The political economy of oil production

from 1850s to 1974

Harry Perlich

Acknowledgments

Thanks to Stuart Rosewarne, who supervised the thesis. His efforts over a long period were a crucial factor in the opportunity to develop the project to its conclusion. His efforts particularly in the last year were timely, meticulous and highly commendable.

Thanks to my parents for moral support and financial assistance.

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ABSTRACT

This is a study of the oil industry in its modern development from the 1850s to 1973. During this period the industry underwent significant changes in terms of its productive expansion, the diversity of its products, its role in general production, its corporate organisation and in terms of its significance to the very reproduction of advanced societies.

The examination of the oil industry focuses on a political economy of its historical expansion. The thesis uses a Marxist theoretical framework to examine issues related to oil production as well as synthesising the elemental features of oil production into a structured conceptual model of the oil industry.

The thesis divides the analysis of oil between chapters dealing with economic and political concerns in the context of historic epochs. The economic components of the thesis deal with the capitalist development of oil, its relationship with other sectors of production and consumption and an assessment of its role in economic growth as a whole. This provides the basis for the subsequent politically focused analyses.

The political chapters deal with two primary issues, including the state response to the monopolisation of the oil industry and the effect of the expanding importance of oil on political relations.

The analysis of the monopolisation of the oil industry provides an opportunity to study the relationship between the state in a regulatory function and the subsequent constraint on oil industry autonomy. The study of interstate relations focuses in turn on the effect of expanding oil production on the economic interests of states, in their support for the reproduction of capital in their domains.

The study explores the subject of hegemonic power, in which particular states dominated the global economy in epochs entitled Pax Britannica and Pax Americana. The examination of the expanding importance of oil in these periods provides an opportunity to detail the significance of oil in the reproduction of these orders. Of particular interest is the value of oil in military applications, which adds another dimension to the analysis of state interest in the oil industry.

The study has several original contributions to make in respect of political-economic analysis. The thesis articulates a systematic model of the oil industry, in its interaction with other industries and in interaction with states. These relationships are developed in a framework that illustrates the competing interests that coexist within a unitary concept of the accumulation imperative of capitalist production.

The contradictory and complementary issues that the study highlights provides the basis for an re-examination of Marxist analytical scope and an assessment of its contribution to the study of the interface between economic and political history.

Chapter 1: Introduction

The thesis is a study of oil production in the modern period, from approximately the 1850s, to the oil price shock of 1973. The study encompasses the oil industry from its early beginnings in the US, through to its global expansion and culmination in the "oil crisis" when oil received a major shock in terms of its continuing role in modern industrial reproduction.

Oil is considered a significant subject for analysis for several reasons. Firstly oil has been an important and pervasive commodity in the modern period. Its use value has overtly influenced many aspects of modern production and consumption. The role of oil remains ubiquitous, with oil prices a key industrial index, with the oil commodity an everyday part of our lives through its consumption in cars and the ubiquity of multinational petroleum companies. However there is much more to oil than this superficial cultural impression. A consideration of events such as the Gulf War of 1990 suggests that the oil commodity played an important part in the interests of states and their potential conflict over the control of this resource. Such events indicate the merit of a critical inquiry into the role of oil in the modern world.

The study of the oil industry presents an opportunity to gain greater insight into the course and determinants of modern history, due to the fundamental importance of oil to modern political and economic relations.

The choice of oil as a subject for analysis also has special value to the Marxist methodology employed to study the subject. Marxist theory is suited to the study of the oil commodity. This is because Marxist theory is focused on the relations of production under capitalism. The theory focuses on the growth of industries, as it is dictated by the competitive imperative of capitalist production. However the Marxist method is indirectly a subject of interest itself, in terms of its viability in providing an appropriate methodological framework for the analysis of the oil industry in its politicised context.

Marxist theory provides an immediately recognisable framework for the study of oil in terms of commodity production. The Marxist methodology is designed to illustrate the dynamic forces of production, in this case pushing the growth of the oil industry and its expansion into a world domain. The internal logic of accumulation in the oil industry has a direct resonance with the analysis of the circuits of capital used in Marxist theory. However the thesis deals with several additional issues regarding oil, some of which form a component of Marxist analysis and some of which do not.

The Marxist theoretical project

The thesis articulates a systematic model of the oil industry, developing a framework that covers several political-economic terrains. These include firstly the internal logic of accumulation within the industry, providing a classic model of Marxist dynamics. Secondly, the thesis examines the oil industry in terms of the issue of monopoly corporate organisation of the industry and its strategic effect on general industrial organisation. The intervention of the state in the industry and its regulation of production is an integral part of this analysis. Finally, the thesis provides an analysis of oil in terms of the interaction of states on the international plane to control oil and in terms of their efforts to secure oil-dependent reproduction. These relationships are modelled in a hierarchical framework that illustrates the competing interests that coexist within a unitary theory of accumulation.

The examination of contradictory and complementary issues relating to the oil industry as a capitalist entity is also the basis for the originality of the thesis. In its examination of capitalist industrial development, interaction and state intervention the thesis provides the basis for an elaboration of Marxist theoretical scope. The main contribution is to the understanding of individual capitalist industries as nested within a hierarchy of capitalist agendas.

The oil industry was a pioneering example of the development of monopoly relations in production, which is an issue explored by a number of neomarxist theorists. The thesis charts the development of monopoly relations in the oil industry, in terms of the theories of Hilferding, Mandel and others. Their arguments highlight that the analysis of oil must incorporate the fact that the industry eventually transcended aspects of market forces and distorted the normal patterns in the allocation of surplus value. The oil industry also became so large and important to general production that its monopoly power drew the interest and intervention of the state. The thesis consequently explores an underdeveloped area of Marxist analysis, the interaction between the state and industry, in terms of the intervention of the state in accumulation processes.

The thesis explores the overriding influence of the state on industry accumulation processes as they occurred in the oil industry and provides a theoretical explanation to integrate this phenomenon within a general Marxist framework. The thesis relies here particularly on the work of Aglietta, in articulating a theoretical foundation for the subsequent issues that it explores. State intervention is seen to have influenced the exercise of monopoly power in the oil industry. This occurred however in a complex way that requires theoretical and empirical examination in the thesis.

The thesis also analyses oil in terms of historic epochs. The use of global political eras provides a framework for the study of the development of the oil industry.

Political order is a subject that receives insufficient exploration in Marxist analysis, due perhaps in part to perception of its different theoretical problematics. Nevertheless, scholars such as Wallerstein, Cox and others have provided foundations for an approach. These theorists consider political orders, with emphasis on epochs of political-economic hegemony.

The study follows this framework, arguing that political orders such as *Pax Britannica* and *Pax Americana* are relevant to the historical analysis of oil. In turn we can use the study of oil to analyse the influence of this extraordinary resource on these political orders in a dialectical approach.

The thesis takes into account the role of the state in regard to national capital accumulation and the evolving role of oil within the interests and duties of the state. The interaction between states is explored in this context, to take into account rival agendas that had oil as their means or ends.

The exploration of the subject of states emphasises the hierarchical power of states and the establishment of hegemony in various eras, revealing the varied ability of states to influence the oil production regime. In addition, the exploration of this subject takes into account the global organisation of the oil industry. This requires analysis of the emergence of regions such as the Middle East in the organisation of oil production and a consequent political analysis of these states.

The study emphasises that oil production had characteristics defined by national boundaries, which influenced investment and consumption decisions. These factors in turn influenced the character of the political regimes that evolved, in terms of their imperial ambitions for expansion and the emergence of conflicts on a global scale.

A further issue explored in the thesis relates to the unique role of oil as a strategic military resource. The military application of oil made this a commodity that was demanded by the state for its unique purposes. This had implications going beyond the economic realm.

The study of the military demand for oil is crucial to the understanding of global political orders that form the political framework of the thesis. Not only was oil important in purely economic terms to states. The oil industry is explored as a strategic military commodity that altered the technological military basis of the reproduction of state hegemony. The subject of oil as a military resource is therefore incorporated into the model developed in the thesis.

The above issues are significance to the thrust and scope of the analysis of oil. The oil industry is indicated to have had a number of key characteristics that contributed to its economic and political importance and influence. These features of the oil industry challenge us to find ways to articulate the complexities of both the economic relationships as well as the political relationships surrounding oil production. The thesis develops a dialectical model in order to encompass the different realms and issues to be analysed.

The thesis emphasises that a general analysis of capitalist historical economic forces must take into account unique restraints and issues at the particular level. The ultimate goal of the thesis is the development of an accurate representation of the political economic factors involved in the development of oil production. The creation of models to represent the relationships of the oil industry the rest of political economic reality is part of the effort to contribute to the scope and clarity of the Marxist theoretical system.

The modelling of the political economy of oil production

The following is a more detailed indication of the structural approach to the subject of oil in the thesis. The discussion charts the development of a systematic framework in which the thesis has been developed. In addition, the discussion of the model highlights the possibility that the study of the oil industry might provide a theoretical structure with wider applications.

The thesis surveys three layers of political economic reality in the study of oil. This includes the realm of accumulation in the oil industry, with interaction between departments of production. Secondly, the thesis examines the relationship between the state and the economy. The analysis of the interaction between the oil industry and the state focuses on the monopoly character of the oil industry in particular periods. The thesis explores state intervention to maintain a balanced accumulation structure and in order to support a strategically significant industry. Thirdly, the study creates a model of nested state interactions. This serves to explore the epochs in which hegemonic states dominated the interaction between individual states serving the interests of separate accumulation agendas to which oil had an influence.

The thesis is finally also divided into historic periods in which the above analytical categories are explored. The historical chapters are paired, to deal with the separate economic and political aspects of oil production. Each historic epoch studied begins with an examination of the economic development of the oil industry. This is followed by chapters dealing with political interventions in the oil industry, including the issue of the monopoly power of oil corporations.

The economics of oil production

The relations of production are the core element of Marxist theory in its critical examination of economic structures. The capitalist character of economic relations is recognised in Marxist theory as a driving force in economic, social and historical development. The study of the basic economic relations of oil production therefore forms a core element of the thesis. Each historic period of oil production analysed includes a chapter specifically dealing with the economic aspect of the industry.

In the analysis of oil the thesis focuses on the circuit of capital.[1] The circuit of capital is a basic building block of Marxist analysis and provides an indication of the "nodes" at which capital experienced significant transformations. The analysis of the nodes of the capital

1 Karl Marx, Capital, Volume II (Penguin, Harmondsworth, 1978): 159. David Harvey, *The limits of capital*, (Basil Blackwell, Oxford, 1982): The accumulation cycle: 300.

circuit of the oil industry provides a basis for the examination of the challenges faced historically by the industry in pursuing its internal logic.

The circuit of capital is a foundation for examining the fundamental logic of capital accumulation engaged in by capitalist enterprises historically. The aim of capitalists is to invest capital in order to obtain a financial return with profit. This involves productive activity that results in the creation of socially necessary goods. The basic logic of capitalist production is applicable to all realms of commodity production. It is therefore pertinent to the historical examination of the oil industry. The circuit of capital has general features that are applicable to the study of the production of the oil commodity for profit.

Figure 1.1: Spatial depiction of oil capital circuit

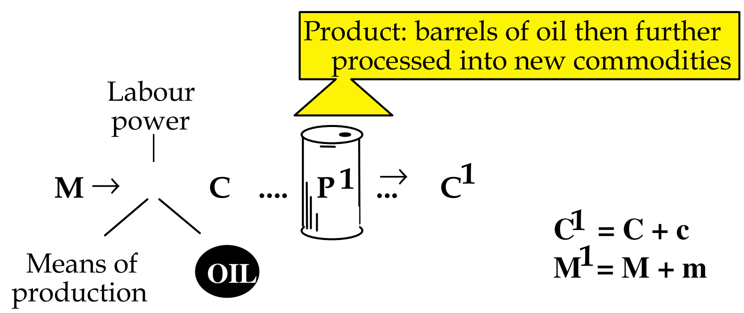

Figure 1.1 depicts the circuit of oil capital with graphic elements to specifically indicate that it involved oil production. Money capital (M) was advanced in order to purchase oil production capital, including drilling equipment, pipes and rigs. The input commodities of labour and its tools of production is represented by C. Oil production (P) resulted in oil being turned into a primary commodity available for future consumption (C^1). When oil was purchased from the oil capitalist it resulted under ideal circumstances in a return of money capital to the oil company (M), and profits for the entrepreneur organising this process (+m).

Oil exploration was justified because of the exchange value it could acquire through the application of labour. It was only in transformation to a commodity that oil gained a definite exchange value and price. Therefore in the circuit of capital of the oil industry oil had no entry exchange value, though it had an input exchange value in all subsequent capital circuits. Despite this economic rule, oil-bearing land did historically yield a rent, based on the oil resources to be found there.[2]

Oil was extracted from the soil by capitalist entrepreneurs with the assumption that it would be saleable in commodity form. The act of exchange involved in the oil circuit reflected the fact that this commodity had social use value. The commodity output of the oil circuit would be consumed by other companies and individuals. The circuit of oil capital therefore interacted with the parallel logic of all other capitalist circuits of production.

The logic of the circuit of capital articulated here is developed in subsequent historic chapters. The explanation of the circuit of capital in the oil industry is also the basis for the further exploration of the circuit of oil within the circuits of all industries.

Departmental dependence and interaction

The thesis explores the social application of the oil commodity and the intertwining of the logic of oil industry accumulation with that of production in general. Of particular importance to this project is the interaction between the oil industry and those industrial "Departments" increasingly dependent on the oil output commodity.

2 Owners of oil-bearing land were able to capture a rent on the exchange value of oil, equal at times to 1/8 of the net revenue of the oil well. H. F. Williamson, & A.R. Daum, *The American Petroleum Industry: The Age of Illumination 1859-1899,* (Northwestern UP, Evanston, 1959): 374. On rent in the oil industry and disputes with neo-classical rent theory, see Cyrus Bina, "The Laws of Economic Rent and Property: Application to the Oil Industry" *The American Journal of Economics and Sociology*, April 1992.

The Marxist division of economic activity between Departments highlights the difference between two fundamental types of economic activity.[3] In Department I the production of producer goods occurs. Producer goods, or capital goods, are produced for sale to other capitalists in the division of labour of industrial tasks. Producer goods are intermediate goods that become inputs to further production along a chain of capital circuits. In contrast, Department II involves production of consumer goods. Department II industries are dependent for their inputs on Department I activity and it is a final productive activity where output commodities are used for personal and luxury consumption.

The exploration of Departmental dependence on oil in the thesis provides an opportunity to examine the position of oil in the hierarchy of production. It gives an indication of the type of products produced by the oil industry and their particular significance to production in general. In reciprocity, the analysis of Departments also reveals the significance of oil demand to the logic of productive expansion in the oil industry.

Figure 1.2: Basic model of departmental oil dependence

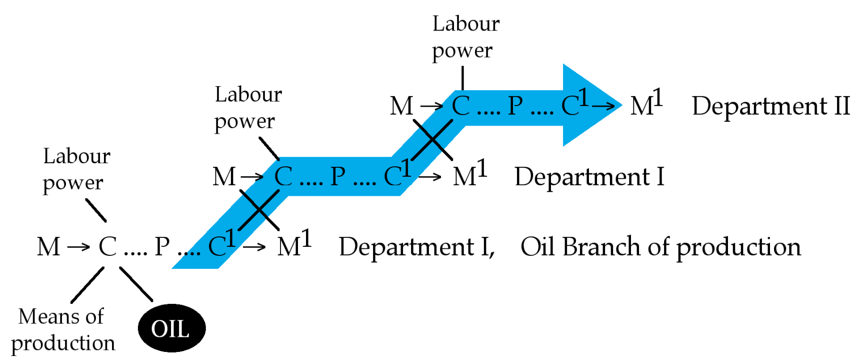

Figure 1.2 is a graphic representation of the production structure identified in the Departmental taxonomy. Oil production is indicated as a branch of Department I, involved in the production of a basic raw material. Oil product outputs in the form of oil commodities were purchased by other branches of Department I as well as in Department II. The transfer

3 Karl Marx, *Capital, Vol II* (Penguin, Harmondsworth, 1978): 472

of commodities such as oil occurred at the point of exchange, depicted by a cross (X), in which the oil department realised a return on capital and profit (M+m). The consuming industry obtained oil as an expense of production. The shaded arrow of the figure indicates that the value of oil was carried through the production structure of departments, to be completed in Department II in the consumption of final consumer goods. The value of oil was thereby embodied either as a cost or as an actual material in production.

The exploration of the Departmental consumption of oil highlights the connection between the historic production of oil and its relationship with consumption in other economic realms. The emphasis on this social connection also provides the basis for exploring the dependence of oil industry accumulation on Departmental demand, with specific reference to types of industrial demand for oil.

The military consumption of oil

Attached to the project of exploring Departmental oil dependence is an important addendum dealing with the application of the oil commodity to the military realm. Although military consumption of oil does not fall into Marxist Departmental categories it warrants a special examination. This application of oil had a significant influence on the development of the industry as well as enormous repercussions to the military power of states.

In each historic chapter on economic aspects of oil production the military demand for oil is examined. This is because military demand for oil represented an important aspect of all oil demand in each epoch. The demand for oil for military applications presented a stimulus to production for the oil industry, with important repercussions to the pace and character of accumulation in the industry.

In the economic chapters dealing with historic epochs we will examine the state demand for oil for the purpose of fuelling vehicles and military equipment, from an economic perspective. This is to be distinguished from the subsequent political chapters in which there is a scrutiny of the political implications of this application of the oil resource.

Figure 1.3: military demand and oil circuit

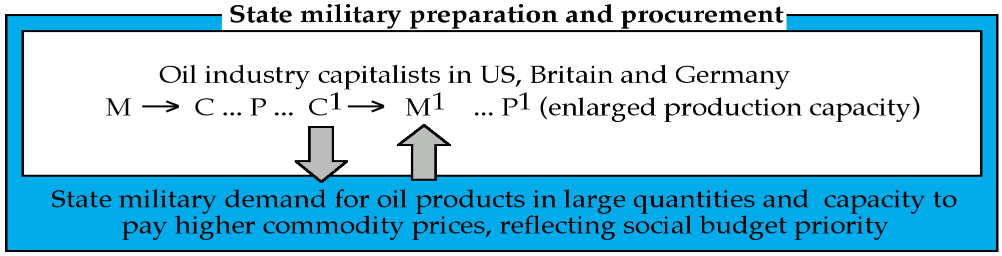

Figure 1.3 provides a conception of the relationship between the oil industry and the state as an agent of economic demand for oil. The oil industry is indicated in terms of its capitalist logic as a self-reproducing circuit of capital in which expansion is the consequence of capitalist production. This is shown by the change of the amount of capital circulating from a value of M to M+m.

The expansion of the capital circulating in the oil industry could not occur without reference to external demand. Previously this was indicated as being fulfilled by Departmental oil consumption. Moreover, the state was also an important source of oil demand and therefore acted as a stimulus to oil industry accumulation. The state demand for oil is not indicated as serving a circuit of capital. This is because state activity is formally largely supportive of the economic sphere rather than directly engaged in accumulation. Nevertheless the argument emphasises that state demand also had direct economic implications to oil industry accumulation.

The historic chapters dealing with economic issues explore the degree of importance attributable to the state demand for oil in terms of its effect on the pace and character of accumulation in the oil industry, including its geographic location. The later political chapters will instead emphasise the inverse of this relationship, in which the oil resource is examined from the perspective of the state and its reproduction. Oil had significance to the political reproduction of states as well as global hegemony, analysed in the political chapters.

Quantifying oil as a motor of growth industry

The ultimate goal in the economic chapters is to give an indication of the broad economic influence of oil on the reproduction of the peak capitalist states in each particular period of study. In this aim the thesis adds a discussion of the motor of growth role of oil.

The oil industry is examined throughout the economic chapters as a motor of growth industry. This is defined by its role as a focus of social capital investment as well as a stimulus to general capital accumulation. This aspect of the analysis is a culmination of the previous scrutiny of the Departmental relationships of oil and the military applications of the resource. The thesis hereby scrutinises the qualitative effect of the oil industry on capital accumulation in terms of investment in the industry, its products and the effect of its products on other social and economic activities. The thesis assesses the degree of importance attributable to oil in terms of its effect on the pace and character of accumulation as a whole.

The economic chapters chart the subject of the increasingly fundamental role of oil to capitalist reproduction over time, quantifying its function as a driver of the general logic of capital, that of accumulation resulting in expanded reproduction.

The state and control of oil production

The second primary element of the thesis studies the oil industry from the perspective of its interaction with the state. This approach allows us to examine the dialectics of the interaction between the political world and oil as an economic commodity. The thesis analyses both the influence of the oil industry on the state as well as the ability of states to influence the historical development of the oil industry. The subject is developed in the context of the model used in the thesis, nesting the realms of analysis, and revealing their interactive quality.

The subject of the analysis of the state is sub-divided into an examination of the regulatory functions of the state and that of state reproduction in an international environment. The regulatory role of the state is studied in the context particularly of monopoly capitalism. This form of capitalism involved the emergence of unusual power in certain sectors of capital, including the oil industry. This power induced the interest of the state in the unique context of different states and different eras. The second aspect of the analysis focuses on state interaction in terms of the reproduction of particular states. This includes consideration of the reproduction of specific hegemonic states that cemented global accumulation regimes. The thesis examines the effect of oil production on the power of states and their ability to control oil production in the international environment.

Below is an articulation in detail.

The state and economics of oil, part I: Regulation

The analysis of monopoly power in the oil industry and state regulation is a necessary aspect of the thesis. This is both because monopoly power had been a general consequence of developing capitalism and because it had been a dramatic phenomenon specifically in the oil industry over most of the time studied. The theoretical articulation of monopoly power allows us to comprehend the arrival of market domination and its significance to the basic dynamics of accumulation. In addition it provides an introduction to the examination of interaction between monopoly firms and their host states in the form of monopoly capitalism.

In brief, monopoly power resulted in state intervention due to the need for balancing the power of monopoly sectors with the interests and power of other capitalist sectors.[4] The emergence of monopoly power in the oil industry presented a contradictory issue for the state. On the one hand, a regulatory imperative emerged. This occurred in order to temper the exercise of monopoly power. On the other hand, the state frequently supported monopoly power in the industry, due to its significance to national competitiveness in the international arena. The precise way in which this occurred is the subject of the historic chapters.

Figure 1.4: The state and regulation of oil industry power

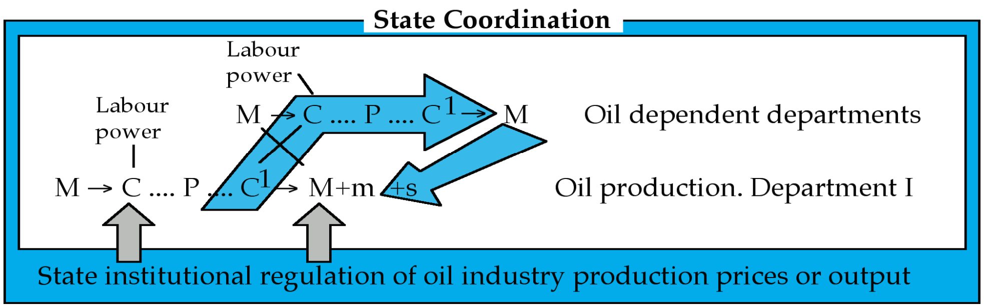

Figure 1.4 provides the graphic representation of the regulatory relationship between state and industry. The figure shows interaction between two capital circuits, being the oil branch and an oil-consuming department. As a consequence of trade the oil industry commodity output saw its actual consumption in oil-dependent industries. The exchange is depicted by a cross (X), representing the transfer of capital between industries. This included the movement of input money capital (M) from department II to Department I, becoming the

4 Paul Baran and Paul Sweezy, *Monopoly Capitalism*, (MRP, NY, 1967): 64. Paul Sweezy, *The Theory of Capitalist Development*, (Modern Reader, NY, 1970): On monopoly prices: 54, 255.

output money capital and profit of the oil industry (M+m). The oil industry in turn provided its own output commodity (C) as a capital input for Department II.

The exchange of commodities was frequently unequal in monetary capital terms. A transfer of surplus value could occur, indicating the exercise of monopoly power by the oil industry. The transfer of surplus was due to an imbalance of economic organisational power and economic leverage, manifested as a transfer of surplus capital (s) to the oil circuit surplus (+m).

The state had an encompassing position, as indicated in Figure 1.4. An assumption is that the state conformed to a Marxist theoretical conception of the state as dominated by the interests of the capitalist class, able to regulate and steer economic development and relations. As an overriding social and economic agent the state had a capacity to intervene in the activities of the oil industry, depicted by upward arrows. The thesis emphasises that intervention was historically specific and should be examined in terms of the circuit of capital, indicating the specific "nodes" of capital where influence was required, appropriate or inevitable.

The constraint by the state of economic power in the individual firm or industry is an important conceptual issue that is grasped in the study of real developments in the world oil industry. The modelling of regulation provides a foundation for further exploration of oil industry development and its power within the larger political-economic framework of the world economy.

The state and economics of oil, part II: imperialism

The second component of the discussion of monopoly power in the oil industry takes us to the inverse response of the state. This was a response of support rather than restrictive regulation.

The monopoly power of the oil industry was historically of importance to states in terms of the ability of the industry to operate and compete on an internationally competitive level. The relationship between capital and the state conforms in this instance to the concept of monopoly capitalism. This theoretical term has a number of varied interpretations.[5] However in this thesis the meaning emphasised describes a relationship in which there was the development of a symbiotic interdependence between state and capital, following Hilferding's theoretical model.[6]

Although the state remained a representative of capital as a whole, its actions in regard to particular industries involved state dominance over the scope of action. This did not negate efforts by the industry to pursue competitive production but the industry acted in the context of state agendas. This was primarily motivated by the goal to secure reproduction of the economy as a viable entity engaged in capital accumulation.

The symbiosis of state and capital extended to an international environment, allowing the industry economic action while the state secured the military and diplomatic framework for accumulation activity. Where this structure involved dominance of sovereign foreign territory it was more often titled imperialism.

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5 Anthony Brewer, *Theories of Imperialism,* (Routledge & KP, London, 1980): 14, 79, 174. David Harvey, *The Limits of Capital,* (Basil Blackwell, Oxford, 1982): 76. N. Etherington, *Theories of Imperialism,* (London, Croom Helm, 1984): 129.

6 R. Hilferding, *Finance Capital,* (Routledge & Kegan Paul, London, 1981): 332, 334, 199.

Figure 1.5: The state and internationalisation of oil industry

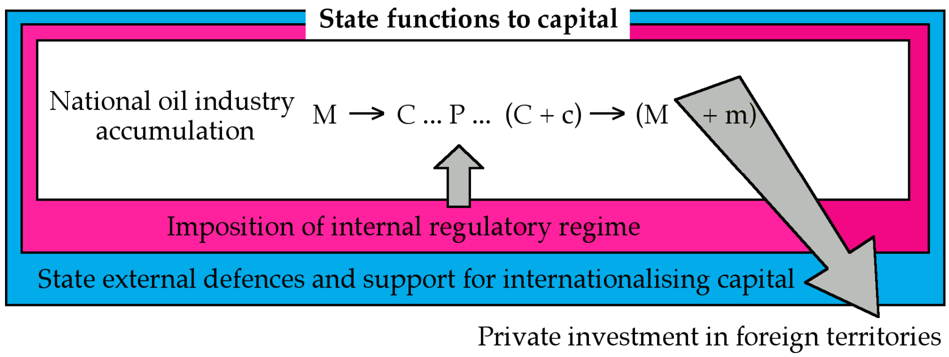

Figure 1.5 gives an indication of the relationship between state and capital under conditions of monopoly capitalism. The oil industry is theorised as still in pursuit of capital accumulation but having achieved a certain level of economic viability to enter a domain beyond the state. The state is conceived as having an interest in stifling the exercise of monopoly power within its jurisdiction, as has been explained in the regulatory context. Yet the expansion of the industry was seen as optimal from the perspective of the reproduction of state domain as a whole.

The arrow leading outside the state domain indicates the investment of capital outside the state domain, implicitly on a scale that involved risk of a high magnitude. The industry therefore required state support to ensure the protection of capital investments. In turn the state had an interest in ensuring the integrity of investments in consideration of the importance of oil to the national economy.

Although the above is an abstract representation of state and capital relations the thesis will explore this concept in its concrete manifestation on the international plain in historic contexts.

State relations and international oil production

The discussion of the influence of oil on political relations occurs both as a dialectical analysis and with an acknowledgment of hegemonic structures dominating international relations. The study seeks to determine the influence of oil on international relations and the influence of international political relations on the development of the oil industry.

The examination of the politics of oil occurs in the context of the articulation of hegemonic phases of the world economy. The study of the political aspect of oil production therefore immediately becomes an examination of the effect of oil not only on global political relations but also on the hegemonic eras in which it occurred.

The analysis of the political influence of oil production on interstate relations is based on a Marxist approach. The conceptual foundation indicates that oil production and accumulation occurred under the jurisdiction of separate states, representing separate accumulation strategies and sometimes contradictory interests.

The existence of particular powerful states with global political influence represents an important overlay to the ability of other states to exercise power in regard to the oil industry.

The discussion of states and the modelling of their relations occurs in the context of the imperial character of interstate relations in all the historic periods under review in the thesis.

At the political level it is not appropriate to deal with all states as being identical entities. Imperial states had distinctively different degrees of power. They also had different means to gain access to oil on an international level compared to less developed states.

Figure 1.6: Nested states and imperial economic activity

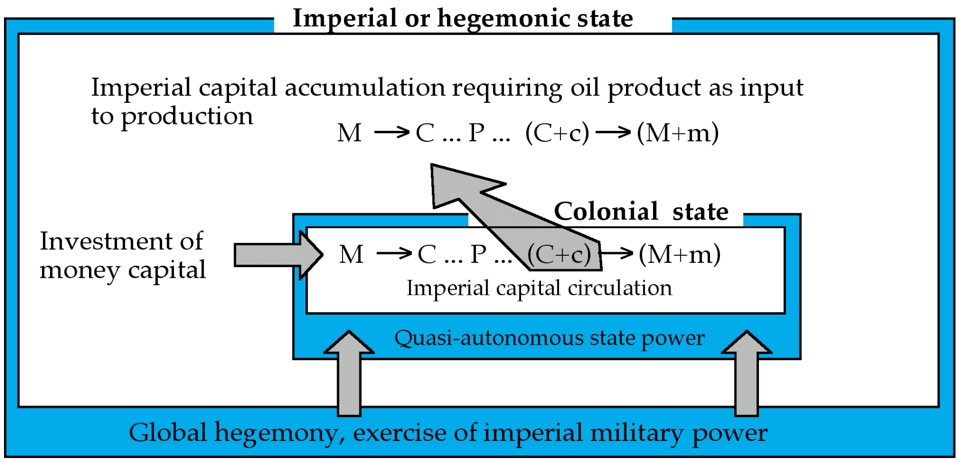

Figure 1.6 provides a representation of the variable relationship between states, holding within themselves economic activities. The figure indicates an imperial state and an underdeveloped state containing oil resources and captured within a hegemonic structure.

Each state was historically bound to serve the internal reproduction of its capitalist social relations (M…M^1). However the logic of capital accumulation occurred at uneven rates of development. The capital of the dominant state exceeded its geographic boundaries and entered the global stage in the imperial form.

The accumulation activity occurring in the larger dominant state resulted in the acquisition of surplus value (+m) that became the basis of new investment capital (M). Historically oil was the subject of investment by capitalists and this occurred increasingly in the foreign territory of underdeveloped peripheral regions. The figure depicts the investment of capital into the foreign territory of the dominated state, and the establishment of a circuit of capital yielding profit for metropolitan capitalists.

The conception of monopoly capitalism here assumes the power of an imperial state to ensure the free economic activity of its capitalist sector within the realm of another state. This is represented by the upward arrows of intervention, emerging from the realm of the dominant state. Influence over the oil circuit was manifested as either a regulatory power or a capacity for military intervention if the less developed state interfered with the particular structure of the capital accumulation occurring in its sovereign domain.

The study of oil provides an opportunity to analyse the actions of states and their reaction to the expansion activities of the oil industry. The degree of importance attributed to this one industry suggests an intensified state interest in the reproduction of the oil circuit, both within and beyond the normal state boundaries. This is an important aspect of the analysis of interstate relations.

The discussion of interstate relations embodies the assumption of a hegemonic structure, in which one state dominates the political and economic agendas and power of a number of states. This relationship occurred in periods identified as accepted historic epochs. This included *Pax Britannica* and *Pax Americana*, representing the hegemonic power of Britain and the US in the world economy in particular periods. The study also takes into account two periods that might be described as non-hegemonic. This includes the interwar period and the period approaching the oil crisis of 1973.

The study of political power with a Marxist focus at its core provides a basis for understanding not only the development of the oil industry but also the transformation of the power of states within hegemonic structures. The imperative of capital accumulation had its own logic that exceeded the overriding power of individual states to manage and constrain the influence of the resource on general productive power.

The use of the nested modelling in the thesis and the analysis of political-economic interaction assists the comprehension of the fluid tension between the reproduction of capital and the stability of political power.

Summary

The discussion of the theoretical framework of the thesis is designed to indicate the parameters of the discussion and the fundamental theoretical issues confronting the analysis of the oil industry.

The study of oil in terms of its capitalist character is a vital approach for understanding the growing importance of this industry in the global economy. The Marxist method presents an analytical scope that allows an indication of the power and influence of this industry on both the world economy and its political structures. Several complexities must be addressed to achieve this aim. This includes analysis of real developments within the oil industry in terms of its developing monopolistic structure and responses to this development by other industries, host governments and the governments of rival states. This range of interrelated issues presents factors that enhanced and constrained the full realisation of oil industry power in the global economy.

The net aim of the analysis is to give a historically conditioned representation of one of the most important industries in the world. The argument develops a concept of the strategic economic importance of oil and its role in the shaping of the world economy, interstate relations and world history over the last 150 years.

The primary implication of the model used in the analysis, which is evidenced in the historical study, is that the oil industry should be seen as a manifestation of capitalism. The oil industry should not be seen as simply a direct manifestation of capitalism, pursuing its accumulation agenda free from external forces. It was beholden to the larger framework represented by competing branches of production and by states acting in the service of the capitalist agenda as a whole. A better understanding of this theoretically informed complex of power provides an opportunity to reconsider the role the production relations of oil in the past as well as in the future global economy.

Chapter 2: Early oil production in Pax Britannica 1851-1914

The analysis of the historical development of the oil industry and its effect on industrial societies begins with the period described as *Pax Britannica*. This period, lasting from approximately 1814 to 1914, provides a political-economic framework for the analysis of the oil industry.

The analysis of oil in this period is divided between a study of economic issues in this chapter and political issues related to oil in the next chapter. The analysis here concentrates on the internal economic logic of the oil industry, subject to the imposition of a capitalist logic of economic reproduction and development. It is the basis for the subsequent examination of political issues, informed by the prior investigation of the economic structure of oil production.

Oil is studied in order to comprehend its contribution to the economic and political development of the modern world. The oil industry began its modern development during the 1850s. It grew throughout the following decades to become an industry producing a commodity featuring in many element of new production at the beginning of the 20th century.

The chapter is divided into three distinct sections. The analysis starts with examination of the internal economic logic and contradictions of this industry. This traces the elements of the circuit of capital in the oil industry that formed the basis for the logic of capital accumulation and expanded production of oil.

The analysis then delves into the departmental position of oil and examines its structural relationship to general oil-consuming industries between the 1850s and the beginning of WWI, when the *Pax Britannica* period decisively ended. In the examination of departmental oil consumption the thesis also identifies the military realm as an important reference for the study of the oil industry. The high military consumption of oil requires an examination of this element of oil demand. Implicit to this analysis is the underlying significance of oil to the political structure of the period.

Finally, the thesis assesses the role of oil as a 'motor of growth' industry, affecting the pace and character of accumulation occurring in the period. This approach allows us to trace how the production circuit of oil was both a channel of investment but also how it stimulated productivity in the economy as a whole. The study of oil as a motor of growth is the basis for an assessment of the qualitative changes witnessed in industrial societies that oil commodities made possible.

The examination of the economic factors in oil production provides the basis for the later study of the political relations of the period, to comprehend the interaction between the state and the oil industry.

The economics of oil production

Oil production is studied here within the period *Pax Britannica*, providing a political and historical framework for the analysis of economic development. This chapter focuses primarily on economic issues while the following chapter incorporates this in a political analysis. The period of *Pax Britannica* does not correspond exactly with significant moments in oil production, especially the early development of the industry. Nevertheless, the reference to the political order is pertinent as it reveals the role of political order in cementing the global stability required for aspects of the oil production regime.[7]

7 See Angus Maddison, Phases in Capitalist Development, (Oxford UP, Oxford, 1982): for phases of development within capitalist epochs: 64. See also Paul Kennedy, *The Rise and Fall of Great Powers*, (Random, NY, 1987).

The focus on a Marxist analysis of primarily economic issues provides the basis for an understanding of the capitalist logic leading to the growth of the industry. The Marxist departmentalisation of the oil industry then provides an indication of the structural role of oil in the evolving economic system. In addition, the identification of the economic value of oil in military applications is the basis for the later analysis of oil as a politicised commodity helping to undermine the political order. This section reveals oil as a rapidly developing industry, with expanding linkages to general production. This feature of oil leads to an examination of it evolving role as a 'motor of growth' industry in the relatively advanced industrialised economies of the period.

