific	Chile	1879	1883
Pacific	Peru	1879	1883
Sino-French	China	1884	1885
Sino-French	France	1884	1885
First Sino-Japanese	Japan	1894	1895
First Sino-Japanese	China	1894	1895
Russo-Japanese	Russia	1904	1905
Russo-Japanese	Japan	1904	1905
Second Spanish-Moroccan	Morocco	1909	1910
Second Spanish-Moroccan	Spain	1909	1910
Italo-Turkish	Turkey	1911	1912
Italo-Turkish	Italy	1911	1912
Balkan I	Turkey	1912	1913
Balkan I	Greece	1912	1913
World War I	Austria-Hungary	1914	1918
World War I	United Kingdom	1914	1918
World War I	France	1914	1918
World War I	Russia	1914	1917
World War I	Germany	1914	1918
World War I	United States	1917	1918
Estonian War of Liberation	Estonia	1918	1920
Estonian War of Liberation	Russia	1918	1920
Latvian War of Liberation	Russia	1918	1920
Latvian War of Liberation	Latvia	1918	1920

<b>War</b>	<b>State</b>	<b>Start</b>	<b>End</b>
Greco-Turkish	Greece	1919	1922
Franco-Turkish	France	1919	1921
Russo-Polish	Poland	1919	1920
Russo-Polish	Russia	1919	1920
Franco-Turkish	Turkey	1919	1921
Greco-Turkish	Turkey	1919	1922
Second Sino-Japanese	Japan	1931	1933
Second Sino-Japanese	China	1931	1933
Chaco	Paraguay	1932	1935
Chaco	Bolivia	1932	1935
Italo-Ethiopian	Ethiopia	1935	1936
Italo-Ethiopian	Italy	1935	1936
Third Sino-Japanese	China	1937	1941
Third Sino-Japanese	Japan	1937	1941
World War II	Germany	1939	1945
World War II	United Kingdom	1939	1945
World War II	Italy	1940	1943
World War II	Japan	1941	1945
World War II	United States	1941	1945
World War II	Russia	1941	1945
Korean	China	1950	1953
Korean	North Korea	1950	1953
Korean	South Korea	1950	1953
Korean	United States	1950	1953
Off-shore Islands War	Taiwan	1954	1955
Off-shore Islands War	China	1954	1955
Vietnamese	United States	1965	1973



<b>War</b>	<b>State</b>	<b>Start</b>	<b>End</b>
Vietnamese	South Vietnam	1965	1975
Vietnamese	Vietnam	1965	1975
Israeli-Egyptian (War of Attrition)	Israel	1969	1970
Israeli-Egyptian (War of Attrition)	Egypt	1969	1970
Ethiopian-Somalian	Ethiopia	1977	1978
Ethiopian-Somalian	Somalia	1977	1978
Vietnamese-Cambodian Border War	Cambodia	1977	1979
Vietnamese-Cambodian Border War	Vietnam	1977	1979
Iran-Iraq	Iran	1980	1988
Iran-Iraq	Iraq	1980	1988
War over the Aouzou Strip	Chad	1986	1987
War over the Aouzou Strip	Libya	1986	1987
Gulf War	Iraq	1990	1991
Gulf War	Kuwait	1990	1991
Badme Border War	Ethiopia	1998	2000
Badme Border War	Eritrea	1998	2000
Invasion of Afghanistan	United States	2001	Ongoing
Invasion of Iraq	United States	2003	Ongoing
<b>TOTAL: 94</b>			

**Appendix B**  
**Ordered Probit Analysis of the effect of Regime Type on War Finance,**  
**Long Wars 1822-2003**

**DV: Percent of War Financed by Domestic Taxation**

	(1)	(2)	(3)	(4)
<b>Democ</b>	-0.005 (0.007)			
<b>Autoc</b>		-0.006 (0.007)		
<b>Fulldem</b>			0.507 (0.352)	
<b>W</b>				0.276 (0.508)
<b>N</b>	50	50	50	48

*Note:* The dependent variable is on a scale of 0-4. Standard errors are in parentheses. Estimations performed using Stata11.1. \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01.

## Appendix C

### Sterling Area Balance in United States Dollars (gross; \$ 000 million)

	Sept. 1939-Dec. 1940	1941	1942	1943	1944	1945	Total
<b><i>Debits</i></b>							
U.K. Imports*:							
Cash: Munitions	0.6	1.2	0.6	0.1	0.1	0.0	2.6
Food, drink and tobacco	0.2	0.0	0.0	0.1	0.1	0.2	0.6
Raw Materials	0.4	0.1	0.0	0.0	0.0	0.0	0.5
Other	0.9	0.2	0.1	0.0	0.1	0.5	1.8
Lend Lease:							
Munitions	-	0.2	1.8	4.4	5.6	1.8	13.8
Food	-	0.3	0.5	0.6	0.8	0.3	2.5
Raw Materials	-	0.1	0.4	0.6	0.6	0.3	2.0
Other	-	0.2	0.7	1.8	1.7	1.2	5.6
Total Imports	2.1	2.3	4.1	7.6	9.0	4.3	29.4
Other Debits	0.7	0.6	1.1	1.2	1.4	1.1	6.1
Total U.K.	2.8	2.9	5.2	8.8	10.4	5.4	35.5
R.S.A. payments and lend-lease supplies	0.5	0.7	1.0	1.3	1.3	1.2	6.0
Total Debits	3.3	3.6	6.2	10.1	11.7	6.6	41.5
<b><i>Credits</i></b>							
U.K. Exports	0.2	0.1	0.1	0.1	0.1	0.1	0.7
Reciprocal aid	-	-	0.3	1.5	1.9	1.3	5.0
Expenditure of U.S. Forces	-	0.0	0.1	0.2	0.5	0.2	1.0
Other credits	0.6	0.6	0.6	0.6	0.4	0.7	3.5
Total U.K.	0.8	0.7	1.1	2.4	2.9	2.3	10.2
R.S.A. receipts and reciprocal aid	0.7	0.8	0.7	1.1	1.4	1.3	6.0

Total Credits	1.5	1.5	1.8	3.5	4.3	3.6	16.2
<b>Deficit</b>							
Sterling Area deficit on current account with USA	1.8	2.1	4.4	6.6	7.4	3.0	25.3
Capital items entering gold and dollar deficit	0.8	0.0	0.0	-0.1	0.0	0.2	0.9
Total deficit with USA	2.6	2.1	4.4	6.5	7.4	3.2	26.2
Gold and dollar payments to Canada	0.2	-	0.0	0.2	0.1	0.1	0.6
Other Countries	0.5	0.2	0.1	0.2	0.5	0.3	1.8
New gold, and gold and dollar dishoarding	-1.4	-0.6	-0.4	-0.4	-0.3	-0.4	-3.5
Total net gold and dollar deficit**	1.9	1.7	4.1	6.5	7.7	3.2	25.1
<b>FINANCING OF DEFICIT</b>							
<i>Grants, etc.</i>							
Reciprocal aid							
(a) U.K.	-	-	-0.3	-1.5	-1.9	-1.3	-5.0
(b) R.S.A.	-	-	-	-0.3	-0.6	-0.6	-1.5
Lend -Lease							
(a) U.K. (and colonies)	-	1.1	4.2	8.1	9.8	3.8	27.0
(b) R.S.A.	-	0.0	0.6	0.9	1.0	0.6	3.1
Total	-	1.1	4.5	7.2	8.3	2.5	23.6
<i>Disinvestment, etc.</i>							
Sales of investments, etc	0.3	0.3	0.0	0.1	0.0	0.1	0.8
Loans: R.F.C.	-	0.4	0.0	-	-	-	0.4
Lend-Lease settlement	-	-	-	-	-	0.6	0.6
Total	0.3	0.7	0.0	0.1	0.0	0.7	1.8
<i>Drawings on reserves of gold and U.S. dollars***</i>							
	1.6	-0.1	-0.4	-0.8	-0.6	0.0	-0.3
<b>TOTAL FINANCING OF</b>	1.9	1.7	4.1	6.5	7.7	3.2	

## **DEFICIT**

Notes: \* Includes all lend-lease supplies attributable to U.K. (not only imports). \*\* Note that sales of investments, etc.—apart from collateral—are regarded as financing items. \*\*\*Belgian 1941-43 gold loan excluded in this table.

Table taken from Sayers, R. S. (1956). Financial Policy 1939-1945. London, Her Majesty's Stationery Office, Table 12, pg 501.

**Appendix D**  
**Supplies of Certain Raw Materials in the United Kingdom, (Thousand tons)**

	<i>(a) Home Production</i>		<i>(b) Imports</i>			
	1939	1940	1939	1940	1941	1942
	<i>(a)</i>	<i>(b)</i>	<i>(a)</i>	<i>(b)</i>	<i>(a)</i>	<i>(b)</i>
Iron ore	14,486	5,240	17,702	4,549	18,974	2,283
Pig iron	7,980	354	8,205	676	7,392	971
Scrap	6,379	605	6,527	937	6,622	549
Steel ingots	13,221	24	12,975	488	12,312	562
Hardwood	310	836	496	683	655	365
Softwood	120	4,255	444	2,353	701	1,253
Pitwood	450	1,607	1,527	1,090	1,441	189
Aluminum	25	58	19	66	23	138
Copper	n/a	307	162	474	146	451
Lead	17	334	14	336	8	139
Zinc	51	345	56	431	67	412

Source: Postan, M. M. (1952). British War Production. London, Her Majesty's Stationary Office, pg 158. For a more detailed assessment of British raw materials, including monthly and weekly averages of production, consumption, amount imported spanning from 1937 – 1945 see Statistical Digest of the War. C. S. Office, His Majesty's Stationary Office and Longmans Green and Co., Tables 90 – 110.

**Appendix E**  
**British Munitions Orders in the United States: The Position at 1<sup>st</sup> November 1940**  
**(In Millions of Dollars)**

	Value of Orders Placed	Amount Paid	Value of Orders to be Placed
Aircraft Products:	1,216.6	437.2	2,525.9
Airframes	721.8	241.7	
Aero Engines	480.5	166.2	
Accessories	59.3	29.3	
Other Munitions Products:	586.4	224.9	630.0
Tanks	99.5	13.7	110.0
Motor Vehicles	41.7	17.4	-
Ordnance	114.5	17.4	290.0
Ammunition	124.8	43.7	120.0
Explosives	39.9	15.1	20.0
Communication Equipment	7.1	1.8	-
Ships	13.3	7.4	90.0
Machine Tools	127.6	69.7	-
Capital	154.8	122.6	50.0
<b>TOTAL</b>	<b>1,984.4</b>	<b>784.7</b>	<b>3,205.9</b>

Source: Hall, H. D. (1955). North American Supply. London, Her Majesty's Stationery Office, Table 3, pg 212.

## BIBLIOGRAPHY

- Abelshauser, W. (1998). Germany: Guns, Butter, and Economic Miracles. In M. Harrison (Ed.), *The Economics of World War II*. Cambridge: Cambridge University Press.
- Acton, J. (1910). *The Cambridge Modern History* (Vol. XII). New York: The MacMillan Company.
- Adler, C. (1921). *Jacob Henry Schiff: A Biological Sketch*. New York: American Jewish Committee.
- Allen, G. C. (1972). *A Short Economic History of Modern Japan 1867 - 1937* (Third Revised ed.). London: George Allen & Unwin LTD.
- Allen, R. G. D. (1946). Mutual Aid Between the U.S. and the British Empire. In R. S. Sayers (Ed.), *History of the Second World War*. London: Her Majesty's Stationery Office.
- Amuzegar, J. (1997). *Iran's Economy Under the Islamic Republic*: I.B. Tauris.
- An, T. S. (1978). Turmoil in Indochina: The Vietnam-Cambodia Conflict. *Asian Affairs*, 5(4), 245-256.
- Ananich, B. (2005). Russian War Financing. In J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolf & S. Yokote (Eds.), *The Russo-Japanese War in Global Perspective: World War Zero* (Vol. 1): Brill Academic Publishers.
- Anderson, O. (1961). Economic Warfare in the Crimean War. *Economic History Review*, 14(1).
- Anderson, O. (1963). Loans versus Taxes: British Financial Policy in the Crimean War. *The Economic History Review*, 16(2), 314-327.
- Anderson, O. (1967). *A Liberal State at War: English Politics and Economics during the Crimean War*. New York: St Martin's Press.
- Andrews, D. M. (2006). Monetary Power and Monetary Statecraft. In D. M. Andrews (Ed.), *International Monetary Power*. Ithaca: Cornell University Press.
- . Annex II - Methods of Aggregation. (1992) *Handbook of the International Comparison Programme*. New York: United Nations Statistical Division.
- Ardant, G. (1975). Financial Policy and Economic Infrastructure of Modern States and Nations. In C. Tilly (Ed.), *Formation of National States in Western Europe*. Princeton University Press: Princeton University Press.
- Bailey, M. J. (1956). The Welfare Cost of Inflationary Finance. *Journal of Political Economy*, 64(2), 93-110.
- Balderson, T. (1989). War Finance and Inflation in Britain and Germany, 1914-1918. *The Economic History Review*, 42(2), 222-244.
- Ballentine, K., & Sherman, J. (Eds.). (2003). *The Political Economy of Armed Conflict: Beyond Greed and Grievance*. Boulder: Lynne Rienner Publishers.
- Bank, S. A., Kirk, J. S., & Thorndike, J. J. (2008). *War and Taxes*. Washington D.C.: The Urban Institute Press.