The analysis here provides the basis for recognising one important relationship within capitalism, that of the interaction between the logic of accumulation in one industry and its contribution to general accumulation through the departmental structure. This forms the basis for the later analysis of conflict within the logic of general accumulation, in the transition to monopoly capitalism in the oil industry.

The capitalist logic of oil production

The Marxist theory of economics identifies capitalist production relations as a core element in the dynamic development of modern societies and is the basis for an examination of the economic development of the oil industry.

The quest for profitable production is the driving force for the production of social goods. The exploitation of the workforce is the basis for profitable production and this is associated with increases in productivity, due to the accumulation of productive capital.[8]

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8 See Karl Marx, *Capital, Volume II* op. cit.: 159.

In several respects the study of oil provides a classic reiteration of the logic of capitalism and provides an opportunity to reveal an empirical example of the evolution of capitalist relations and their effect on economic structures.

The oil industry began in some respects virtually by accident. In the US oil had been an unwelcome by-product in the drilling of brine wells.[9] In time entrepreneurs sought to find use values for oil in order to turn it from a nuisance to a profitable commodity. Oil subsequently began to be used in a variety of applications that ranged from medicinal cure-all to lamp oil. From the 1850s a boom in production of oil began, based on identifiable capitalist principles.[10] In this classic phase of capitalism money and labour power were filtered from all over the US to the oil bearing regions of the US in order to establish speculative oil production by entrepreneurs.

The nature of the production methods in the early oil industry allowed a certain number of innovations with crude oil extracted from the ground. Distillation was the essential process in oil production, yielding a number of by-products. The most important of these was kerosene, which was used to create light in oil burning lamps. With increasingly refined distillation it was discovered that other elements could be derived from crude oil. The new products included naptha or lighter fuel, which obtained use as a solvent. Benzene became an alternative to mineral turpentine in the manufacture of paints and varnishes. In 1866 liquefied petroleum gases, pentane and butane were discovered and developed. Paraffin was used for coatings, candles, chewing gum, lamps, sealants, glazing for cakes and

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9 H. F. Williamson, & A.R. Daum, *The American Petroleum Industry: The Age of Illumination 1859-1899,* (Northwestern UP, Evanston, 1959): 14-15.

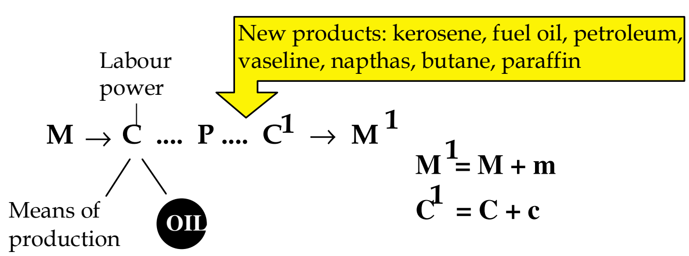
10 According to George Stocking the first commercial US oil well was established in Titusville, Pennsylvania in 1859. *The Oil Industry and the Competitive System,* (Houghton Mifflin, Boston, 1925): 7.

waterproofing.[11] In 1873 petroleum jelly, one of many pharmaceutical oil-based products, was marketed as Vaseline by Samuel Colgate.

Continual investment in oil production resulted in increasing amounts of oil product. However at a given market selling price of oil and with given levels of remuneration to capital and labour, demand from consumers was constrained. Oil capitalists kept increasing the production of oil so that there was periodically too much oil and a shortfall of consumers to provide demand for the output of the industry. The oil industry therefore experienced crises of production from its very first moments and recurred frequently throughout subsequent decades.[12]

Pressures on the profitability of production meant that capitalist entrepreneurs had to reduce their labour and input costs to a minimum and to maximise the realisation of values at the output stage. By reducing their costs they could reduce the price of oil charged to consumers and thereby stimulate oil demand. In addition, by diversifying output commodities they could create the basis for new demand. Both of these elements manifested within the logic of accumulation and were important aspects of the resolution of crisis and the developing social importance of oil.

Figure 2.1: The circuit of oil capital



11 H. F. Williamson, *op. cit.*: 234.

12 Daniel Yergin describes the extreme price fluctuations in the US at Spindletop: "...a glut of oil developed very quickly. By midsummer of 1901, oil went for as little as three cents a barrel. By comparison, a cup of water cost five cents...." in *The Prize,* (Simon & Schuster, NY, 1991): 86.

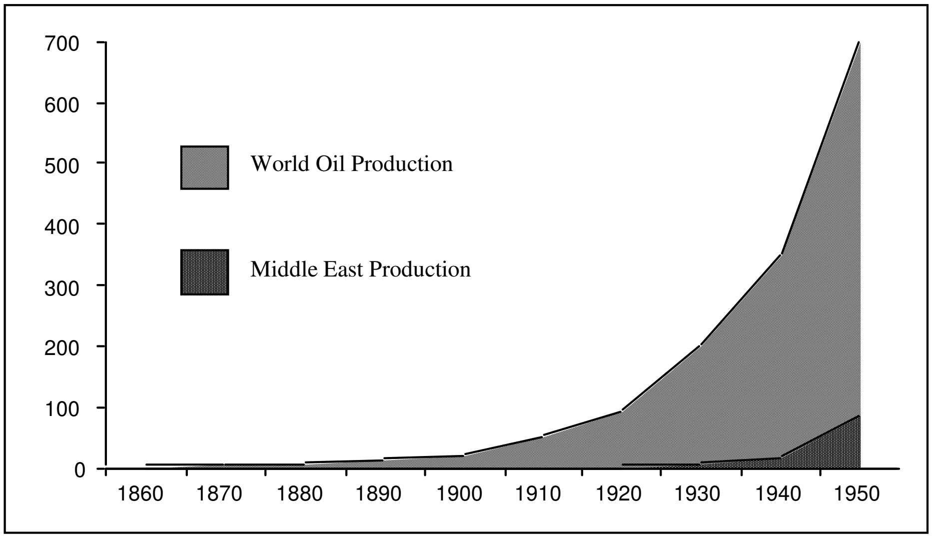
The economic logic of oil industry expansion is illustrated using the Marxist circuit of capital in figure 2.1. The circuit of capital alludes to the reiterative and expansive logic of capitalist production. Money capital (M) represents a primary element of the circuit of capital in which the aim of investment in oil production is the acquisition of profit (+m) alongside the return of initial capital (M).[13]

The capitalist entrepreneur derived profit by combining the elements of production (C), labour power, means of production and crude oil, in order to produce (…P…) a socially demanded commodity (C^1), derived from refined oil. Selling this commodity resulted ideally in the return of the money capital invested and a profit portion. This profit element was derived from the performance of surplus labour by the workers of the enterprise, and provided free of charge to the entrepreneur. The logic of the circuit was such that capital accumulated, being returned to the industry in increasingly large amounts. This resulted in a larger mass of money capital circulating in the industry (M to M+m) as well as a larger mass of productive capital (P to P+p).

13 The model is based on Marx's work in *Capital Volume II*, Part 1: The Metamorphoses of Capital and their Circuit, (Penguin Harmondsworth, 1985): 109.

Figure 2.2: World and Middle East Oil Production, 1860-1950

(Millions of tons)



Source: Stephen H. Longgrigg, *Oil in the Middle East*, (Oxford, London, 1954): 48, 195, Charles Issawi, *Economic History of the Middle East*, (Columbia, NY, 1982): 183.

Figure 2.2 gives an indication of oil production in a broad historic period from the 1860s to 1950. This indicates the relentless expansion of oil production in the world as a whole and in the region of the Middle East, which will be studied in greater detail later. The growth of the oil industry appears fairly insignificant in its early years and then experienced acceleration at the beginning of the 20th century. A further acceleration occurred after WWI as well as an expansion in output from the Middle East after WWII. Despite a relatively limited increased capacity, the accumulation activity of the oil industry of the period of *Pax Britannica* formed the productive basis for all future productive expansion.

The oil industry expanded relentlessly as a consequence of reducing production costs and the expanded demand that the production of new oil derivatives induced. However increasing consumption did not occur in a stable linear pattern at a month-to-month and year-to-year level. It occurred under the intrinsically anarchical conditions of capitalist production. Decisions about investment, production and pricing were all controlled, in the first instance, by the individual entrepreneurs. Under these circumstances the industry suffered periodic overproduction and drastically declining prices, as well as periods of oil shortage as consumer demand expanded. It is not to be assumed therefore that profitable production (M+m) was a necessary and normal condition of oil capitalism. During the birth of the oil industry and in its period of rapid expansion profitable production occurred periodically for a number of producers. These producers consequently survived the competitive process, while other capitalists had their investments destroyed by their inability to produce oil profitably.

The drive to reduce production costs required that capital be invested to increase labour productivity and to reduce the unit cost of labour. One significant reduction in costs was achieved through the increased efficiency in oil transportation. Capital investment in gathering lines brought oil from wells to railway lines from where it was transported to city refineries. The development of these lines, replacing bullock teams carrying barrels, reduced this portion of oil transport to one-tenth of its earlier rate.[14]

Productivity gains could also be made when capitalist entrepreneurs amalgamated their individual capital circuits in order to benefit from economies of scale in production. As Williamson argues, it required little extra labour to run an oil distillation unit with 1500 barrels a day capacity compared to 500 barrels a day in the 1860s.[15] But it required social organisation to achieve this more efficient production arrangement.

The search for profit by oil entrepreneurs could also be sustained by developing a number of new products obtained from crude oil and thus increasing demand for production of commodities (C+c) and thereby profit. This meant that there was a diversification of the

14 H. F. Williamson, *op. cit.* (1959): 396.

15 H. F. Williamson, *op. cit.* (1959): 283.

actual products manifesting as the output commodity in the production circuit. This effort also required investment in the scientific analysis of oil and the technical development of new applications for oil. This activity was increasingly only viable in larger oil companies and related industrial enterprises such as the company DuPont.[16]

The discussion of the oil industry circuit of capital has focused primarily on the internal logic of accumulation. This focus indicates that there was a constant imperative for increased labour productivity alongside increases in productive output. This imperative manifested in investments that reduced the production cost of inputs, improved economies of scale in production and developed new outputs as the basis for oil demand. The internal logic of the oil industry was however connected to a wider social logic of production that requires exploration.

The departments of production and the oil branch

The classification of the oil industry into Marxist departmental categories provides a systematic understanding of its rising structural importance during *Pax Britannica*. The taxonomy allows us to categorise oil consumption channels and identify its changing role in different historical periods.

The increasing social structural dependence on oil in the period requires an exploration of the interaction between the logic of oil accumulation and accumulation in general. The analysis of departmental interdependence is the basis for assessing the rising economic significance of the oil industry circuit to the circulation of capital in society as a whole.

The study of departments allows us to incorporate elements of this analysis into the later discussion of the emergence of monopoly capitalism and the role of the state in its role in

16 Du Pont began making explosives (1802). It became one of the main corporations experimenting to develop oil-based products such as rayon and nylon. Eventually the company merged with an actual oil producer in 1981. Source: http://www.dupont.com/corp/gbl-company/history.html.

representing both combined and competing capital interests. The study of departments of production also has repercussions for the analysis of interstate relations, where it is necessary to identify the departmental elements represented by competing states.

The definition of departments of production

Marx utilised two departments in his representation of the multitude of circuits of capital constituting the totality of social production.[17] These two departments provide the two main analytical sub-groups of production. The classification of the oil industry can be divided between the two primary categories, though the definition remains slightly ambiguous.

In Department II belong all those industries engaged in the production of consumer goods. These goods are identified as the combination of luxury goods, non-essential to the reproduction of society, as well as goods that constitute the standard of living in society. The Department I industries produce capital goods or all those commodities that precede and support the manufacture of final goods.

The oil industry is mainly identified in the analysis as a branch of Department I.[18] Products of the oil industry were incorporated into other branches of Department I. These intermediate industries manufactured products that incorporated the value of oil. These products would eventually be incorporated into the products sold at the consumer goods level. Examples of this chain of relationships included the use of kerosene in factory lighting, lubricating oil in the running of machinery and the production of various raw materials such as waxes, solvents and gases that could be transformed into new products in industry.

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17 *Capital Volume II,* Part 1: The Metamorphoses of Capital and their Circuit, (Penguin Harmondsworth, 1985): 109. David Harvey, *The Limits of Capital,* (Basil Blackwell, Oxford, 1982): 300.

18 The producer goods industry can be divided into sub-branches. These include fixed capital and circulating capital industries. According to Marx: "fixed capital [equals] machines, instruments of labour, buildings, draught animals, etc.; and circulating ... capital [equals] materials of production, such as raw and ancillary materials, semi-finished goods, etc." *Capital Vol II, ibid*: 472.

At the beginning of the 20th Century the invention of the internal combustion engine required the use of gasoline in increasing amounts in this new engine. The industrial applications for gasoline in Department I included its use in tractors, machinery, locomotives and ships. These applications were not simply categories of inputs but were at the same time revolutionary new applications for oil and represented the integral role of oil in the changing industrial landscape. Consumer goods such as vegetables or cruise liner tickets therefore began to incorporate the value of oil as an indirect input to production.

Oil also obtained use directly in Department II, where consumer goods were produced. The most significant examples were also in the production of kerosene and later gasoline. The expansion in the manufacture of cars, primarily in the US, led to a dramatic increase in the use of gasoline. According to Stocking the expansion in car usage was reflected in the disproportionate increase of petroleum usage from 1899 to 1922. Petroleum usage in this period increased by 2200% while overall oil production expanded by 1000%.[19]

Kerosene was still the dominant by-product of oil for its use in lamps. This application likewise had a fundamental role in the transformation of standards of living in society.[20] The use of the oil lamp was an important element making oil an international commodity in the consumer goods realm. Indeed the high level of demand for kerosene was a stimulus to the expansion of the industry along new geographical lines. European entrepreneurs began to invest in the development of new oil regions to compete with US imports that dominated

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19 George W. Stocking, *The Oil Industry and the Competitive System,* (Houghton Mifflin, Boston, 1925): 122.

20 The following observation made in 1864 by a New York chemist, encapsulates this phenomenon: "Kerosene has in one sense, increased the length of life among the agricultural population. Those who, on account of the dearness or inefficiency of whale oil, were accustomed to go to bed soon after sunset and spend almost half their time in sleep, now occupy a portion of the night in reading and other amusements; and this is more particularly true of the Winter season." Dr. John Draper, distinguished New York Chemist, 1864, in H. F. Williamson, op. cit. (1959): 320.

their markets. This resulted in strong growth of the Russian oil industry, which began to rival the size of that of the US at the beginning of the 20th century.[21]

Figure 2.3: Two Department model of capital circuit

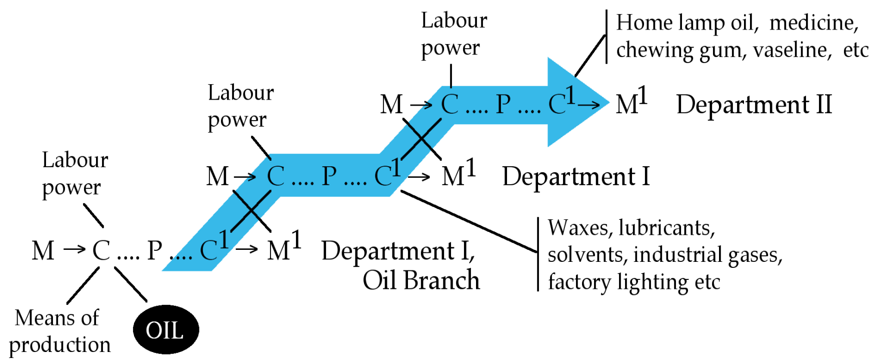

Figure 2.3 provides an indication of the departmental categories with oil shown in its role in the production relationship between departments. The figure depicts the three separate circuits of capital in two departments.

Oil production primarily represented a separate branch of Department I production, selling goods to other producers in Department I although there were instances where oil industry companies directly controlled distribution channels for commodities sold as consumer goods in Department II. This aspect of the realisation of oil industry profit saw its main channel through the supply of kerosene.

The initial crude oil input is depicted as outside the oil capital circuit as it was not yet a commodity with exchange value. It was only in its transformation by labour that oil acquired an exchange value.

The exchange of output goods (C^1) for money (M) is depicted by a cross (X), representing the transfer of capital between branches of industry. The oil industry provided its own output commodity (C) as a capital input for other branches of Department I. The exchange also included the transfer of money capital (M) from oil dependent branches to the oil industry.

21 H.F. Williamson, *op. cit.* (1959): 660.

Thus the input capital for both Department I and II became the realised money capital and profit of the oil industry (M+m).

The supply of automobile gasoline was already developing by the beginning of the 20th century, at least in the US. The petrol station, when owned by the oil company, provided a direct link to consumers for the oil industry. However this direct relationship is ignored in the representation to reduce the complexity of the argument. Of primary concern is the stepped relationship between departmental industries.

The most important consideration about the oil circuit that is illustrated in Figure 2.2 is the fact that oil production investment ultimately gained its realisation through demand that extended through to every level of social production. The value of the oil commodity (C^1) was not fully realised, except through the logic of the totality of social circuits. Though the oil industry had its internal logic the circuit of oil capital was intrinsically bound up with the consumption of its commodities in other departments and branches of production.

Kerosene lamp oil, medicine and gasoline were all consumed in both departments. Products such as Vaseline and chewing gum were consumed primarily in consumer goods applications. There was therefore a developing social dependence on oil in the late 19th century, so that the realisation of profitable production in each department came to be influenced increasingly by the oil input.

The ability of oil to provide a cheap new alternative source of raw materials and energy was a basis for the increasing demand for the oil commodity. The subsequent expansion of oil investment and reducing oil prices were further factors to its stimulus of profitable production in general. The logic of oil production increasingly transcended the autonomous logic of oil industry accumulation, making oil part of the logic of social accumulation as a whole.

The identification of state consumed military goods

The discussion of the military consumption of oil is a unique issue that deserves separate comment to that of departmental consumption. In terms of departmental classification, military demand does not fit into either Department I or Department II. Yet the state demand for oil, as the basis for new military technologies, was a stimulus to the development of the oil industry that requires exploration.

The military need for the latest technology in weapons of mass destruction was served by the development of the internal combustion engine, which was reliant on oil fuel. In turn, this engine powered a number of new types of military weaponry, vehicles and modes of transport. This included the tank, the submarine and dreadnought battleship.[22]

The new applications for oil required very large increases in oil production, to the extent that oil production was actually stimulated by this class of demand. For this reason a category of *military commodities* is defined in this thesis. Military commodities are defined as goods purchased by the state in its functions in maintaining its role as defender of internal and external borders, where these commodities do not conform with Departmental categories, of producer goods and consumer goods.

The military goods category can be viewed in terms of an investment made by the state in which no direct economic gain may be perceived in the purchase. However the military success of the state and its complex internationalising relations of production was in each historical period profoundly influential to the structure of accumulation. Warfare and military preparedness were essential elements in the power of individual states and their economic relations. This subject will be analysed in detail in the discussion of interstate

22 Robert K. Massie, *Dreadnought – Britain, Germany and the coming of the Great War,* (Random, 1991): 475.

relations. Of particular interest here is the impact of state oil demand on the economic development of the oil industry, with a focus on the circulation of oil industry capital.

The British Anglo-Persian Oil Company (APOC), operating to develop the oil resources of Iran from 1905, acted primarily to meet British state demand, focused on military requirements.[23] The conversion of the British imperial fleet of dreadnought battleships required large quantities of oil. This oil had to either be purchased from US capitalists or could be sourced from this new independent British supply.

In several respects military oil demand promoted oil production investments that altered both the scale and quality of oil infrastructure. In addition, military hardware using oil was frequently the basis for future mass production of oil-dependent machinery and transport in civilian uses.

Figure 2.4: Oil production and state military consumption

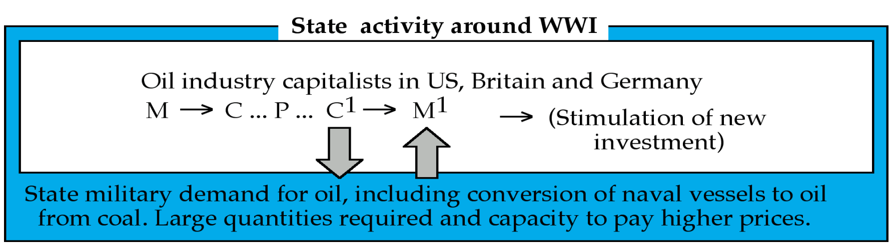

Figure 2.4 gives acknowledgment to oil consumption demand by the state. The realm of private production of oil is depicted as surrounded by the state domain, in a darker shade. From the perspective of the oil industry the state was another entity able to pay for oil output (C^1), apart from demand by the industrial departments. The figure depicts the circuit of oil capital as to a significant extent both sustained and stimulated by state military demand. The output commodity of oil went to the state and the state in turn paid for oil (an amount M^1), which facilitated profitable production by the industry. Yet this relationship is

23 Daniel Yergin, *The Prize,* (Simon & Schuster, NY, 1991): 173.

overtly represented as not directly involving the normal industrial use value of the oil commodity.

Military oil demand was not part of the departmental circuit of necessary interdependencies between industrial branches. This was largely due to the anomaly that the military consumption of oil was directed to warfare, involving in many cases the destruction of labour and machinery. Yet the large scale of military demand for oil and ongoing expansion, meant that several oil capitalists had an enhanced incentive to invest capital (M) in further oil exploration. This was true especially with the rise of tension between Germany and Britain toward the beginning of the 20th century.[24]

State demand for oil had a formative role for the development of Britain's primary source of independent oil in the Middle East. The quantity of oil required in the preparation for war and actual warfare ensured a level of demand that could justify enormous investments in this remote region that might otherwise have been considered too risky. The economies of scale of military demand also justified the building of infrastructure in the region of Persia. The British state had the capacity and need to obtain oil at almost any cost and therefore the incentive to invest in territory far from the home country was greatly increased.[25]

The military category of consumption is seen more clearly in its importance when the role of the state is fully articulated in terms of its overriding supportive function in accumulation, which is pursued in the subsequent chapter. The state is here represented simply as an interchange of demand and supply and is not overtly part of the logic of accumulation, whereas later analysis will indicate that this is merely a limited perspective. The state was

24 W. Jensen, "The importance of energy in the First and Second World Wars", Historical Journal II (1968): 538. John Ise, *The United States Oil Policy,* (Yale UP, New Haven, 1928): 460. See also H. Mejcher, *Imperial Quest for Oil: Iraq 1910-1928,* (Ithaca, Oxford, 1976): 5.

25 Winston Churchill: "Nobody cares in wartime how much they pay for a vital commodity, but in peace... price is rather an important matter..." House of Commons speech, 1914 in Elizabeth Monroe, *Britain's Moment in the Middle East, 1914-1956,* (Chatto & Windus, London, 1963): 98.

implicitly capable of far greater scope of action in regard to the oil industry and ultimately able to intervene in its development and accumulation activities.

Oil as a motor of growth industry

The discussion of oil as a 'motor of growth' industry follows from the discussion of departments and also indirectly follows that of the military applications of oil. The definition of a motor of growth industry is firstly that of an industry that has such a disproportionate growth in size that a disproportionate portion of social capital is circulated through the industry. Secondly the motor of growth industry is one that may have an effect on existing standards of productivity and modes of production in other departments, so that its production activity has a fundamental importance to accumulation in general. Either way, it is an industry that has a notable effect on the generation of social surplus value, either directly or indirectly.

The 'motor of growth' function of oil production needs to be explored in order to gauge its evolving role as an industry of increasing importance during the *Pax Britannica* period. The discussion has implications to our understanding of its treatment by capital in general in a political sense, and the interests of rival states in its control. This subject is also a prelude to indicating the origins of strong institutional state interest in the role of oil in global accumulation strategies and dilemmas.

The analysis of the role of oil as a motor of growth will also be a recurring theme of chapters to follow. This occurs as a measure of the relative importance of oil to industrial accumulation as a whole over a 100 year period. However in this chapter a unique approach is taken. The subject of oil as a motor of growth industry is explored in a comparative analysis, using the coal industry as a reference point, as coal production is considered the motor of growth industry of the period.

It is appropriate to consider the existing dominance of coal in the area of energy production during the whole *Pax Britannica* era. Coal had been a revolutionary fuel in the 19th century, contribution a motor of growth function. The use of coal in coal burning steam engines had been the basis for the steam train, allowing the increasingly fast transport of large quantities of goods and people. It was in addition used as a source of fuel for factory engines and could even be gasified to provide lighting. It was the basis for the efficient smelting of iron ore to make steel. Marx had observed of coal based industry:

> "The manufacturer who operates with the steam-engine... applies natural forces ...which make labour more productive, and in so far as they cheapen the production of the means of subsistence the workers require, increase surplus value and hence profit; which are therefore just as much monopolised by capital as are the natural social forces of labour that arise from cooperation, division of labour, etc."[26]

Throughout most of the 19th century the oil industry, despite rapid development, was still a relatively insignificant industry compared to coal. It was toward the end of the century that the industry started to develop a greater significance to other departments of production. Several decades after Marx made his analysis of coal, the utilisation of oil fuel would have a similar effect on the social accumulation of capital, but with distinct new spatial and industrial possibilities.

One of the most important growing areas for the input of oil was in the energy industry, especially in the role of driving machinery and vehicles, following the invention of the internal combustion engine in the 1890s. The use of oil did not just constitute an alternative to other methods of driving machinery and vehicles. Its use in these applications was conjoined with possibilities for the creation of a whole new industrial landscape that would run more efficiently, rapidly and intensively. A transfer to oil dependent production yielded

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26 K. Marx, *Capital Vol. III* (Penguin, Harmondsworth, 1981): 782.

a substantial increase in labour productivity, an increase in the turnover speed of capital in general and diverse new possibilities for manufacturing goods and providing services.

The use of oil fuel was far more efficient than coal when utilised in modern engines that could be made lighter and faster. Indeed the use of steam driven motors came eventually to be viewed as unproductive and therefore a burden on accumulation.[27] While diesel trains could be made faster with oil power there were other vehicles such as the aeroplane which could only really operate with the new fuel.

The application of oil to military uses was a pioneering industrial application that revealed the underlying economic value and potential of oil. Britain's First Sea Lord of the British Admiralty, articulated this feature of oil in his statement:

> "The use of oil fuel increases the strength of the British Navy by 33% because it can re-fuel at sea off the enemy's harbours... gives three more knots of speed... reduces engine and boiler room personnel by 25%... [and] oil does not deteriorate by keeping."[28]

The application of oil to military uses was not of direct benefit to the expanded reproduction of capital in general. It tended to draw this valuable commodity away from its use in socially productive consumption. However in many cases the efficiency of oil demonstrated in military applications could be transferred to areas of social production, in Department I and II industries. This had the potential to significantly increase the rate of social surplus value.

Energy and labour costs, size of machinery and the mobility to get goods to market were all factors in production costs. The production of trucks, tractors and eventually diesel trains

27 The diesel engine was invented in 1893 by Rudolf Diesel, and is described in the *Encyclopaedia Britannica*, "Diesel originally conceived the diesel engine as a facility, readily adaptable in size and costs and utilising locally available fuels, to enable independent craftsmen and artisans better to endure the powered competition of large industries that then virtually monopolised the predominant power source - the oversized, expensive, fuel-wasting steam engine." (William Benton, Chicago, 1981) Vol. 15, Knowledge in Depth: 725.

28 E. H. Davenport, Sydney Russel Cooke, *Oil Trusts and Anglo-American Relations,* (Macmillan, London, 1923): 5.

and ships therefore became the basis for more productive, faster moving societies. The use of oil was both the basis for the activities in these industries, but ultimately also the basis for the general increased turnover speed of capital accumulation.

The development of the oil industry was a manifestation of a core insight of Marx's theory, that a faster turnover speed of capital would increase the speed of the realisation of capital investments. The use of oil products assisted the preservation of the use value of other commodities through their swift sale and thereby also stimulated a faster rate of accumulation.[29]

The argument here emphasises that the development of the oil industry was in essence not simply of interest and benefit to oil capitalists. Oil production came to be viewed by the capitalist class as a necessary input to general production, to the expansion of profit, to economic growth and to the competitiveness of the national economy, both in economic and military terms.

There remained one major obstruction to the realisation of the full benefits of oil as a motor of growth, which was the scarcity of oil and its limited availability in several of the industrialised states that required it for production. The discussion of this subject provides an important link to the realisation that oil production was not a straightforward issue of investment by capitalists to create a socially useful commodity. Oil investment was reliant on a natural resource that was necessarily found in specific and isolated locations. This feature of oil forms a component of the interchange between economic and political issues that must be explored below. Both the structure of the oil industry and the intervention of the state in the industry were critical to the subsequent development of the oil industry and its contributing to a changing industrial and political landscape.

29 "The capitalist mode of production reduces the costs of transportation of the individual commodity by the development of the means of transportation." *Capital,* Vol II: 154, (The costs of circulation).

Conclusion

The study of oil production occurred in the context of the *Pax Britannica* period. This provided not only an arbitrary time frame but also the basis for a later examination of oil production on the political structure of the period itself.

The study of oil indicated that its expanded reproduction occurred according to the logic of capitalism. The quest for profit and the need to secure the competitiveness of individual circuits ensured constant investments to increase output and productivity of labour in the industry. A contradictory element of this logic was attempts to develop new commodity outputs of the oil circuit in order to stimulate demand for a product that was frequently subject to overproduction and declining profits.

The internal logic of oil accumulation was conjoined with production and consumption as a whole, as demonstrated by the examination of departmental categories. The study of the consumption of oil commodities in other departments indicated that the logic of oil accumulation was interdependent with that of a portion of productive and consuming activity. The circuit of oil could not occur without social demand and furthermore the expansion of the industry was dependent on the reducing price of the commodity, combined with the expanding value that was attributed to it. This represented an opportunity to examine oil as a unique commodity in two respects. Firstly the military demand for oil was certainly important to the expansion of the circuit of oil capital. However viewed from the perspective of the state the particular application of oil as a means of powering modern vehicles demonstrated its special significance as a commodity. This brings us to acknowledging that oil consumption was the basis for increasing the productivity of productive activity in both departments and in the military.

The above feature of oil brought us to a need to consider oil as a motor of growth. The motor of growth role of oil meant that it started to become one of the key commodities that stimulated the accumulation of capital in modern industrialised societies. The primary basis of this role was in the capacity of oil to speed the turnover of capital through the improved delivery speed of commodities and the increase in productivity of labour engaged in a variety of productive activities.

The ability of the oil industry to provide a cheap new alternative source of raw materials and energy were factors in the increasing demand for the commodity, the expansion of investment and its stimulus of profitable production in general. These were factors that transcended the autonomous logic of oil industry accumulation, making oil part of the logic of social accumulation. Oil production was also occurring increasingly on a global scale, unlike the more autonomous and nationally bound production of coal. This feature of the oil production circuit was to have significance to its interaction with political agendas and concerns.

Chapter 3: The state and control of oil in Pax Britannica

The study of state action during the *Pax Britannica* period informs the understanding of the political factors that influenced the development of the oil industry during this period. The study of political actions and influences also contributes to the understanding of how the oil commodity influenced the actions of the state and interstate relations.

This second chapter on the *Pax Britannica* period incorporates the monopolisation of the oil industry in terms of how this affected the relations of economic power between the oil industry and all other industries. The subject is treated as part of the political analysis, as the intervention of the state was a consequence of the emergence of monopoly power in the oil industry. The subsequent regulatory actions of the state are examined in terms of their influence on the political and economic power of the oil industry and its international expansion.

The study of the monopoly condition of the oil industry is also a necessary precursor to the analysis of state interaction, which forms the second key part of the chapter. The state is a subject of analysis in terms of the hierarchical power of states. This includes the hegemonic state power of Britain, as well as the individual competing interests of rival advanced states.

The study examines the state agenda of supporting national survival and growth based on the increasing economic importance of oil in individual economies. A distinguishing feature of the thesis is the additional emphasis on the military value of oil. This is studied here with consideration of its strategic importance to the reproduction of the state itself. The analysis is applied both to the study of the hegemonic state of the period, which was Britain, as well as the individual competing states subject to its political dominance.

Although the US was the centre of world oil production it was Britain that is identified as maintaining the global political framework. This feature of the economic structure of the oil industry adds to the complexity of the political issues examined.

The thesis charts a new terrain in Marxist theory by developing a model of the complex interaction between separate layers of political economic reality. These layers include the logic of accumulation by oil capitalists, the realm of general accumulation increasingly dependent on oil and finally the state role in mediating these interests and projecting them on the world stage. The chapter charts the economic input of oil to the political relations of leading capitalist states and analyses how their economic ambitions altered the power base of the *Pax Britannica* order and contributed to its decline.

Monopoly capitalism and oil

The oil industry was one of several industries that historically transformed into monopoly industries during the *Pax Britannica* period. This development needs to be analysed both in terms of its economic and political implications. It is notable that monopolisation occurred somewhat later than Marx's theoretical expositions on capital, though the oil industry was one of the earliest and most significant examples of monopoly capitalism. We must therefore look to Marxist theorists of capitalism who have taken into account the new political and economic relations that monopoly capitalism entailed. We must also analyse the specific implications of the monopolisation of the oil industry for economic and political relations in the period.

The analysis of monopoly capitalism in the oil industry includes consideration of the effect of monopoly on the distribution of surplus value. The exercise of monopoly power is assumed to involve an ability to manipulate the price of commodity outputs. It is therefore understood to affect the allocation of surplus value between industries.[30] By extension, monopoly capitalists can also exercise power over input costs, by dictating the price at which they are willing to buy, to suppliers.

The analysis of monopoly in the oil industry must give consideration of Aglietta's theory of regulation. Aglietta indicated that the exercise of monopoly power was constrained by the state through the regulation of production.[31] The monitoring of prices and output levels by state institutions is an important theoretical and practical consideration in the study of the oil industry of the period.

The intervention of the state in its role as regulator of accumulation was to be an important development in several states. In each case the state exercised a different degree of intervention depending on historical, political and economic forces. Of primary significance is the subsequent symbiosis between state and oil capital that occurred on the international plane. Several Marxist theorists have argued that national monopoly was for the state merely a take-off point for ensure the competitive strength of national capital on the international plane.[32] The study of the oil industry provides a potent subject of analysis for this conception of capitalist forces at the beginning of the 20th century.

The later analysis of the interaction between states and their actions in support of national oil interests is informed by the framework that is developed here in the study of the evolution of monopoly in the oil industry.

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30 Paul Sweezy, *The Theory of Capitalist Development,* (Modern Reader, NY, 1970) On monopoly price: "…interferes with the operation of the law of value as the regulator of the quantitative relations of production and exchange.": 54. See also Ernest Mandel, *Marxist Economic Theory,* (Merlin Press, London, 1977): 433, 507.

31 Michel Aglietta, *A Theory of Capitalist Regulation, The US Experience,* (NLB, London, 1979). See also E Kefauver, *In a Few Hands,* (NY, Pantheon, 1965), Paul MacAvoy ed., *The Crisis of the Regulatory Commissions,* (Norton, NY, 1970).

32 Hilferding developed the theory of 'finance capital', in which he argued that national monopoly served the expansionary imperial interests of the state R. Hilferding, *Finance Capital,* (Routledge & Kegan Paul, London, 1981): 332, 334, 199. See also Anthony Brewer, *Theories of Imperialism,* (Routledge & KP, London, 1980): 79.

US oil industry monopolisation and state regulation

The discussion of monopoly capitalism in the oil industry necessarily deals primarily with developments in the US industry. This is because throughout the second half of the 19th century and for most of the 20th century the US oil industry produced the majority of all the world's oil.[33] It is important to consider however that the US was not yet at this time the world's leading economy or dominant political state. The discussion of events within the US occurs within the larger framework of British hegemony, which is an issue of later significance.

The US oil industry was highly dynamic in the 1860s. Investment had initially occurred in particular oil bearing regions and then spread to an increasing number of regions where oil was found. There was a very competitive capitalist environment and crises of overproduction due to the amount of capital entering the oil regions. These crises were frequently resolved by increasing cooperation between local competitors and their combination of capital.[34] Larger enterprises also defeated smaller companies in this competitive quest for survival. The leading oil companies pursued a variety of tactics to destroy their commercial enemies and to incorporate previously competing assets into their own empires. According to Bruce Bringhurst:

> "Standard marketers frequently cut prices below cost in order to drive out competitors and then immediately raised prices after the competition was destroyed."[35]

The consequence of these events meant that the control of the US oil industry was increasingly concentrated and centralised, eventually being completely dominated by one

33 Williamson, *op. cit.*, Foreign markets and marketing channels: 496. David Painter, *Oil and the American Century*, (Johns Hopkins, Baltimore, 1986): 216-217. Stephen H. Longgrigg, *Oil in the Middle East*, (Oxford, London, 1954): 48, 195.

34 John Ise, *The United States Oil Policy*, (Yale UP, New Haven, 1928): Overproduction and waste of oil, 1890s: 20.

35 *Antitrust and the oil monopoly, the Standard Oil cases, 1890-1911*, (Greenwood Press, Connecticut, 1979): 110.

single company called Standard Oil.[36] This company was the product of a national amalgamation of oil industry capital, through vertical and horizontal integration of previously competing oil companies. The combination of oil industry capital eventually gave Standard Oil control of 90% of the oil market in the US and a substantial portion of the international market.

According to government judicial investigations, companies such as Standard Oil were able to wield greater control over the output price of their commodities due to their monopoly power. They were also able to gain favourable deals on input costs from other capitalist enterprises. The most notorious example occurred in discounts received by Standard Oil on freight charges by railroad companies.[37]

Standard Oil was able to increase its survival ability and its profit through an extraordinary degree of economic power. Standard profits were running at 22% in 1873, a time when many players in the oil industry complained that they were going out of business.[38]

The theoretical consequence of the exercise of monopoly power is significant to the conceptualisation of the economic relations of the period. The economic power of the oil industry generated a transfer of profits from oil dependent industries to the oil industry.[39] It was unequal exchange between capitalists that generated surplus profits for the oil industry and profit losses for oil-dependent industries.

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36 The company controlled every facet of the industry, with horizontal and vertical integration, including "refining, gathering lines, storage tanks, tank cars, and crude trunk lines." See H. F. Williamson, *op. cit.*: 549.

37 Bruce Bringhurst, *op. cit.*: 111. John S. McGee, The Journal of Law & Economics, Vol.1, Oct 1958: 147.

38 H. F. Williamson, *op. cit.*: 367.

39 Ida Tarbell argued that Standard Oil began to buy up other industries: "…the Standard Oil Company is probably in the strongest financial position of any aggregation in the world. And every year its position grows stronger, for every year there is pouring in another $45,000,000 to be used in wiping up the property most essential to preserving and broadening its power..." http://www.bilderberg.org/whatafel.htm

Figure 3.1: Departmental transfer of surplus to oil circuit

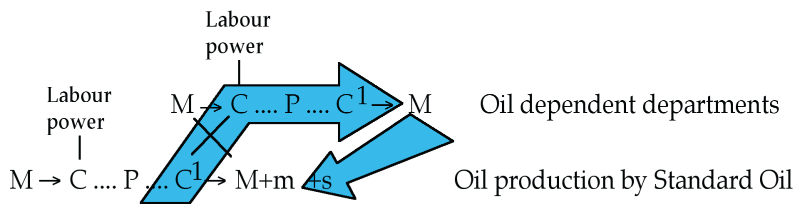

Figure 3.1 gives an indication of a distortion of the conventional Marxist circuit of capital. This is attendant to the acquisition of monopoly power by the oil industry. Under normal circumstances all industries derived their acquisition of surplus value through the exploitation of labour in their own enterprise, during the process of production of commodities. This is indicated by the normal circuit of capital (M…M+m). The derivation of profit (+m) occurred normally consequent to the provision of surplus labour by wage-workers. Each circuit of capital in the argument represents an industry, rather than a single enterprise. Rates of surplus value are assumed to have fluctuated around an average rate, both within industries and across departmental industrial sectors.

The relationship of exploitation between capital and labour (in the oil industry) was not realised as a circuit until commodities were sold to consumers in other Departments. This is indicated by the cross (X) in Figure 3.1 in which the oil department realised its profit through exchange of its output commodity. At the same time the consuming industry had acquired the input capital required to also seek profitable production. Each corporation subsequently *normally* achieved a minimal condition of C^1 to M^1, in which M^1 = M+m. However periodically the output price of commodities (C^1) from an industry such as oil was higher than would lead to the average rate of surplus value. The consuming industry could then not help but pay an increasing price for its oil input commodity component (C) while not being able to reduce the price of any other factor of production or increase their own output prices. Thus their profit was reduced or eliminated and provided a surplus profit to the oil industry (s), indicated in Figure 3.1. The same phenomenon was also true for the input capital (C) required by Standard Oil. This company was able to obtain discounts on input costs not available to its competitors, such as for rail freight charges to get oil to markets. The discount on the cost of input capital, other than labour costs, reduced the money capital needed for the reproduction of the circuit of oil capital. The input capital discount therefore allowed an increase of retained profit (m), prior to the completion of the cycle of capital.

In the US economy the fear and resentment at the power of monopolies generated a potent agitation throughout society against monopoly corporations and most fiercely against the Standard Oil corporation. The media campaign came to be known as muckraking.[40] This was a significant contributor to subsequent state intervention in the oil industry.

The state was faced by a contradictory situation. On the one hand it was under pressure to restore a competitive market to the oil industry in order to appease social and economic opposition to the imbalance of economic power. On the other hand the organisation of the oil industry was by the 1890s based in some respects on an optimal utilisation of capital and resources. A single centrally organised oil industry avoided the pervasive capital duplication and waste that had characterised the industry in the past. In addition, Standard Oil was able to dominate the international market for oil through economies of scale and the large capital funds that it controlled nationally. The organisational basis of the oil industry was therefore optimal from the perspective of US capital as a whole, in terms of the rational allocation of

40 Just as the oil industry was the first great American monopoly, so the critique of monopoly in America and its state-corporate relations was borne by Standard Oil and its head John Rockefeller, the most vilified man in American history. Ida Tarbell, the most famous muckraker published the most famous anti-monopoly book: "Of this remarkable book, it is just to say that it remains to this day the ablest document of its kind ever produced by an American writer." Earl Latham, (ed) *John D. Rockefeller, Robber Baron or Industrial Statesman,* (D. Heath, Boston, 1949).

capital, the minimal production cost of oil and the benefit of oil exports to national accounts.[41]

The resolution of the monopoly dilemma involved state regulation of the oil industry to monitor the pricing and cost structures of the industry. An Interstate Commerce Commission (ICC) was established in the US that initially supervised production pricing from 1887.[42] In addition the US government initiated the Sherman Anti-trust Act, which was designed ostensibly to limit the power of all large corporate monopolies, but with a particular view to Standard Oil.[43] In subsequent decades several other layers of regional and national government were engaged in regulatory activity pertaining to oil. The overt and prescribed outcome for the state institutions was to ensure that the oil industry obtained no more or less profits than the average rate for capitalist industry.

Figure 3.2: US regulation of oil industry monopoly formation

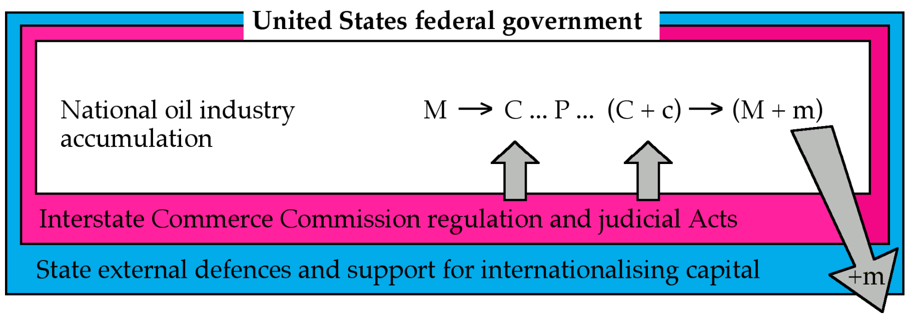

Figure 3.2 illustrates the conceptual relationship between the US and its oil industry. It embodies a Marxist concept of the power of the state as a political mediator of capital, surrounding the economic domain. The state is not the manager of oil capital, but rather that

41 Woodruff indicates oil constituted 6.5% of the value of US exports in the 1870s, increasing to 11% in the 1930s before it declined. *America's Impact on the World,* (Macmillan, London, 1975): 266.

42 Martin J. Sklar, *The Corporate Reconstruction of American Capitalism: 1890-1916,* (Cambridge, 1988): 51, 108.

43 See *Annals of America, 1884-1894* (Benton, Chicago, 1968): "The vagueness of the act itself, plus subsequent Supreme Court rulings, deprived it of any real effectiveness against the trusts, although it was used effectively against labor organisations on several occasions.": 323.

of the interests of capital as a whole. In this respect the state mediated its functions to capital in general with this fraction of capital and in doing so, imposed a regulatory regime. Regulation of the oil industry by the state was channelled through particular institutions, such as the ICC, and these in turn acted at specific nodes of capital accumulation to effect their regulatory and restrictive functions. This included surveillance of price discounting of inputs to capital costs of the oil industry (C) provided by other industries, as well as the output value ascribed by the oil industry to its products (P $\rightarrow$ C+c).

The regulatory duty of the state entailed that it limited the exercise of monopoly power in the oil industry in order to serve the interests of national capital as a whole. Yet as the oil industry internationalised, (indicated in Figure 3.2 by an arrow breaking through the state domain), it was also apparent that oil industry monopoly was an effective pillar for the success for the national economy. The oil industry was a branch of capital accumulation that had broken free of the constraints of a national market, but which continued to benefit the national account.

Implicit in the relations between the oil industry and capital in general was that oil industry economic power was transcended by the organised activity of the state, reconciling the interests of capital as a whole. Figure 3.2 also indicates the external function of the state in defence and support of capital, highlighting the state as a mediator of capitalist economic power at the political interface.

This emerging relationship between capital and state was a result of the symbiotic interaction between the oil corporation and the state. As is indicated in Hilferding's analysis of 'finance capital' the sublimation of competition on a national level was precursor to its re-emergence on a higher level on the international plane.[44] Both state and capital needed each other to fulfil their aims, to maintain both industrial competitiveness and national economic

44 R. Hilferding, *Finance Capital,* (Routledge & Kegan Paul, London, 1981): 332.

expansion. This combined force forms a component of the analysis of the US in its interaction with other states seeking similar goals in regard to oil.

Monopoly production in European and British capital

European and British political-economic relations in the oil industry and their monopoly basis represent both similarities to the US industry and distinct issues requiring exploration.

For both Britain and European states oil was not available nationally and oil production was therefore from the outset an international activity. In addition, the scale of organisation necessary to ensure that capital accumulation was successful and secure, required varying degrees of state support.

State interventions were not only in the interest of the oil capitalists. State intervention reflected the interests of the state to ensure the security of a developing industry that formed an increasingly important support for capital accumulation in general.

The British position in regard to oil production appeared to be the most advantageous. Britain controlled or influenced, in its capacity as the dominant state in the world economy, a vast territory, some of which was known to contain oil. British entrepreneurs established oil production in several regions, the most important of which was in Iran.[45] The production of oil in Iran was controlled by the Anglo-Persian Oil Company (APOC), later renamed BP, which had been a beneficiary of Britain's colonial diplomatic power. Soon after the establishment of production the British state obtained a 50% share of the company's capital. This occurred with a particular view to state military requirements for oil.[46] State ownership ensured that the state interest was now intertwined with that of its oil industry.

45 H. Mejcher, *Imperial Quest for Oil: Iraq 1910-1928,* (Ithaca, Oxford, 1976): 5.

46 According to John Ise commenting in 1928, the main imperative for oil exploration in Iran was the fuel needs of the British navy. *The United States Oil Policy,* (Yale UP, New Haven, 1928): 460.

Sir Robert Cohen, Director of the Royal Dutch, indicated that industry capitalists were not necessarily at one with the actions of the British state:

> “These arrangements were entered into at the instance of the British government. We do not believe in mixing up politics with business; it leads sometimes to corruption, always to inefficiency and tends to convert what should be mere commercial rivalries into national animosities...”[47]

The advent of state ownership of oil production infrastructure represented a significant shift away from the orthodox liberal ideology of economic organisation, in which private ownership and control was optimal. However viewed from the perspective of the increasing dependency on oil, the state is seen to have acted in terms of the logic of capitalist reproduction as a whole. This occurred in an institutional act that exceeded its ‘normal’ capitalist organising domain.

Like British capital, the Dutch were in international competition with US capital in the form of Standard Oil. The Royal Dutch company was the dominant Dutch capitalist oil company, which in turn negotiated the purchase of oil from a multitude of smaller Dutch enterprises, operating mostly around Indonesia. In order to obtain greater economic power the Royal Dutch and a British company Shell amalgamated their capital to form an international monopoly company that could more effectively compete with Standard Oil.[48] The rivalry between these corporations was initially at a commercial level, with periodic price wars returning to stasis. However with the increasing tension between states themselves, the laissez fare attitude toward individual industries came under pressure. This becomes a subject for the later discussion of the state.

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47 Cited in Benjamin T. Brooks, *Peace, Plenty and Petroleum,* (Jaques Cattell Press, Pennsylvania, 1944): 165.

48 Harvey O'Conner, *The Empire of Oil,* (John Calder, London, 1956): "Backed by the Foreign Office and given preferential entry into British and Dutch lands and markets, Royal Dutch/Shell rode high, wide, and handsome before World War I. Unlike Standard at that time, this combine believed in production and picked it up anywhere in the world.": 255.

German capital was also active in the acquisition of oil for national consumption. German oil ventures were notably dominated by finance capital in the form of the Deutsche Bank that funded exploration in regions such as Romania. The most important oil venture was however based on a plan to exploit oil in the Middle East.[49] German capital obtained a right from the Ottoman government to develop a railway line that reached to Baghdad in modern Iraq, either side of which was to form an oil concession territory.

The activities of German capital to obtain oil were considered by the state to be of increasing importance in both economic and strategic terms, as the German oil market was 70% dominated by imports of US Standard Oil.[50] This was not simply an economic issue. Economic dependence on US oil meant political vulnerability if economic and political relations in general ceased to be amicable. Even the German military was substantially dependent on Standard Oil.[51] The US political influence over US oil pricing and supply meant that economic relations in this industry were potentially transcended by interstate issues.

The German monopoly oil venture in the Middle East was obstructed by the competing economic interests of rival advanced capitalist states. German capital was therefore eventually forced into an agreement with British capital to share the development of the oil in the Iraqi region, due to Britain's political dominance in the region. This alliance was to be

49 See F.C. Gerretson, *History of the Royal Dutch,* (Brill, Leiden, 1957): 39: The original Baghdad railway concession had been obtained on 23 December 1899 by German capital. The Deutsche Bank, involved in the deal, was itself the result of monopolisation. It was the most powerful German financial capitalist entity.

50 Lenin commented in 1916 on the problems experienced by German capitalists in obtaining oil: "the government took fright at the prospect of a struggle with Rockefeller, for it was very doubtful whether Germany could be sure of obtaining oil from other sources (the Rumanian output was small)." V. I. Lenin: *Imperialism: the Highest Stage of Capitalism,* (FLP, Peking, 1975): 84.

51 F.C. Gerretson points out that lamp oil was required by the German military during night-time troop movements at railway stations. In turn this oil was supplied mainly by Standard Oil. *Op. cit.*: 65:

embodied within the Turkish Petroleum Company, established in 1914, in which British capital obtained a majority share.[52] The company now had the participation of Germany capital (25%), British APOC capital (50%), and Royal Dutch capital (25%). But this international corporate division of monopoly power within the Middle East region represented only a temporary balance within the movement of larger political forces.

The above study of developments late in the *Pax Britannica* period indicates that any analysis of oil must necessarily engage with state activity. In addition it must have a theoretical conception of the state that develops the duality of state functions, in terms of its regulatory role and its supportive role in accumulation.

The analysis of the development of monopoly capitalism in the US provides several theoretical insights. It gives an indication of the qualitative changes of economic organisation attendant to a sustained period of capital accumulation in one industry. In addition it gives an indication of the contradictory relations that evolved between an increasingly powerful US oil industry and its national and international oil consumers. Finally, the role of the US government in taming the industry reveals the beginning of an institutional symbiosis between US oil corporations and the state, which ultimately resulted in a cooperative relationship. The same phenomenon was true in the other advanced capitalist states. These developing features of US capitalism rebound on our conception of the scope of a Marxist analysis, indicating that capitalist relations may be subverted in one industry, in order to be reaffirmed at a higher level of competitive activity.

Hilferding emphasised that in the age of imperialism the state and monopoly companies acted together to conquer markets. The oil industry represents an indicative example of this

52 Marian Kent, *Oil and Empire, British Policy and Mesopotamian Oil, 1900-1920,* (Macmillan, LSEPS, 1976). See also F.C. Gerretson, *op. cit.*: 39:

phenomenon. However a fuller understanding of the oil industry requires an analysis of the motivations of the state in its larger strategic actions and its interaction with rival states.

State relations and oil in Pax Britannica

The previous analysis dealt with the state primarily at the subsidiary level of national regulation and some degree of support for internationalisation of the oil industry. Here we will focus on the state in its support of the oil industry, with a focus on interstate interaction and imperial capitalist interests. The analysis seeks to identify how the emergence of the oil industry as an industry of national importance and producing oil globally, had an influence on the actions of individual states. The analysis also examines the motivations of states that influenced the evolution of the oil industry internationally, in terms of the ownership of the resource, the intensity of its exploitation and the geographical location of its production.

The analysis of the state and its relationship with both oil and other states is based on Marx's concept that the state is a political instrument in the service of the dominant class in society. This is characterised as the capitalist class, in its pursuit of the reproduction of its economic conditions and the expansion of its power through the accumulation of capital.[53] In addition it is necessary to acknowledge real world complexities to this broad framework. This includes firstly Hilferding's identification of the alliance between the state and fractions of monopoly capital on the international stage: in this case the oil monopoly. The study of the oil industry must be viewed using this conception, in which its interests were sublimated to the broader aims of the state to serve a regime of accumulation under changing economic and political conditions.

53 According to Paul Sweezy, "...any particular state is the child of the class or classes in society which benefit from the particular set of property relations which it is the state's obligation to enforce." *The Theory of Capitalist Development,* (Modern Reader, NY, 1970): 242.

In the analysis of the interaction of oil and politics we must also take into account the hierarchy of states, manifested in a system of hegemony. The concept of hegemony indicates that one state has an ability to dominate other state interests in the international domain. Aglietta describes hegemony as a condition:

> "…through which one state manages to influence a series of other states to adopt a set of rules that are favourable to the stability of a vast space of multilateral commodity relations guaranteeing the circulation of capital."[54]

Britain was the hegemonic state of the period under review. The hegemonic feature and aims of British power helps us to comprehend the nested power relations between Britain and several other industrialised states asserting their power internationally. The identification of these elements of state power are in turn analysed in terms of the growth of the oil industry in the period and its influence on changes in the technological conditions of production.

The British state and oil production

Britain is viewed in this analysis as the hegemonic state of the period called *Pax Britannica*. In this respect it can be seen as serving not only the security of capital accumulation of its dominant classes but doing so in an internationalised context involving the domination of other states.

The hegemony of Britain has been characterised as emerging with the defeat of Napoleon and also seen as subject to slow decline as early as the 1870s, culminating in the events of WWI.[55] The dominance of Britain and the British Empire was based on its industrialised

54 Michel Aglietta, *A Theory of Capitalist Regulation,* (NLB, London, 1979): 32. See also R. Keohane, *After Hegemony,* (Princeton NJ, 1984): 32, regarding control over power resources.

55 Robert Cox, "Social Forces, States and World Orders: beyond International Relations Theory" in R.B.J. Walker, *Culture, Ideology and World Order,* (Westview, Boulder, 1984): 258. Angus Maddison, *Phases in Capitalist Development,* (Oxford UP, Oxford, 1982): for phases of development within capitalist epochs: 64. See also Paul Kennedy, *The Rise and Fall of Great Powers,* (Random, NY, 1987).

economic power, which was in turn linked to a global trading system secured by military superiority over all other advanced states.[56]

The growth of the oil industry during most of the 19th century had no great economic or political significance due to its small size and non-essential role in production. However with the invention of oil-powered engines such as the diesel motor the oil resource came to have increasing interest to the British state. Oil was poised to enter general production as a revolutionary new fuel that stimulated production in other departments and contributed to the generation of surplus value. The British state took an interest in the emergence of these developments as the productivity, trade competitiveness and capital accumulation of the entire state was at issue.

The increasing importation of oil by Britain during the period entailed an increasing economic dependence on an imported resource. As the oil supply of Britain was mainly obtained from the US there was an implication of US political leverage over Britain during future periods of political and economic dispute. The solution for Britain to these issues was to derive oil from its own autonomous supplies, available in allied and colonial regions.[57]

Another central issue for Britain was the expanding role of oil in military power. Experiments during the American Civil War had already indicated the use value of oil in battleships.[58] This application was rapidly extending to other new military technologies such as the submarine, aeroplanes, troop trains and tanks.

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56 Michael Mandelbaum, *The Fate of Nations, the search for national security in the nineteenth and twentieth century,* (Cambridge, 1988).

57 See Churchill House of Commons speech, 1914 in Elizabeth Monroe, *Britain's Moment in the Middle East, 1914-1956,* (Chatto & Windus, London, 1963): 98.

58 In 1867 the Palos, a US gunboat used petroleum in one of the earliest experiments to replace the energy source of coal-fired steam ships. H. F. Williamson, *The American Petroleum Industry*, (Op. cit.) 234. First steam powered ship had operated in 1807 on Hudson River.

The hegemony of Britain was secured at one important node by its seaborne power. Underlying this, the British navy was faced by the need to adopt an oil-powered battle fleet that could maintain its military superiority over challengers. The reproduction of both the hegemonic power and economic domain of the British Empire was consequently increasingly dependent on access to abundant supplies of oil.

The state was intrinsically concerned about the generation and control of the oil production circuit of capital to protect profitable production. However oil was also an issue in the reproduction of the state itself and its ability to maintain the *Pax Britannica* domain. These state-mediated imperatives for British capitalism could not be pursued without reference to the ambitions of other states.

Figure 3.3 provides an illustration of the main structural power relations of the *Pax Britannica* period, depicting the relationship between Britain, oil production and rival states. It provides representation of the central forces involved in the discussion of British hegemony, with consideration of rising oil dependency in the industrialised states.

Figure 3.3: Pax Britannica political-economic model with oil

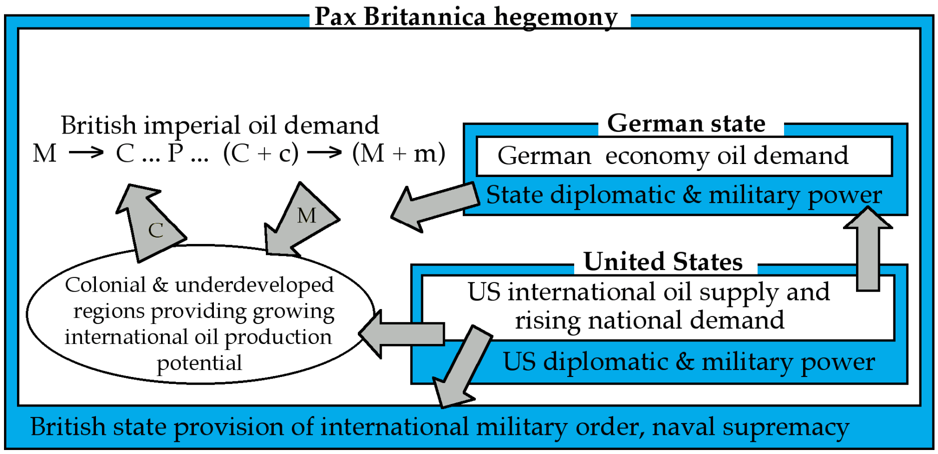

Figure 3.3 reiterates the structure of the argument regarding the world economic power pertinent to oil production in the period *Pax Britannica*. The world economy was dominated

by British industrial power, matched by its military capacity to maintain its imperial economic domain. This framework provided by Britain was an intrinsic part of its influence over the political relations that occurred within this space. Developing states, such as Germany and the US emerged to interact with this order and ultimately challenged its stability. This was in part due to oil production, in terms of its dual importance in an economic sense and in terms of its use value to state reproduction in changing military technology.

The arrows in Figure 3.3 indicate several significant channels of economic interest and power. Britain is indicated as having had an open access to a developing imperial domain. This gave Britain access to a vast territory in the underdeveloped world, including areas where oil had been discovered. The access to oil in regions such as Iraq allowed Britain to make use of this oil in its circulation of oil-dependent capitalist activity. In addition, the supply of oil from colonial regions was used to displace dependency on US supplied oil for the navy.

The US is shown to supply both Britain and Germany with a significant portion of their oil demand. Of key significance was the US supply of oil to the German and British military. Both Germany and Britain therefore had dependency on the economy of the US. By implication they were also vulnerable to any autonomous political agendas that the US might exercise. The rising national demand for oil in the US is also suggested. The arrow in Figure 3.3 indicates a rising interest by US corporations and the state in participating in international oil production. This reflected the fact that the US was consuming increasing amounts of oil while its national supplies were failing to meet this demand. Underdeveloped regions were a source of abundant new oil supplies. However the US did not have the same open access to the international domain where oil was produced, as did Britain.

Germany is indicated in Figure 3.3 as both dependent on US oil supplies but also making efforts to find autonomous oil in foreign territory. The German effort to find oil initially included countries such as Romania but later extended to the Ottoman Empire territory of Iraq.

The Middle East was of particular interest to all the advanced capitalist states and therefore began to develop a critical importance to international politics. This territory is discussed below. Of key significance was the fact that oil was a commodity with high demand and still in short supply for several states. This feature of the economics of the resource combined with the fact of political boundaries, that determined the ability of states to organise political and military support to gain access to remotely located oil.

The shifting political economy of oil production threatened the political dominance of Britain. A number of political actors pursued economic and political goals that began to conflict with Britain's continued privilege in the carve-up of global territory.

The role of the US in global oil production

The analysis of accumulation in the US oil industry and its relationship to the state requires an examination of US government action in the structuring of production. The US is of significance to the analysis both because its oil industry was the largest in the world but also because the US was poised to become a key player in international politics. The relationship between oil, the national economy and the state needs to be analysed for its evolving influence on the political-economic evolution of the global oil industry.

During the period of *Pax Britannica* the US was a rapidly developing country which by the beginning of the 20th century had emerged as one of the world's most economically powerful states. Part of the dynamism of the US economy can be attributed to its vigorous capital accumulation. North America had also been a beneficiary of a geographic endowment of abundant oil. This resource was privately exploited and developed at a fast pace, mainly as an export and therefore provided the US with an important source of foreign exchange.[59] However due to its own industrialisation and fluctuating discoveries of oil the US had frequent difficulties in meeting international demand. It was anticipated by US government geological surveys that the US would also have diminishing natural output in its oil fields, especially relative to new international discoveries. The US was faced with a future economic possibility that other states were already experiencing, of being dependent on a resource supplied by foreign monopoly firms that were subject to political control. In addition, the declining long-term productivity of US oil fields would both mean a loss of foreign exchange based on oil and a loss of national competitiveness, as the reproduction costs of oil-dependent US capital itself increased.

It was necessary for the US to support the entry of US oil capitalists onto the international stage. This was in order to assist the survival of the US oil industry and to maintain a level of surplus value production commensurate with global standards. The political policy was to become known as the "Open Door", by which the US leveraged its economic interests in British controlled foreign territories.[60] Helmut Mejcher describes the combined actions of the US government with US capital as:

> "...the mighty phalanx composed of Standard Oil of New Jersey and the U.S. State Department."[61]

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59 "In 1866 sixty-nine percent of total American refinery output was exported, and foreign sales of kerosene still accounted for fifty-eight percent of American output of that product in 1899." I.H. Anderson, *The Standard-Vacuum Oil Company and United States East Asian Policy, 1933-1941,* (Princeton, NJ, 1975): 16.

60 Seth Tillman, *Anglo-American Relations at the Paris Peace Conference of 1919,* (Princeton, NY, 1961): 47. Keith Wilson, *Imperialism and Nationalism in the Middle East,* (Mansell Publ. London, 1983); John Darwin, *Britain, Egypt and the Middle East, Imperial policy in the aftermath of war 1918-1922,* (Macmillan, London, 1981).

61 Helmut Mejcher, *Imperial Quest for Oil: Iraq 1910-1928,* (Ithaca, Oxford, 1976): 41. See also Steven A. Schneider, *The Oil Price Revolution,* (Johns Hopkins, UP, Baltimore, 1983): companies as foreign policy instruments: 6.

The US oil industry began to expand into regions of South and Central America where local governments were easily bought off to ensure cooperation with the exploitation of their resources. However the US also sought access for its oil corporations in regions such as the Middle East, which was to become the basis for intense interest shown by all the advanced states. The diplomatic conflict over economic access to this region, both before and after WWI, became an intrinsic element of the degeneration of the *Pax Britannica* hegemony.

Of key analytical importance is the fact that the major US oil corporations and the US government acted in cooperation to secure their individual and combined interests. The oil industries were looking for additional markets and long-term survival, while the state in turn had an interest in national economic security. The symbiotic relationship was also now driven to an increasing extent by national capitalist interests, with oil capitalists acting in some respects as instruments of foreign economic policy.

Germany and its oil industry

The analysis of the German state provides a third key political node for the understanding of global political conflict as it pertains to the oil industry. Germany was a rapidly rising economic power in the 19th century but was a latecomer in the imperial carve-up of global territory. As in Britain, German industrial development had ridden on coal production, but the invention of the modern internal combustion engine put Germany on the cusp of the new mechanised industrial revolution. However Germany's access to oil, the essential fuel for the new motor, was severely constrained and mediated by foreign powers. American oil dominated the German market, supplying some 70% of consumer demand from the 1870s.[62] Although Russian oil supplies had increased dramatically from the 1880s, this was cut off by political disruptions at the turn of the century.

62 F.C. Gerretson, *History of the Royal Dutch,* (Brill, Leiden, 1957): 60-65. H. F. Williamson, *The American Petroleum Industry*, op. cit.: 496.

German capital, under the leadership of the Deutsche Bank and with diplomatic support by the state, made a move toward the Ottoman Empire, where oil discoveries had been made in the Iraqi province.[63] However this region was politically highly unstable and the overtures made to acquire production rights in this territory put Germany in direct conflict with the interests of British capital.[64]

Germany's economic straightjacket had repercussions for the actions the state initiated to protect the security of an expanding national demand for raw materials and markets. While there were calls in the German parliament for nationalisation of foreign oil interests at the turn of the century, the real imperative was one of acquiring control of lucrative oil territory for national consumption of oil. In order to expand its imperial quest for oil Germany would inevitably come into conflict with the incumbent empire of Britain.

Germany began preparations to challenge British hegemony and its global domain, represented by its engagement in a naval arms race.[65] However the new technology in this realm was oil-powered ships and submarines. With oil in short supply the German state was ironically faced by both a growing military dependency on oil and a goal of acquiring oil territory by military means, for national capitalist reproduction.

Germany was faced with a crisis in terms of the reproduction of its own power in military terms and in its ability to perform duties to expanding capital in an internationally

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63 The Middle East had been described as an 'oil lake' according to investigations made in the 1890s. S. Longrigg, *Oil in the Middle East,* (Oxford UP, London, 1954): 17.

64 Ulrich Trumpener, "Germany and the end of the Ottoman Empire", in M. Kent (ed), *The Great Powers and the Ottoman Empire,* (G, A&U, London, 1984). See also F.C. Gerretson, *op. cit.*: 39.

65 Robert K. Massie, *Dreadnought – Britain, Germany and the coming of the Great War,* (Random, 1991): 475, 768.

competitive environment. This crisis was part of the rising political tensions of the period and a precursor to a more general state interest in solving issues through war.[66]

The Middle East and the Pax Britannica hegemony

The Middle East emerged as the most promising and strategically important new oil-bearing region of the world, during the early part of the 20th century. In this respect and in terms of its continuing importance, the analysis explores the actions of the imperial states to control this region. The study implicitly provides a focus on the geographic characteristics of imperial oil production, due to the geo-political features of the oil resource.

As is indicated in the above, all the advanced states sought oil in the Middle East with varying levels of need and power. The symbiosis of these interests, actions and negotiations forms the basis for the ongoing analysis of the Middle East in the global oil production system.

Germany had been the first state to covet influence in Iraq, a province of the Ottoman Empire. German entrepreneurs had negotiated with the Ottoman Court to develop a railway line to Baghdad, either side of which would form oil concession territory. The German government had supported this effort diplomatically and with the formation of treaties.[67] However the German effort was closely followed by US and British intervention, seeking participation in any carve-up of global oil territory. Britain also specifically sought to thwart German expansion, with its ambition to dominate global oil production, commensurate with its existing political-economic power.[68]

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66 Air Staff Major General Sykes is quoted by Marian Kent as claiming: "Even though the fields of Flanders might divide the battle, what Germany was fighting for was the Middle East.": *Oil and Empire, British Policy and Mesopotamian Oil, 1900-1920,* (Macmillan, LSEPS, 1976): 124.

67 Ulrich Trumpener, in M. Kent (ed), *The Great Powers and the Ottoman Empire,* op. cit.

68 British hegemony was arguably supported by the monopolisation of oil. Keohane indicates that the maintenance of hegemony requires power resources: "Four sets of resources are especially important. Hegemonic powers must have control over raw materials, control over sources of

Though not so often emphasised in the pre-war period, oil was one of the most significant resources subject to imperial tension. This was due in large part to its dual function as potentially both an economic and military commodity. Oil was important to the economic reproduction of the capitalist activity of states and it was important to the military reproduction of the state itself. As the Middle East was seen to be a key new region for oil production this region became ipso facto the partial basis for the expansionary reproduction of advanced states and any continuing international influence they wished to yield.

Figure 3.4: Imperial capital movement to the Middle East

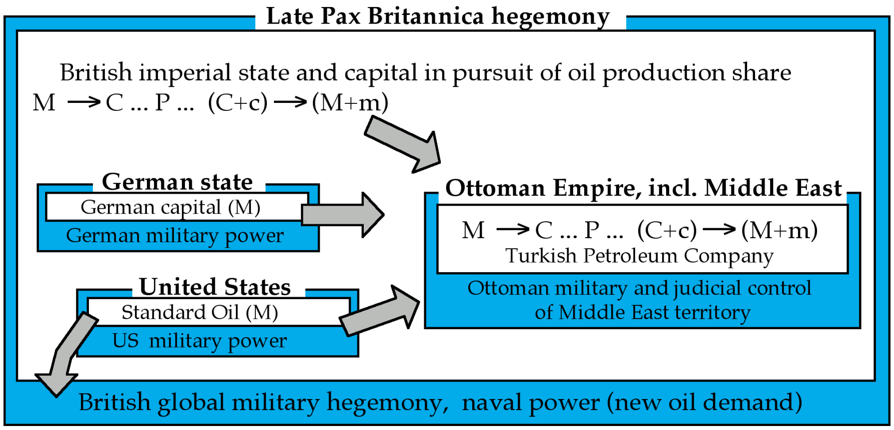

Figure 3.4 provides an illustration of the movement of imperial capital toward the Middle East territory, in the context of British global hegemony. It incorporates the fact of the monopoly structure of the capitalists of the advanced states and the implication of national support of capital in each instance. The arrows indicate the movement of capital, either as a resource consumed by that state (C) or as an investment of money capital (M). The figure incorporates the combined force of each state and capital working together to obtain economic goals that satisfied their mutual interests.

capital, control over markets, and control over competitive advantages in the production of highly valued goods." *After Hegemony*, (Princeton NJ, 1984): 32.

The state support for oil capital to enter the domain of other states was combined with rivalry against other imperial states. This rivalry occurred in terms of the competition to control oil territory. In addition, the control of oil was also an issue in terms of national strategic interests in capitalist reproduction, which was increasingly dependent on oil.

The US is shown in Figure 3.4 to supply Britain oil specifically for its military application. This economic connection therefore implicitly helped to maintain British hegemony, as oil had become such a crucial military resource. The investment of capital in the Middle East by Britain would potentially alter this relationship, providing the British Empire with greater military independence and therefore economic and political autonomy.

The Middle East domain was initially tentatively monopolised primarily by German and British capital in the corporate form of the Turkish Petroleum Company. Yet the region remained in actual political flux in the short interval leading up to WWI.

The Ottoman court had the overt sovereignty to grant production rights to competing capitals. It thus presented a regulatory barrier to foreign capital entry into the region. Yet this state was very weak and began to collapse under the weight of external pressures and lack of internal cohesion. It also meant that this declining state became a subject of the global political and economic turmoil emerging at this time.[69]

Ultimately the disputation over access to Middle East territory highlighted that the ability of oil companies to obtain good terms for oil concessions was intertwined with the exercise of state power.[70]

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69 Karl Kautsky, a German Marxist theorist, had suggested that imperial economic conflict over resources would be resolved peacefully, and result in a super-imperialist division of world markets. Lenin, in contrast, emphasised that such conflicts would ultimately be resolved by the armed power of the state. Patrick Goode, *Karl Kautsky: Selected Political Writings,* (Macmillan, London, 1983); Emile Burns, (ed) *The Marxist Reader,* (Avenel Books, NY, 1982): 558.

70 Townsend in David Edgerton, 'Liberal Militarism and the British State', *New Left Review* No. 185, January/February 1991: 98-99.

Conclusion

The analysis above has made an exploration of the oil industry on a number of different levels. Each of these levels represents a facet of the history of the social significance of oil and helps to explain that aspect of the role of oil within a larger realm. The different levels of analysis represent the combined capitalist economic and political dynamics that have shaped the evolution of the role of oil. The analysis is summarised below.

In the context of this chapter, dealing primarily with 19th century *Pax Britannica*, the oil industry should be viewed as a developing industry with enormous economic and social potential. Its role in production was growing quickly and pointed to its most important uses: as a source of energy, as the basis of a variety of industrial applications, as an engine of capitalist growth and as a military resource. The increasing economic significance of oil was a vital spur for continued rapid accumulation in the industry, but it was also the spur to a state interest.

In the study of the oil industry and its economic significance we find three key political-economic realms that required analysis. These included the relations of production, the intervention of the state in monopoly production and the analysis of interstate relations bearing on oil.

The oil industry at its most basic level of analysis conforms to a Marxist concept of social dynamics. The private appropriation of social surplus by the industry was the basis of rapid development under conditions of periodic crises of overproduction. These crises resulted in efforts at amalgamation of capital and greater industrial coordination by oil capitalists, resulting in monopoly power.