- Banks, A. S. (2011). Cross-National Times Series Data Archive. from Databanks International: <http://www.databanksinternational.com>
- Barnett, C. (1970). *Britian and Her Army 1509-1970: A Military, Political and Social Survey*. New York: William Morrow & Company.
- Barnett, M. N. (1992). *Confronting the Costs of War: Military Power, State, and Society in Egypt and Israel*. Princeton, N.J.: Princeton University Press.
- Barro, R. J. (1979). On the Determination of Public Debt. *Journal of Political Economy*, 87, 940-971.
- Baumgart, W. (1999). *The Crimean War 1853-1856*. New York: Oxford University Press.
- Bayley, C. C. (1977). *Mercenaries for the Crimea: The German, Swiss, and Italian Legions in British Service, 1854-1856*. Montreal: McGill-Queen's University Press.
- Bell, G. L. (1968). The Effects of Monetary Policy on Specific Sectors of the Economy. *Journal of Political Economy*, 76(4, Part 2: Issues in Monetary Research, 1967).
- Bensel, R. F. (1990). *Yankee Leviathan: The Origins of Central State Authority in America, 1859-1877*. New York: Cambridge University Press.
- Berman, L. (1989). *Lyndon Johnson's War: The Road to Stalemate in Vietnam*. New York: W. W. Norton & Company.
- Birati, A., & Cukierman, A. (1979). The Redistributive Effects of Inflation and of the Introduction of a Real Tax System in the U.S. Bond Market. *Journal of Public Economics*, 12, 125-139.
- Bird, R. M. (1977). Land Taxation and Economic Development: The Model of Meiji Japan. *Journal of Development Studies*, 13(2).
- Black, C. E., Jansen, M. B., Levine, H. S., Levy Jr., M. J., Rosovsky, H., Rozman, G., et al. (1975). *The Modernization of Japan and Russia: A Comparative Study*. New York: The Free Press.
- Blackburn, R. (1994). *Mercenaries and Lydon Johnson's "More Flags": The Hiring of Korean, Filipino, and Thai Soldiers in the Vietnam War*: Mcfarland & Co Inc.
- Blainey, G. (1973). *The Causes of War*. New York: Free Press.
- Blair, C. (1987). *The Forgotten War: American in Korea 1950-1953*. New York: Times Books.
- Blum, J. M. (1967). *From the Morgenthau Diaries: Years of War, 1941-1945*. Boston: Houghton Mifflin.
- Bogart, E. L. (1920). *Direct and Indirect Costs of the Great World War* (Second (Revised) Edition ed.). New York: Oxford University Press.
- Bogart, E. L. (1921). *War Costs and Their Financing*. New York: D. Appleton and Company.
- Bowman, L. (1993). Russia's First Income Taxes: The Effects of Modernized Taxes on Commerce and Industry, 1885-1914. *Slavic Review*, 52(2).
- Brewer, J. (1989). *The Sinews of Power: War, Money and the English State, 1688-1783*. New York: Alfred A. Knopf.
- Brownlee, O. (1968). The Effects of Monetary and Credit Policies on the Structure of the Economy. *Journal of Political Economy*, 76(4, Part 2: Issues in Monetary Reserach, 1967).

- Budd, E. C., & Seiders, D. F. (1971). The Impact of Inflation on the Distribution of Income and Wealth. *American Economic Review*, 61, 128-138.
- Bueno de Mesquita, B. (1978). Systemic Polarization and the Occurrence and Duration of War. *The Journal of Conflict Resolution*, 22(2), 241-267.
- Bueno de Mesquita, B., Morrow, J. D., Siverson, R. M., & Smith, A. (2004). Testing Novel Implications from the Selectorate Theory of War. *World Politics*, 56(3), 363-388.
- Bueno de Mesquita, B., & Siverson, R. M. (1995). War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability. *American Political Science Review*, 89(4).
- Bueno de Mesquita, B., Siverson, R. M., & Woller, G. (1992). War and the Fate of Regimes: A Comparative Analysis. *American Political Science Review*, 86(3).
- Bueno de Mesquita, B., Smith, A., Siverson, R. M., & Morrow, J. (2003). *The Logic of Political Survival*. Cambridge: MIT Press.
- Buxton, S. (1888). *Finance and Politics; An Historical Study 1783-1885* (Vol. 1). London: John Murray.
- Cairncross, A., & Eichengreen, B. (2003). *Sterling in Decline: The Devaluations of 1931, 1949 and 1967* (Second ed.). New York: Palgrave Macmillan.
- Campbell, J. T., Cain, L. S., Rapoport, A., & Converse, P. E. (1965). Public Opinion and the Outbreak of War. *The Journal of Conflict Resolution*, 9(3).
- Carpenter, D. P. (2001). *The Forging of Bureaucratic Autonomy: Reputations, Networks and Policy Innovation in Executive Agencies, 1862-1928*. Princeton: Princeton University Press.
- Centeno, M. A. (2002). *Blood and Debt: War and the Nation-State in Latin America*. University Park: Pennsylvania State University Press.
- Cheibub, J. A. (1998). Political Regimes and the Extractive Capacity of Governments: Taxation in Democracies and Dictatorships. *World Politics*, 50(April), 349-376.
- Chesney, F. R. (1854). *The Russo-Turkish Campaigns of 1828 and 1829, 1854*. New York: Redfield.
- Chiozza, G., & Goemans, H. E. (2003). Peace through Insecurity: Tensure and International Conflict. *Journal of Conflict Resolution*, 47(4).
- Chubin, S., & Tripp, C. (1988). *Iran and Iraq at War*. Boulder: Westview Press.
- Cohen, B. J. (2006). The Macrofoundations of Monetary Power. In D. M. Andrews (Ed.), *International Monetary Power*. Ithaca: Cornell University Press.
- Colaresi, M. (2004). When Doves Cry: International Rivalry, Unreciprocated Cooperation, and Leadership Turnover. *American Journal of Political Science*, 48(3).
- Cole, D. C., & Park, Y. C. (1983). *Financial Development in Korea 1945-1978*. Cambridge: Harvard University Press.
- Collins, R. M. (1996). The Economic Crisis of 1968 and the Waning of the "American Century". *The American Historical Review*, 101(2), 396-422.
- Condit, D. M. (1998). The Test of War 1950-1953 *History of the Office of the Secretary of Defense* (Vol. II). Washington, D.C.: Historical Office, Office of the Secretary of Defense.
- . *Conduct of the Persian Gulf War: Appendix P*. (1992).