In contrast to the first point, regulation of the oil industry with suppression of super-profits became necessary. This was due to the monopoly power that the oil industry had attained and the opposition that this had induced in other capitalist sectors. Oil production could therefore no longer be seen as simply an exemplar of capitalist dynamics but rather as a component of a capitalist whole to which its particular interests would periodically be sublimated.

Yet in seeming contradiction to the above a third point is raised. The oil industry was not simply a monopoly industry but one that was vital to the future reproduction of capitalist states. Oil was to be found globally and states therefore had to act in their protection of oil capital on a global scale. Oil production was increasingly necessary to the very reproduction of the whole structure of individual capitalist states, and to the hegemony of particular imperial states. Actions in support of internationalising oil industries were of direct benefit to each imperial capitalist state, supporting its capitalist class and the stability of accumulation. The enemy of capital accumulation was then not just monopolistic stagnation, but other states intent on monopolising oil resources.

We must also recognise the last crucial feature of oil, which is not immediately recognisable in a Marxist analysis. The oil industry had emerged as a vital source of a revolutionary fuel that contributed to the military power of individual states and their ability to wage war. Thus the state had developed an interest in oil that was quite separate from the direct issue of the accumulation of capital for the oil industry or industry in general. However this state interest in military applications for oil was *not* autonomous from economic relations. The ability of states to maintain their military competitiveness was essential to the protection of the economic domain that each imperially ambitious capitalist conglomeration could maintain and enhance. As the oil commodity was thus vital to the state itself, it would not allow oil market forces to operate where they contravened the interests of the capitalist society as a whole.

These theoretical factors considered above must be taken into any subsequent analysis of oil production, allowing our understanding of oil to be conditioned by an awareness of a complex set of capitalist relations and dynamics, involving the political sphere.

At the beginning of the 20th century the imperative to acquire territorial access in new regions of the world had become intense. Capital acting alone could not succeed in gaining production and trading rights and required the state to provide its vast diplomatic and military power to secure national capitalist goals.

Oil was one of the resources that had emerged as having great importance to the main states of the world economy. However for each of these states the emphasis was slightly different. For Britain oil represented an important new resource that would both power industrial production but would also be crucial to the maintenance of its hegemony over a large imperial economic space. For the US the emphasis lay more heavily on the benefits of commerce in oil and supply of oil to other advanced states. For Germany the benefit of oil lay in both its application to a dynamic economy, but also its use as a military instrument to challenge British hegemony.

In the above respect, both Britain and Germany had additional interests as states, to acquire oil for the purpose of state reproduction in military terms. For Britain this aspect of oil would contribute to the maintenance of military hegemony while for Germany it would contribute to subverting it. These imperatives again transcended the private logic of capital accumulation within the oil industry. However the nature of the analysis and its representation makes clear that the oil interests of the state can be seen as indicative of a capitalist agenda in a structured system.

The complexities of power surrounding the oil industry suggests that Marxist analyses should pay heed to the function of the state in regard to the support of accumulation in general. The degree of sublimation of the autonomous actions of capital at the particular level are contingent upon the conditions faced by the state and its direction by the capitalist class as a whole.

The analysis indicates that oil was considered a crucial resource to the states of the advanced economies. This was both a direct role, in terms of the rising significance of oil in national accumulation, but also in terms of its role in the military power of the state. This feature of oil is identified as a central aspect of interstate conflict, in terms of its influence in the destabilisation of the existing hegemony. The analysis therefore at its highest level provides a Marxist portrayal of the contribution of oil production relations to the reproduction and decline of the *Pax Britannica* global order.

Chapter 4: The global oil industry, Pax Mirabilis 1918-1939

The analysis of oil production during the period between the First World War and Second World War is politically distinct. In contrast to the previous period and the *Pax Americana* to follow, it is not generally considered a hegemonic period due to its short duration and political instability. Nevertheless it represents an important era for the study of oil. This is in terms of the influence of this commodity on the pace and character of economic reproduction over the period. In turn, the influence of the political conditions of the order require analysis in terms of the shaping of oil production relations.

The analysis in this chapter focuses on the economic dimension of oil production in the period from WWI to WWII and is designed to form a foundation for the later political analysis. The political analysis takes up the issue of monopoly production and the political relations affecting oil production.

The study of the economics of oil production in the period *Pax Mirabilis* examines the internal logic of capital within the oil industry as well as its interaction with the accumulation agendas in other departments of production. The analysis has distinct sections that reflect major concerns and forces applicable to oil. The first part focuses on the use value of the oil resource and its development according to the normal relations and forces of capitalist production. The analysis then identifies the layered interaction between departments and scrutinises the dependency on oil that was increasingly evident in advanced societies. The study also examines oil as a military resource, focusing on the military commodity value of oil and this component of the stimulation of oil demand. The function of oil as a motor of growth is a final component of the analysis, being a measure of the oil commodity as a driver of capital accumulation in general.

The theoretical articulation of the above concerns, and their development in the conceptual model, provides a bridge for comprehending the functional interaction between the political and economic realm. The discussion reveals the significance of the oil commodity to a global system of political power by embedding the study of the oil industry in a theoretical system that builds on an examination of complex political-economic relations.

The economics of oil production

The study of oil begins with an examination of the use value of the commodity and the capitalist dynamics shaping its development and motivating the growth of the oil industry. The discussion of capital accumulation in the oil industry gives an indication of the origins of the rising significance of oil production to advanced societies in the 1920s and 30s. The analysis includes coverage of the relationship between oil production and the industrial branches increasingly dependent on its diverse outputs. The function of oil as a motor of growth is also identified, providing a measure of its status as a commodity underpinning economic growth and accumulation in this period. The additional reiteration of the military use value of oil provides an indication of the link between this commodity and state action and a foundation for examining its role in the destabilisation of the global political regime itself.

The central aim here is to indicate the structural origins for the growth of the oil industry. The argument incorporates a model of its importance to production in general that reveals the dissonance between the production of this one commodity and other levels of production. This provides a link to the later analysis of monopoly production as well as to the examination of the motivation of states to gain access and control of oil production.

The dynamics of oil industry reproduction

Marxist economic theory identifies capitalist dynamics and relations of production as the driving force in the evolution of industrial growth. This economic approach is pertinent to the analysis of oil production. The explanation of capitalist motives gains much of its explanatory power from the articulation of the circuit of capital, which is used here to illustrate the logic of capital as it applied in the oil industry.[71]

The production of use-values in modern capitalist societies occurs within a division of labour, in which separate capitalist corporate entities seek to exchange their commodities with the view to obtaining profits. Profit is derived from the exploitation of labour and becomes the source of wealth for the capitalist class. It is also the source of a surplus of capital to invest in new production. This concept is particularly relevant to oil production because oil was a resource whose use was subject to an ongoing historic surge in demand. The incentive for capital accumulation was therefore relentless.

The motive to obtain profit was divided under competitive capitalism between the search for wealth and the quest for survival by the individual capitalists.[72] In the oil industry these features were particularly potent. The industry provided very significant profits during surges in demand for oil products but also required strong investment in the improvement of unit labour costs, to counter the effects of periodic overproduction and commodity price slumps.

In the immediate post-war period after 1918 there was a shortage of oil for consumption and therefore higher prices emerged. Within a few years prices declined but rose again with the

71 The model is based on Marx's work in *Capital Volume II*, Part 1: The Metamorphoses of Capital and their Circuit, (Penguin, Harmondsworth, 1985): 109.

72 As Marx said: "The constant enlargement of his capital becomes a condition of its preservation." *Capital Vol II*: ibid: 159.

"roaring twenties" and then slumped again with the Great Depression.[73] Benefits were derived by oil companies through the investment in improved refining facilities that yielded greater quantities of valuable saleable oil. The "catalytic cracking" of crude oil for example increased the fraction of crude that could be sold as petroleum. These issues extended throughout a worldwide industry, from the US where most production occurred, to Romania, Mexico and Indonesia. Investment to improve productivity would allow companies to remain afloat during destructive periods of intensified competition. The subsequent increased labour productivity provided a consistently lower oil price that in turn stimulated oil consumption.

A vital aspect of expanded demand for oil, and therefore higher profits, was based on the diversification of oil product outputs. This is indicated in Figure 4.1. The scientific investigation into derivatives of oil allowed new industrial products to be invented and marketed. As new oil-based products became available demand for these products increased among consumers. This in turn helped to put pressure on production output and stimulated the circuit of capital in oil.

In the 1920s and 1930s new oil-based products were invented, including nylon, neoprene, detergent, Bakelite, Freon refrigerant and polythene. Nylon was the first synthetic fibre discovered and was subsequently used in the manufacture of stockings, rope, toothbrushes and an increasing variety of applications.[74] Neoprene synthetic rubber likewise found applications as a substitute for natural rubber. The revolutionary new products also contributed to the destruction of rival industries such as the manufacture of hemp rope and natural rubber plantations.

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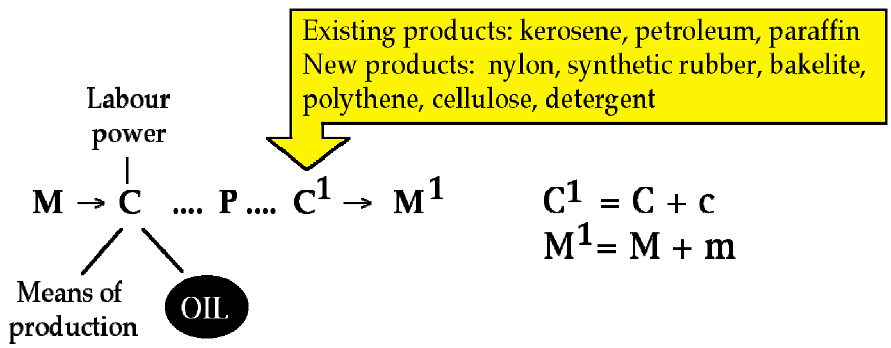
73 H. Larson, *History of Humble Oil & Refining Company,* (Harper & Brothers, NY, 1959): Table 5: 132.

74 Du Pont was an important developer of oil-derived products in the US. German companies like IG Farben had developed products that included: vaccines, nitrates, aspirin, rocket fuel and poison gas. Joseph Borkin, *The Crime and Punishment of IG Farben,* (Andre Deutch, 1979): 26.

The invention of new products created a latent new demand for oil. This demand for the output commodities of the industry in turn justified further capital investment in productive capacity. Thus the effort to find new outputs and uses for oil became an intrinsic part of the circuit of capital and the accumulation of oil capital.

Figure 4.1: The circuit of oil capital



The tendency for expanded reproduction within the oil industry is depicted graphically in the circuit of capital of Figure 4.1. The circuit of oil capital represents separate capitalist companies pursuing the logic of capital accumulation in the period. Each company used money capital (M) to purchase commodity inputs (C), composed of labour power and materials, combining these in production (P). Oil is not depicted as input capital (C) in this circuit as it was the object of labour at this level of production, rather than itself being capital. Once oil had been extracted from the ground and brought to market it obtained exchange value (C^1), which was manifested in money capital terms (M^1). Initial investments were made in anticipation of increasing oil demand and a commodity price that justified investment of money capital. Under ideal conditions the sale of oil would bring a return on investments (M) and profit (m), allowing the capitalists to cast enlarged financial capital (M+m) back into the circuit of production.

Profit would be used to expand production but also to improve productivity of labour in the industry. This improvement in the unit cost of labour ensured that individual enterprises could maintain future profit margins, especially during periods of intensified competition. There were times when the amalgamation of capital was appropriate to achieve this aim to obtain new productive economies of scale. In this case Figure 4.1 represents an implicit altering of ownership structures within the industry.[75]

Although the above elements of capital accumulation appear to follow a logical progression, the reality of productive activity in the oil industry was a degree of chaos, crisis and waste of resources.[76] The anarchical character of capital accumulation meant that the industry was subject to bouts of feverish expansion and then catastrophic overproductive collapse. This was particularly true at the beginning of the 1930s. A glut of oil appeared on the market, both in the US and internationally, causing prices to collapse and business to slump. This occurred in tandem with the emergence of a general economic crisis, when demand for oil also abated.

According to Daniel Yergin, Martial law was declared in Oklahoma in August 1931 and soon after East Texas, due to the economic chaos attendant to overproduction of oil in the US. Prior oil production costs had been approximately 80c, but the selling price had plummeted to only 13cents.[77] Such fluctuations were indicative of the unregulated market relations of capitalist production that were intrinsic to its development.

75 In 1925 Standard Oil of Indiana (Amoco) acquired controlling interest in Pan American Petroleum and Transport Company. In 1926 Socal (Chevron) merged with Pacific Oil Company. Subsequent merger with Texaco in 1936 resulted in Caltex company. In 1934 Anglo-Iranian and Gulf Oil Corporation established Kuwait Oil Company as a 50-50 joint venture to develop Kuwait concession. Eric V. Thompson, Petroleum Archives Project, Arabian Peninsula and Gulf Studies Program University of Virginia: www.virginia.edu/igpr/apagoilhistory.html.

76 Gerald Nash, *United States Oil Policy, 1890-1964,* (University of Pittsburgh Press, 1968): 241, 212. John Ise, *The United States Oil Policy,* (Yale UP, New Haven, 1928): 20.

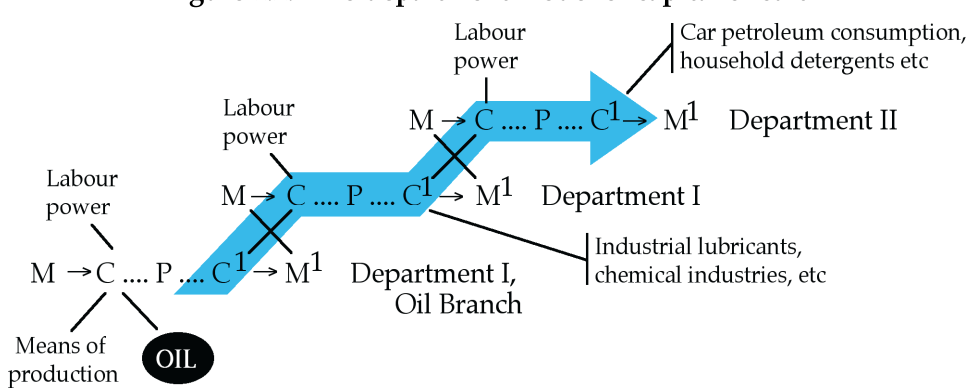
77 *The Prize,* (Simon & Schuster, NY, 1991): 250.

Departmental analysis of oil production

A Departmental analysis of oil production gives a further understanding of the complex economic interaction involved in the expanded historic demand for oil. It gives an indication of the interdependence of industrial activities and the way in which oil production helped to stimulate industrial production as a whole. The analysis examines the specific improvements made by oil in the conditions of production in the energy sector, with its repercussions in all industrial sectors and their accumulation activities. The discussion of departmental interdependence also provides a preview of the arrangement of monopoly production and its structural effect on accumulation in different branches of production.

According to Marx, the capitalist economy is divided into two primary categories of Department I and Department II.[78] Commodities that go into the production of consumer goods and luxury goods belong to Department II production. Primary industries and intermediate industries, which make the production of consumer goods possible, belong to Department I. Industries in this department produce raw materials, machinery and infrastructure commodities. These capital goods are transformed into saleable commodities along a production chain that ends with the final consumer.

Figure 4.2: Two department model of capital circuit



78 *Capital Volume II,* Part 1: The Metamorphoses of Capital and their Circuit, (Penguin Harmondsworth, 1985): 109. David Harvey, *The Limits of Capital,* (Basil Blackwell, Oxford, 1982): 300.

The departments of production are depicted graphically in Figure 4.2 with the oil industry represented separately as a branch of Department I. Three separate circuits of capital are therefore depicted. The exchange of commodities with payment of money is indicated by a cross (X). This exchange occurred between the oil industry and another capital goods industry dependent on oil, as well as between that industry and the consumer goods industry. At the point of exchange capital either changed from the commodity form to the money form (C-M) or vice versa (M-C). The exchange included the movement of input money capital (M) from Department II to Department I, becoming the output money capital and profit of the oil industry (M+m). The oil industry in turn provided its own output commodity (C) as a capital input for Department II.

Profitable production by both Department I and II industries involved oil commodity inputs. Oil therefore became one of the capital good inputs (C) that was intrinsic to their profitable production. The total circuit of social production was increasingly dependent on the initial input of oil as either raw material or fuel for other economic branches. Oil was either a direct input to production or an indirect input to production in other production through its consumption in a previous circuit of capital and its incorporation in input capital goods.

Each industrial sector was operating along identical lines of motivation in capitalist terms. They each sought to accumulate capital by the advance of capital in its money form (M) with the purpose of realising profits (+m). This process was facilitated by the usefulness of each commodity output (C^1) produced in each branch to the social circuit as a whole. The initial assumption in the analysis is that the rate of profit (M^1:M) was uniform for all sectors, including the oil branch.

In principle, an increase in productivity of labour in the oil branch, under competitive conditions, tended to feed through to reduced prices of output commodities and therefore reduced costs of production in other branches of Department I and Department II. It therefore operated to improve profitability in general and ultimately streamed into a reduction in the price of consumer goods, reducing the cost of labour.[79]

Department I productive use of oil

It is appropriate to analyse the effect of oil-usage on the specific departments in which it was consumed. The productive activities of Department I were particularly important to general capital accumulation as the reduction of costs of Department I capital goods underpinned the reduction of costs in Department II.

Oil production had been an industry with a significant influence on production costs. For example, oil as an energy source had acted as a substitute for less productive sources of fuel and had therefore reduced the cost of energy as an input to production. The transport industry in Britain saw omnibuses converted to diesel fuel usage from as early as 1899. The transition was so significant that it affected the industrial power of coal industry workers, whose labour was being made redundant by imported fuel.

In the US advances had been made since the turn of the century to convert steam trains to diesel fuel.[80] These trains could carry larger loads of people at greater speed than steam trains. Oil-based tractors were gaining wider usage to plough fields and their increasing efficiency meant a greater productivity in agriculture. Cheaper food meant reduced costs for feeding factory workers, both in producer goods industries but also in the production of consumer goods.

Shipping trade too was made more efficient by conversion to oil-based fuel, allowing more rapid transport of cargo to markets and allowing perishable goods to be transported longer distances.

79 As put by Aglietta: "the production of individual commodities in Department II incorporates the new productive forces created in Department I, and thereby precipitates a fall in real social wage costs." *A Theory of Capitalist Regulation, The US Experience,* (NLB, London, 1979): 205, 207.

80 See Daniel Yergin, *The Prize,* op. cit.: 87.

Figure 4.3: World Merchant Trade Energy Conversion, 1914-1924

1914:	Coal powered 89%	Oil fuel	3%
1924:	Coal powered 28%	Oil fuel	69%

Source: Isadore Lubin, Helen Everett, *The British Coal Dilemma,* (A & U, London, 1927): 20.

Figure 4.3 indicates the rapid conversion of sea-going vessels to oil-based fuels by the 1920s. This was facilitated by the increased availability of oil, its reduced price, and the improving efficiency in its use. Oil-powered vessels were faster and could carry larger loads, making oil-powered vessels more profitable.

Oil based industrial transformation reinforced the role of oil in generating greater labour productivity in the production of capital goods in Department I. The improvement of profit for capitalist enterprises helped to drive the reconstruction of capitalist society as a whole. At the same time, the increasing use of oil also implied increasing dependence on oil. Competitive advancement became dependent on access to oil and its continued cheap supply.

The ambiguous rise of the automobile

The rise of the car-based society is perhaps the most significant example of the application of oil to the Department II industries. It is therefore indicative of the transformative influence of oil production on the growth of the US economy in the *Pax Mirabilis* period.

The increasing production and use of the automobile occurred as a consequence of the increasing production of oil-derived petroleum. More importantly, this relationship between oil and the automobile gives an indication of the complex and often indirect influence of oil on the transformation of industrial societies.

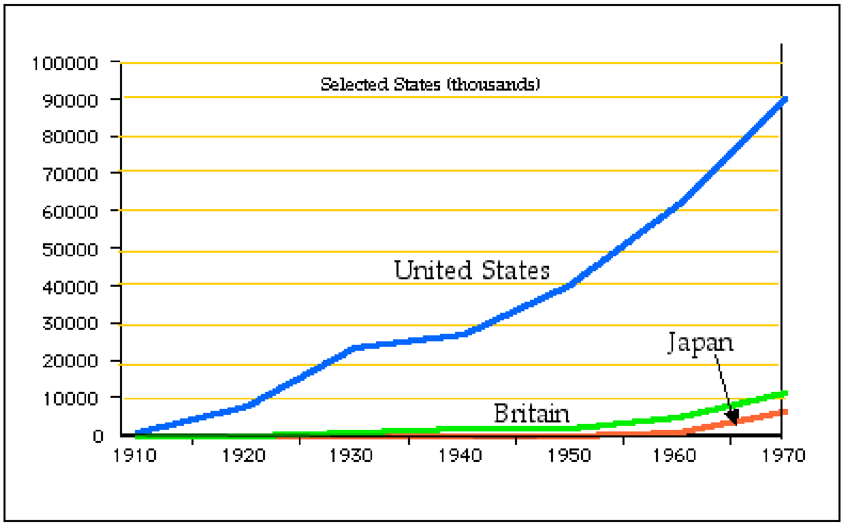
The production of the car started as a luxury good that was available to only a small number of wealthy people. This made it part of Department II production. However in the US there was a rapid expansion in the number of people driving cars. By the 1930s in the US there was nearly one automobile for every family.[81]

As a consequence of the increasing mobility brought by the car the restructuring of the industrial labour employment landscape became both possible and inevitable. Workers began to live much further from their place of work and indeed were able to work in areas previously inaccessible by more traditional transport methods. At the same time the spread of the suburb created increasingly isolated living arrangements and made car-dependence almost essential. The cost of maintaining the car and its associated infrastructure started to become a significant cost of capitalist reproduction itself.

European states and Britain, in contrast to the US, had such limited access to oil that they could only make limited use of oil as an industrial fuel in Department I. Its use in luxury applications (Department II) including automobiles, was even more constrained, as illustrated in Figure 4.4.

81 John Ise made the following critical observation in 1928: "Vast amounts of our irreplaceable reserves of oil are being used - we may well say wasted - by all manner of men and women, who ride upon our roads in stupid, thoughtless, aimless, pointless diversion..." John Ise, *The United States Oil Policy*, (Yale UP, New Haven, 1928): Chapter XVI.

Figure 4.4: Private Motor vehicles in use from 1910 to 1970



Source: Fiona Venn, *Oil Diplomacy in the 20th Century,* (Macmillan, Basingstoke, 1986). See also Womack, J., et al., *The Machine that changed the World,* (Harper, NY, 1991): 247.

Figure 4.4 indicates the dramatic advance of the US in the consumption of oil based transport. Other powerful states such as Britain had minimal use of private transport. This is explained by a lack of ready access to oil, so that they therefore developed industrial structures more reliant on public mass transport.

The car-based industrial transition had important repercussions for global oil production. This can be attributed to two main factors. The US was the world's foremost consumer of oil, with over 50% of world production and with rapidly increasing consumption. The US therefore needed to increase its access to foreign oil resources to feed an ever-increasing need for oil, both for automobiles and industrial applications. This became more significant as US oil supplies became less plentiful, relative to new discoveries being made worldwide. In addition, all developed states trailing behind the US sought oil as the basis for a new model of economic growth. The US acted as an exemplar of capital productivity and affluence built in great part on oil-dependency. For other industrialised states to achieve a similar level of capitalist development required that they also increase their access to oil, which could only be found in foreign territories.

Military applications for oil

The military consumption of oil has an important place in the discussion of all the political epochs studied here and is related to the discussion of departmental dependence on oil. Yet the theoretical discussion of this relationship does not fit comfortably within a conventional Marxist analysis. This is because oil production, for the supply of military requirements, does not normally receive consideration in economic analysis and because military consumption of oil cannot be placed in the conventional departmental categories.

Military goods contributed to the maintenance and disruption of political order but did not contribute directly to the departments of productive activity. The analysis of military consumption of oil indicates that it was nevertheless significant both economically and politically to the development of the oil industry in this period. Furthermore, the interaction between military demands and the economic features of oil had a symbiosis that affected the very foundations of the political order that bound the production of oil.

The analysis divides the subject of military consumption between the economic effect of military demand on oil production and the later treatment of the political significance of military oil requirements. The military demand for oil was significant to the oil industry in terms of its absolute growth and in terms of its output commodity mix.

Prior to WWI oil had been recognised as a vital military commodity, through its application to new military technologies such as the aeroplane, dreadnought battleships, submarines and oil-powered tanks. These applications mainly utilised the gasoline element of crude oil. However there were several fractions of oil that were useful to the military, with kerosene and gasoline being the most significant.[82] Pressure therefore developed for the oil industry to supply very large quantities of oil to meet this military demand. It was only with the onset of war that this latent demand came to full realisation. During WWI military demand for oil gained precedence over all other oil demands in Britain and Germany.[83]

From the perspective of the oil industry, the state demand for oil was a lucrative source of profits due to the unprecedented quantities required by the military machine and the inflated prices the state was prepared to pay. The US effort to supply British oil needs saw the price of oil charged by US oil companies double.[84] This was a factor driving the expansion of the oil industry and its accumulation of capital in order to meet a rapidly rising state demand for a crucial strategic resource. In addition, the scarcity of many commodities during wartime was a forcing house for the increased production of oil-based substitutes. Finally, the military demand and its critical focus on mass production and standardisation saw the oil industry develop greater uniformity in it product outputs in areas such as fuel.

Figure 4.5: Military demand for oil

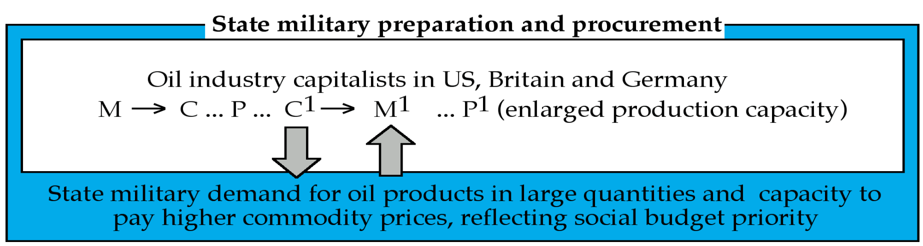


Figure 4.5 provides a representation of the circuit of oil capital in relation to state military demand. The figure encapsulates both an orthodox Marxist representation of the capital

82 In WWI German lack of nitrates required production of explosives with the assistance of oil by-products. Poison gases were also related to oil production. Joseph Borkin, *The Crime and Punishment of IG Farben*, (Andre Deutch, 1979): 26.

83 Some commentators suggested that the subsequent victory of allied forces against the German-led alliance was based on the advantages gained by a dominant use of oil. Daniel Yergin, *The Prize*, *op. cit.*: 183.

84 Ludwell Denny, indicates gasoline rose from 13 cents per gallon to 22 cents from 1914 to 1921 and then stabilised: *We Fight for Oil*, (Alfred Knopf, NY, 1928): 282. See also Daniel Yergin, *The Prize*, *op. cit.*: 172.

circuit as well as representation of the state domain as a stimulator in the production circuit. The figure indicates that the circuit of capital in the oil industry was realised in great part through military demand. The arrows of exchange indicate that the investment of capital resulted in the production of the oil commodity (C^1). This was sold to the state and in turn the state paid the money that constituted the return to investment (M^1) for the oil industry. The lack of reference to departments in this figure highlights the fact that state demand had no immediate productive consequences for society.

The high demand for oil by the state was a stimulus to further investment in expanded productive capacity (P^1), reflecting the achievement of greater economies of scale in production. The particular characteristics of wartime demand also meant that there was a demand for uniform supply in oil industry products.

The development of British refining capacity in Iran was a primary example of the military stimulus to production. The British government need for a secure supply of oil for military security guaranteed the APOC company (later renamed BP) a customer for oil production. The company's facilities in Iran subsequently became the largest single refining location in the world.[85]

The primary issue here is that the state acted to create incentives for the industry to accumulate capital. The oil capitalists encountered a major demand bottleneck through military demand that increased profits and promoted the quest to increase production. This occurred in a qualitative sense, as well as a quantitative sense. Military demand helped to

85 The company was renamed British Petroleum (BP) in 1954, subsequent to its relative decline in the oil company hierarchy and the nationalisation attempts in Iran in the 1950s. See R. Louis, *The British Empire in the Middle East, 1945-1951,* (Clarendon Press, Oxford, 1984): 597, 651. S.H. Longrigg, *Oil in the Middle East,* (Oxford UP, London, 1954): 167.

alter not only the scale of oil production but also its standards, quality of commodities and organisation of productive infrastructure, which utilised new economies of scale.[86]

The discussion of departmental dependence on the oil industry, including consideration of military demand, provides a critical lesson. It indicates that the logic of oil production became an intrinsic component of production as a whole. Economic and military activity became increasingly dependent on oil and as it did so the imperative for each state to follow this model of development increased. In each advanced capitalist state the expanded demand for oil was a logic that made itself felt for the capitalist class as a whole, rather than being simply a subject of interest to the oil industry branch. The competitive input of oil in production and its increasing importance to industrial efficiency, profitability and wealth generated an increasing interest in the resource. Britain, Germany and the US each experienced this imperative though each one had a different degree of oil dependence.

Oil as a motor of growth in Pax Mirabilis

The analysis of oil in terms of its function as a motor of growth follows from the above discussion of departments as well as the discussion of military demand for oil. The articulation of the motor of growth function of oil represents an attempt to gauge the actual relative importance of oil in the economy of the inter-war period. The analysis here also helps to identify the importance of oil relative to other historic periods, charting its role as a motor of growth between the different historic periods in different states.

Prior to WWI oil had been a dynamic and rapidly growing industry that saw application in a number of areas. This included most importantly its use in kerosene lamps. However this application was to a large extent a luxury application, directly easing the conditions of life

86 Paul Koistinen, *Planning War, Pursuing Peace: political economy of American warfare, 1920-1939,* (Kansas University Press, 1998): 175.

among people throughout the world. By the beginning of the Twentieth Century the main application of oil had shifted to a more fundamental role.

Under conditions of rapid cost reductions and expanding production the oil industry began to replace the coal industry in energy production. This was however true only in a number of countries and industrial departments. The US in particular saw a significant portion of its energy industry transferred to oil dependence.[87] There were several implications to this industrial change. Not only was oil becoming cheaper than coal under some conditions, its usefulness far exceeded that of coal. Oil was more compact in storage and yielded higher energy levels by weight. It was liquid, allowing it to be transported long distances via pipelines. These factors generated not only direct changes in general productivity and profitability. They affected the quality and character of industrial production. Some authors have described this as the beginning of the "age of oil".[88]

The oil resource, in the form of gasoline, was the fuel driving the motor car, whose mass production can be measured as beginning around WWI, with the expanding success of the Ford Motor Company. Oil was however used in the internal combustion engines of a variety of modes of transport including boats, planes, tractors and trains. These applications were substantially new, requiring new technologies and industrial infrastructure. The availability of oil therefore extensively underpinned the investment in new industrial production that reached the commanding heights of advanced industrialisation.

Any investment in oil production implied the parallel investment in a variety of new and expanding manufacturing sectors and ventures. The new investments in oil-dependent

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87 See Michael Tanzer, *The Energy Crisis: World Struggle for Power and Wealth,* (Monthly Review Press, NY, 1974). Daniel Yergin, *op. cit.*: 87.

88 Anton Mohr, *The Oil War,* (Martin Hopkinson, London, 1925): 30. Ernest Mandel indicated that oil and electricity generated a second industrial revolution that "…changed essentially the source of power for production and transport." *Marxist Economic Theory,* (Merlin Press, London, 1977): 393.

manufactures in turn promised intrinsic improvements in productivity and the opportunity to provide improvements in the provision of goods and services.

The contribution to the speed of the circuit of production was central to the issue of increasing productivity and accelerated capital accumulation. As Marx had indicated:

> "A capital's time of circulation…limits generally speaking, its time of production and hence its process of generating surplus value."[89]

The use of oil-based transport radically improved the speed at which products could be delivered and sold and therefore allowed the realisation of surplus value more quickly. Faster transport also contributed fundamentally to the preservation of the use value of perishable commodities through swift sale and therefore a reduction of wasteful production of commodities.

A variety of capital circuits increased their turnover speed or increased their yield by the use of oil-based machinery. This included anything from passenger ships to motorised taxis to delivery vans and agricultural harvesters. The improvements to productivity not only increased profits for companies but also allowed the disposal of relatively inefficient labour processes. This in turn contributed to the regeneration of a reserve army of labour that would feed continuing industrial expansion.

The above analysis indicates a tension in industrial development based on the enormous economic significance of oil. This resource had begun to act as a motor of industrial growth in the US, intertwined with general production and vital to US productivity increases and economic development. There was in contrast limited access to the resource experienced by developed states competing with the US, and this made the resource of great political significance. The lack of ready access to oil and its importation cost meant that the resource

89 *Capital, Vol II* Chapter 5, 128: The time of circulation. See also costs of circulation of capital: Chapter 6.

saw only a limited application in industrial production in these other regions. However the demonstrable benefit of oil usage for capital accumulation pushed investment and exploration, including attempts to develop synthetic oil in Germany.

Conclusion

The study of the economic dimensions of the oil industry is the basis for the articulation of the logic that led to the growth of this industry into an important component of the world economy. In addition, the economic study of this industry provides the foundation for a subsequent analysis of its political dimensions.

The Marxist analytical approach indicates that the competitive logic of capital accumulation underpinned the initial expansion of this industry. The search for profit and ultimately the need for survival spurred the accumulation of capital in this industry by individual entrepreneurs. However the competitive basis of production was complex. Oil production was by now conducted by increasingly large companies that competed to dominate global markets.

The internal logic of the industry, expressed in the expansion of the circuit of capital, was also explored in terms of the actual use value of the oil resource and the consumption of oil commodities in different industries. This was the basis for analysing the departmental categories of oil consumption to see what specific value was obtained from the oil commodity. This indicated that the oil industry was producing products that were increasingly vital to the reproduction of advanced industrial societies. In particular the use of oil in internal combustion engines marked a revolutionary transformation in the importance of oil. The demand for oil for this purpose was a primary spur for further expansion in oil production. The demand for oil was now also increasingly pushed by its use in military applications. While this element of oil consumption does not fit into departmental categories it highlights the fact that the state had an economic influence on the industry and the industry in turn was becoming strategically critical to the state.

The final component of this chapter dealt with the motor of growth function of oil. To an extent this aspect of the analysis quantified the multiple influences of oil as a measure of its importance to social reproduction. The claim that the age of oil had emerged in this era is pertinent. The *Pax Mirabilis* period witnessed the explosive expansion of oil usage, due to its cheapening production, its diversifying output products and its widening demand base. Oil thus began to achieve a fundamental importance to economic reproduction so that capital accumulation as a whole became dependent on oil. This dependence was more advanced in the US while other advanced states increasingly recognised the importance of access to the resource in order to support their competitive survival.

Oil was a unique resource. Although its production was subject to capitalist logic it also emerged with a disproportionate influence on production that requires acknowledgment. Oil was a resource whose capitalistic exploitation began to shape the very path of economic development and in turn would come to influence the path of political history.

Chapter 5: The state and control of oil in a Pax Mirabilis

The exploration of political relations in a *Pax Mirabilis* period is a necessary subject for the understanding of the oil relations of the interwar years, between 1918 and 1939. This is both because of the need to understand state intervention in the industry but also because of the influence of the oil industry on the power and reproduction of the state.

The use of the term *Pax Mirabilis* does not reflect an interest in representing this period as an accepted hegemonic order, which it was not.[90] This chapter examines the period of political instability of the interwar era as a factor that influenced political and economic developments. The examination of the subject of oil is both informed by this feature of the period but in addition is used as the basis for scrutiny of the political order.

In the focus on political intervention the first section of the chapter examines the evolving repercussions of the monopoly control of the oil industry. The centralised control of oil production in the world economy, with its impact on the distribution of surplus value, is linked to political consequences. This feature of the control of oil is the basis for the examination of the varied structures and accumulation patterns of the industry under different state agendas.

The second section of the chapter focuses on the interests and actions of the state in terms of its interaction with other states to gain access to oil resources. The hegemonic conditions of the period are identified, indicating that an ideology of internationalism, under the League of Nations, masked an actual political instability in the relations between advanced capitalist

90 Theorists such as Robert Cox indicate that the interwar period cannot be described as hegemonic as it does not meet the criteria of stability, political consensus and overwhelming power exerted by one state. "Social Forces, States and World Orders: beyond International Relations Theory" in R.B.J. Walker, *Culture, Ideology and World Order,* (Westview, Boulder, 1984): 258. See also Angus Maddison, *Phases in Capitalist Development,* (Oxford UP, Oxford, 1982): 64; Paul Kennedy, *The Rise and Fall of Great Powers,* (Random, NY, 1987).

states. However the tentative alliance between the victorious states of World War I, provides a framework for identifying the political basis for the carve-up of world oil territory, up to the Second World War.

The analysis of oil as a subject of state interest provides an indication of the role of states in defining global economic territory. This is particularly pertinent to a focus on the Middle East, which formed an increasingly important region for potential oil production after WWI. The study of the political economy of Middle East oil illustrates the importance of geography in the analysis of oil production and state interaction to acquire territory bearing the resource.

The state role in establishing a secure accumulation regime, based on increasing oil consumption and access to oil, is a key subject for the analysis of dynamics in international politics. The analysis of the individual state agendas of Britain, the US and Germany, in regard to their oil policies, gives an indication of the economic goals that formed the basis of one element of international politics.

Of special interest in the analysis is the military role of the oil commodity. The unique military value of oil, alongside its directly economic value, is a subject that requires exploration in terms of its effect on the strategic actions and power of states.

Monopoly oil production and regulation

The examination of monopoly production in the oil industry during the interwar period presents an opportunity to analyse the effect of monopoly capitalist organisation in the industry and on general conditions of production in other departments. The discussion of monopoly also forms the first interface to the discussion of the political repercussions of the centralised organisation of the industry.

The analysis examines the repercussions of global monopoly organisation in the oil industry and how this conferred a power to set international prices for the oil commodity. This signals aspects of the tensions that emerged between oil consuming industries and the oil industry. The study of monopoly production also presents a link between the autonomous accumulation activities of oil corporations and state surveillance of the oil monopoly. This gives an indication of how states regulated oil monopolies while also supporting their oil companies in the acquisition of international territory.

The discussion of monopoly oil companies presents several theoretical issues. Marx's original analysis of capitalist relations of production downplayed capitalist monopoly relations and unequal exchange, focusing instead on the extraction of surplus value from labour.[91] However Marxist theorists have since emphasised the historical significance of uneven economic power to the distribution of profit between industries, as well as between states.[92] The political tension attendant to uneven economic power has been sufficient to warrant such an examination. This issue frequently induced the intervention of states to temper the exercise of monopoly power, through regulation.[93]

The study examines how the above competing and contradictory aspects of capitalist production in the oil industry can be reconceived and brought together into a unified model of political-economic power.

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91 According to Marx: "The monopoly price of certain commodities would merely transfer a portion of the profit of the other producers of commodities to the commodities with a monopoly price." For Marx this was a secondary economic issue. In Paul Sweezy, *The Theory of Capitalist Development,* (Modern Reader, NY, 1970): 272.

92 See Paul Baran (1957) on exploitation of Third World in N. Etherington, *Theories of Imperialism,* (London, Croom Helm, 1984): 129. Anthony Brewer, *Theories of Imperialism,* (Routledge & KP, London, 1980): Chain of metropolitan-satellite relations: 174; Emmanual: 208

93 As Mandel emphasises: "...the state comes into action in the economic sphere in order to solve problems which are posed by the development of capitalism." *Marxist Economic Theory,* (Merlin, London, 1977): The primary function of the state: 240, 248.

The global oil monopoly

The study of monopoly capitalism in the era of *Pax Mirabilis* must acknowledge that monopoly was already the predominant condition of the global oil industry and was discussed in its development in the previous chapter. The primary concern here is to give an indication of the empirical development of monopoly relations and how these fluctuated in the new unstable political regime established after the First World War.

The imperial states that were the victors of WWI had created a global political space in which their own oil corporations had a free play to pursue their economic goals. This in turn fulfilled the needs of the economically dependent industries and departments of these states.

Hilferding had anticipated this development, indicating that the combination of finance capital and industrial capital would allow expansion on the global stage, in monopoly form, in order to compete more effectively against the monopolised capital of rival states.[94] Lenin subsequently argued that war was largely a realisation of prior imperial tensions and was one manifestation of imperial monopolistic competition for territory.[95]

The competition between the monopoly corporations of victorious states was reduced after WWI, as the corporations of the dominant states had won access to global production territory. These corporations could set about dividing this territory to proceed with a new production order. The select powerful corporations included most prominently APOC of Britain (later BP), Shell, a joint British/Dutch company, Standard Oil of New Jersey (later

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94 R. Hilferding, *Finance Capital,* (Routledge & Kegan Paul, London, 1981): 332, 334, 199. See also Anthony Brewer, *Theories of Imperialism,* op. Cit.: 79.

95 In Emile Burns, (ed) *The Marxist Reader,* (Avenel Books, NY, 1982): 558. Marxist theorists such as Paul Sweezy have indicated that expansionary forces may lead inevitably to war: "One or more countries will find it both possible and advantageous to challenge the status quo with respect to territorial boundaries…a redivision of the world can be effected only by armed force." *The Theory of Capitalist Development,* (Modern Reader, NY, 1970): 320.

Exxon/Esso), Chevron and a French company CFP (Total).[96] The emergence of several additional new major US companies on the international scene, such as Standard-Vacuum (Mobil) and Gulf Oil, reflected the growing power of US capital. It also indicated that the break up of the Standard Oil Trust in 1911 had caused no diminution of the power of US oil capital.[97]

The imperative for the oil corporations of Britain, the US and to a lesser extent France and the Netherlands, was to exploit global oil territory. It was also imperative for them to monopolise oil, so that no competitor could utilise a rival source of oil to supply international demand. Over the long term there would however be a re-emergence of imperial tensions, consequent to further oil-based economic growth and ambitions for increased power by oil corporations and their home states.

Global production schedules and price agreements

The analysis of monopoly production in detail requires that we look at the control exercised by a select number of capitalist companies, affecting the price and output of the oil commodity and the relative profitability of the industry. The highlighting of the differential rate of accumulation between the oil industry and other industries that this entailed is the basis for an exploration of elements of the consequent political agitation that had oil as a subject.

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96 See also Standard Oil of Indiana (Amoco), Texaco. Eric V. Thompson, Petroleum Archives Project, Arabian Peninsula and Gulf Studies Program University of Virginia: www.virginia.edu/igpr/apagoilhistory.html.

97 E. H. Davenport, *The Oil Trusts and Anglo-American Relations,* (1923): 81. Also see John Ise, *The United States Oil Policy,* (Yale, New Haven, 1926): 225. When Standard was dissolved in 1911 it resulted in the formation of a number of companies that later re-emerged as major international capitalist enterprises.

The characteristic feature of monopoly production is the ability of a monopoly to organise the pricing and production level of a commodity in order to maintain stable high profits.[98] Having divided the world's oil production territory after WWI, the major oil corporations of the world oil industry proceeded to also establish a number of agreements to effect the negation of competitive capitalist production relations. This included establishing a production system with fixed prices and fixed output shares.

The "as is" agreement to fix prices and production shares was ratified in a secret meeting held in 1928. The major oil companies agreed here to divide the world oil market in terms of production locations, shares, output levels, prices and profit margin:

> "Price competition was to be eliminated by having each market supplied from the nearest source at a world price based on the high-cost Texas Gulf area, plus about one dollar per barrel profit."[99]

The monopoly arrangement cemented the power of the oil corporations, to continue their profitable arrangement, while minimising the impact of the subsequent depression. By dividing the global oil market the companies were able to rationalise production. In addition, the imperative to accumulate capital to maintain competitiveness was reduced, thus allowing a greater portion of surplus to be allocated to shareholders.[100]

The fixed price of international oil took US productivity levels as a benchmark for output prices. This was significant as the US was by now becoming relatively less productive and negligible quantities of oil were now exported from the US. The minor oil producers of the

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98 See Mandel on cartel rent with allowance for the least profitable producer and then according to "assessed capabilities": *Marxist Economic Theory*: op. cit.: 420.

99 Michael Tanzer, *The Energy Crisis: World Struggle for Power and Wealth,* (MRP, NY, 1974): 26. (The agreement was named after the Achnacarry castle, where it had been held.)

100 Lenin had anticipated this developing character of capitalism as early as 1917: "...as the foreign and colonial connections and 'spheres of influence' of the big monopolist combines expanded in all ways, things 'naturally' gravitated towards an international agreement among these combines, and towards the formation of international cartels...." V.I. Lenin, *Imperialism,* (FLP, Peking, 1975): 79.

US gained normal profit in a national market protected by the high international prices. At the same time the internationalised oil producers of the US and Britain gained super-profits, based on the lower production costs being established in the new cheap production areas of the Middle East and elsewhere.[101]

The division of the world oil market by a select number of corporations also served to limit the economic possibility of new competitors entering the market. The exercise of such a power could not occur in isolation from political force. Indeed, it was a product of the political alliance between capital and state. The division of oil territory was so conducive to the interests of a combination of imperial states that the imperative to regulate the international oil industry was reduced. It had been more important to ensure that the advanced states acquired an interest in global oil territory for future industrial production. The territory of the Middle East in particular still remained underdeveloped and was being monopolised primarily in anticipation of future growth in the demand for oil.

The situation in the international realm stood in contrast to the situation in the US, where the vast majority of the world's oil was consumed and produced. The maturity of the US oil industry and its integration with national production requires a separate analysis.

Regulatory order in the US oil industry

The analysis of regulation of the oil industry in the US is an important facet for the understanding of the relationship between the oil industry and the state as it developed in the 1930s. The US remained by far the largest oil producing state in the world and represented the primary exemplar of how oil industry profits were affected by state action.

Prior to the Great Depression investment in US oil production had been vigorous, with varying periods of profitability, trying to meet expanding national demand. However at the

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101 Harvey O'Conner, *The Empire of Oil*, (John Calder, London, 1956): 280.

start of the 1930s oil discoveries, particularly in Texas, were so large that an unprecedented glut of oil entered the market, looking for sale.[102] This occurred in tandem with the advent of declining strength in oil demand. Oil prices plummeted and wiped out profits, benefiting oil consumers, but disastrous for oil capitalists, including both the major oil companies and a large number of smaller players. Oil companies engaged in fierce competition to maintain previous profits on declining margins and this exacerbated the crisis. Oil production costs were approximately 80c per barrel while the selling price had dropped to only 13c in some areas. The aim of leading oil companies was to have a selling price of at least $1.00 per barrel.[103] This outcome was both favoured by the state and by the large oil companies, because it ensured the stable reproduction of the oil industry, 'reasonable' profits and state revenue.

The anarchistic organisation of production meant that it was difficult for production to be restrained. The larger oil companies in particular therefore favoured state intervention to set prices or production quotas. As Texas had become the centre of US oil production it is pertinent to focus on this region. Initially the Texas Railroad Commission was assigned the task of curtailing production levels among producers. To obtain this end the National Guard was ultimately called out in Texas in 1931 to prohibit 'illegal' production of 'Hot Oil', which was contributing to the national production glut. Oil wells subsequently had their output capped by law in a highly regulated system of production.[104]

The state, in this case a regional government of the US Union, provided both enforcement and administrative functions to regulate accumulation. This regional outcome was however not limited to one part of the US. It was indicative of a complex national production

102 Peter Cowhey, *The Problems of Plenty*, (University of California Press, Berkeley, 1985): 88.

103 According to Daniel Yergin, *op. cit.*: 250. See also Connally Hot Oil Act, 1934-35.

104 Robert Engler, *The Politics of Oil,* (Macmillan, NY, 1961): 331. The head of Humble Oil (Standard NJ) was involved in state policy, calling for state trooper occupation of oil fields.

structure that had emerged. Aglietta, in his study of capitalist regulation in the US, indicated that there were several levels of administration in the US that structured accumulation in the oil industry nationally. This included at the highest level the Department of Justice.[105]

Figure 5.1: Texas state regulation of oil industry

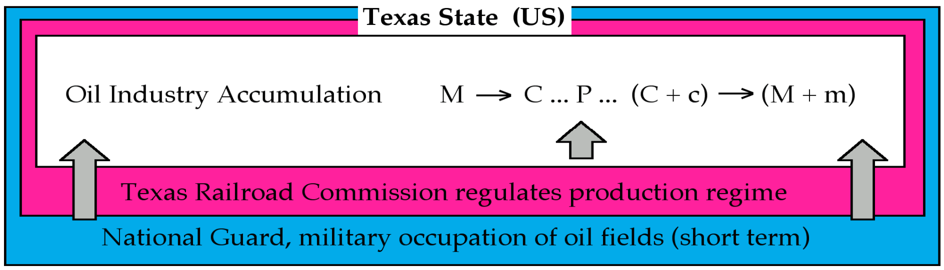

Figure 5.1 provides a representation of the relationship between the state and industry as it developed in the US, based on the specific events in Texas oil production. The representation of the oil industry is indicated by the circuit of capital. Implicit in the representation of the circuit of capital was a large number of enterprises searching for oil and producing oil. In times of demand growth the output of commodities (C^1) would be matched by a market price that realised profit (+m). Yet under conditions of overproduction this relationship between the value of the output commodity and profit collapsed.

The representation of the state in Figure 5.1 includes an indication of both an administrative layer and a coercive layer of state regulation. Initially the rampant anarchy of overproduction induced calls from within the industry for state regulation. This was to be achieved by the surveillance activity of the Texas Railroad Commission. Nevertheless despite regulatory decrees there was a widespread continuation in the illegal selling of oil, thus undermining the regulatory order. Only the additional layer of military intervention

105 Administered prices and anti-trust policy was conducted under the 'aegis' of the Federal Trade Commission and Department of Justice, *A Theory of Capitalist Regulation, The US Experience*, (NLB, London, 1979): 315. See also the Federal Oil Conservation Board formed in 1924 and the Interstate Oil and Gas Commission of 1935; The National Recovery Act; Robinson-Patman Act on competition, 1936.

was sufficient state force to obtain the necessary regulatory order in this industry. The National Guard literally occupied the oil fields and thus inhibited the production (P) and distribution of oil product (C^1). Subsequently the administrative level of state, in the form of the Texas Railroad Commission, was able to effect an ongoing regulatory regime of production restrictions, indicated here as applied at P.

In collaboration with the big oil companies, the state ensured that the oil industry achieved higher output prices through complex production quotas that inhibited the supply of oil output product and in turn guaranteed 'fair' profits and industrial peace. This level of interaction between state and oil capital has also been described as ‘political capitalism’ by Nordhauser.[106]

The intervention of the state witnessed in the US in the 1930s reiterates the type of relationships that also occurred in the international domain to regulate production. However there were also fundamental differences. The national oil production structure had been stabilised between competing capitalist interests and also between competing states of the Union. An equivalent organisation of global oil production was witnessed and indeed state intervention in this case also involved the possibility of military action to enforce the economic order. The key difference was that the international arena was much more volatile and no sovereignty could be exercised by one state over that of other competing states.

The Middle East in the global territorial monopoly

It is appropriate to focus attention on the Middle East in regard to the further investigation of monopoly as it occurred in the oil industry. This is because the Middle East was both the

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106 Norman E. Nordhauser, *The Quest for Stability, Domestic Oil Regulation 1917-1935*, (Garland, NY, 1979): IV. Defined according to model developed by Gabriel Kolko, *The Triumph of Conservatism, a Reinterpretation of American History 1900-1916*, (Chicago Ill. UP, 1967).

most important area for a division of imperial oil territory, but also because the region became much more important in subsequent decades.

From the end of WWI the Middle East became an important reference point for the construction and maintenance of a global oil production regime, despite production in the region not experiencing a significant international level until after WWII.

German capital had secured for itself a portion of Middle Eastern oil territory as the basis for oil exploration prior to WWI. This territory had extended through the Ottoman Empire to the Gulf at Baghdad. However in conjunction with political activities the major oil corporations of allied states eliminated the role of German capital and established a new company, the Iraq Petroleum Company, to control the oil of the region.[107] The TPC, which had included German capital, was in the process replaced by the IPC, which was composed of a select number of imperial companies attached to the victorious states (see Figure 5.2).

The surging power of the US and its oil capitalists gave it access to the territory of the Middle East alongside the other imperial monopoly companies. It is for this reason that the IPC gave a substantial economic stake to the interests of the Standard Oil company (NJ) and its 'sisters'.

Figure 5.2: IPC with national shares indicated

IPC

23.5% APOC (British, later known as BP)
23.5% Shell (Joint British/Dutch ownership)
23.5% Standard (US consortium of Exxon, Gulf and Mobil)
23.5% CFP (French company modelled on APOC)
5.0% Gulbenkian (Turkish).

Figure 5.2 gives an indication of the corporate share of the IPC obtained by the imperial monopoly companies. It included a consideration for a small share to former Ottoman

107 See San Remo Conference, 1920: Marian Kent, *Oil and Empire,* (Macmillan, London, 1976). See also George Lenczowski, *Oil and State in the Middle East,* (Cornell, NY, 1960): 15, on US open door policy.

capitalists. Although the IPC never became a significant oil producing company it primarily served to cement the partnership of dominant imperial corporations at the frontier of new production territory. Their individual aims had been to monopolise oil production territory as one of the foundations for excluding competitors. However under the circumstances of the post-war political order the individual corporations came to agreements that gave them a share in a larger corporate whole. The consequent company, designed to monopolise and control production in the Middle East, symbolised the momentary structure of global monopoly stretched to the farthest oil production frontiers.

Oil corporations had scope to pursue their activities little hindered by local revolt or regulation, although these did occur.[108] However in the long run the degree of political uncertainty in Iraq, due to anti-imperialist militancy, hampered the development of the region by oil corporations.

The discussion of Iraq is important, despite this not becoming a major oil-producing state. The control of Iraqi production territory had been necessary for the major oil corporations to ensure a limitation of producing territory. It was through monopolisation of regions such as Iraq that the corporations could collectively ensure that international market supply was limited, so that the price of oil would remain buoyant.

108 As early as 1921 there had been a rebellion by Kurds in the North of Iraq against the new dominance of Britain. This was crushed by the exercise of British military power with the complicity of Britain's local allies. David Silverfarb, *Britain's Informal Empire: A case study of Iraq 1929-1941*, (Oxford UP, NY, 1986): 7.

Figure 5.3: Pax Mirabilis and Iraqi oil

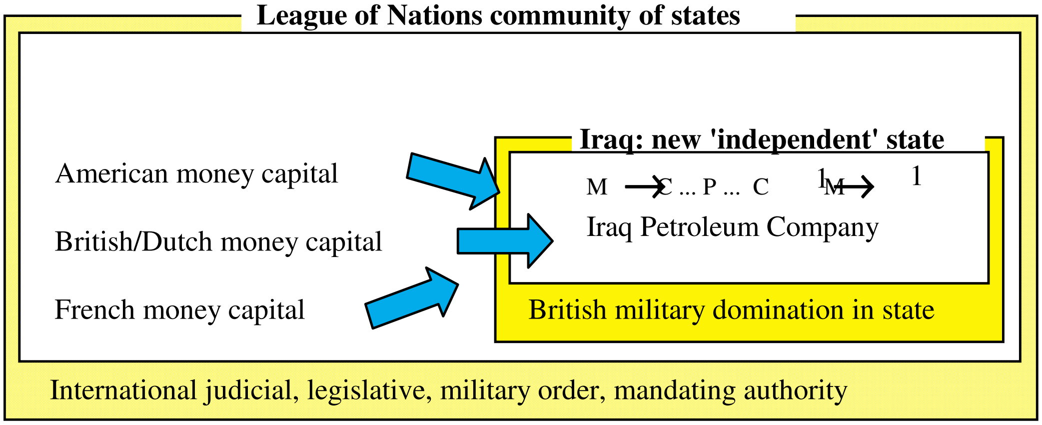

Figure 5.3 depicts the political context of the arrangement for production territory sharing in the newly formed state of Iraq. This indicates that corporations from the US, Britain and France combined to form a transnational oil company, established specifically on the basis of the productive capacity available in one Middle East state. Such an arrangement created a unified capitalist enterprise that solidified a competitive truce between corporations of victorious states.

Figure 5.3 adds a political dimension to this economic arrangement. The League of Nations was the official international body under whose guidance state actors could proceed in economic negotiations. The United Nations was the body formed to represent a more cooperative level of world peace. This framework ostensibly created a free environment for corporations to pursue their interests globally. In particular, the region of the Middle East had been declared substantially as a protected 'mandate' zone of Britain and France. Consequently it was really the corporations of the key victors of WWI who had the economic capacity and political backing to pursue their imperial interests 'legitimately'. Implicit to the modelling of this framework was a level of instability in the economic monopoly. Not only was it reliant on the cooperation of previously rival oil corporations but it was also dependent on the continued stability and security of capital assets within a foreign region.

The aim of exploiting this territory in the interests of shareholders and developed states was not conducive to local support and therefore in turn undermined any vigorous development of the territory.

US corporations in Saudi Arabia

The entry of US capital specifically into the Middle East requires comment from two viewpoints. Firstly it provides an introduction to the eventual development of this region into one of the world's most significant oil producing states. In addition it highlights an important shift in the monopoly structure of the oil industry, with the ascendancy of the US.

The formation of the IPC represented one phase in the development of global monopoly capitalism in which there was an alliance primarily between the Old World capital of Britain, Holland, France and the New World capital of the US. However by the 1930s US capitalists had secured access to the lucrative territory of Saudi Arabia exclusively. This monopolisation of a lucrative territory in the Middle East reflected the dynamic expansion of US capital and its ability to transcend the limitations of capital alliances with the oil industries of the other states. The US entry into Saudi Arabia represented a changing balance of political economic power.

In 1933 Standard Oil of California had secured permission to begin oil exploration in Saudi Arabia and oil production began in 1938. A partnership with *Texaco* resulted in the formation of the *Caltex* company.[109] Within several years other US corporations had bought into the territory, combining their capital into one *American* monopoly venture. This combination of US capital undermined the alliance based on the capital of all the other states that had previously dominated the Middle East region. This in turn reflected the general political turmoil of the period, in which the individual states backing national capital did not

109 R. Louis, *The British Empire in the Middle East, 1945-1951,* (Clarendon Press, Oxford, 1984): 184.

necessarily support continued cooperation in maintaining the existing balance of economic power between them.[110]

The examination of the Middle East and individual states in the region affirms that the oil industry was not simply a global industry in an abstract sense. With the relentless expansion of investment more productive oil territory had been discovered. It was therefore inevitably necessary to extend monopoly power to regions such as the Middle East, due to its strategic role in the maintenance of monopoly. This phenomenon highlights how remote regions of the world came to be drawn into the metropolitan circuit of capital. Secondly, the subject of territorial monopoly cannot be divorced from the actions of oil companies attached to particular states. The establishment of a new exclusive monopoly in Saudi Arabia by US corporations represented the imperial power of the US itself.

The division of global markets and production territory was the product of the combined imperial power of monopoly capital and states pursuing national capitalist interests. The analysis of the symbiotic imperial expansion of monopoly corporations down-played the role of oil in regulation on the global level. This is largely because in the interwar period the main imperative had been to expand the control over productive territory. The Middle East for example was primarily subject to the establishment of control by the monopoly corporations. Production in the Middle East was limited, in part, because the political environment remained highly unstable.

State and Oil production in Pax Mirabilis

The discussion of the state is an intrinsic element for the understanding of the historical development of the oil industry. This relationship should be considered dialectically. The

110 Lenin, claimed accurately that, “The capitalists divide the world… ‘in proportion to capital,’ ‘in proportion to strength,’ because there cannot be any other method of division under commodity production...” *Imperialism: the Highest Stage of Capitalism,* (FLP, Peking, 1975): 89.

state was an active participant in the creation of environments that structured the course of the development of the oil industry. In turn the growing importance of oil and its multiple applications must be considered in terms of its effect on the success of individual states in their economic reproduction and also in their imperial expansion.

In the analysis of the state it is necessary to consider its relationship to the oil industry as well as to capital as a whole. As oil had become essential to national capitalist reproduction the relationship with the oil industry had become symbiotic and self-serving for the state, as a representative of a capitalist class.

The analysis of the state is also developed to acknowledge the hierarchical power of states, with reference to hegemonic powers and their leading role in the determination of political and economic structures in the world oil industry.

The era between WWI and WWI is frequently characterised as not being hegemonic, and therefore does not conform to the notion of being an ordered regime of global accumulation.[111] The *Pax Mirabilis* period is therefore considered distinct from the prior *Pax Britannica* and the subsequent order identified as *Pax Americana*. Yet the victorious powers of WWI, especially Britain, did aspire to recreating a hegemonic structure, attempting to recapture leadership in the world economy. The study of oil provides a good basis for examining the effectiveness of that quest, indicating that the value of oil played a part in the political instability of the period.

The role of oil as a military resource is also re-examined here to determine its importance to the reproduction of the political relations of the period.

111 Robert Cox, Social Forces, States and World Orders: beyond International Relations Theory: in R.B.J. Walker, *Culture, Ideology and World Order*, (Westview, Boulder, 1984): 258. Angus Maddison, *Phases in Capitalist Development,* (Oxford UP, Oxford, 1982): for phases of development within capitalist epochs: 64. See also Paul Kennedy, *The Rise and Fall of Great Powers,* (Random, NY, 1987).

The decline of British hegemony and global oil

The study of Britain in the period *Pax Mirabilis* is a central feature for the understanding of the development of global oil production. However this centrality is also intrinsically connected to the challenges presented by the US and Germany to the British role. The study of Britain occurs as a case of a hegemonic state attempting to reproduce its former power on the global stage. Yet it was also one of several competing states attempting to secure access to resources and economic territory contributing to its competitive reproduction and expansion.

As a capitalist state, Britain had several agendas that are pertinent to the oil industry. Firstly, it sought to protect a developing industry and provided the diplomatic framework to secure access to oil production territory. Oil was available to Britain is several regions, but with the most important being in the Middle East. Secondly, Britain had to secure oil for the sake of imperial capitalist reproduction. As a state with global commitments and vulnerability, the sourcing of oil from outside its own domain represented a dangerous dependency that threatened the reproduction of the Empire. E. H. Davenport and S. Cooke highlighted the emerging consciousness of this issue in Britain in 1923:

> "...the nation which has the privilege of supplying oil fuel to other nations acquires a dominating power over them; that of two countries, one with access to oil and one without, but equal in other respects, the one without access to oil is at the mercy of the other, both in a commercial and a military sense."[112]

Oil had become so important to a new economic regime of accumulation that the competitiveness of British industrial departments and consumer goods sector were going to be increasingly dependent on oil. It was important to have national access to this resource, to

112 *Oil Trusts and Anglo-American Relations,* (Macmillan, London, 1923). The authors were aware of this emerging concern but down played its significance.

alleviate the necessity of importing the resource from a competing state such as the US, which continued to be a significant supplier of Britain's oil.

The securing of access to oil territory and its production was a strategic issue to Britain, both in economic and military terms. It has already been indicated that oil was a key military resource that stood at the centre of military superiority and effectiveness. In this respect the oil resource was also at the centre of issues of hegemonic instability. Britain had only narrowly defeated the German challenge to its hegemony in WWI, but only with the economic assistance of the US, which supplied oil as a critical resource for the war effort.[113] US support for British hegemony was nevertheless qualified and the US sought "Open Door" entry to Britain's exclusive economic territories forming part of the Commonwealth trading regime.[114] This made access to an independent supply of oil all the more important for the British state, being an intrinsic element in its ability to maintain an autonomous global political economic policy.

In the immediate post-war period a triumphal attitude appeared to emerge in some sectors of the British ruling class regarding the acquisition of oil territory.[115] Britain's victory in WWI had brought the economic and political goal of access to abundant oil in the context of its ambition to reproduce its imperial primacy. Anton Mohr indicated in 1925:

> "...in 1912, Britain commanded no more than 2 per cent of the world's production of oil; today she controls, either directly or through foreign companies controlled by British

113 Daniel Yergin, *The Prize, The Epic Quest for Oil, Money and Power,* (Simon & Schuster, NY, 1991): 160, 173.

114 To pursue its goals the US even threatened to make a separate peace with Germany. Seth Tillman, *Anglo-American Relations at the Paris Peace Conference of 1919,* (Princeton, NY, 1961): 47. See also 3rd point of President Wilson (14 point) speech: "establishment of equality of trade conditions": 29. See also Lloyd Ambrosius, *Wilsonian Statecraft, Theory and practice of Liberal Internationalism during World War I,* (SR Books, Delaware, 1991).

115 A British banker, Sir Edward Mackay Edgar, claimed in a private British banking journal in 1919: "The British position is impregnable. All the known oil fields, outside of the United States itself, are in British hands or under British management or control, or financed by British capital." In John Ise, *The United States Oil Policy,* (Yale, New Haven, 1926): 461.

> capital - especially Royal Dutch and Turkish Petroleum - the major part of the world's future supply of that commodity."[116]

Britain's main opportunity to develop its oil interests was in the Middle East and this formed the main basis of its vastly increased imperial access to oil.

Global political negotiations in the post-war period were also focused on this territory, because other states seeking their political and economic advantage took issue with Britain's absolute dominance in this vital region. The further discussion of Britain's oil ambitions therefore necessarily focuses on this area.

Immediately after WWI the British had divided the Middle East with France into spheres of influence in an arrangement of 'protecting' the fledgling states in the region under League of Nations mandates. The actuality was that Britain and France applied divide-and-rule policies in order to dictate economic policy in the region.[117] Of primary interest was Iraq, not only for the use of its oil resources but also as a means to cut off German expansion into this territory.

Britain could control the tribes and ethnic groups of the Middle East with relative ease due to its vastly superior military and diplomatic development. Yet Britain could not control the region in isolation from the intervention of other advanced capitalist states. Although Germany had been defeated in the war, states such as the US and France had an equal interest in expanding their control of oil production territory. In order to cement its power Britain formed an alliance with France as a junior partner.[118] However it had difficulty

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116 Anton Mohr, *The Oil War,* (Martin Hopkinson, London, 1925): 196. See also Ludwell Denny, *We Fight for Oil,* (Alfred Knopf, NY, 1928): 46.

117 T. Niblock, "…when the Ottoman Empire fell apart in WWI, it did so into pieces which were in one way or another predetermined. To say that is by no means to reject outright the familiar Arab dictum that Western imperialism carved up the Arab world to suit its own convenience." *Iraq: The Contemporary State,* (Croom Helm, London, 1982): 7.

118 H. Mejcher, *Imperial Quest for Oil: Iraq 1910-1928,* (Ithaca, Oxford, 1976): 59.

resisting the autonomous advances of the US, which had become the world's most economically powerful state.

American capital and the open door policy

The analysis of US imperialism provides a means to scrutinise the relationship between the state and its oil corporations. It also provides the basis for examining the significance of the rising economic and political power of the US against that of Britain and its declining hegemony. With Germany temporarily defeated, the main contender to Britain in terms of the acquisition of imperial oil territory was now the US.

The US government supported the internationalisation of the US oil industry, but not simply for the sake of the industry itself. The role of the capitalist state is to support the reproduction of capitalist relations of production and accumulation. However the support of one isolated industry in the world domain could not be warranted beyond certain limits unless that industry had special significance to the national economy. Oil was such a resource, because its production had become a crucial foundation of national productivity as well as foreign income.[119]

The US oil monopoly was reluctant to enter the imperial domain of production. The Standard Oil control of national markets had provided for the company a secure basis for profitable production within the US, exporting oil throughout the world.[120] The state, acting in the service of the long term security of national capital accumulation, required the oil sector to continue to serve all the departments of the economy over coming decades, especially in view of the changing characteristics of the global oil regime. The first action in

119 William Woodruff, indicates petroleum products constituted 6.5% of US export value in the 1870s, rising to 11% in 1930s, with a major decline to 5% after WWII. *America's Impact on the World*, (Macmillan, London, 1975): 266.

120 Harvey O'Conner, "Standard, enjoying access to the world's premier oil fields right within the United States, saw little need to look across horizons for anything more than markets." *The Empire of Oil*, (John Calder, London, 1956): 255.

this regard occurred as early as 1911 when the Standard Monopoly was broken up by legislative decree. This decision resulted in the formation of a number of new smaller companies. The decision was not designed to diminish the viability, productivity and power of the US oil sector.[121] Its aim had been to create new competitive corporations that could in turn represent US economic participation in specific regions of the world. Each of the created US corporations would take advantage of US diplomatic support to carve out a share of global oil production.[122]

The state pursued its interests via the general political ideology of the "Open Door", which required states such as Britain to give US corporations access to markets and production territory. The operation of this policy was particularly pertinent in regard to oil and more specifically to oil in the Middle East. As the primary oil resources of the world were now suspected to be in this region it was important for the US to participate in the carve-up of this territory.

121 John Ise, *The United States Oil Policy,* Op. cit.: 225. Also see E. H. Davenport, "The United States Fuel Administration reported in 1919: 'After eight years the dissolution decree has been found neither to have destroyed nor to have lessened the influence of the so-called Standard oil companies in their respective territories." *The Oil Trusts and Anglo-American Relations*, (1923): 81.

122 I.H. Anderson, *The Standard-Vacuum Oil Company and United States East Asian Policy, 1933-1941,* (Princeton, NJ, 1975). See also Martin J. Sklar, *The Corporate Reconstruction of American Capitalism: 1890-1916,* (Cambridge, 1988): 51, 108.

Figure 5.4: Pax Mirabilis unstable hegemony features

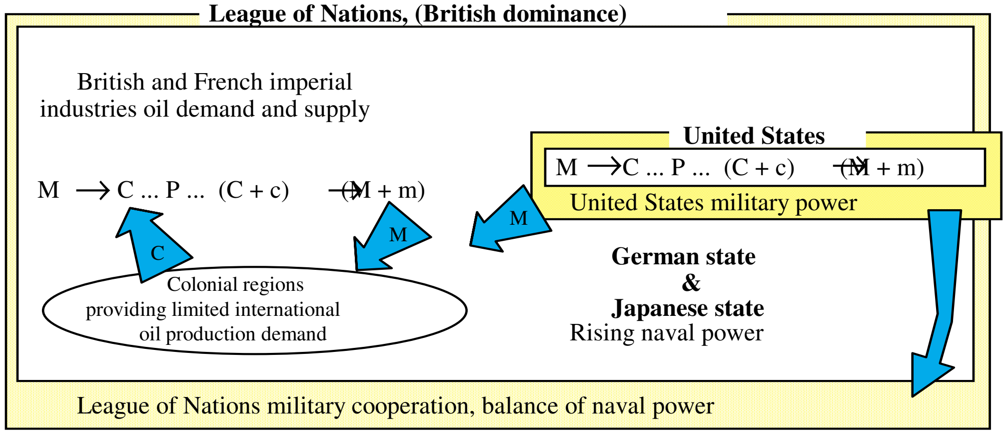


Figure 5.4 provides an illustration of the key players in the formation of the *Pax Mirabilis* order. The surrounding political framework is indicated as the League of Nations, which was formed after WWI as the basis for international inter-government cooperation and the maintenance of peace.[123] The League of Nations order was to be altogether short-lived. Nevertheless, it was in the context of this tenuous political peace that leading states created a political framework for the pursuit of capital accumulation, with oil as a key example.

The order was a cover for the real power of individual states and their alliances after the war. Britain remained the world's dominant imperial power. France, a minor player, stood in alliance with Britain to carve up regions such as the Middle East into 'mandate zones' for exclusive exploitation by their national capital.

The US had emerged as the world's largest economic power. The figure does not illustrate this because Britain still dominated globally in terms of military and political influence. The US sought to participate in the privileged access to underdeveloped territory.

123 The League of Nations was based at the ideological level on enlightenment belief in a commonwealth of states, maintaining peace against aggressor states and abolishing secret diplomacy. See Immanual Kant's *Perpetual Peace,* (Liberal Arts Press, NY, 1957). Thomas Schlereth, *The Cosmopolitan Ideal in Enlightenment Thought*, (University of Notre Dame, London, 1977): xii.

The US abandoned joining the League of Nations, in great part due to dissatisfaction with the economic foundations and rights of the general political order that emerged. In doing so it also failed to endorse Britain's dominant position in this order. Prominent calls in the US for an "Open Door" policy referred to its desire to give US corporations access to markets and territories controlled by Britain, one of the most significant being oil territory. According to Peter Cowhey the US succeeded in this ambition because of its ability to undermine Britain's imperial plans:

> "....as the United States was already the principal world power, and the situation in the Middle East was so confused... any major obstructionist course by Washington in the early 1920s could have left all parties the poorer."[124]

Figure 5.4 also indicates that the US supplied oil to the British navy, which constituted a significant portion of the maintenance of British power and gave the US leverage of British political action. Britain's access to Middle East oil reduced this leverage and tended to immunise Britain from US influence. In addition, the figure indicates a movement of US capital toward the colonial regions. Implicit to this movement was US diplomatic support to leverage its economic interests against British resistance.

Britain and the US were the primary victors of WWI and developed a degree of overt cooperation and friendship. However the accumulation policies of each state had their own logic that belied this surface appearance. After establishing a partnership with Britain in the Middle East in the framework of the Red Line agreement, the US continued setting out on an autonomous course of oil land acquisitions.[125] Thus in 1933 the US established a sole

124 Peter Cowhey, *The Problems of Plenty,* (University of California Press, Berkeley, 1985): 84.

125 The Red Line was a diplomatic agreement drawing a line across the Middle East map beyond which no company would be allowed to explore for oil. This agreement was made in 1928, at the same time as the "As Is" agreement between the major oil corporations. Helmut Mejcher, *Imperial Quest for Oil: Iraq 1910-1928*: Preface. Peter Cowhey, *The Problems of Plenty,* ibid: 85.

possession of the Saudi Arabian oil territory as the basis for US corporate oil production on the Arab peninsula.

The rule of King Ibn Saud in Saudi Arabia came to be maintained against rival tribal leaders with US assistance, by paying him an annual fee that supported the regime and the attendant influence of US imperial interests.[126] Other states were therefore excluded from influencing the Saudi government and could not obtain production rights there.

The decision to extend the reach of US imperial interests into Saudi Arabia broke the Red line agreement with Britain. This had involved their sharing of these oil-bearing regions. It also signified that even the leading monopoly-capitalist states would not continue to cooperate when their capacity to act alone could fulfil vital economic ambitions. The victories of the US in regard to oil policy highlighted its ascendancy as an imperial power and the vulnerability of the order.