- Cordesman, A. H. (1987). *The Iran-Iraq War and Western Security 1984-1987*. London: Jane's Publishing Company Limited.
- Crisp, O. (1953a). Russian Financial Policy and the Gold Standard at the End of the Nineteenth Century. *The Economic History Review*, 6(2), 156-172.
- Crisp, O. (1953b). Russian Financial Policy and the Gold Standard at the End of the Nineteenth Century. *Economic History Review*, 6(2).
- Cummings, J. W. (2009). *Towards Modern Public Finance: The American War with Mexico, 1846-1848*. London: Pickering & Chatto.
- Dacy, D. C. (1986). *Foreign Aid, War and Economic Development: South Vietnam, 1955-1975*. Cambridge: Cambridge University Press.
- Daggett, S. (2010). *Costs of Major U.S. Wars*. Washington, D.C.: Congressional Reserach Service.
- Detzer, K. (1943). *The Army Reader*. New York: The Bobbs-Merrill Company.
- Downes, A. (2009). How Smart and Tough are Democracies? Reassessing Theories of Democratic Victory in War. *International Security*, 33(4).
- Downing, B. M. (1992). *The Military Revolution and Political Change: Origins of Democracy and Autocracy in Early Modern Europe*. Princeton, N.J.: Princeton University Press.
- Dreher, A., Sturm, J.-E., & de Haan, J. (2008). Does High Inflation Cause Central Bankers to Lose their Job? Evidence Based on a New Data Set. *European Journal of Political Economy*, 24(4), 778-787.
- Dudley, L., & Passell, P. (1968). The War in Vietnam and the United States Balance of Payments. *The Review of Economics and Statistics*, 50(4).
- The Economic and Political Hazards of an Inflationary Defense Economy*. (1951). Washington D.C.: Joint Committee on the Economic Report.
- An Economist's Statement on Anti-Inflationary Measures*. (1950). Washington, D.C.: Joint Committee on the Economic Report.
- Edelstein, M. (2000). War and the American Economy in the Twentieth Century. In S. L. Engerman & R. E. Gallman (Eds.), *The Cambridge Economic History of the United States: The Twentieth Century*. Cambridge: Cambridge University Press.
- Eichengreen, B. (1996). *Globalizing Capital: A History of the International Monetary System*. Princeton: Princeton University Press.
- Ertman, T. (1997). *Birth of the Leviathan: Building States and Regimes in Medieval and Early Modern Europe*. Cambridge, [Eng.] ; New York: Cambridge University Press.
- Esthus, R. A. (1981). Nicholas II and the Russo-Japanese War. *Russian Review*, 40(4).
- Fairchild, F. R. (1994 (1922)). German War Finance - A Review. In L. Neal (Ed.), *War Finance Volume 3* (pp. 106-121). Vermont: Edward Elgar Publishing Company.
- Fand, D. I. (1968). The Impact of Monetary Policy in 1966. *Journal of Political Economy*, 74(4, Part 2: Issues in Monetary Reserach, 1967).
- Farrar-Hockley, A. (1995). *The British Part in the Korean War* (Vol. II). London: HMSO.
- Fazal, T., Fortna, P., Stanton, J., & Weisiger, A. War Initation and Termination (WIT) Coding Instrument and Data Set: Columbia University.

- Feis, H. (1930). *Europe: The World's Banker, 1870-1914*. New Haven: Yale University Press.
- Feldman, G. D. (1997). *The Great Disorder: Politics, Economics, and Society in the German Inflation 1914-1924*. Oxford: Oxford University Press.
- Feldstein, M. (1979). The Welfare Cost of Permanent Inflation and Optimal Short Run Economic Policy. *Journal of Political Economy*, 87(4), 749-768.
- Feldstein, M. (1997). The Costs and Benefits of Going from Low Inflation to Price Stability. In C. D. Romer & D. H. Romer (Eds.), *Reducing Inflation: Motivation and Strategy* (pp. 123-156). Chicago: Chicago University Press.
- Feldstein, M. (1999). Capital Income Taxes and the Benefit of Price Stability. In M. Feldstein (Ed.), *The Costs and Benefits of Price Stability* (pp. 9-39). Chicago: University of Chicago Press.
- Ferguson, N. (1999). *The House of Rothschild: The World's Banker 1849-1999* (Vol. II). New York: Penguin Group.
- Friedberg, A. L. (2000). *In the Shadow of the Garrison State: America's Anti-Statism and its Cold War Grand Strategy*. Princeton: Princeton University Press.
- Fujihira, S. (2000). Conscripting Money: Total War and Fiscal Revolution in the Twentieth Century. Unpublished Dissertation. Princeton University
- Gaitskell, H. (1952). The Sterling Area. *International Affairs (Royal Institute of International Affairs 1944-)*, 28(2), 170-176.
- Gartner, S. S., & Segura, G. M. (1998). War, Casualties, and Public Opinion. *Journal of Conflict Resolution*, 42, 278-300.
- Gartner, S. S., Segura, G. M., & Wilkening, M. (1997). All Politics are Local: Local Losses and Individual Attitudes Towards the Vietnam War. *Journal of Conflict Resolution*, 41, 669-694.
- Gasiorowski, M. J. (1995). Economic Crisis and Political Regime Change: An Event History Analysis. *American Political Science Review*, 89(4), 882-897.
- George, A. L., & Bennett, A. (2005). *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press.
- Gibbons, W. C. (1995). *The U.S. Government and the Vietnam War: Executive and Legislative Roles and Relationships* (Vol. Part IV: July 1965-January 1968). Princeton: Princeton University Press.
- Giffen, S. R. (1904). *Economic Inquiries and Studies* (Vol. I). London: George Bell and Sons.
- Gilpin, R. (1981). *War and Change in World Politics*. Cambridge: Cambridge University Press.
- Goemans, H. E. (2000). Fighting for Survival: The Fate of Leaders and the Duration of War. *Journal of Conflict Resolution*, 44(5).
- Goemans, H. E. (2000). *War and Punishment* (Illustrated edition ed.). Princeton: Princeton University Press.
- Goldsmith, R. W. (1983). *The Financial Development of Japan, 1868-1977*. New Haven: Yale University Press.
- Gorlin, R. H. (1977). Problems of Tax Reform in Imperial Russia. *The Journal of Modern History*, 49(2).

- Grey, J. (1988). *The Commonwealth Armies and the Korean War*. Manchester: Manchester University Press.
- Gross, B. M., & Lewis, J. P. (1954). The President's Economic Staff During the Truman Administration. *American Political Science Review*, 48(1), 114-130.
- The Growing Budgetary Costs of the Iraq War*, 110th Congress, First Session Sess. (2007).
- Gurr, R. T., Jagers, K., & Marshall, M. G. (2008). Polity IV: INSCR.
- Halberstam, D. (1972). *The Best and the Brightest*. New York: Random House.
- Hall, H. D. (1955). *North American Supply*. London: Her Majesty's Stationery Office.
- Hamburger, M. J., & Zwick, B. (1981). Deficits, Money and Inflation. *Journal of Monetary Economics*, 7, 141-150.
- Hamilton, A. (1904). First Report on the Public Credit (*Communicated to the House of Representatives, January 14, 1790*). In H. C. Lodge (Ed.), *The Works of Alexander Hamilton* (Vol. II). New York: The Knickerbocker Press.
- Hammond, P. L. (1992). *LBJ and the Presidential Management of Foreign Relations*. Austin: University of Texas Press.
- Hancock, W. K., & Gowing, M. M. (1949). *British War Economy*. London: His Majesty's Stationery Office.
- Hargrove, E. C., & Samuel, M. A. (Eds.). (1984). *The President and the Council of Economic Advisers: Interviews with CEA Chairman*. Boulder: Westview Press.
- Harries, M., & Harries, S. (1994). *Soldiers of the Sun: The Rise and Fall of the Imperial Japanese Army*. Random House.
- Header, H. (1996). Claredon, Cavour, and the Intervention of Sardinia in the Crimean War, 1853-1855. *The International History Review*, 18(4).
- Helleiner, E. (1994). *States and the Reemergence of Global Finance*. Ithaca: Cornell University Press.
- Heller, W. (1966). *New Dimensions of Political Economy*. Cambridge: Harvard University Press.
- Helsing, J. W. (2000). *Johnson's War / Johnson's Great Society: The Guns and Butter Trap*. Westport: Praeger.
- Herring Jr., G. C. (1971). The United States and British Bankruptcy, 1944-1945: Responsibilities Deferred. *Political Science Quarterly*, 86(2).
- Hickman, B. G. (1955). *The Korean War and United States Economic Activity*. New York: National Bureau of Economic Research.
- Hirst, F. W. (1915). *The Political Economy of War*. London: J.M. Dent & Sons Ltd.
- Hoad, C. J. C. (1904). *Commonwealth Military Attache Japanese Army, 1904 (Russo-Japanese War)*.
- Hood, C. (2003). The Tax State in the Information Age. In T. V. Paul, G. J. Ikenberry & J. A. Hall (Eds.), *The Nation-State in Question*. Princeton: Princeton University Press.
- Horn, M. (2002). *Britain, France and the financing of the First World War*. Quebec: McGill-Queen's University Press.
- Houben, A. (2000). *The Evolution of Monetary Policy Strategies in Europe*. Boston: Kluwer Academic.