Both Germany and Japan were part of the League of Nations order (see Figure 5.4), although they began to vigorously exercise their separate autonomous agendas in the 1930s. Both of these states were notably oil dependent and had sought to acquire oil territory in colonial regions.

German expansion and synthetic oil

Germany is the third significant developed state that requires scrutiny, in terms of its influence on the evolution of the politics of global oil production.

Germany was a developed capitalist state that required oil as an ideal material to obtain economic growth after WWI, along the pattern already established by the US. It required oil

126 "It was an immense, sparsely populated, and desperately poor country where Ibn Saud depended on foreign assistance for the revenues needed to maintain internal order." R. Louis, *The British Empire in the Middle East, 1945-51,* (Clarendon Press, London, 1984): 175. On the ascent to power of Ibn Saud see also Theodore Draper, *The Gulf War Reconsidered,* New York Review of Books, January 16, 1992.

for economic purposes to remain competitive as oil provided important inputs to the most advanced industrial sectors. In addition the oil resource was also now an essential military commodity providing the basis for any future effective military confrontation.

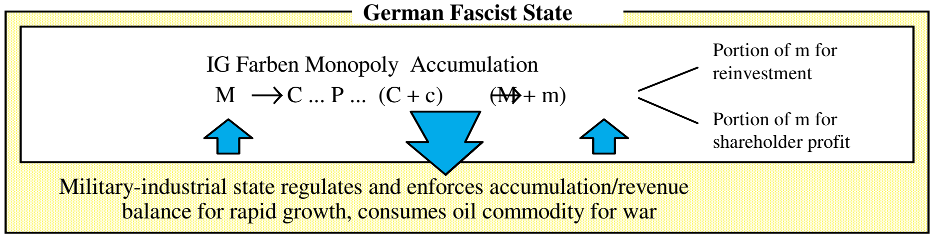
During the 1920s, Germany's exclusion from direct access to oil production territory, meant that it could not use oil as the basis for an autonomous political or military agenda. Oil was a commodity mostly imported into the country from foreign sources. However when Germany came under the aggressive rule of Nazism in the early 1930s the German state began to promote the development of an alternative fuel supply based on synthetic oil, made by the IG Farben company.[127] Synthetic oil could be made in Germany itself, based on the transformation of coal. The state protected the IG Farben company by providing a monopoly framework for its production of synthetic oil fuel.

The agenda of the German state must be seen as not an effort to support a monopoly company for the purposes of maintaining profit in this industry. It should instead be seen in the context of the role of the state in pursuing a particular political agenda in the service of an expansionist imperial policy.[128] Oil, or its synthetic substitute, was to be one of the main material means of ensuring the success of a mechanised war.

127 Peter Hayes, *Industry and Ideology, I.G. Farben in the Nazi Era,* (Cambridge UP, Cambridge, 1987): 119. See also Daniel Yergin, *The Prize, op. cit.*: 330.

128 Monopoly formation in Germany occurred as forced cartelisation, according to Mandel. See Reichsgruppen formation under Hitler in 1934: *Marxist Economic Theory,* (Merlin Press, London, 1977): 496.

Figure 5.5: German state control of capital circuit nodes



The circuit of capital depicted in Figure 5.5 indicates that the German investment of capital (M) resulted in a production cycle engaged in the manufacture of an oil substitute commodity (C+c). The sale of the oil commodity gained profit for the company (+m) and a return of the investment capital (M). The money capital derived from the exploitation of labour occurred though in a state-protected environment, as the commodity produced was not actually competitive with international oil industry labour productivity standards.[129] Only by tariff protection was profitable production effected.

The state is depicted as an entity surrounding economic activity, protecting the circuit of capital from external economic forces. At a minimal level this complied with a conventional delineation of state jurisdiction, in liberal ideology.[130] However the state went much further in this encompassing position by intervening in the circuit of capital to secure state aims. This occurred at several nodes of the circuit of capital, including the point where money capital was realised as profit. Surplus capital (m) had to be vigorously reinvested by the company, with an emphasis on the state's goal of rapid accumulation of capital infrastructure that would ultimately meet war purposes.

129 Peter Hayes, *Industry and Ideology, op. cit.*: 119.

130 According to classical political-economists the role of the state, in regard to effecting accumulation, should be limited to the provision of political order, allowing businesses to act independently to secure their interests. "…markets should be kept free from political influence." K.W. Stiles, T. Akaho, *International Political Economy: A reader*, (Harper-Collins, NY, 1991): 1.

The allocation of surplus (m) occurred according the interests of the state, with a portion of profit assigned to the shareholders in the company. Unlike US regulation occurring around the same time this intervention primarily served a state interest specifically in the acquisition of the output commodities of the industry. It was not solely focused on ensuring profit for the industry, state revenue or indeed a reduction of waste.

Other imperially ambitious and expanding states had a similar agenda to that of Germany. Japan was 70% dependent on US oil from California prior to the Second World War and looked for alternative supplies of fuel and raw materials when invading Mongolia and China.[131] In turn the mutual interest in a restructuring of global economic power helped to cement new alliances between states such as Germany and Japan.[132]

The accumulation agendas of advanced states were in a condition of flux, with attempts made by all of the players to form alliances and in turn to subvert those alliances in order to gain access and control of oil resources. In addition the rival states had varied powers to control their interests and were engaged in a number of strategies to pursue their particular aims. For each state oil was at stake, with varied repercussions to their pursuit of capitalist competitiveness and expansion.

Oil was one vital resource whose production and growth in industrial importance had indirectly and directly erased much of Britain's capacity to keep other states in line. An increasingly isolated Britain was no longer able to command cooperation among states that had gained in economic strength and political ambition. The order titled *Pax Mirabilis* was

131 I.H. Anderson, *The Standard-Vacuum Oil Company and United States East Asian Policy, 1933-1941,* (Princeton, NJ). The US, by cutting off Japanese oil supplies, also precipitated Japanese entry into WWII. See Noam Chomsky, *American Power and the New Mandarins,* (Chatto & Windus, London, 1969): 154.

132 G. Friedman, M. Le Bard, "....Germany and Japan [were] natural allies. Germany's demand for a New Order in Europe would inevitably lead to a new world order in general. Japan's demand for a new order in Asia would help undermine the existing European order." *The Coming War with Japan,* (St. Martin's Press, NY, 1991): 66.

thus short-lived with its end punctuated by another world war from 1939. This highlighted the catastrophic effect of capitalism being bound by the interests of individual states, competing against each other and with a preparedness to go to war to achieve their complex aims.[133]

Conclusion

The study of the *Pax Mirabilis* period has provided a historical analysis of the structure of the oil industry. It has pursued the analysis of oil production by examination of three layers of political economic reality. These include the internal and 'classic' dynamics of accumulation within the industry, the monopoly institutional structure of the industry and its implications, and finally interstate relations pertinent to oil production. Several of these issues overlap in their scope.

The analysis of oil industry reproduction and accumulation in the period indicates several phenomena. The oil industry, still situated primarily in the US, underwent ongoing rapid accumulation of capital. Although the development of the industry occurred to meet expanding demand it was also subject to frequent instabilities due to the anarchic character of production and political uncertainty. The issue of overproduction of oil became particularly severe with the onset of the Great Depression. However at this time the leading corporations of the industry managed to cooperate sufficiently to establish a new monopoly production regime, protecting their profits. This system of fixed prices and production output had an international scope and was supervised by the states associated with imperial oil production.

133 Kees van der Pijl, *Transnational Classes and International Relations,* (Routledge, London, 1998): "War is the ultimate test of whether a contender state has successfully advanced to a position where it can pose a real challenge which it for reasons of structural incompatibility with the heartland, cannot further pursue by economic competition.": 86.

Oil industry accumulation involved state intervention to varying degrees and for a number of different reasons for each state. Oil had become a rising issue in terms of import costs and the strategic implications of continued dependence on US-produced oil.

British capital was able to begin oil exploitation in foreign regions with particular emphasis on the Middle East, due to the dominance of the British Empire in the region. Britain took a half ownership in APOC to protect national interests in a vulnerable internationalised industry. This was in order to maintain political and economic autonomy from the rising power of the US and to weld the power of oil with the state. For Britain, the role of oil in military applications was now also a fundamental issue in its retention of a global empire and the last vestiges of the ability to discipline challenger states by military aggression. In turn, any aggression against British power was now dependent on access to oil.

For the US the oil industry was a relatively mature industry with other departments thoroughly reliant on cheapening oil as an input to production in Department I and Department II. This dependence and declining national reserves was an imperative for international expansion. In addition it was seen as a great commercial opportunity, to continue to supply oil to global consumers through global production.

US capital came to share with Britain an increasing portion of the control of Middle East oil fields, because the US had achieved an increasing political significance and an aggressive foreign policy. The Middle East was seen as the centre of future oil production, even though the world economy was not yet ready to accept its enormous capacity and therefore production was slow to develop there.

The German economy likewise required increasing amounts oil for modern production but was reluctant to accept oil as a foreign import under the control of rival states and therefore contributing to foreign exchange costs. The state thus encouraged a scheme for developing a synthetic oil industry as a stop gap measure to a more ambitious plan to obtain oil territory by force as part of a general imperial expansion. Germany capital had been denied access to lucrative area of production that was directly linked to the defeat of the state in the prior war.

In Germany the state had also achieved utter dominance over the synthetic oil industry, considering it to be vital to a militarily oriented program of imperial expansion.

The analysis indicates that oil had become a vital input as a military commodity for consumption by all the developed states. This cannot be viewed as simply another channel for the realisation of profit for the industry in the period. It had an implication to the control of global political territory.

The above analysis has repercussions for a Marxist analysis. In some respects the chapter reiterates issues raised by theorists operating in the Marxist tradition. In particular this includes Aglietta's concept of a regulated capitalism. This argument presents a conceptual principle that industrial accumulation in certain industries was subject to state intervention and regulation. This occurred within a capitalist agenda pursued by the state. The thesis also charts new conceptual territory by formulating a more cohesive and inclusive model of contemporary capitalism. Using the unique empirical evidence provided by oil production, the thesis builds a model of the competing and complimentary forces, elements and layers of capitalist social reproduction. This highlights the need to give theoretical consideration to each element of analysis, in order to gain insight into political economic power relations.

The analysis shows that the imperative of capital accumulation as a general principle of capitalist societies must be reconceived to take into account hierarchical relations of power within and between capitalist departments. It must take into consideration monopoly power in the oil industry. Furthermore it indicates that the state is an important player in the reconciliation of particular issues in the accumulation regime, being a regulator and agent of accumulation in certain historical circumstances.

It is evident that capitalist tendencies are borne out by the study of oil in a peculiar way. Oil cannot be characterised as simply another example of capitalist production. This is due to its disproportionate scale and significance during the period. However the fundamental contradictions and conflicts witnessed in the oil industry and impacting on wider society are indicative phenomenon identified in Marxist theory and manifested in this industry.

Chapter 6: Oil and the long boom, Pax Americana 1945-1960

The ascendancy of the US as a global political and economic force is identified with the end of WWII. The establishment of the era entitled *Pax Americana* laid the foundations for the increasingly pivotal role of oil in the development of the world economy.

The examination of the political economy of oil production in the period of *Pax Americana* aims to give an indication of the competing factors that contributed to the growth of oil production in the period. The analysis also seeks to assess the contribution of oil production to the shaping of the economic order itself.

The subject is divided between an initial phase from 1945 to 1960, identified as the peak of *Pax Americana* and a period of decline, marked between 1960 and 1974. In turn, each of these intervals is divided into chapters dealing with economic and political components.

The analysis of each period begins with a study of the economic relations of oil. This provides the basis in the subsequent chapter for the analysis of the political relations that evolved in response to oil. The goal of the analysis is ultimately to assess the effect of oil on accumulation in general. This includes both its effect on the character and pace of accumulation and disruptions brought on by political-economic contradictions attached to the quest for oil.

The analysis of the economics of oil takes into account firstly the internal production dynamics of the oil industry. At this primary level it is possible to identify the use value of oil that made the commodity an underlying element of the post-war economic order. The analysis is followed by the identification of the oil output commodities in departmental categories. This provides the basis for examining the role of oil as an input to a new production order in the post-war period. It includes an investigation of the role of state demand for military goods, as a stimulant for the development of the oil industry. The combination of these factors takes us to the assessment of oil as a motor of growth of industrial production, measuring its qualitative role in the sustained period of economic expansion.

The study made in this chapter, and its incorporation within the following chapter, aims to obtain a better comprehension of the status, function and strategic significance of oil to the period. It pursues this goal through a new emphasis in Marxist analysis on the nesting of analytical categories. It scrutinises a sequence of contingent economic imperatives and power relations that both constrained and enhanced the position of oil within a historical political space.

Economics of oil production in Pax Americana

The examination of the basic oil production relations of the period *Pax Americana* is informed by the Marxist circuit of capital, which indicates the chain of economic logic in which the motivation and viability of production was established.

The analysis of the internal capitalist economic logic of the oil industry is located within a discussion of the departments of production. This provides an opportunity to measure the dependence on the oil industry that developed within industrial production as a whole. The analysis examines the primary channels through which the value of oil products was realised, including the categories of consumer goods, producer goods and military goods, which forms a special category of the study.

The discussion of Departments in turn leads to an assessment of oil as a motor of capitalist growth. This provides an opportunity to measure the changing influence of oil in the period of sustained accumulation witnessed from WWII to the 1960s. The highlight of the study is an assessment of the influence of oil on the pace and character of accumulation in the decades following WWII.

The analysis of these economic factors is the basis for a subsequent investigation of the institutional structure of the oil industry. The study of the economic power of the oil industry must be incorporated with the role of states in regulating the power of this industry, to reconcile competing interests within the general political-economic realm.

Analysis of oil industry reproduction

A Marxist theoretical framework provides a system for exploring features of the oil industry that are essential to understanding its internal dynamics. Oil was a commodity produced to meet social consumer demand, but from the perspective of the oil entrepreneurs the goal of realising profit was a primary stimulus for productive activity.

Changes that occurred to the global circuit of oil capital during *Pax Americana* should be studied in terms of the quest for profitable production. The effort to expand investment occurred according to the logical drive to maximise the differential between input costs and realised prices, the difference between M and M^1.

Reference to the US economy is particularly pertinent to the discussion of oil as more than 50% of production in the oil industry was still occurring in the US. The US economy had experienced virtually no disruption during World War II. Strong economic growth had increased the demand for oil nationally to meet rising industrial and consumer demand. However, although there was an ongoing benefit in continued national investment in oil production, a far more dramatic incentive for investment occurred in the realm of the international economy. This was because oil found in regions outside the US could be produced far more cheaply.[134]

Post-war investment by US corporations in foreign territory fulfilled national demand for oil and improved the profitability of the corporations.[135] But more important at this time was the opportunity for US corporations to capture new oil product markets in relatively advanced economies, using the cheapest exploitable oil found outside the US.

The advanced industrial economies of Europe, especially Britain and Germany, as well as Japan, were distinctly backward in regard to their oil consumption and oil-based industrial production. The devastation of WWII reinforced the economic backwardness of these states. However it also removed the institutional obstacles that held them back from embracing oil as a principal source of energy.

US capital played the field of international investment in oil largely on its own. The US had abundant capital surpluses and a developed model of expansion based on its own economic development. The scope for new oil-based economic growth in regions outside the US was so significant that over 1/3 of all US post-war overseas investment went into oil production, to meet this international demand.[136] The surplus value of a previous national production cycle of US investment (+m) became the seed capital (M) of new international oil production.

The Middle East was chosen as the primary location for new US oil investment. This decision was based primarily on the economic logic of maximising profit. It was however also due to

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134 The socially necessary labour time required to extract oil in the Middle East was far less than that of the US. See G. Stocking, *The Oil Industry and the Competitive System,* (Houghton Mifflin, Boston, 1925): 211.

135 Oil sourced from Mexico and Venezuela was already a significant import for the US in the 1920s. However the US still obtained 10% of its export revenue from oil in the 1930s. This declined to 5% after the war as export volumes declined. William Woodruff, *America's Impact on the World,* (Macmillan, London, 1975): 266.

136 Peter Odell, *Oil and World Power,* (Penguin, Harmondsworth, 1986): 11; David Painter, *Oil and the American Century,* (Johns Hopkins, Baltimore, 1986): 159.

the creation of a stable international order protected by the US government.[137] The exercise of US hegemony allowed the oil capital sector to maximise the rationality of global investment decisions.

The abundance of oil reserves in the Middle East territory made this region a natural choice for oil exploration and production. Middle East oil could also be sent through pipelines to ports where it was shipped a short distance to Europe. These factors would minimise the cost of production of oil and maximise profitability.

Europe, Britain and Japan were all ripe new markets for oil-based development along lines already pioneered in the US economy. The US had an advanced reliance on oil that was made possible by the abundant supply of indigenous oil. The other advanced industrial economies were still far more reliant on coal-based infrastructure. They also had a poorly developed consumer goods sector, in terms of categories such as the car usage seen in the US.[138] These differentials in oil consumption were seen as a significant area for new oil demand, measured against the peak consumption patterns established in the US.

In the US 1/3 of energy consumption had been based on oil and natural gas as early as 1929, while by 1952 this had reached 2/3. In comparison, the European economies utilised oil for only 1/7 of their energy consumption while Japan used only 1/5 in 1950.[139] It was not until 1970 that Europe reached the US level of oil consumption established twenty years before.

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137 M.B. Stoff, *Oil, War and American Security: the search for a national policy on foreign oil, 1941-1947,* (Yale UP, New Haven, 1980). General Eisenhower, *New York Times*, August 1951: "As far as the sheer value of territory is concerned, there is no more strategically important area in the world than the Middle East." L. Natarajan, *From Hiroshima to Bandung*, (People's Publishing House, New Delhi, 1955).

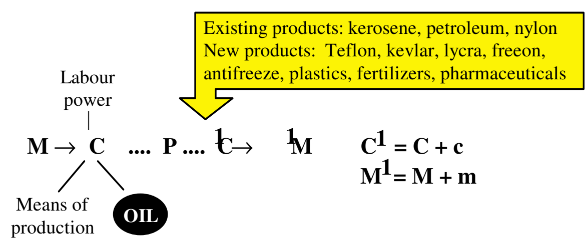
138 Fiona Venn, *Oil Diplomacy in the 20th Century,* (Macmillan, Basingstoke, 1986).

139 Michael Tanzer, *The Energy Crisis: World Struggle for Power and Wealth,* (Monthly Review Press, NY, 1974). The economies of Europe and Japan were to experience a period of relatively stable economic growth that in turn continued to increase the demand for oil. According to Tanzer there was a 640% increase in oil production from 1947 to 1978. See also *The Race for Resources: continuing struggles over minerals and fuels,* (MRP, NY, 1980).

The "Americanisation" of consumption patterns in the west over these decades guaranteed oil demand and therefore ongoing profitable investment opportunities for the oil industry.

The second major impetus for expanded oil consumption occurred due to the further development of new oil products. Before WWII the oil industry had invented a number of products that began to be mass-produced in the post-war period. These products included neoprene, a synthetic rubber that was competitive with natural rubber, ethyl ether, an alcohol derived from cracked petrol, plastics, synthetic fibres and pharmaceuticals.[140] The new materials and products derived from oil generated a double demand, based on both expansion of consumption in the newly opened European market but also in the established US home market.

Figure 6.1: The oil circuit of capital



The circuit of oil capital was a changing cycle, with new investment capital, new products, new production locations, new delivery paths and new markets. This basic relationship can be represented in the circuit of capital, as in Figure 6.1.

The circulation of capital in the oil industry involved the investment of capital (M) in the purchase of means of production (C). This was composed of the elements of labour, equipment, machinery and oil. Labour and equipment were applied to the development of crude oil deposits. The primary source of the investment capital of the new global oil circuit (M) was derived from US surpluses.

140 Benjamin T. Brooks, *Peace, Plenty and Petroleum,* (Jaques Cattell, Pennsylvania, 1944): 46.

The process of production and refining of oil (…P…) derived output commodities based on the transformation of crude oil into useable commodities (C^1). The actual commodities included those that had been produced for decades, such as petroleum and kerosene. In the post-war period it also included new products such as fertilisers, solvents and chemicals derived from crude oil, as indicated in Figure 6.1. Oil companies went to great efforts to develop new products, employing scientists and researchers as part of their capital investments.[141] New by-products were sold at a price that realised a profit for the oil industry capitalists (M+m), which completed the circuit of capital.

Two main features of the output commodity (C^1) of the oil circuit drove the expansion of oil production. This included demand for an increasing quantity of existing output products as well as demand for new products derived from oil. In terms of the circuit of capital it meant that the output product of the capital circuit (C^1) both increased its mass and altered the diversity of its manifest qualities.

The scale of the capitalist activity of oil corporations at the time is reflected in the size that these companies reached. Standard oil of New Jersey for example became the largest corporation in the world with US$11,488 million in assets. Two-thirds of its capital investments were in the US and yet only one-third of profit was derived from this domain. Overseas investments provided the majority of profits.[142]

The above discussion represents the key features driving the expansion of the oil industry. Viewed from the perspective of the circuit of capital, the main historical characteristic of the period involved the tendency of primarily US oil industry investment to develop Middle East oil for the purposes of European and Japanese consumption.

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141 In the 1950s Standard Oil employed 3,780 research personnel including: "a thousand physicists, chemists, engineers, geologists, mathematicians, and other professionals.": Robert Engler, *The politics of oil,* (Macmillan, NY, 1961): 49.

142 Paul Baran and Paul Sweezy, *Monopoly Capital,* (Monthly Review Press, 1966): 193. See also Woodruff, *America's Impact on the World,* (Macmillan, London, 1975): 250.

The analysis affirms that capital investment in the oil industry generated its own demand due to the diversification of production outputs and reducing oil prices. These benefits were reliant on changes in production location and technological developments in the circuit of oil capital. These changes were in turn motivated by the oil industry quest to maximise profits, based on opportunities to invest capital to make labour more productive and to expand the demand for the products of the industry.

The examination provides the basis for a subsequent study of other features of the oil industry, including its relationship with other departments of production and the state.

Departmental analysis of oil production

The Departmental analysis of the oil industry in the *Pax Americana* period is necessary for comprehending the structural role of the oil industry within the capital accumulation of the period as a whole.[143] The scrutiny of Departments of production and their consumption of oil allows us to map out the role of oil in the growth witnessed during *Pax Americana*. It also forms the basis for the examination of some structural imbalances between the oil industry and different realms of the world economy.

As articulated earlier in the thesis, oil production was identified as a Department I industry, because the exploration and production of oil was largely detached from direct contact with consumer goods production. Crude oil was delivered to a number of industries where it required further processing to become a consumer good.

The oil industry did have one very significant direct link to consumers in terms of petroleum sales for consumption in private passenger vehicles. In this respect, the oil industry straddled functions of finding crude oil deposits, refining oil and finally marketing it directly

143 Marx identified two key realms of industrial production that are pertinent to the analysis of oil. These are characterised as Department I where producer goods were manufactured and Department II where consumer goods were made. *Capital, Volume II* (Penguin, Harmondsworth, 1978): 474.

in the consumer goods realm in automobiles. This was vertical integration of the production process.

Figure 6.2: Gasoline consumption by principal uses (1950)

Gasoline	Millions of barrels	percent
Passenger cars	586	57.5
Trucks	220	21.6
Buses	25	2.5
Off-highway agriculture	80	7.9
Aviation gasoline	40	3.9
Miscellaneous domestic	43	4.2
Exports	25	2.4
Total gasoline	1019	100

Source: Daniel Hamilton, *Competition in Oil, The Gulf Coast refinery market,* (Harvard, Cambridge, 1958): 83.

Figure 6.2 indicates the consumption of gasoline in terms of principle avenues of sale. Gasoline was one fraction of oil that actually saw the greater part consumed in the consumer goods Department in cars. The consumption of oil by trucks or buses represents a Department I allocation of oil as this was an industrial application, where the actual product or service merely incorporated oil in its productive activity. Agricultural applications were likewise a Department I area of consumption. Although vegetables sold to consumers did not literally contain oil they embodied the value of oil by its use in production on the farm.

Historically, the investment in oil production represented a cheapening of both oil and of energy prices. The conversion to oil-based energy production, from a prior period of primarily coal dependency, had made US production in both departments cheaper. The ability to reduce energy costs in manufacture, to rapidly transport goods to markets, to allow workers to travel greater distances to get to work in reasonable time, were all factors in sustaining capital accumulation in the US.

After World War II the industrial transformations that underscored accumulation in the US began to be replicated in the advanced industrial economies of Britain, Europe and Japan. The transfer to significant oil-based transport dependency had occurred in the US two decades before. Now the expanding widespread use of oil in transport in these other states facilitated the spatial reorganisation of manufacture. People could live further from their place of work by driving cars while commodities were cheaply delivered over long distances along a new arterial web by trucks and diesel trains.

A second key feature of expanding demand for oil was due to the invention of new oil products. These products included isopropyl car coolant as well as lacquer, vinyl, styrenes, acrylic plastics such as perspex, polythene and polyester.[144] These materials provided the basis for the manufacture of a variety of sophisticated products in the producer goods and consumer goods realms.

The production of vinyl for example, a derivative of plastic, was the basis of a cheap substitute for leather. While such materials were often considered inferior to natural materials, they allowed new industries to develop. Clothing, bags and car seat upholstery all used the new material. The consequence was lower production costs and higher demand for these products. The same was equally true for house paints, plastic toys and nylon fishing rods. The cheapness of new products generated new demand and production. The demand for new products based on oil in turn ensured that oil production would continue to see expanding investment.

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144 Benjamin T. Brooks, *Peace, Plenty and Petroleum,* op. cit.: 46.

Figure 6.3: Two department model of capital circuit

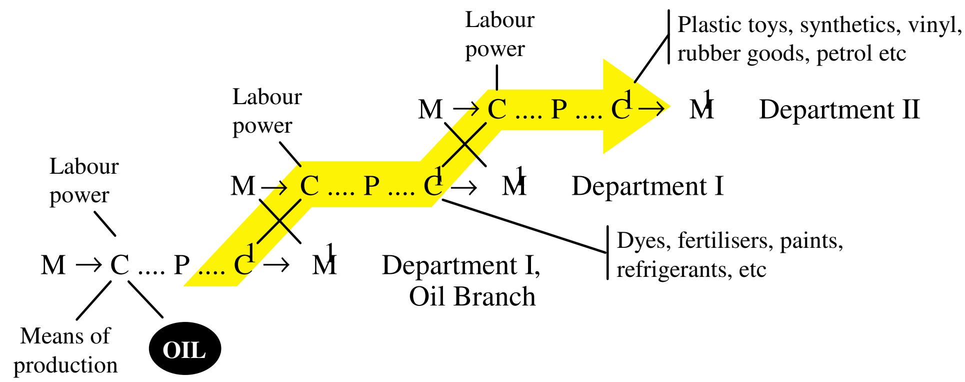

Figure 6.3 indicates the hierarchical strata of accumulation that is defined by a two-department model of production with the oil industry indicated as a sub-branch of Department I. The circuit of oil capital is depicted separately. Here oil production was based on the exploration for crude oil, its extraction and conversion to basic products such as gasoline or kerosene. Oil is depicted as entering the production process at P because it was an object of labour rather than a capital input. The oil commodity (C^1) was an output of the oil industry that was then sold in other branches of the producer goods industry and consumer goods industry. The oil commodity became part of their capital inputs to production (C), subsequent to exchange. This is depicted with a cross, in which money capital and commodity capital was exchanged between industries.

Figure 6.3 illustrates the flow of the value of the oil commodity through the production process using the shaded arrow. This indicates that the value of oil was embodied in the products of other industries. Oil was a cost of production of their productive activities and was therefore incorporated in the cost of consumer goods.

Oil represented a cost of production for industries, but its combination with labour and other materials also yielded a profit for these industries. Capitalists incorporated the value of oil products and other industrial outputs into their costs of production in order to yield profitable output commodities (M^1). The reducing price of oil-industry output commodities

(C^1) reduced the cost of input commodities (C) for other branches of Department I and of Department II with a consequent rise in profit levels, all other things being equal. The same rule was also true in reverse. Thus increases or decreases in the competitiveness or efficiency of oil production had an effect on accumulation in general. However the overriding tendency in this period was a consistent slow fall in oil prices, contributing to the accumulation of capital as a whole.[145]

In addition to costs it is necessary to consider the repercussions of the use of oil to the turnover time of capital. This refers to the timeframe for the transformation of input money capital investments (M) into profitable returns of money (M^1). By speeding production and delivery of commodities there was a shortened time in which profits could be realised, thus contributing to the faster generation of surplus value.[146]

In buses, lorries, diesel trains and ships the use of oil shortened the production cycle of the given economic activity. The delivery of mail or passengers by air transport using jet fuel was a potent example, allowing deliveries of commodities in several days as opposed to 6 weeks by water. In many cases the use of oil-based machinery, as in agriculture, meant a drastic reduction in the use of labour power, in favour of oil-based tractors and equipment. This phenomenon freed up labour that could then be reallocated, in particular to new luxury goods industries.

The analysis above indicates that oil was not simply an input to other branches and departments of production. Oil production and the use of its commodities in other industries dictated changes in the character of social production, including the type and quantity of

145 Energy Balances of OECD Countries, 1989-1990 IEA Statistics (OECD, Paris, 1992), R. Mattione, *OPEC's Investments and the International Financial System,* (Brookings Institute, Washington, 1985): 183.

146 See Marx, *Capital Vol II, op. cit.*: 154, (The costs of circulation) "The capitalist mode of production reduces the costs of transportation of the individual commodity by the development of the means of transportation." See also volume III, Part IV.

products that could be produced. The production of oil was incorporated into general production as the basis for new industrial activities, creating a dynamic new model of industrial growth. Oil had become indispensable to improvements of productivity and the ongoing accumulation of capital.

Military consumption of oil and departmental concepts

The realm of military consumption of oil adds a further dimension to the analysis of oil consumption. Military consumption does not fit comfortably into the previously described departmental taxonomy. Yet it is a category of oil consumption that was crucial to its economic development. The discussion therefore must be appended to that of departmental consumption of oil.

Oil production had been stimulated by the large increase of oil demand during WWII, to meet wartime requirements. The Second World War marked the beginning of the normalisation of oil as the energy basis for modern warfare. It began with 'Blitzkrieg' (lightning war), conducted by the German army, based on the rapid mobility of oil-fuelled mechanised divisions. Although oil was not the sole cause of initial German victories, this energy source had been a major contributor to the levelling of war technology between rival powers and was therefore an essential resource.[147]

German fuel supplies were in large measure secured by innovations in synthetic fuel production. German capitalist firms such as the IG Farben company had developed a process for making oil out of coal but this process could not produce oil at an economically

147 Despite popular images of World War II as a fully mechanised war involving planes, tanks and battleships, the German campaign was still dependent for transport on the relatively archaic horse-drawn vehicle. The German army used 600,00 motor vehicles and 625,000 horses: Daniel Yergin, *The Prize,* (Simon & Schuster, NY, 1991): 335. See also Joseph Borkin, *The Crime and Punishment of IG Farben,* (Andre Deutch, 1979): that Germany could not have fought the war without IG: 1.

competitive price.[148] The state therefore supported this industry through tariffs and guaranteed markets to ensure that a national supply of synthetic oil would be available for military purposes. The profits of the company both prior to and during the war were therefore sustained by the military demands of the state. This stimulus to investment and innovation was a significant factor in the development of the German oil industry.

On the allied side the war effort also provided a powerful stimulus to production and intensive investment by oil corporations. The US oil industry made investments specifically to support the British war effort, supplying some 85% of Britain's wartime oil needs.[149]

The scale of military oil demand in the allied war effort was such that oil corporations were encouraged to invest in larger oil production infrastructure with new technologies for extracting gasoline and other elements from crude oil. New catalytic cracking units were developed especially to meet wartime demand for higher yields of gasoline. New fuel was also developed to assist the running of military aircraft, which improved engine performance, but also had applications in later civilian usage.[150] Wartime shortages of rubber in the US also stimulated the production of synthetic rubber, based on oil.

Military demand provided the basis for oil industry expansion as well as a foundation for future oil consumption based on this rapidly expanded infrastructure.

148 Peter Hayes, *Industry and Ideology, I.G. Farben in the Nazi Era,* (Cambridge UP, Cambridge, 1987): 119. See also Daniel Yergin, *The Prize, op. cit.*: 330.

149 Daniel Yergin, *The Prize, op. cit.*: 333, 379, 383. J. Frey, Chandler Ide, *A history of the petroleum Administration for war,* (Washington 1946).

150 Daniel Yergin, *Op. cit.*: 379, 383. Products of IG and its subsidiaries like BASF and Agfa, included film, vaccines, nitrates, aspirin, rocket fuel, poison gas. Joseph Borkin, *The Crime and Punishment of IG Farben,* (Andre Deutch, 1979): WWI was forcing house for development of synthetic fuel production: 26.

Figure 6.4: State military demand and investment stimulus

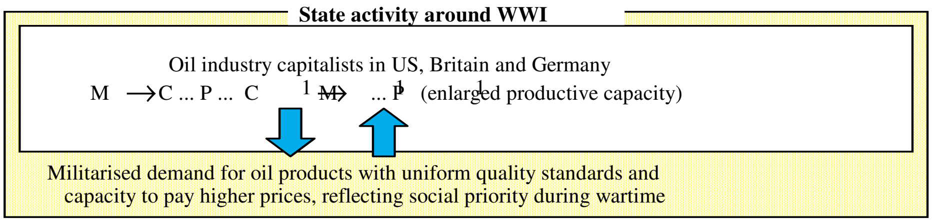

Figure 6.4 provides a representation of the relations between states preparing for warfare and their oil industry sectors. Emphasis is placed on the economics of this relationship and the 'benefit' of war needs to the oil industry. The state represented an external and encompassing realm to the oil industry (shaded area), but able to act as an economic agent, just like a department of production, by generating demand for the oil commodity output (C^1). The degree of social primacy of state needs ensured that the state would fulfil a heavy and dedicated demand for oil, with minimal consideration to the cost of the oil output. This presented the oil capitalists with a great boost to their enthusiasm for ongoing investment, especially where this might involve high risks. These risks included those associated with investment in new types of oil outputs, new production techniques requiring greater productive infrastructure (P^1) and investment in regions outside the immediate control of the state.

The investment of money capital in the supply of military oil requirements resulted in larger productive capital infrastructure in the oil industry, making unit production costs cheaper. In addition new oil-derivatives were developed or improved to increase the versatility of the oil output commodity and increasing its integration with future civil demand.

It is noteworthy that after WWII nuclear power obtained primary status as a destructive energy source wielded by military powers, and surpassing the status of oil. Nuclear energy saw use initially in the nuclear bomb in 1945. However it was soon applied to military areas previously occupied by oil such as in nuclear powered submarines and US aircraft carriers.[151] This was a significant development as it signalled an impending decline in the primacy of oil in the military energy sector. Some theorists claimed that nuclear energy would soon be used in all manner of shipping, replacing oil. This prediction was premature. It would be another several decades before nuclear energy made further assaults on oil in the supply of energy, spreading to the civilian capitalist departments. Oil remained the primary fuel in departmental applications as well as continuing to serve the majority of military applications for transport.

The analysis of military oil demand indicates that oil constituted a significant component of oil demand in respect of departmental categories. It therefore deserves weighting in the realms contributing to oil demand and development. The discussion of oil as a military commodity will be reiterated in the examination of the structure of interstate power, but from the perspective of the state and its political motives.

Oil as motor of US style capitalist growth

Although the subject of oil as a capitalist industry has been discussed for the *Pax Americana* period, it is also necessary to consider the importance of oil as a promoter of aggregate accumulation in this era. The following examination is of oil as not simply an industry involved in generic capital accumulation, but rather as an industry that underpinned capitalist expansion during *Pax Americana*. This argument explores the degree of importance attributed to oil by advanced economies. It assesses the underlying motivation to consume oil in terms of its effect on productivity in general.

151 Robert Engler, *The politics of oil,* (Macmillan, NY, 1961): On nuclear submarines: "Nuclear propulsion makes possible higher speeds, greater cruising power and the ability to stay underwater for days.": 36.

A motor of growth industry is defined as an industry with a disproportionate share of investment allocation, with consideration to its significance in a production order. It is also defined as an industry that has a disproportionate influence on investment and accumulation in other industries due to the scope and size of its productive activities.

The role of oil as a 'motor of growth' was already advanced in the US economy prior to the war. In the post-war period oil production became the recipient of over 1/3 of all US foreign investment capital.[152] This was a far greater capital allocation than any other international commodity investment, despite oil only being a branch of Department I production.

The unprecedented level of oil production investment was a testimony to its importance to post-war accumulation, but also an indicator of its underpinning strategic significance to the projection of US economic power. The investment in oil entailed that this commodity would become a major source of surplus value, as a product of its own circulation of capital and as a foundation for all production and accumulation in the *Pax Americana* economy.

Investment in oil production required capital to be allocated to a variety of areas. This included infrastructure directly related to oil exploration, the production of pipelines, construction of refineries, the building of oil tankers and marketing outlets such as service stations, as well as advertising of individual brands. Industries that purchased oil were also oriented to profitable production, marketing products that used oil as a fuel or as raw material.

The various oil-derived commodities had applications in both existing oil-based applications and new applications. The well-defined oil commodities included kerosene and petroleum. Newly developing applications now ranged from synthetic fabrics to pharmaceuticals and fertilisers.

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152 Peter Odell, *Oil and World Power,* Op. cit.: 11. David Painter, *Oil and the American Century, Op cit.: 154;* Robert Engler, *The politics of oil,* op. cit.: Oil occupied one-sixth of all capital investment in the US in the decade after WWII: 36.

Oil had pervasive applications. Oil was consumed not only by cars in petroleum and lubricants but was required in the manufacture of cars themselves, in oil-fuelled factories. Oil products entered the manufacture of cars as vinyl and other plastics as well as synthetic rubber tyres. In conjunction with vehicle usage, oil was used in the building of roads as bitumen, so different elements of oil usage complemented and reinforced each other. In each industry dependent on oil the motive for profitable production created a link between their appropriation of surplus value and dependence on oil production.

Every element of post-war production was touched by oil production either indirectly or directly. It is evident that the production of oil therefore helped to shape the very character of capital accumulation in the post-war period. Oil affected the materials of production as well as the methods and pace of production in a variety of industrial and consumer realms.

Conclusion

This chapter has explored the subject of oil production in economic terms, including an emphasis on nested layers of economic activity. This initially involved an examination of the internal logic of the oil industry and subsequently its relationship with production in general. It also included an assessment of the relative importance of oil to the pace and character of industrial development.

The examination of the circuit of capital provided the basis for building a model of the economic issues facing the oil industry. This was in terms of the interaction between its internal capitalist logic and that of the advanced industrial societies where oil was increasingly used.

Oil production began a period of sustained expansion with the establishment of *Pax Americana*, with the stabilisation of the western political world and opportunities for reconstruction and restructuring of industrial production. Oil production consequently reached a peak of sustained global expansion, in line with the period of the long boom. This was a relationship of dependence and symbiosis of industrial departments.

Production of oil occurred in a global network of capital relations. The most distinct feature of this oil production was that US capital had developed (in conjunction with British capital) the oil resources of the Middle East, mainly in order to supply the expanding oil demand of less developed industrialised states. Although the US remained the centre of world oil production and consumption the primary feature of the period was the development of oil capacity and demand outside the US. The investment in the premiere oil fields of the Middle East was to also affect US oil consumption patterns reflecting the growing centrality of Middle Eastern oil.

The analysis indicates that the study of the internal logic of capital accumulation in the oil industry must occur with reference to relations with industrial production in general and the unique historical circumstances of the period. In turn, our understanding of the period as a whole must refer to oil as a foundation of the success of the sustained quarter century period of economic growth.

Oil production was motivated by a search for profit by the supply of a useful commodity. At the same time the unique quality of this resource in the consumption patterns of industrialised societies made it an underpinning element in the economic reproduction of the period. The role of oil was fulfilled both directly, as it was consumed by other industries, but also in terms of its effect on the type of industrial development that occurred.

The oil companies were so large and significant to the development of the post-war order that their character forms a major feature of the very identity of capitalism in the period.[153] The scope of their influence economically was of fundamental influence to the pace and

153 John Kenneth Galbraith, *New Industrial State*, (Houghton Mifflin, Boston, 1978): 75-81.

character of accumulation. This ubiquitous influence of oil in the period provides a foundation for the examination of the relationship between economic development and the political structure in which it occurred.

Chapter 7: The state and control of oil, Pax Americana to 1960

The political dimensions of the Pax Americana require analysis in terms of the critical role of oil to the pace and character of accumulation in the post-war period. The analysis of the interaction and interdependence of oil industry and state in the *Pax Americana* period is an element for understanding the historical significance of this industry within the structure of US global political power.

Interstate relations of the period need assessment in terms of the importance of oil to their obligations to national capital and to their own reproduction. This is in order to develop a concept of the influence of oil on the shaping of the political-economic order.

The first element of this chapter examines the monopoly organisation of the oil industry and the repercussions of monopoly power to the other branches and departments of production. The purpose of the examination is to assess the significance of monopoly production in the oil industry to the global accumulation regime. This is followed by a scrutiny of the role of the state in mediating the economic power of the oil industry against the interests of other departments dependent on oil. The analysis notably includes an overlap with the interests of the industrial departments in other states.

The second section of the chapter concentrates on the subject of the state. It examines the repercussions of the hegemony of the US to the division of oil territory and the function of the US in establishing the economic power of its oil corporations. This subject necessarily involves the discussion of US relations with Britain and their reconciliation of differences over the control of Middle East oil resources.

The discussion of state power also considers the emerging power of Middle East states and their interests in oil production. The desire by regimes in the Middle East region for autonomous oil policies must be scrutinised in terms of repercussions to the stability of the US directed order.

The discussion of the military application of oil is a reiterated subject in this chapter. The oil resource is discussed in terms of its role in the establishment of the order, given its vital importance as a military resource in WWII. The military role of oil is therefore incorporated in the modelling of the interacting political elements of the order.

Pax Americana monopoly oil production

The exploration of monopoly capitalism is an intrinsic part of the analysis of the oil industry during its evolution in the *Pax Americana* period. We no longer need to analyse the growth of global monopoly corporations, as these were an established fact of the oil industry. Nevertheless it remains necessary to identify the national origins of the individual corporations that participated in the monopolistic production of oil in the world economy. It is necessary to identify the actions they took to exercise their monopoly power. It is also necessary to examine the regulatory imperative of the state, in terms of its mediating function between the oil industry and the rest of capitalist production. This is done to identify what effects the monopoly structure of the oil industry had on economic relations of the period and how tensions within the regime affected its evolution.

The regulatory interventions and strategic responses of individual states to the oil monopoly form a part of the discussion of state activity in the *Pax Americana* period. The relationship between oil industry and state is the basis for its later incorporation into the discussion of inter-state relations.

The circuit of capital used in Marxist economic theory is a reference point for the analysis of monopoly production and interstate relations. Focus on the nodes of the capitalist oil circuit provides a link between economic and political imperatives. The circuit of capital is the basis for comprehending the elements of the creation and reproduction of a monopoly production regime as well as the conceptual positions at which the monopoly structure was eventually challenged. The representation of the elements of the circuit of capital also allows greater scrutiny of the proximity between political action and the accumulation imperative in the capitalist states of the period.

The new monopoly structure of world oil production

In the postwar period the international monopoly structure in oil production showed changes of degree rather than cataclysmic change from that of the pre-war period. On the one hand, the defeat of Germany in the war had meant that German capitalists supporting the imperial expansion of a German oil industry were eliminated. The main German oil enterprise I.G. Farben was consequently broken up.[154]

Britain was also substantially weakened in the post-war period and this was reflected in a weakness of its oil interests. As British oil interests had been bound up with an imperial domain, the loss of British political influence soon meant a loss of economic territory for some of its major companies, particularly APOC.

Political upheavals in Britain's main oil processing enclaves of the Middle East diminished the representation of British capital in the region. Revolts occurred in both Iran and Iraq which dispossessed British capital of control of its primary oil resources. While Iraqi production was insignificant, the production facilities in Iran were critical to the British oil industry. The Iranian revolt in 1951 saw British oil property nationalised.[155] It was only with a subsequent concerted boycott of Iranian oil and US government intervention that British

154 Joseph Borkin, op. cit.

155 See R. Louis, *The British Empire in the Middle East, 1945-1951*, (Clarendon Press, Oxford, 1984): 597, 651. S.H. Longrigg, *Oil in the Middle East*, (Oxford UP, London, 1954): 167. David Painter, *Oil and the American Century, The Political Economy of U.S. Foreign Oil Policy, 1941-1954,* (Johns Hopkins, Baltimore, 1986): 179.

capital regained a 40% portion of its former ownership in the Iranian fields.[156] Consequently British capital became a smaller portion of the international monopoly of oil producers.

With a ready supply of capital derived from US surpluses, the US oil corporations were in a prime position to develop oil production infrastructure. This occurred in the context of the security provided by the US government in its creation of a new global order. Several large US corporations took a 40% share of the previously British controlled Iranian production. Smaller American oil companies that had previously only operated nationally also obtained allotments of Middle East production from the share of larger US companies.[157]

French capital was also a party to the division of the world oil market but as a small component. The resultant monopoly organisation of the world oil industry was to be based on a select number of companies from leading states that came to be called the Seven Sisters.[158] These companies included Standard Oil of New Jersey (the main off-spring of the original Standard Oil), Shell (a joint British/Dutch company), Anglo-Iranian (British company operating in Iran), Texaco (US), Socony (US), Gulf (US) and Standard Oil of California (US, later joined with Texaco to become Caltex). These companies constituted the oligopolistic foundations of a unified production regime in the context of the backing power of individual states. Yergin describes the net result as a reiteration of the arrangements seen in the pre-war period, where oil corporations divided the world oil market and established

156 Bruce Bringhurst, *Antitrust and the oil monopoly, the Standard Oil cases, 1890-1911,* (Greenwood Press, Connecticut, 1979): The new share-out of Iranian oil gave US companies 40% of production: (CIA involvement) (BP 40%, Shell 14 % and CFP 6%: 217. Ethan Kapstein, *The Insecure Alliance, Energy Crises and Western Politics since 1944,* (Oxford, NY, 1990) On US share of Iranian oil after 1951 revolts: 80-84.

157 Harvey O'Conner: "In the explosive Middle East, it was unwise for U.S. companies not to embrace one another in mutual understanding. The Soviet menace, the rising nationalism of the Crescent nations, the covert watchfulness of the British companies who regarded them as Johnny-come-latelies on the scene…all these factors were driving the U.S. companies into each others' arms.": *The Empire of Oil,* (John Calder, London, 1956): 273.

158 Anthony Sampson, *The Great Oil Companies and the World they made,* (H & S, London, 1975).

their prices collusively.[159] These events took place with the backing of home states, which had an interest in national access to international oil markets.

The rebalancing of the global oil monopoly toward US dominance was contiguous with a shift of political power between states. This was not an automatic phenomenon but rather the result of political intentions and power that will be explored in the following chapter.

The role of the Middle East in monopoly oil production

It is appropriate to focus on the Middle East in order to understand the changing structure of global monopoly as this region suddenly became central to global oil consumption immediately after WWII.

Although the US was still by far the world's largest producer and consumer of oil at the end of WWII, it was slowly becoming more reliant on imports, including those from the Middle East. In addition, the expanding European oil market was to be supplied specifically from rapid investment in the abundant oil reserves of the Middle East. The role of the Middle East must therefore be studied in terms of its effects on the production regime and the efforts made to develop its resources in the context of monopoly capitalism.

For oil corporations the main priority in Middle East investment was that of allocating capital in order to maximise profitable production for expanding markets. The Middle East was divided between oil corporations so that Iranian oil was initially controlled by British capital, Kuwaiti oil was controlled jointly by British and US capital and Saudi oil production was controlled exclusively by US capital.[160]

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159 Daniel Yergin indicates that the ostensible regime of an "...intergovernmental commodity agreement predicated upon certain broad principles of orderly development and sound engineering practices..." really amounted to the establishment of a 'New Achnacarry.' *The Prize,* Op. cit.: 402, 421.

160 David Painter, *op. cit.*: 179; Ethan Kapstein, *op. cit.*: 80-84; Bruce Bringhurst, *op. cit.*: 217.

A number of smaller oil producing states were also divided between corporations. Although there had been jostling for access to these regions initially, the negotiations to share oil territory in the Middle East eventually stabilised. Peaceful arrangements ensured that competitive rivalry did not impinge on the commercial development of this territory.

The abundance of oil in the Middle East provided a natural efficiency in oil production that maximised unit labour output. Furthermore, as the industry was operating under monopoly conditions it could act more rationally in allocating capital. A large scale of production, using a limited number of abundant wells, ensured that production in Middle East states was concentrated, improving the productivity of oil industry labour in the region even further. The combination of several of the largest US firms in countries such as Saudi Arabia ensured that production was established in a rationalised way. According to Harvey O'Conner:

> "The Abqaiq field of Saudi Arabia - but one of several - exceeded in known reserves the greatest of all U.S. fields, that of east Texas. But while 26,000 wells were draining the 5 billion barrels of east Texas crude, Arabian American used only 62 in Abqaiq."[161]

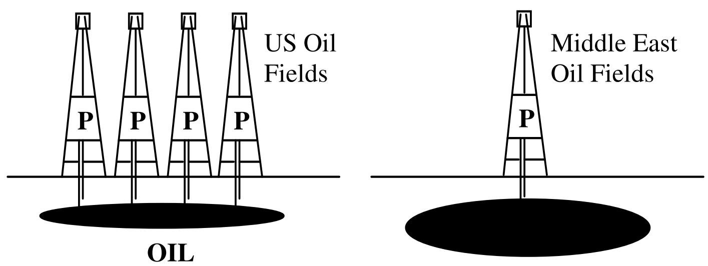
Oil production in Saudi Arabia and throughout the Middle East had none of the capital duplication associated with competitive production that had plagued US national oil production in the previous decades. The result was both a vastly increased level of profit for the internationalised oil companies and a significant reduction in the average socially necessary labour required to extract oil.

The benefit of the natural productive capacity of Middle Eastern oil was exploited by planned production and rational allocation of capital. Intrinsic to the inefficiency of US production was the anarchistic competition between a large number of oil producers. Intrinsic to the production of Middle Eastern oil was the cooperation between the "Seven

161 Harvey O'Conner, *The Empire of Oil*, (John Calder, London, 1956): 280.

Sisters" as well as the subset of US corporations operating exclusively in Saudi Arabia.[162] The combination of US companies into a single enterprise in Saudi Arabia reduced competitive pressure that would otherwise have led to duplication of productive infrastructure and therefore wasteful capital investments and a loss of profit.

Figure 7.1: Comparison of US and Middle East Oil Fields



Suggested reading: M. A. Adelman, *The World Petroleum Market,* (Johns Hopkins, Baltimore, 1972): 43. On "Law of capture" as issue in US oil industry.

Figure 7.1 reiterates graphically the significance of Middle Eastern oil production to capital allocation and the economic power of monopoly firms. The productive activity of US-based companies (5xP) was burdened by the capital duplication of small competing oil companies that conducted oil exploration activities. It was also burdened by declining oil yields. In contrast a far smaller amount of productive capital (P) operating in the Middle East could yield a much larger amount of oil.

Contributing to the profitability of Middle Eastern oil production was its connection to the global oil monopoly. International oil prices were measured by the productivity of US production and the profit margin attached to US-based oil sales. The very low cost of extracting Middle East oil therefore presented the oil corporations with a differential rent on

162 Standard Oil of California began oil production in Saudi Arabia in 1938. A partnership with *Texaco* resulted in the formation of the *Caltex* company. R. Louis, *The British Empire in the Middle East, 1945-1951,* (Clarendon Press, Oxford, 1984): 184.

sales, relative to the established global pricing structure.[163] Labour operating in the Middle East yielded a far larger amount of oil per worker than in the US. This presented the monopoly corporations with a far greater profit per worker, by virtue of the international price of oil that was based on lower US productivity.

In addition to a differential rent intrinsic to the monopoly structure of the global oil industry was an ability to obtain further profits by targeting political and economic weakness in consumer states. European states were forced to pay US$2.20 per barrel for the same oil that was shipped to the US at $1.30 per barrel.[164] Mandel highlights the scale of the differential rent profit in an enquiry by the US Department of Commerce in 1952, which indicated that the "Seven Sisters":

> "...had over a period of years imposed common prices for the oil produced in the Eastern hemisphere and that produced in the Middle East, though the latter's cost of production was four to six times lower than that of American oil."[165]

The global oil corporations displayed both the ordinary characteristics of capitalism and the characteristics of monopoly power. They pursued capital accumulation through the ordinary activities of capitalist production. They also had an extraordinary power to control oil prices, allowing them to increase the cost of oil to consumers. This gave them access to a differential rental profit on oil sales.

The unique monopoly structure of the oil industry in the post-war era engendered dissent against the existing structure. The European oil consuming states and industries resented the

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163 See Marx, *Capital Vol III,* (Penguin, Harmondsworth, 1981) Part VI: Transformation of surplus profit into ground rent. David Harvey, *The limits of capital,* (Basil Blackwell, Oxford, 1982), Differential rent: 353

164 Robert Engler, *The Politics of Oil,* (Macmillan, NY, 1961): Prices to the European market were eventually reduced from US$2.22 by 34 cents: 219. This still left the price higher than the oil shipped to US, of $1.30.

165 Ernest Mandel, *Marxist Economic Theory,* (Merlin Press, London): 197. See also Bureau of Mines, within US, which determined production to ensure profit: "The aim of this policy of restricting oil production is to ensure that the big oil trusts get "reasonable" prices and profits.": 506.

high price that was paid for oil, considering the low cost of its production from Middle East supplies. These states wanted to have the low production costs of Middle East oil imports reflected in oil prices. The high price of oil affected national accumulation by reducing the funds available for capital investment.[166] These politicised issues created political burdens for the US that wakened the imperative for oil industry regulation.

The regulation of the global oil monopoly

The study of the regulation of the oil industry by the state is a key element for the understanding of the limitations imposed on the power of oil capital. The study of the interests and functions of the state in regard to the oil industry provides an opportunity to examine the interaction between oil industry capital and agendas pursued in different economic sectors. This includes the interaction with agendas pursued at the higher organisational level of the state.

The rising productivity and production of the global oil industry after WWII delivered the oil corporations record profits. This occurred primarily on the basis of oil supplies to Europe and Japan. The exercise of monopoly power over oil prices created tension between the European oil consuming economies and the US, when European economies complained of the price that they paid for oil.

For the US there was an imperative to ensure co-operative relations with countries that were dependent on US controlled resources and for this reason it was obligated to assess and regulate the monopoly structure of the oil industry.

There was an additional reason to temper the economic power of the oil corporations. The circuit of capital passing through the oil industry was part of a larger circuit that

166 Harvey O'Conner, *op. cit.*: Argues that in 1952 US$400 million was lost by each developed oil-consuming country due to high international oil prices that in turn were linked to US high production costs: 306-310.

incorporated the whole of the US economy in its internationalised scope. A disproportionate economic power exercised by the oil industry over European consumption detracted from the profit of US capital in general. This was particularly relevant in the context of Marshall Plan aid being provided to Europe in the early post-war reconstruction period.[167]

US government aid to Europe was designed to stimulate economic development and trade. The dollars "given" to these economies would therefore return to the US as purchases of US materials and equipment that would benefit US industries. However the dollars being given to Europe were being captured disproportionately by the oil industry, a fraction of US capital. The super-profits derived from monopoly-priced oil sales represented a loss of sales by other sectors of US capital. The US government supply of Marshall Plan aid therefore amounted to an involuntary subsidy to the US monopoly oil industry and represented a misallocation of capital rewards.

The exercise of economic power that delivered super-profits to oil corporations was not functional to the totality of capital accumulation agendas pursued by different departments of production and by states. For this reason the exercise of untamed monopoly power prompted state intervention, as a representative of wider capitalist interests.

Reference to the intervention of the state should be qualified, in the context of global oil corporation activity. It was primarily the US that acted as an agent of western economic policy in the *Pax Americana* period. This occurred in cooperation with allied states. As the state is defined as having obligations to guide the balance of accumulation, so the US obtained a role of reconciling the accumulation objectives of its own capital with that of its allies.

167 David Painter, *Oil and the American Century,* (Johns Hopkins, Baltimore, 1986): 150-159; Bruce Bringhurst, *Antitrust and the oil monopoly,* (Greenwood Press, Connecticut, 1979): US Anti trust action of 1952: 214.

The US used a variety of methods to temper the exercise of monopoly power in the oil industry. These interventions should be conceived with reference to the nodes of capital. Initially there had been a scheme whereby the US would take a partial ownership of the oil production infrastructure in Saudi Arabia, to gain power over the oil industry operating in this crucial region.[168] This plan was strongly resisted by the oil industry and was finally abandoned. Nevertheless the US did have the ability in the early post-war years to ration the provision of inputs to the oil production circuit (C). This included materials such as steel for pipelines, so that the oil industry needed to cooperate with the US government to build its capital infrastructure.

Another action of the US to reduce the monopolistic activities of the oil sector was through the prosecution of the industry by legislative decrees on collusive trading.[169] Such legislation had been available to the US since the 19th century, with the passage of the Sherman Act.[170] This approach was based on the state extracting money from the oil corporations, which entailed a loss of profits (+m) from the circuit of capital.

Action to prosecute the oil corporations was hampered by their economic and political power. However the US government was motivated to act against the global monopoly in 1952. A report at this time exposed the monopolistic pricing policies of the oil corporations, acknowledging that European states had paid $2.22 per barrel compared to $1.30 for shipments to the US.[171] By 1953 several major US companies were charged with:

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168 Peter Cowhey: "During World War II, Ickes [the head of the Petroleum Reserve Corporation, agency of U.S. government] persuaded the State Department to endorse a plan for the PRC to acquire a substantial ownership share of the Saudi Arabian concession.": *The Problems of Plenty,* op. cit.: 97. See also Daniel Yergin, *The Prize,* op. cit.: 399.

169 See Zuhayr Mikdashi, *A Financial Analysis of Middle East Oil Concessions 1901-1965,* (London 1966), Zuhayr Mikdashi, *The International Politics of Natural Resources,* (Cornell UP, Ithaca, 1976).

170 See *Annals of America, 1884-1894* (Benton, Chicago, 1968): 323.

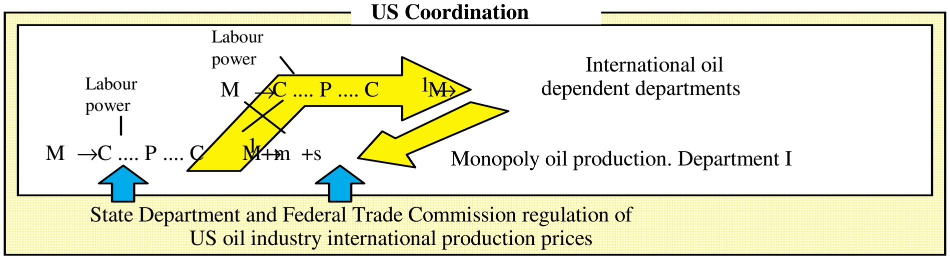
171 Robert Engler, *The Politics of Oil,* (Macmillan, NY, 1961): On the 1952 antitrust case: 216.

"operating for 20 years within a worldwide system designed to control production, refining, research and transportation of oil."[172]

The use of economic punishment was complemented by the surveillance of the oil industry conducted by various government departments, including the Department of Justice.[173]

The exercise of state power led to the oil monopolists moderating their pricing policies in a manner that tended to conform to the average rate of profit for large industries in general.

Figure 7.2: US Supervision of Capital Circuit nodes



The regulatory relationship that developed between the US and its global oil companies is portrayed in Figure 7.2. This indicates two circuits of capital nested within the regulatory framework of the state. The oil dependent circuit of capital represents the oil dependent industries, particularly of Europe in the post-war period. The oil production circuit represents the global oil industry, which was organised on a monopolistic basis. The level of collusive organisation of oil companies allowed them to charge higher prices for the oil commodity than represented the average rate of remuneration to capital. They obtained profits as well as drawing potential capital surpluses away from the purchasers of oil. The oil corporations thereby obtained super-profits (+m+s). This was a level of profit composed of

172 Bruce Bringhurst, *Antitrust and the oil monopoly, op. cit.*: 217. However he indicates that "The government then promptly abandoned energetic pursuit of the case but allowed the issue to drag on through the courts until the public had grown apathetic.": 218.

173 Michel Aglietta, *A Theory of Capitalist Regulation, The US Experience,* (NLB, London, 1979): 315; Martin J. Sklar, *The Corporate Reconstruction of American Capitalism: 1890-1916,* (Cambridge, 1988): 51, 108.

both a normal profit rate (+m) and a surplus amount (+s), derived as a transfer from the profits of other sectors.

A significant portion of the capital circulating in European economies was derived from US Marshall Plan aid funds. A portion of this money capital (M) was used to purchase oil (C) as input capital from the oil corporations. To the extent that this expenditure was overcharged by oil corporations the US government was not simply providing its own oil industry with a beneficial commercial environment but with opportunities to gouge fellow capitalist sectors as well as treasury coffers.

The graphic representation of the oil industry within the larger global accumulation framework, and its associated political power, reinforces a significant point in the argument. The oil industry was subject to intervention by the encompassing role of the state. The exercise of monopoly power constituted an imbalance in the allocation of returns to capital in other departments and countries. It was the 'managerial duty' of the US as an agent of a global capitalist domain to stifle the exercise of this degree of economic power. Nevertheless we must also acknowledge that viewing the state realm as unified is slightly misleading, as this realm was composed of a set of co-operating states dominated by the US, where unity was not guaranteed as a permanent condition.

The US government was placed in a similar situation to that which it had confronted with the initial monopoly formation of Standard Oil in its control of the US oil market in the 19th century. In order to reconcile the oil consuming states, whose cooperation was required in the new post-war order, the US government needed to intervene in the determination of international oil industry prices.

Effectively, in a quasi-depoliticised environment the US acted on behalf of European economies as if they were merely branches of the same global economy. The US, in cooperation with European states, tended to act as a representative of a unified capitalist sphere rather than the US being merely a representative of its own oil industry capitalists or of national capital as a whole.

Summary

The social organisation of production and the natural capital productivity of the Middle East threw the economic relations of post-war oil production into disarray. This occurred in conjunction with the overwhelming power of the US and the strong demand for oil emerging in the post-war order.

The Middle East became the basis of a new peak standard of productivity in the oil industry by the corporate reduction of capital duplication and overproduction. This efficiency bonus in oil productivity should normally have been distributed to capital in general as a falling cost of production of capital goods inputs. Instead the monopoly power of oil corporations allowed them to capture the benefit of reduced costs as super-profits.

The monopoly power of the global oil industry involved a contradictory issue for the US and indeed for our comprehension of political economic power. On the one hand monopoly power established a level of organisation globally that allowed a coordinated allocation of resources and investment on an international scale, as a manifestation of the triumph of US capitalism. Yet the exercise of this monopoly power by oil corporations had the potential to undermine the very order that the US sought to secure on behalf of its capital as a whole. The contradiction was resolved broadly by state intervention in the activities of the oil industry. This intervention occurred in a number of different ways with degrees of regulatory force. It extended to legal intervention in the global corporate organisation of oil production.

Although the economic activities of oil corporations were technically free, in practice they were encumbered by the pressure of the interests of capital in general, represented by the power of the state.

The state and control of oil during Pax Americana

An examination of the state and interstate relations is an essential element in understanding the development of the oil industry. The motivations of key states of the world economy need to be investigated in order to distinguish the forces that spurred their actions to secure their interests in regard to oil.

The Marxist emphasis on the role of the state as a political instrument of capital is central to the conception of state motivations. The previous analysis indicated that state action in regard to oil was contradictory. The modelling of the interaction and nesting of departments of production showed how the state supported capital and yet periodically subverted the autonomous power of oil industry capitalists in order to serve the capitalist accumulation order as a whole.[174]

The analysis here focuses the discussion on interstate relations in regard to oil. It scrutinises the issues and conflicts that emerged as a consequence of states pursuing national interests that involved oil as an underlying resource of economic or strategic importance.

The study of the state includes consideration of both the actions and interests of the US, as hegemonic state of the period, as well as individual state policies within the hegemony. This approach allows us to examine the evolution of the order and to analyse the different agendas of states, in terms of their oil dependency and control. The analysis provides an introductory indication of the forces that would lead to the decline of the order and the role

174 This is consistent with Hilferding's argument that the state sublimates the interests of individual capital sectors in order to pursue imperial goals. *Finance Capital,* (Routledge & Kegan Paul, London, 1981) "[Monopoly capitalism] has no regard for the independence of the individual capitalist, but demands his allegiance.": 332, 334, 199.

of oil in this decline. Included in this analysis is the specifically military value of oil and the interaction between the economic application of the resource with military and political outcomes.

The US as hegemonic state

The role of the US as hegemonic state in the post-war period requires us to analyse its political activity in shaping the oil regime. In addition, in is necessary to analyse the influence of oil on the US relationship with other states subject to its political dominance.

The analysis in this chapter deals with the US hegemony in its earlier phase, from 1945 to the 1960s, and its relationship to oil. The analysis sets the establishment of OPEC in 1960 as a symbolic marker for a particular challenge to the role of the US in determining the oil regime.

The US became the world's most productive state at the beginning of the 20th century but this did not result in global political supremacy until after World War II. The reduced power and influence of Britain and the defeat of Germany in the war brought the opportunity for the US to assert its dominance in the world economy and to fulfil the ambitions of its political elite.[175]

The US government had an interest in promoting the expansion of its economic potential and to obtain moral, political and economic dominance in the world economy. This objective was pursued through efforts to unify the political world, with the US as the hegemonic power. In this aim the US government acted essentially as a political instrument of capital. As Aglietta indicates:

175 The leadership of the world was an overt aim among members of the US ruling class. Wendell L. Wilkie (former Republican presidential candidate, 1940) was a prominent public exponent of US internationalism: "To win the peace... America must play an active, constructive part in freeing [the world] and keeping its peace." Toward one world, 1943 in *Annals of America, Vol 16 1940-1949* (Benton, Encyclopaedia Britannica, 1968): 204.

> "the strategic concern of the US financial community and those industrial interests with an overseas orientation has always been to deploy political influence to ensure types of social organisation in other nations and procedures for settling international conflicts that would safeguard the expansion of American capital."[176]

The unification, both of the Western economies as well as significant areas of the underdeveloped world, created an economic terrain with a maximised scope for US capital accumulation.

The rise of the US was masked by the emergence of the United Nations as a new organisation to represent the affairs of the countries of the world.[177] The United Nations was an important cover for US hegemony because it gave the impression of far greater autonomous political representation for newly developing states. The material power of the US and its economic interests were nevertheless the most decisive factors in the political and economic changes that were to follow.[178] The military power and political influence of the US were the basis for the emerging regime in which globalising US capital was secure.

176 Michel Aglietta, *A Theory of Capitalist Regulation,* The US Experience, (NLB, London, 1979): 33.

177 Immanual Kant's model of world government, developed in *Perpetual Peace*, is the basis for the actual institutional structure and ideological language used in the UN. Thomas Schlereth, *The Cosmopolitan Ideal in Enlightenment Thought*, (University of Notre Dame, London, 1977): xii. See also W. B. Gallie, *Philosphers of Peace and War: Kant, Clausewitz, Marx Engels and Tolstoy*, (CUP, Cambridge, 1978). Pax refers to a political peace and therefore 'Quasi Pax Universalis' refers to a peace that was ostensibly based on a universal state empowerment and their peaceful cooperation.

178 Herman Van der Wee, *Prosperity and Upheaval The world Economy 1945-1980,* (University of California Press, Berkeley, 1986); W.M. Scammel, *The International Economy since 1945,* (Macmillan, London, 1980).

Figure 7.3: Formation of post-war political structure

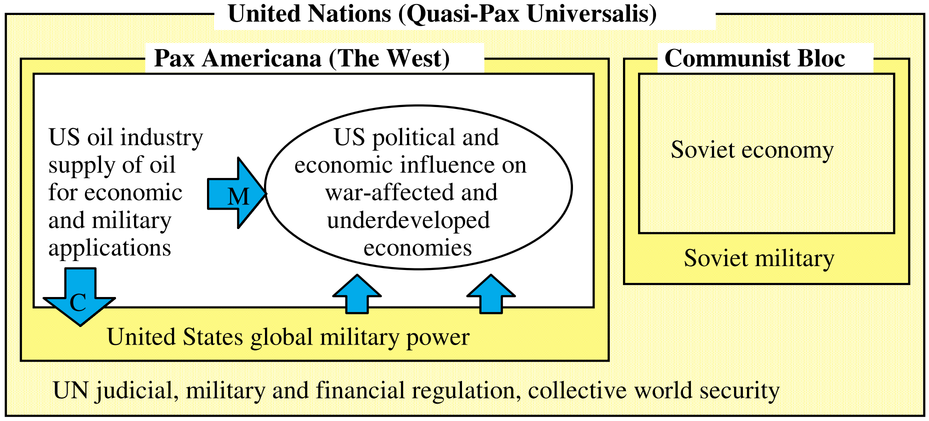


Figure 7.3 provides a graphic representation of the key elements of the political-economic regime established by leading states after World War II. Overtly, the world economy came under the influence of a collective of states, organised under the umbrella of the United Nations. This is described as a "quasi-Pax Universalis" as this was not a peace established by universal participation and consent. The peace established after WWII was a tenuous order that incorporated the tension between the US and the Soviet Union. Although the relationship between the US and the Soviet Bloc is not explored here it forms an important component of the following chapter in which the increasing influence of the Soviet Union on the oil industry is analysed.

Figure 7.3 reflects the controlling influence of the US on the economic territory of developed and developing states. This influence was maintained by its military and political power after the war.

Access to abundant national oil reserves was an extraordinary benefit to the US that went beyond economics. Oil had become a critical military resource for warfare. Oil fuel had become an essential commodity used in military aircraft, tanks and transport during WWII. It has been argued that a lack of oil resources was a decisive feature of German military weakness at crucial periods during the conflict.[179] The superior access to oil by Britain and its supply by the US was a vital aspect of the victory of allied forces. Oil had therefore contributed to the creation of the subsequent political order. The continued supply and control of oil after the war also ensured power over a strategic resource that underpinned the coercive element of hegemonic dominance in the western economies.[180]

The oil industry benefited in turn on the success of the US after 1945. The political influence exerted by the US was the basis for the freedom of the US oil industry to invest capital (M) as the basis for a new production order. The primary area for investment was within the domain of the economies now subject to US political influence.

International oil production and US hegemony

It is in the above context that the US formulated an international policy in regard to international oil. This resource had the potential to form the bedrock of industrial reconstruction in states damaged by the war effort. As the oil industry was already operating on a monopoly basis it was necessary for the US to ensure that the economic significance of this industry was not affected by its internal power nor by the interventions of other states.

Emerging states in which oil was produced might attempt to appropriate oil resources, which could have destabilised the pricing and supply of oil for the US coordinated economic regime. It was therefore necessary to insure US influence in these regions. David S. Painter indicates that US policy in regard to this issue had been developed during the Second World War:

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179 Despite images of World War II as a fully mechanised war involving planes, tanks and battleships, a significant part of the German campaign remained dependent for transport on the relatively archaic horse-drawn vehicle. The German army used 600,000 motor vehicles and 625,000 horses: Daniel Yergin, *The Prize*, op. cit.: 335.

180 See Stephen Gill (ed) Gramsci, *Historical Materialism and International Relations*, (Cambridge, Cambridge, 1993) and Peter Burnham, "Neo-Gramscian hegemony and the International Order", in *Capital and Class*, Autumn 1991 No. 45.

> "Divisions within the government masked overall agreement that some form of U.S. control over world oil reserves was necessary... The struggle over foreign oil policy during the war years revolved around the nature and degree of government action needed to assure this hold."[181]

The goal of US control of world oil had a logical basis for a state in the emerging position of hegemon and given the strategic economic importance of oil. This interest converged with that of US corporations, which benefited from expanding access to world oil resources.

The development of the exact structure of state power over the oil industry was subject to dispute. Some members of the US government advocated actual state ownership of oil infrastructure, along the lines of British control of BP. However this was strongly resisted by US oil capitalists.

State influence over the oil industry ultimately rested on a compromise. The US gave free rein to its oil corporations in select foreign territory, with periodic military intervention and vigorous diplomatic support. Although the oil industry remained in private hands the US retained legal jurisdiction over its oil capitalists and the US could act to stifle monopoly pricing.[182] This arrangement was the basis of a vital aspect of power relations in the international industry that allowed the US to maintain a significant leverage over the role of oil in the world economy.

The establishment of the post-war regime gave oil production an essential place in the development of economies and in the circulation of capital. Oil investments were made largely in the Middle East by US corporations to supply European reconstruction. These

181 *Oil and the American Century: the Political Economy of U.S. Foreign Oil Policy 1941-1954*: 40. See also M.B. Stoff, *Oil, War and American Security: the search for a national policy on foreign oil, 1941-1947,* (Yale UP, New Haven, 1980).

182 Stephen Krasner, "A statist interpretation of American Oil policy toward the Middle East" *Political Science Quarterly* 94 (Spring 1979): 82. Text discusses the need for the state to sublimate the interest of particular groups, while individual groups and actors have the ability to undermine state policy goals.

investments helped to integrate economies and benefited the general circulation of capital and the development of trade.

Figure 7.4: US Hegemony within Quasi-Pax Universalis

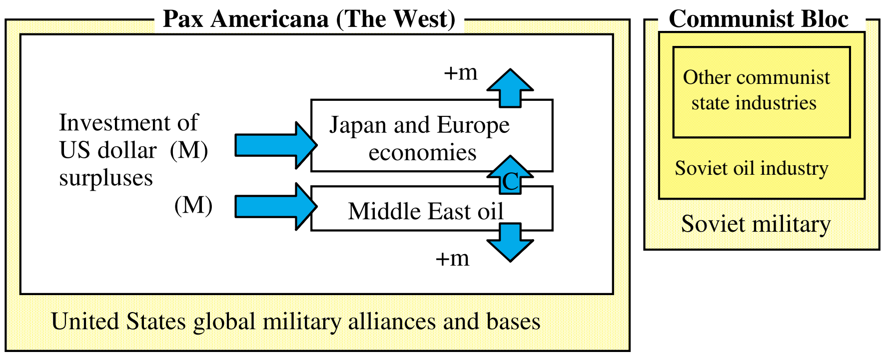

Figure 7.4 graphically represents the relationship of the US to the western economic system in the post-war era. The figure reiterates that the political world was divided along a main political division between the Communist states and the Western allies under US hegemony. Within the US-controlled territory capital investments could be made with relative security and freedom.