- Howard, M. (2009). *War in European History* (Updated ed.). New York, NY: Oxford University Press.
- Hozier, H. M. (2005 [1878]). *The Russo Turkish War* (Vol. IV). London: Elibron Classics (William Mackenzie).
- Huber, J. D., & McCarty, N. (2004). Bureaucratic Capacity, Delegation, and Political Reform. *American Political Science Review*, 98(3).
- Hughes, J. R. T. (1960). *Fluctuations in Trade, Industry and Finance*. Oxford: Oxford University Press.
- Hume, D. (1742 [1987]). *Essays, Moral, Political, Literary*. Indianapolis: Liberty Fund, Inc.
- Hume, D. (1987 [1742]). *Essays, Moral, Political, Literary*. Indianapolis: Liberty Fund, Inc.
- Huntington, S. P. (1968). *Political Order in Changing Societies*. New Haven: Yale University Press.
- Ike, N. (1947). Taxation and Landownership in the Westernization of Japan. *The Journal of Economic History*, 7(2).
- Inflation and Communism*. (1951). Washington, D.C. : Joint Committee on the Economic Report.
- Inoki, M. (1964). The Civil Bureaucracy: Japan. In R. E. Ward & D. A. Rustow (Eds.), *Political Modernization in Japan and Turkey*. Princeton: Princeton University Press.
- IRS Historical Fact Book: A Chronology 1646-1992*. (1993). Department of the Treasury; Internal Revenue Service.
- Ishi, H. (1988). Historical Background of the Japanese Tax System. *Hitotsubashi Journal of Economics*, 29(1).
- Jackson, K. D. (1978). Cambodia 1978: War, Pillage, and Purge in Democratic Kampuchea. *Asian Survey*, 19(1, A Survey of Asia in 1978: Part I), 72-84.
- Jean, F., & Rufin, J.-C. (Eds.). (1996). *Economie des Guerres Civiles*. Paris: Hachette.
- Jentschura, H., Jung, D., & Mickel, P. (1977). *Warships of the Imperial Japanese Navy, 1869-1945*. Annapolis: Naval Institute Press.
- Jervis, R. (1976). *Perception and Misperception in International Politics*. Princeton: Princeton University Press.
- Judd, D. (1975). *The Crimean War*. London: Granada Publishing Limited.
- Kahan, A. (1989). *Russian Economic History: The Nineteenth Century*. Chicago: The University of Chicago Press.
- Kanovsky, E. (1970). *The Economic Impact of the Six-Day War: Israel, The Occupied Territories, Egypt, Jordan*. New York: Praeger Publishers.
- Karel, J. (1896). *An English View of Russian Finance*. Washington, D.C.: United States Bureau of Foreign Commerce.
- Keegan, J. (1990). *The Second World War*. New York: Penguin Books.
- Keith, E. G. (1951). The Excess Profits Tax Act of 1950. *National Tax Journal*, IV(3).
- Kennedy, P. (1987). *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*. New York: Random House, Inc.
- Keynes, J. M. (1932). *Essays in Persuasion*. New York,: Harcourt.

- Keynes, J. M. (1940). *How to Pay for the War: A Radical Plan for the Chancellor of the Exchequer*. New York: Harcourt.
- Kiby, A., & Ward, M. D. (1991). Modernity and the Process of State Formation: An Examination of 20th Century Africa. *International Interactions*, 17, 125.
- Kimball, W. F. (1969a). "Beggar My Neighbor": America and the British Interim Finance Crisis, 1940-1941. *The Journal of Economic History*, 29(4).
- Kimball, W. F. (1969b). *The Most Unsordid Act: Lend-Lease, 1939-1941*. Baltimore: Johns Hopkins Press.
- Kipp, J. W. (1975). M. Kh. Reutern on the Russian State and Economy: A Liberal Bureaucrat during the Crimean Era, 1854-60. *The Journal of Modern History*, 47(3), 437-459.
- Kirshner, J. (2001). The Political Economy of Low Inflation. *Journal of Economic Surveys*, 15(1).
- Knorr, K. (1975). *The Power of Nations: The Political Economy of International Relations*. New York: Basic Books.
- Kotsonis, Y. (2004). "Face-toFace": The State, the Individual, and the Citizen in Russian Taxation, 1863-1917. *Slavic Review*, 63(2).
- Kramer, G. H. (1971). Short-Term Fluctuations in U.S. Voting Behavior, 1896-1964. *American Political Science Review*, 65(1), 131-143.
- Krooss, H. E. (1955). *American Economic Development*. Englewood Cliffs: Prentice-Hall, Inc.
- Kugler, J., & Domke, W. (1986). Comparing the Strength of Nations. *Comparative Political Studies*, 19(1), 39-69.
- Lamborn, A. C. (1983). Power and the Politics of Extraction. *International Studies Quarterly*, 27, 125-146.
- Latin American Studies. (1949). (Vol. 6-10). University of Texas Institute of Latin American Studies.
- Lee, J. W. (2001). The Impact of the Korean War on the Korean Economy. *International Journal of Korean Studies*.
- Leland, A., & Oboroceanu, M.-J. (2010). *American War and Military Operation Casualties: Lists and Statistics*. Washington, D.C.: Congressional Research Service.
- Levi, M. (1988). *Of Rule and Revenue*. Berkeley: University of California Press.
- Levitt, B., & March, J. G. (1988). Organizational Learning. *Annual Review of Sociology*, 14, 319-340.
- Levy, J. S. (1994). Learning and Foreign Policy: Sweeping a Conceptual Minefield. *International Organization*, 48(2), 279-312.
- Lewis-Beck, M. S., & Stegmaier, M. (2000). Economic Determinants of Electoral Outcomes. *Annual Review of Political Science*, 3.
- Lieberman, E. S. (2002). Taxation Data as Indicators of State-Society Relations: Possibilities and Pitfalls in Cross-National Research. *Studies in Comparative International Development*, 36(4), 89-115.
- Long, J. (1972a). Organized Protest against the 1906 Russian Loan. *Cahiers du Monde russe et soviétique*, 13(1).

- Long, J. (1972b). Russian Manipulation of the French Press, 1904-1906. *Slavic Review*, 31(2).
- Long, J. (1974). Franco-Russian Relations during the Russo-Japanese War. *The Slavonic and East European Review*, 52(127).
- Lorrell, M., Kelly Jr, C., & Hensler, D. (1985). *Casualties, Public Opinion, and Presidential Policy During the Vietnam War*. Santa Monica: Rand - Project Air Force.
- Lounge, D. E., & Sweeney, R. J. (1981). Inflation and Real Growth: Some Empirical Results. *Journal of Money, Credit, and Banking*, 13, 497-501.
- Lucas, R. E., & Stokey, N. (1983). Optimal Fiscal and Monetary Policy in an Economy Without Capital. *Journal of Monetary Economics*, 12, 55-93.
- Lustick, I. S. (1996). History, Historiography, and Political Science: Multiple Historical Records and the Problem of Selection Bias. *American Political Science Review*, 90(3), 605-618.
- Maddison, A. Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD. from University of Groningen:
- Maisel, S. J. (1967). The Effects of Monetary Policy on Expenditures in Specific Sectors of the Economy. *Journal of Political Economy*, 76(4, Part 2: Issues in Monetary Research, 1967).
- Manson, E. S., Kim, M. J., Perkins, D. H., Kim, K. S., & Cole, D. C. (1980). *The Economic and Social Modernization of the Republic of Korea*. Cambridge: Harvard University Press.
- Mastanduno, M., Lake, D. A., & Ikenberry, G. J. (1989). Toward a Realist Theory of State Action. *International Studies Quarterly*, 33, 457-474.
- Maurice, M. F. (1905). *The Russo-Turkish War 1877: A Strategic Sketch*. London: Swan Sonnenschein & Co.
- May, E. R. (1973). *"Lessons" of the Past*. New York: Oxford University Press.
- Mazower, M. (1991). *Greece and the Inter-War Economic Crisis*. Oxford: Oxford University Press.
- McCurrach, D. F. (1948). Britian's U.S. Dollar Problems 1939-45. *The Economic Journal*, 58(231).
- McLure Jr., C. E. (1972). Fiscal Failure: Lessons of the Sixties. In W. Fellner (Ed.), *Economic Policy and Inflation in the Sixties*. Washington, D.C.: American Enterprise Institute for Public Policy Reserach.
- McMillan, W. D., & Beard, T. R. (1980). The Short Run Impact of Fiscal Policy on the Money Supply. *Southern Economic Journal*, 47, 122-135.
- Meltzer, A. (2003). *A History of the Federal Reserve, Volume 1: 1913-1951*. Chicago: University of Chicago Press.
- Michelson, A. M., Apostol, P. N., & Bernatzky, M. W. (1928). *Russian Public Finance During the War*. New Haven: Yale University Press.
- Miller, E. (1975). War, Taxation and the English Economy in the Late Thirteenth and Early Fourteenth Centuries. In J. M. Winter (Ed.), *War and Economic Development: Essays in Memory of David Joslin*. Cambridge: Cambridge University Press.



- Miller, E. (2005). Japan's Other Victory: Overseas Financing of the War. In J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolff & S. Yokote (Eds.), *The Russo-Japanese War in Global Perspective: World War Zero* (Vol. 2): Brill Academic Publishers.
- Millet, A. R. (2010). *The War for Korea, 1950-1951: They Came from the North*. Lawrence: University Press of Kansas.
- Moles, P., & Terry, N. (1997). *The Handbook of International Financial Terms*. Oxford: Oxford University Press.
- Monetary Commercial English News. (1878). *The Commercial and Financial Chronical*, XXVI.
- Morris, S. J. (1999). *Why Vietnam invaded Cambodia: Political Culture and the Causes of War*. Stanford: Stanford University Press.
- Morton, W. A. (1943). *British Finance, 1930 - 1940*. Madison: University of Wisconsin Press.
- Mueller, J. E. (1973). *War, Presidents, and Public Opinion*. New York: Wiley.
- Murphy, H. C. (1950). *The National Debt in War and Transition*. New York: McGraw - Hill.
- Neustadt, R. E., & May, E. R. (1986). *Thinking in Time: The Uses of History for Decision-Makers*. New York  
London: Free Press ;  
Collier Macmillan.
- Nish, I. (2005). Stretching Out to the Yalu: A Contested Frontier, 1900-1903. In J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolff & S. Yokote (Eds.), *The Russo-Japanese War in Global Perspective* (Vol. I). Leiden: Koninklijke Brill.
- Nordhaus, W. D. (1973). The Effects of Inflation on the Distribution of Economic Welfare. *Journal of Money, Credit, and Banking*, 5, 465-508.
- Odell, J. S. (1982). *U.S. International Monetary Policy: Markets, Power, and Ideas as sources of change*. Princeton, N.J.: Princeton University Press.
- Ohanian, L. E. (1997). The Macroeconomic Effects of War Finance in the United States: World War II and the Korean War. *The American Economic Review*, 87(1), 23-40.
- Ohanian, L. E. (1998). *The Macroeconomic Effects of War Finance in the United States: Taxes, Inflation, and Deficit Finance*. New York: Garland Publishing, Inc.
- Okamoto, S. (1970). *The Japanese Oligarchy and the Russo-Japanese War*. New York: Columbia University Press.
- Organski, A. F. K., & Kugler, J. (1980). *The War Ledger*. Chicago: The University of Chicago Press.
- Ott, A. F., & Hughes-Cromwick, P. (1988). The War on Poverty: Two Decades Later. In B. J. Firestone & R. C. Vogt (Eds.), *Lyndon Baines Johnson and the Uses of Power* (pp. 51-75). New York: Greenwood Press.
- Parks, R. W. (1978). Inflation and Relative Price Variability. *Journal of Political Economy*, 86(1), 79-95.
- Patrick, H. T. (1965). External Equilibrium and Internal Convertibility: Financial Policy in Meiji Japan. *The Journal of Economic History*, 25(2).

- Patterson, J. T. (1996). *Grand Expectations: The United States, 1945-1974*. Oxford: Oxford University Press.
- Peltzman, S. (1990). How Efficient is the Voting Market. *Journal of Law and Economics*, 33(1), 27-63.
- Pickens, D. K. (1988). LBJ, the Council of Economic Advisors, and the Burden of New Deal Liberalism. In B. J. Firestone & R. C. Vogt (Eds.), *Lyndon Baines Johnson and the Uses of Power*. New York: Greenwood Press.
- Pierpaoli Jr., P. G. (1999). *Truman and Korea: The Political Culture of the Early Cold War*. Columbia: University of Missouri Press.
- Pigou, A. C. (1916). *The Economy and Finance of War: Being A Discussion of the Real Costs of the War and the Way in Which They Should be Met*. London: J.M. Dent & Sons Limited.
- Pike, D. (1978). *Vietnam Cambodia Conflict*.
- Pintner, W. M. (1959). Inflation in Russia during the Crimean War Period. *American Slavic and East European Review*, 18(1), 81-87.
- Pollack, S. D. (2009). *War, Revenue, and State Building: Financing the Development of the American State*. Ithaca: Cornell University Press.
- Postan, M. M. (1952). *British War Production*. London: Her Majesty's Stationary Office.
- Pratt, E. E. (1922). Our Change in the Near East: Tariff Duties Which Destroy the Basis of Exchange by Export and Import Endanger a Valuable Commerce-War and Politics Hinder Reconstruction in Asia Minor and the Balkans. *Our World*, 1(April).
- Pyle, K. B. (1973). The Technology of Japanese Nationalism: The Local Improvement Movement, 1900-1918. *The Journal of Asian Studies*, 33(1).
- Rasler, K. A., & Thompson, W. R. (1983). Global Wars, Public Debts, and the Long Cycle. *World Politics*, 35(4), 489-516.
- Reber, V. B. (1999). A Case of Total War: Paraguay, 1864-1870. *Journal of Iberian and Latin America Studies*, 5(1).
- Reeve, W. D. (1963). *The Republic of Korea: A Political and Economic Study*. London: Oxford University Press.
- Reinhart, C. M., & Rogoff, K. S. (2009). *This Time is Different: Eight Centuries of Financial Folly*. Princeton: Princeton University Press.
- Reiter, D. (1994). Learning, Realism, and Alliances: The Weight of the Shadow of the Past. *World Politics*, 46(July), 490-526.
- Repington, C. a. C. (1905). *The War in the Far East 1904-1905 (By the Military Correspondent of The Times)*. New York: E.P. Dutton and Company.
- Report of the Board of General Officers*, House of Parliament (1856).
- Report on the War Finance*. (1906). Tokyo: Ministry of Finance (Ōkurashō).
- Revenue and Expenditure Control Act of 1968: Explanation of the Bill H.R. 15414 As Agreed to in Conference, 90th Congress, 2nd Sess.(1968).
- Riasanovsky, N. V. (2000). *A History of Russia* (Sixth ed.). Oxford: Oxford University Press.
- Ricardo, D. (1888 [1846]-a). Chapter XVII: Taxes on Other Commodities than Raw Produce. In J. R. McCulloch (Ed.), *The Works of David Ricardo*. London: John Murray.

- Ricardo, D. (1888 [1846]-b). Essay on the Funding System. In J. R. McCulloch (Ed.), *The Works of David Ricardo*. London: John Murray.
- Rich, N. (1991). *Why the Crimean War? A Cautionary Tale*. New York: McGraw-Hill.
- Riddell, T. (1975). *A Political Economy of the American War in Indo-China: Its Costs and Consequences*. The American University, Washington D.C.
- Riddell, T. (1988). The Vietnam War and Inflation Revisited. In B. J. Firestone & R. C. Vogt (Eds.), *Lyndon Bains Johnson and the Uses of Power*. New York: Greenwood Press.
- Ripsman, N. M., & Levy, J. S. (2008). Wishful Thinking or Buying Time? The Logic of British Appeasement in the 1930s. *International Security*, 33(2).
- Rohrer, F. (2006, May 10). What's a Little Debt Between Friends? *BBC News*.
- Ross, R. R. (1987). *Cambodia: A Country Study* (3rd ed.). Washington, D.C.: United States Government.
- Ross, R. S. (1988). *The Indochina Tangle: Chia's Vietnam Policy, 1975-1979*. New York: Columbia University Press.
- Sablinsky, W. (1976). *The Road to Bloody Sunday*. Princeton: Princeton University Press.
- Sandler, S. (Ed.). (1995). *The Korean War: An Encyclopedia*: Routledge.
- Sarkees, M. R., & Wayman, F. (2010). *Resort to War: 1816-2007*: CQ Press.
- Sarkees, M. R., & Wayman, F. W. (2010). *Resort to War: A Data Guide to Inter-State, Extra-State, Intra-State, and Non-State Wars, 1816-2007*. Washington, DC: CQ Press.
- Sato, S. (1973). Japan's Fiscal System: An International Comparison. In T. Hayashi & K. Kaizuka (Eds.), *Public Finance in Japan*. Tokyo: University of Tokyo Press.
- Sayers, R. S. (1956). *Financial Policy 1939-1945*. London: Her Majesty's Stationery Office.
- Scheve, K., & Stasavage, D. (2010). The Conscription of Wealth: Mass Warfare and the Demand for Progressive Taxation. *International Organization*, 64(Fall), 529-561.
- Schimmelpenninck van der Oye, D. (2005). The Immediate Origins of the War. In J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolff & S. Yokote (Eds.), *The Russo-Japanese War in Global Perspective* (Vol. 1). Leiden: Koninklijke Brill.
- Schuessler, J. M. (2012). Democracy and Deception. Air War College.
- Schultz, K. A., & Weingast, B. R. (2003). The Democratic Advantage: Institutional Foundations of Financial Power in International Competition. *International Organization*, 57(Winter), 3-42.
- Seabrooke, L. (2006). *The Social Sources of Financial Power: Domestic Legitimacy and International Financial Orders*. Ithaca: Cornell University Press.
- Seligman, E. R. A. (1919). The Cost of The War and How it was Met. *American Economic Review*, IX(December), 739-770.
- Shaw, S. J., & Shaw, E. K. *History of the Ottoman Empire and Modern Turkey: Reform, Revolution, and Republic; The Rise of Modern Turkey 1808-1975* (Vol. 2). Cambridge: Cambridge University Press.
- Sherman, A. J. (1983). German-Jewish Bankers in World Politics: The Financing of the Russo-Japanese War. *Leo Baeck Institute Yearbook*, 38(1).

- Silberman, B. S. (1978). Bureaucratic Development and Bureaucratization: The Case of Japan. *Social Science History*, 2(4).
- Simpson, P. M. (1988). Lyndon B. Johnson and the 1964-1968 Revenue Acts: Congressional Politics and "Fiscal Chickens Coming Home to Roost". In B. J. Firestone & R. C. Vogt (Eds.), *Lyndon Baines Johnson and the Uses of Power*. New York: Greenwood Press.
- Singer, D. J., Bremer, S., & Stuckey, J. (1972a). Capability Distribution, Uncertainty, and Major Power War, 1820-1965. In B. M. Russett (Ed.), *Peace, War, and Numbers* (pp. 19-48). Beverly Hills: Sage Publications
- Singer, D. J., Bremer, S., & Stuckey, J. (1972b). Capability Distribution, Uncertainty, and Major Power War, 1820-1965. In B. Russett (Ed.), *Peace, War, and Numbers*. Beverly Hills: Sage.
- . *Sino-Soviet Competition in Indochina*. (1978).
- SIPRI. (2010). SIPRI Military Expenditure Database.
- Skidmore, T. E. (1977). The Politics of Economic Stabilization in Postwar Latin America. In J. M. Malloy (Ed.), *Authoritarianism and Corporatism in Latin America*. Pittsburgh: University of Pittsburgh Press.
- Sloan, J. (1985). President Johnson, The Council of Economic Advisors, and the Failure to Raise Taxes in 1966 and 1967. *Presidential Studies Quarterly*, 15(1), 89-98.
- Smethurst, R. J. (2007). *From Foot Soldier to Finance Minister: Takahashi Korekiyo, Japan's Keynes*. Cambridge: Harvard University Asia Center.
- Smith, A. (1776 [1981]-a). Book V: Of War and Public Debt. In R. H. Campbell & A. S. Skinner (Eds.), *An Inquiry into the Nature and Causes of the Wealth of Nations* (5th ed., Vol. I). Indianapolis: Liberty Fund.
- Smith, A. (1776 [1981]-b). *An Inquiry into the Nature and Causes of the Wealth of Nations* (5th ed. Vol. II). Indianapolis: Liberty Fund.
- Sprague, O. M. W. (1917). Loans and Taxes in War Finance. *The American Economic Review*, 7(1), 199-213.
- Stam, A. C. (1996). *Win, Lose, or Draw: Domestic Politics and the Crucible of War*. Ann Arbor: University of Michigan Press.
- Steinmo, S. (1993). *Taxation and Democracy: Swedish, British, and American Approaches to Financing the Modern State*. New Haven: Yale University.
- Stettinius Jr., E. R. (1944). *Lend-Lease: Weapon for Victory*. New York: The Macmillan Company.
- Stevens, R. W. (1976). *Vain Hopes, Grim Realities: the Economic Consequences of the Vietnam War*. New York: New Viewpoints.
- Stiglitz, J. E., & Bilmes, L. J. (2008). *The Three Trillion Dollar War: The True Cost of the Iraq Conflict*. New York: W.W. Norton & Company, Inc.
- Studenski, P., & Krooss, H. E. (1952). *Financial History of the United States*. New York: McGraw-Hill Book Company, Inc.
- Surh, G. D. *1905 in St. Petersburg: Labor, Society, and Revolution*. Stanford: Stanford University Press.
- Sussman, N., & Yafeh, Y. (2000). Institutions, Reforms, and Country Risk: Lessons from Japanese Government Debt in the Meiji Era. *The Journal of Economic History*, 60(2).

- Takao, T. (1965). The Financial Policy of the Meiji Government. *The Developing Economies*, 3(4).
- Tal, D. (2004). *War in Palestine 1948: Strategy and Diplomacy*. New York: Routledge.
- Taylor, A. J. P. (1954). *The Struggle for Mastery in Europe, 1848-1918*. Oxford: Oxford University Press.
- Tignor, R. L. (1984). *State, Private Enterprise, and Economic Change in Egypt, 1918-1952*. Princeton: Princeton University Press.
- Tilly, C. (1990). *Coercion, Capital, and European states, AD 990-1990*. Cambridge, Mass., USA: B. Blackwell.
- Tilly, C. (1993). *European Revolutions, 1492-1992*. Oxford: Blackwell Publishers.
- Tilly, C. (Ed.). (1975). *The Formation of National States in Western Europe*. Princeton: Princeton University Press.
- Times, M. C. o. T. (1905). *The War in the Far East 1904-1905*. New York: E.P. Dutton and Company.
- Tomz, M. (2007). *Reputation and International Cooperation: Sovereign Debt Across Three Centuries*. Princeton: Princeton University Press.
- Tooze, A. (2007). *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (1st American ed.). New York: Viking.
- . *Treasury Bulletin: Ownership of Federal Securities*. (2010).
- Truman, H. S. (1948, Jan 14). *Excerpts from Annual Message: The President's Economic Report to Congress*, Washington D.C.
- Tuan, N. A. (1987). *South Vietnam Trial and Experience: A Challenge for Development*. Athens: Center for International Studies Ohio University
- Twining, C. H. (1989). The Economy. In K. D. Jackson (Ed.), *Cambodia 1975-1978: Rendezvous with Death*. Princeton: Princeton University Press.
- Van Dyke, J. M. (1972). *North Vietnam's Strategy for Survival*. Palo Alto: Pacific Books.
- Verba, S., Brody, R. A., Parker, E. B., Nie, N. H., Polsby, N. W., Ekman, P., et al. (1967). Public Opinion and the War in Vietnam. *American Political Science Review*, 61(2).
- Vernon, J. (1973). Financial Disintermediation in a Macroeconomic Framework: Comment. *The Journal of Finance*, 28(4).
- Vickery, M. (1986). *Kampuchea: Politics, Economics and Society*. London: Frances Printer.
- Walder, D. (1974). *The Short Victorious War: The Russo-Japanese Conflict*. Harper & Row.
- Wallerstein, M. (1980). The Collapse of Democracy in Brazil: Its Economic Determinants. *Latin American Research Review*, 15.
- Walters Jr., R. (1957). *Albert Gallatin: Jeffersonian Financier and Diplomat*. New York: The Macmillan Company.
- Weisiger, A. (2008). From Small Wars to Armageddon: Explaining Variation in Interstate War Duration and Severity. Unpublished Dissertation. Columbia University.
- Whigham, T. (2002). *The Paraguayan War*. Lincoln: University of Nebraska Press.
- Whiting, R. (2004). *The Labor Party and Taxation: Party Identity and Political Purpose in Twentieth-Century Britain*. Cambridge: Cambridge University Press.

- Wilkenfeld, H. C. (1973). *Taxes and People in Israel*. Cambridge: Harvard University Press.
- Wilson, R. A. (2008). Personal Exemptions and Individual Income Tax Rates, 1913-2002. from Internal Revenue Service: <http://www.irs.gov/pub/irs-soi/02inpetr.pdf>
- Witte, J. F. (1985). *The Politics and Development of the Federal Income Tax*. Madison: The University of Wisconsin Press.
- Wolff, E. (1979). The Distributional Effects of the 1969-75 Inflation on Holdings of Household Wealth in the United States. *Review of Income and Wealth*, 25, 195-207.
- Yamamura, K. (1977). Success Illgotten? The Role of Meiji Militarism in Japan's Technological Progress. *The Journal of Economic History*, 37(1).
- Yamauchi, A. (2004). *Fiscal Sustainability - The Case of Eritrea*. Washington, D.C.: International Monetary Fund.
- Yonekura, S. (1994). *The Japanese Iron and Steel Industry, 1950-1990: Continuity and Discontinuity*. New York: St. Martin's Press.
- Yoshifuru, T. (2005). Unsuccessful National Unity: The Russian Home Front in 1904. In J. W. Steinberg, B. W. Menning, D. Schimmelpenninck van der Oye, D. Wolff & S. Yokote (Eds.), *The Russo-Japanese War in Global Perspective* (Vol. II). Leiden: Koninklijke Brill.
- Young, A. N. (1965). *China's Wartime Finance and Inflation, 1937-1945*. Cambridge: Harvard University Press.
- Zelizer, J. E. (1998). *Taxing America: Wilbur D. Mills, Congress, and the State, 1945-1975*. Cambridge: Cambridge University Press.
- Zook Jr., D. H. (1960). *Conduct of the Chaco War*. New York: Bookman Associates.