Figure 7.4 indicates that surplus capital from the US became the basis for oil investment in developing regions. This included the industrialised regions of Europe as well as several backward "Third World" states with oil resources. The support for investment in these regions followed both the economic and strategic logic of US capitalism.

Oil played an important role at several levels of the post-war political structure. Oil was the new energy source for industrial production, displacing coal, which had dominated European production.[183] The use of this efficient energy source contributed to profitable production in developing economies and therefore benefited capital investments as a whole.

183 Peter Cowhey, *The Problems of Plenty*, (University of California Press, Berkeley, 1985): Petroleum as percentage of total energy: 106; Albert Churella, *From Steam to Diesel,* (Princeton, NJ, 1998).

The investment in oil production (M) in the Middle East was profitable in its own right, but it also underpinned the investment in expanded industrial production and consumption in Europe. The combined investment in the two regions was the basis for expanded profitable production for US capital. This is reflected in the return of capital through the circuit that incorporated these states (+m). The expanded trade relations built on European and Japanese reconstruction ultimately contributed to productive expansion for western economies as a whole.

The investment strategy of US capital required the political security of those regions to ensure the free flow of US capital and the repatriation of profits. Military dominance of both Europe and the Middle East therefore became responsibilities of the state, as well as various collective security arrangements such as NATO.[184]

The circulation of oil capital was a fundamental feature of the new regime due to its role as an efficient energy resource and its contribution to the US global financial system. The study of the circulation of oil capital in the period is therefore an intrinsic part of understanding the stability of the *Pax Americana* order. Implicit in Figure 7.4 is the specific support provided by the US for its oil sector in expansion into the Middle East. This expansion served mutual interests between oil capitalists and the state.

The inter-state actions of the US were designed to maintain the maximum level of profitable production for US corporations, including oil companies. This policy was pursued while maintaining peaceful relations with states that had the potential to disrupt the order or ability to disrupt the continuity in the circuits of capital involved in the US aim.

Although the argument indicates that the US was instrumental in developing aspects of the structure of the world order it did not act without some competition from other actors and

184 Ethan Kapstein, *The Insecure Alliance, Energy Crises and Western Politics since 1944,* (Oxford, NY, 1990): 5, 32.

states. Russia is frequently seen as the major rival of the US in terms of global influence. However other states also increasingly asserted resistance to US dictated agendas that contravened their evolving interests.

Britain's oil share and the US hegemony

The analysis of Britain's role in the US hegemony provides an opportunity to examine the development of the order and to examine the forces shaping the oil industry in the post-war period. The analysis also provides a chance to reflect on the influence of oil on the reproduction of the state, in terms of its international political power.

Britain had an ambition to continue to provide world leadership after 1945, in order to sustain and enhance its capitalist reproduction based on an imperial domain. This ambition was intertwined with efforts to enhance access to oil and the contrary US ambition to dominate the control of this resource, as part of its ascendancy to position of hegemon.[185]

Britain had been heavily dependent on the US during the Second World War in order to defeat the German challenge. This included being reliant on US supplies of military commodities such as oil. This dependence on oil was a key aspect of Britain's subsequent political and economic vulnerability.

Britain sought to ensure a lesser dependency on the US by gaining control of vital oil resources in the post-war period. This effort fulfilled a number of requirements of the state. The state ability to secure the continued development of an autonomous oil industry would ensure control of a vital economic commodity. Direct access to oil gave Britain both a commodity that did not need to be purchased from foreign companies but also gave it a commodity that could be traded for economic gain. The benefit of access to oil contributed to

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185 Kees van der Pijl, *Transnational Classes and International Relations,* (Routledge, London, 1998): Regarding US and British rivalry after 1945: "Britain struggled to retain privileged imperial access against US Open Door pressures, but ultimately yielded to superior power.": 74-76.

access to capital surpluses because buying of oil detracted from money capital that could be invested. In turn there would be greater political autonomy from the US in economic, political and military terms.

Britain used its control of oil resources as economic leverage in trade with other states, involving their agreement to purchase British-controlled oil in return for other commodities.[186] This arrangement came under pressure with the increasing nationalist agitation occurring in Britain's imperial oil domain. Most significant to Britain's reduced oil power was rebellions in Iraq in 1948 and Iran in 1951, both of which reduced Britain's oil interest representation.[187] Oil from Iran, controlled by British capital and the state, had been supplied to Britain and Commonwealth states, providing an important basis for bilateral trade and of capital. The loss of oil from Iran when British capital was ousted had serious repercussions for the British economy. This event immediately required greater levels of exports to fund the loss of oil revenue.[188]

In the previous eras of *Pax Mirabilis* Britain had been able to quash local disturbances and defeat rebellions by military intervention. Yet Britain now lacked the finance capital to fund such military activities. This amounted to a vicious circle with oil at its centre. Access to oil and its sale to other states could provide the necessary revenue the state required to fund military activities and to maintain its access to oil in the Middle East. These activities could in turn help fund national reconstruction.

Britain's effort to pursue its oil accumulation strategy internationally was not welcomed by the US, which sought to structure key aspects of the global order according to its own

186 Harvey O'Conner, *op. cit.*: 304-306.

187 Bruce Bringhurst, *Antitrust and the oil monopoly, the Standard Oil cases, 1890-1911,* (Greenwood Press, Connecticut, 1979): 215-217. 300 protesters were killed in Baghdad in January 1948 in riots against the Treaty of Portsmouth to continue British control of Iraqi oil. R. Louis, *The British Empire in the Middle East, 1945-1951,* (Clarendon Press, Oxford, 1984): 355.

188 Kapstein, *op. cit.*: 84.

agenda. The difference of ambition caused significant friction between the allies and was manifest in the area of oil policy.[189] The US did not support Britain's efforts to re-establish political control in the Middle East and its associated British control of oil resources. By refusing to provide Britain with further financial aid the US effectively reduced Britain's scope in this foreign policy component.[190]

The nationalist states of the Middle East were in many instances able to finally throw off the yoke of British imperial control, although they came instead to be influenced by US imperialism.

Unlike the US, which had abundant oil capacity nationally, Britain's oil supplies had been developed exclusively on the basis of its imperial reach. Yet in the post-war period the reproduction of Britain's imperial domain had been seriously undermined. It was squeezed by the nationalist ambitions of developing states and the rival interests of the more powerful imperial US.

The study of the oil industry and the politics of British imperial reproduction illustrate a structural relationship between one commodity and the power of the state. The analysis indicates the decisive influence that oil came to have in the evolution of world order and the relative power of its main players.

Middle East as sovereign political territory

The Middle East role in the oil regime of the post-war order requires further consideration. It was the region of primary interest for global oil corporations wishing to invest money capital

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189 David Reynolds, *The Creation of the Anglo-American Alliance 1937-41, A study in competitive co-operation,* (Europa Publ., London, 1981).

190 An important US$3.75 billion loan to Britain had been tied to Britain's agreement to abolish the Sterling economic trade zone. American Lend Lease to Britain had been abolished in August of 1945. R. Louis, *The British Empire in the Middle East, 1945-1951,* (Clarendon Press, Oxford, 1984): 751. See also P. Armstrong, et.al., *Capitalism Since 1945,* (Basil Blackwell, Oxford, 1991): 79.

to supply European oil consumption needs. At the same time the territory was composed of sovereign states that had an ostensibly independent political power.

It is necessary to explore the dialectical interaction between the oil production agendas emanating from western states and the ostensibly autonomous agendas of states in this region. This is to gain insight into the influence of these states on the structuring of the oil production regime in the post-war order.

The Middle East did not exist as a region of autonomous states at the beginning of the 20th century, prior to *Pax Americana*. The area had been under the control of the Ottoman Empire, as a series of provinces. During *Pax Mirabilis*, essentially the twilight years of the British Empire, many of the local states were created as 'artificial' entities. Their creation involved acknowledging natural cultural boundaries but it was also heavily influenced by a desire by Britain to divide and rule.[191] This in turn was a political conjunct to control of the oil riches of the region, which were just beginning to be developed.

States such as Iraq had their rulers chosen with 'advice' from Britain and in turn their rule was contingent on compliance with imperial oil interests and the free movement of imperial capital to exploit oil resources. Mandel goes so far as to call states like Iran "Company countries".[192] Such states were therefore weak, beholden to an external force supplying most government revenue through associated oil royalties. At the same time they were constantly engaged in repression of internal dissent, due to the wide disparities of wealth that emerged with the inflow of oil royalties. Despite the imposition of these external restraints an

191 The British imperial state chose local rulers as a cynical exercise: "designed to satisfy Arab national aspirations and allow indirect British control to protect vital imperial interests." Khadduri in Silverfarb, op. cit.: VII. Regarding King Feisal of Iraq in 1921. See also Marion Farouk-Sluglett, Peter Sluglett, *Iraq since 1958,* (Taurus, London, 1990).

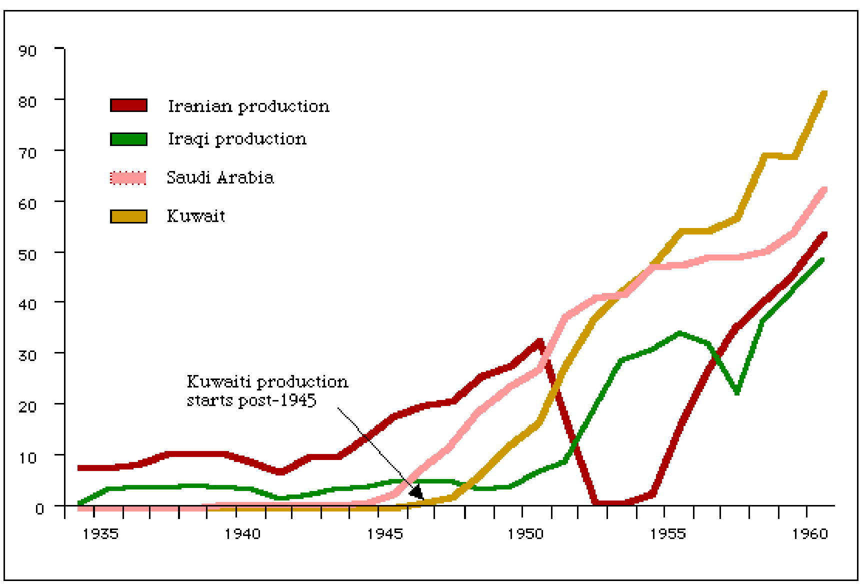
192 *Marxist Economic Theory,* (Merlin Press, London, 1977): 470. Includes argument that BP was a state within a state.

indigenous bourgeoisie began to emerge, with increasing interest in the exercise of an autonomous state agenda.[193]

The end of WWII marked an important period of transition for Middle East states. The return of political stability in western economies brought a surging demand for oil from the Middle East. This region had seen relatively little exploitation of its resources up to this time. Yet several local states now aspired to greater political and economic autonomy. WWII had produced a period of chaos between imperial states in which these regional aspirations could be pursued more vigorously. Iraq experienced a revolt against Britain as early as 1941 with the aid of Germany but there was resistance to western agendas for subsequent decades.[194]

Figure 7.4: Middle East oil output, Selected States, 1935-1960

(Millions of Tons)



Source: BP Statistical Bulletin, 1967.

193 Mandel suggests that "...the birth of an industrial bourgeoisie in under-developed countries is the combined result of state contracts, state encouragement in the form of guarantees and plundering of the state treasury...": ibid.: 500.

194 David Silverfarb, *Britain's Informal Empire: A case study of Iraq 1929-1941,* (Oxford UP, NY, 1986): 85.

Figure 7.4 gives an indication of the explosive expansion of oil production that occurred in the Middle East in the post-war period. The data on expansion in oil production in each state is reflective of complex political decisions and issues in the region.

The rapid expansion of oil production in the Middle East was a direct consequence of US and British investments in the region and the expansion of global oil demand.

Iranian oil production was advanced relative to the other Middle East states due to British development of oil resources here since before WWI. When Iranians revolted and nationalised the oil industry infrastructure belonging to Britain in 1951 there was a coordinated boycott of Iranian oil exports. This was organised cooperatively by all the major oil companies, demonstrating their collusive power.

The boycott of Iranian oil exports resulted in great disruption to the Iranian economy, which was not resolved until Iran agreed to allow the re-entry of imperial oil companies.[195]

The boycott of Iran was successfully effected in part because there was a large surplus of oil production capacity in nearby states and these surpluses were also controlled by the oil majors. The expansion of Kuwaiti oil production during the boycott of Iran, depicted in Figure 7.4, allowed expansion of oil demand to continue without disruption. This reflected the control of Kuwaiti oil resources by British and American capital.

Political dissent could be subverted by the coordinated economic action of imperial monopoly power. Although oil companies economically subverted countries that dissented against the production regime, the US and British governments complemented these acts at the diplomatic level to re-establish western imperial interests.

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195 Bruce Bringhurst, *op. cit.*: 215-217.

The key feature of Middle East states was their isolation in relations to the development of their economies by imperial capital. These economies acted as regional appendages to the interests of metropolitan capitalist states.

Iraq: case study in militant accumulation policy

The study of Iraq provides an opportunity to comprehend the role of the state in the development of an autonomous oil industry in the Middle East. Iraq's path to development of indigenous oil resources provides the basis for examining the complex and often antagonistic relationship between economic and political actors from developed and developing states.

Iraq had large reserves of oil resources. However oil corporations were reluctant to invest capital in this country, as they were wary about its possible future political instability. Iraq had a long history of uprisings, going back to British imperial intervention in the 1920s.[196] It was far easier for oil companies to invest in more compliant and politically insignificant states near Iraq where investments could be protected by US military force. These included Saudi Arabia, Kuwait and a number of tiny kingdoms. The level of anti-imperial belligerence of Iraq actually increased as a consequence of these decisions.

The leadership of Iraq had grown dependent on the riches provided from oil in the way of royalties and anticipated the possibility of expanding national oil production. Nationalists in Iraq increasingly envisioned autonomous accumulation activity as a solution to their problem.[197] However the capital available for investment was in limited supply and suitable oil producing territory within Iraq was already controlled by the imperial oil companies. Iraq was also hampered in pursuing a national accumulation strategy due to the multitude

196 David Silverfarb, *op. cit.*: 7. Elizabeth Monroe, *Britain's Moment in the Middle East, 1914-1956*, (Chatto & Windus, London, 1963): 90.

197 George Stocking, *Middle East Oil - A Study in Political and Economic Controversy*, (Allen Lane, Penguin, 1970): 458.

of conflicting political parties and economic interests attempting to influence the policy goals of the state.[198] Only with a unified policy could the state harness the energies necessary to promote a national oil industry. This eventually occurred under the leadership of the Ba'ath Party which seized control of the state in 1958, stifled political dissent and began efforts to appropriate some of the concessions given to international oil companies. Iraq now formed an alliance with the Soviet Union in order to obtain technical expertise in oil production.[199]

Iraq was interested in economic development, which required capital investments. The primary and most convenient source of capital for Iraq was based on oil exports and the revenue this brought. The improvement of its accumulation activity based on oil could be achieved by a number of factors, which had different degrees of risk. These included appropriation of oil company property within the state but also conceivably the appropriation of property beyond its border. The control of an enlarged quantity of oil, for export to the western economies, would bring an enlarged capital fund for national development.

As early as 1963 some US analysts began to contemplate the danger of attempts by local regimes to nationalise the oil industry in the region. They realised that such a move was intimately connected with the aggressive military ambitions of states such as Iraq:

198 Joe Stork describes the situation in Iraq after WWII: "The entire history of the Iraqi monarchy, up to the revolution of 1958, is bound together as a period in which the state represented a striking condensation of the balance of existing social forces, among which foreign capital was clearly and unambiguously dominant. But World War II and its aftermath substantially altered this prevailing balance and exposed the increasingly tenuous relationship of the state to its rapidly shifting social base." Joe Stork, State Power and Economic Structure: Class Determination and State Formation in Contemporary Iraq, in T. Niblock, *Iraq: The Contemporary State,* (Croom Helm, London, 1982): 28.

199 George Stocking, *Op. cit.*: 224.

> "The most likely circumstance leading to a crisis involving Iraq and Kuwait would be an overt attempt by Iraq to absorb Kuwait. In the ensuing clash with the British, oil operations in Kuwait might be interrupted by fighting and sabotage..."[200]

This speculation by Lubbel was to become a precursor to the events as they actually took place some 30 years later during the Gulf War of 1990.

The analysis highlights the tension between the dominant agenda of the US government and the interests of developing states. Long-term strategic plans had to be made by the US to ensure the perpetuation of its national economic interests, which were now intertwined with the economic activities of its oil corporations in the Middle East. Iraq was to become a state with an interest in subverting this arrangement. The state acted as a political instrument in the pursuit of a national accumulation strategy that attempted to maximise the economic return from oil resources in the area.

Saudi Arabia in the Middle East order

Saudi Arabia represents a key state in the analysis of the politics of oil production in the *Pax Americana* period. The analysis of Saudi Arabia takes into account both its economic and political role in the post-war period and the strategic implications of Saudi oil production to the global oil regime.

Oil exploration in the 1930s had revealed Saudi Arabia to contain some of the largest oil reserves in the Middle East. The territory was consequently coveted by oil corporations but it was only with combined state and corporate action that the territory was secured for imperial interests. The US gained precedence in the territory over its British rival, establishing the Saudi monarchy in the 1930s and maintaining the regime during the

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200 Harold Lubell, *Middle East Oil Crisis and Western Europe's Energy Supplies,* (Johns Hopkins, Baltimore, 1963): 27.

unproductive wartime period.[201] This helped to ensure that the territory became an exclusive realm for US capital investments, with US companies sharing in the control of Saudi oil. Fred Halliday suggests that the regime did nevertheless maintain a degree of sovereignty:

> "The wealth of Saudi Arabia and the political character of the ruling family enabled it to forge an alliance with the US in which its ruling class wielded a degree of real power consonant with the preservation of US interests."[202]

After World War II US oil capitalists began to exploit the oil deposits in Saudi Arabia, making it one of the biggest oil producers in the world.

Half of Saudi production went to meet European demand. Yet investment in Saudi oil production capacity was so strong that Saudi Arabia developed a significant surplus production capacity. This came to have a strategic economic influence on the world pricing of oil.[203] The continuing US political and economic control of Saudi oil therefore became all the more important.

For states such as Saudi Arabia or Kuwait, which experienced a similar political relationship with the West, there was little problem in not being fully in control of national oil resources. The level of wealth generated by oil production subverted social rebellion, as the oil companies provided a large proportion of royalties to the Saudi regime that was used to buy off dissent.[204] However for states left out of this comfortable equation there was far greater dissatisfaction with imperial dominance.

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201 "It was an immense, sparsely populated, and desperately poor country where Ibn Saud depended on foreign assistance for the revenues needed to maintain internal order." R. Louis, *Op. cit.*: 175. On the ascent to power of Ibn Saud see also Theodore Draper, The Gulf War Reconsidered, *New York Review of Books,* January 16, 1992.

202 *Arabia without Sultans,* (Penguin Books, Harmondsworth, 1974): 57.

203 Thomas McNaugher, *Arms and Oil - U.S. Military Strategy in the Persian Gulf,* (Brookings Institute, Washington, 1985): 186.

204 In December 1950 there was an agreement by US corporations operation in Saudi Arabia to split profits with the state on a 50-50 basis. This caused a stir in Iraq and Iran where there was a

Figure 7.5: US Imperial Synthesis with Saudi Production

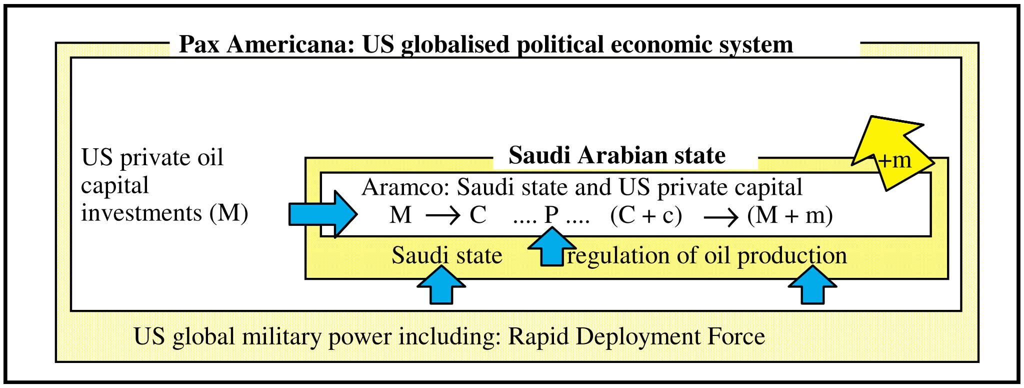

Figure 7.5 represents the relationship between the US and its client state in the Middle East, Saudi Arabia. The figure indicates the encompassing power of the US, including military power that could be brought to bear on the Saudi territory.

The Saudi state, which was a monarchy, had been brought to power with US assistance. Through the political division of the Middle East, and support for this regime, US oil producers could invest in oil production securely, while the US government provided diplomatic links and military backing.

US oil corporation investments in Saudi Arabia (M) were integral to the US globalised economy. Profits from oil production in Saudi Arabia (+m) circulated according to US government and corporate interests. Even though money capital (M) investments were from the US and profits (+m) were repatriated to the US, the sale of the oil (C+c) went largely to Japan and Europe. The circuit of capital therefore incorporated a complex set of international production relationships.

Saudi production was significant to the circulation of capital in western economic relationships because the production of Saudi oil was important to European oil consumption. This was true both directly in terms of oil supplies but also in terms of the

demand for similar profit sharing. I.H. Anderson, *Aramco, the United States and Saudi Arabia, 1933-1950*, (Princeton, 1981): Chapter VI.

influence on oil prices that Saudi productive capacity exerted. Changes in Saudi output could influence the oil price and therefore the level of capital that was circulating in oil-dependent economies. It was therefore important for the US to isolate Saudi Arabia from any political-economic policy that might jeopardise the continuance of this arrangement.

The examination of Saudi Arabia indicates that this should be viewed as a state in which political and economic decisions regarding oil were guided largely by US encompassing interests. Saudi Arabia fulfilled political economic agendas largely compliant with a global accumulation domain that the US had fostered. The resources of Saudi Arabia formed a key input to production in the developed oil-consuming states and in addition its productive capacity was of a scale that gave it a global significance. The accumulation activities of Saudi Arabia were an extension of a global circuit of capital and therefore closely connected to US hegemony.

Conflicting European interests in oil dependency

European oil demand and oil policy in the post-war period constituted the final key element of the global circuit of oil capital. The study of European oil demand focuses on the interaction between European oil consuming states and the US dominated oil production order. The discussion identifies the varied oil consumption and accumulation strategies of states such as Italy and Germany in the context of US hegemony and examines how they affected the evolution of the industry.

The oil production regime developed after WWII was the product of war. An international division of labour optimising accumulation and trade then flourished, based on distinct conditions of political power and control of investable surpluses of capital. In this division of labour primarily US capital was invested in Middle East oil production that was sold to

European economies.[205] Initially European oil payments were funded by Marshall Plan aid but in the long term these economies paid for oil by the production of goods exported to the US and elsewhere in the world. As oil was a newly efficient source of cheap energy the benefits of this system of accumulation circularity could be viewed as initially unproblematic.

As the post war boom continued the level of dependence on Middle East oil also increased dramatically. European dependency on Middle East oil was 66 percent in 1948 and by 1950 it had reached 85 percent.[206] Several issues relating to the stability and security of continuing accumulation consequently emerged.

Firstly, the European economies were dependent on the US regulation of its oil companies to ensure the corporations did not charge monopoly prices. High oil prices directly impinged on the profitability of European industries. The US might not always ensure the interests of its allies rather than its own corporations, especially during a time of economic or political crisis.

The European economies were also faced with rising nationalism in the Middle East and were reliant on the US ability to quell any interference with the oil production property and pricing regime.

The global oil production structure reflected US political and economic power over European accumulation. The European economies and Britain were thus vulnerable in a number of ways that all impacted on their accumulation security and autonomy. There were few immediate actions that could be taken in this regard. But some responses were made and these give an indication of formative efforts to obtain greater autonomous economic power.

205 David Painter, *Oil and the American Century,* (Johns Hopkins, Baltimore, 1986): 160-179.

206 Zuhayr Mikdashi, *The International Politics of Natural Resources,* (Cornell UP, Ithaca, 1976).

European capitalists funnelled part of the Marshall Plan funds toward the creation of European refining capacity.[207] From the European perspective this reduced the long-term cost of oil by avoiding paying for refined oil from the Middle East and instead only buying crude oil. This effort was stifled by the US, which specifically disallowed an excessive allocation of its development aid money to financing investment in European refining capacity. The US did not want to see its Middle East refining investments under-utilised while at the same time facing new European competitors.

A second development in European oil consumption was vigorous efforts to develop autonomous sources of energy. This was particularly evident in Italy where Enrico Mattei became a national hero. This followed his efforts to develop national gas resources and deals with oil-producing states such as Libya.[208] His agreement to a 75-25 profit split with oil-exporting states undermined the established oil monopoly. Growing Italian imports of Soviet oil in the 1950s were also an important development that had repercussions to the existing US hegemony.

By the late 1950s the Soviet Union was beginning to establish an export industry based on oil that gave it a valuable source of foreign exchange. Developing trade links with Germany and Italy to supply oil and gas created a significant issue for the US, which sought to isolate the USSR. The US did manage to curtail the relationship developing with the Soviet Union but not without repercussions for the stability and control of the oil regime as a whole. US oil corporations operating in the Middle East reduced their oil prices and royalty payments in order to undermine expanding Russian oil sales to Europe. In order to achieve this objective

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207 The Economic Cooperation Administration (ECA) financed 56% of European oil imports from 1948 to 1951, but financed "only $24 million to increase European refinery capacity, a small amount compared to the $1.2 billion provided to finance purchases of oil from U.S. companies." David Painter, op. cit.: 160.

208 Alessandro Roncaglia, *The International Oil Market, A Case of Trilateral Oligopoly,* (Macmillan, London, 1985); Peter Cowhey, *The Problems of Plenty*, (University of California Press, Berkeley, 1985): on 1957 agreement with Iran: 140.

they cut royalty payments to Middle East host states without notice. This strategic action occurred at the expense of continued passivity among their Middle East hosts where hostility to imperial oil companies intensified. It has been argued that the formation of OPEC by oil producing states in 1960 was a direct consequence of these complex political machinations.[209]

The above analysis of the national identity of state oil consumption and production highlights the complex geo-political connections that the oil circuit was part of. The ownership, pricing, control and share of oil production were subject to dispute. This was because oil was a direct source of wealth and of capital funds. In addition, its production underpinned the creation of wealth in oil-dependent states. The potential for disputation and disruption of the oil regime created concern among oil-dependent states that sought to increase the diversity of their energy sources. These activities in turn generated conflict over the hegemony that the US maintained.

Conclusion

In the previous chapter dealing with the economic dimension of post-war oil production a model was developed of the interaction between the oil industry and other industrial departments. The analysis also indicated the fundamental structural role of oil production in the development of the order and its sustained economic growth.

The exercise of economic power by this industry and its implicit power over oil dependent industries was scrutinised here in its political context. Analysis of the interaction of the oil industry with political agents indicates the political forces affecting the course of the

209 'Kruschev's oil and Brezhnev's natural gas pipelines, in Robert Lieber, (ed) *Will Europe Fight for Oil,* (Praeger, NY, 1983): 60. Zuhayr Mikdashi, The International Politics of Natural Resources, (Cornell UP, Ithaca, 1976): 56.

development of the industry and highlights the strategic issues affecting the allocation of capital to oil industry accumulation.

This chapter indicated that the oil industry had achieved a level of economic size and concentration that gave it power over the pricing of the oil commodity. Implicit in this power was the ability to affect the rate of accumulation in other industries. This very power impelled the state to override oil-industry monopoly power, in order to fulfil accumulation criteria and responsibilities on a higher level. In a unified global regime it was the US that acted as the state to the global oil industry. It was also the US that dominated the global regulatory imperative.

The US government had supplied a very large amount of capital to European economies for the "Marshall Plan" reconstruction effort. The wielding of monopoly power by the oil companies effectively served to drain US funds from the reconstruction effort, rather than simply exploiting oil-consuming departments and states. In this respect the US had an interest in tempering the exercise of monopoly power. Of equal importance to the above was that the US, in its position of hegemonic state, had adopted duties of leadership in the world economy that extended to the oil dependent states. Their belligerence toward high oil prices had to be addressed by the US as if it were an issue within its own economic domain. The threat rested on the ability of allied economies to rebel against the US hegemony, and at worst, fall into the Soviet orbit of power.

The analysis of the development of the Middle East provides one key lesson. The Middle East became particularly significant to the Western circuit of capital after WWII, due to its ability to contribute to profitable production in the metropolitan centre of a world economy. With increased economic significance to a global production regime the rising bourgeoisie of the region began attempts to fulfil local accumulation agendas and thereby subvert the dominant mode of production established by the US. This indicates that relatively insignificant economies of the Middle East had the potential to threaten the accumulation activities of large developed economies. Such an eventuality was strongly resisted by economic and political means by the US. The interests and complex strategic actions of capitalist classes were therefore at the heart of changes to the political environment bound up with oil.

Although *Pax Americana* was a period of relative political and economic peace it contained within itself the seeds of dissolution. Developments within the oil industry not only represented an example of this possibility but arguably the leading resource pointing to potential areas of tension.

The analysis of the interaction between states and their political activities is often read as occurring outside the criteria of economic agendas. The argument here indicates nevertheless that oil represents a vital industry of influence to state action. This industry both motivated state action and was subject to state power in its development.

The lesson for a Marxist analysis is to recognise that while the state is an instrument of capitalist rule it may also sublimate and structure the activities of capital. The state is more powerful than any single industry. Yet at the same time the state is subject directly to complex historical developments within the economic realm.

Chapter 8: Oil and crisis in Late Pax Americana 1960-1973

The late period in the *Pax Americana* order from around 1960 to the early 1970s witnessed significant changes to the political-economic structure that have a bearing on the study of oil production. There was a perceived decline in many of the elements that made the *Pax Americana* order hegemonic and there was a concomitant decline in aspects of US sovereignty over the oil production structure. There were also significant changes to the role of oil in the economies of developed states, especially consequent to the oil price shock of 1973. These events and issues require a separate analysis to the earlier era.

The study of this period is divided between two chapters. The first chapter examines the economic dimensions of the changing regime of accumulation based on oil production. The second chapter combines the subject of economics with that of imperatives attached to state functions and interstate politics.

The analysis of economic issues explores the production of oil with a focus on the circuit of capital. This includes scrutiny of the changing demand for oil and the efforts made by oil capitalists to produce the commodity most profitably. A view of oil from the perspective of departments is also developed in the Marxist framework. This is valuable in discovering how the demand for oil by industrial sectors and consumers had affected the pace and character of production and accumulation in general.

The rise in oil prices in the early 1970s is of particular interest, including its effect on consumption of oil and capital accumulation. The examination of this price change provides an indication of the interdependence of industrial departments. The effect of higher oil prices on capital accumulation is also the basis for a discussion of the motor of growth function of oil. The changing role of oil in western accumulation is analysed in terms of its effect on industrial accumulation and economic growth. Subsidiary to this discussion is the place of the Middle East in terms of its absorption of 'petrodollars' and its effect on a western economic reproduction.

In the following chapter the analysis of economic issues is treated as the foundation for a political analysis. It provides an indication of how the accumulation activities associated with the oil regime impacted on political issues and how political decisions in turn influenced changes in the oil regime. This also provides an opportunity to examine the 'oil crisis' from the perspective of its political origins.

The study emphasises the importance of viewing the oil industry as one that interacted with other economic agendas. The study of this period therefore reiterates the focus on modelling layers of accumulation, completed within the boundaries of state power.

Economics of oil production in late Pax Americana

The examination of the oil industry focuses on issues connected to the circuit of capital. The study begins with a survey of the components of the oil industry circuit of capital and the logic that held the respective facets of the circuit together in the production of oil. This approach provides a means for identifying the persistence of the logic of capital accumulation, with profit maximisation as an activity that occurred across a widely dispersed global domain. The analysis subsequently extends to the relationship between the oil industry and other departments, indicating the nested position of the oil industry and the effect of changes in the oil circuit on the capital circuits dependent on oil.

The oil price shock that occurred in the early 1970s is defined by the political pressure from Arab OPEC states, which quadrupled the price of oil. The analysis of this phenomenon is developed here from an economic perspective. The oil price shock is studied in terms of its effect on accumulation in other departments. The analysis of the shock and its effect on accumulation provides the foundation for the later political analysis of this critical event and its implications to the power of oil production in political economic relations.

The analysis of oil as a motor of growth is also pursued here to provide a measure of the relative importance of oil to industrial production. A fundamental change in the role of oil as a motor of growth is indicated with the tripling of the oil price in 1973. The subject is complex, requiring an exploration of the transfers of money capital between industries and countries, identified as 'petrodollars'.

Marxist analysis of oil production

Although the oil industry experienced substantial change consequent to its monopolisation, the basic Marxist analytical concepts remain relevant to the analysis of oil production in the late *Pax Americana* period. The circuit of capital still iterated all the elements of production that constituted the cycle of oil-industry capital accumulation.[210] It therefore remains the basis for exploration of the fundamental economic drives in the oil industry of the period.

The drive for profitable accumulation remained applicable to the oil industry in the period, despite the imperative for survival having been significantly diminished as a component of the drive for productive expansion.

The large corporations continued to invest in the 1960s in order to maintain a capacity to meet increased consumer demand for oil products and in order to maintain their market share of oil demand. Oil production by the top 20 oil corporations increased six-fold from 1953 to 1972, from 5 million barrels per day to 31 million, in proportion to fixed capital investment.[211]

210 *Capital Vol II*, (Penguin, Harmondsworth, 1978): 159.

211 Neil Jacoby, *Multinational Oil,* (Macmillan, London, 1974): Table 9.7, 193. See also Foreign capital expenditures by five largest and eleven other US international oil companies in 1948, 1953 and 1972: 148.

The largest oil corporations were gaining an increasing portion of their revenue from international sales. Exxon, the formerly named Standard Oil, gained half of its profit from foreign sales.[212] Although average profits had declined somewhat from the immediate post-war peak they still exceeded the profitability of most other key economic sectors until 1964 when it was exceeded by mining.[213]

Ongoing investment to obtain greater productive capacity in the oil industry occurred in proportion with general social production because economic growth required oil to cover the consumption activities of an increasing number of people. The rise of the standard of living in western economies was intimately connected with the consumption of an increasing quantity of oil, both in manufacturing and in consumer goods.

There were distinct developments in this period that marked the global oil circuit as qualitatively different from its reproduction in earlier decades. Although the capital circuit remained identical in conceptual terms its actual geography changed significantly. Oil companies that had previously produced oil in the US for the US market were encouraged to produce oil in the Middle East, where the cost of oil extraction was far lower.[214]

The reduction in input costs for oil corporations operating in the Middle East represented an opportunity to obtain surplus-profits.[215] This 'differential rent' profit was an amount of profit over the average rate of profit defined by US production. The difference between US costs of

212 W. Woodruff, *America's Impact on the World,* (Macmillan, London, 1975): 250, 266

213 Jacoby, *op. cit.*: Figure 10.6, Rate of earnings on US direct foreign investment in foreign industries, 1955-1972: 247.

214 According to Harvey O'Conner, the cost of production schedule by the 1950s was: Saudi Arabia, 30 cents; Venezuela, 50 cents; Gulf Coast (Texas), $1.85; World price $2.85 (ie. Texas cost + $1 profit), *The Empire of Oil*: 218.

215 See Marx, *Capital Vol III,* (Penguin, Harmondsworth, 1981) Part VI: Transformation of surplus profit into ground rent. David Harvey, *The limits of capital,* (Basil Blackwell, Oxford, 1982), Differential rent: 353

production and Middle Eastern was taken as an additional profit for Middle Eastern production.

Figure 8.1: Differential rent on barrel of oil, 1974-1978

(U.S. Dollars)

	Cost	Rent
United States	4.06	0
Canada	2.45	1.61
Western Europe	1.48	2.58
Africa	1.27	2.79
Far East	0.90	3.16
Venezuela	0.18	3.88
Middle East	0.12	3.94

Source: Cyrus Bina, 'Average Cost of Finding and Developing a Barrel of New Oil, Selected Regions', *American Journal of Economics and Sociology*: 196.

Figure 8.1 indicates that US oil production costs represented the benchmark of production rent. US oil producers were extracting and processing oil at an average rate of profit. Any reduction in the cost of production for individual producers provided a surplus profit. The profit potential for production in the Middle East was extremely high. Not only did production of oil in the Middle East receive normal profit but it also received rental profit, indicated in Figure 8.1 as US$3.94. This phenomenon highlighted the relative inefficiency of US production and indicated that the production of oil in the US was likely to become increasingly uncompetitive.

In terms of output demand the expansion in oil production was driven by two main features. Firstly more consumers were able to purchase traditional outputs of the oil industry and secondly the oil industry continued to develop new outputs that met new demand. Basic products experiencing increasing demand included outputs such as jet fuel, which catered to an expanding population that was engaged in air travel. There were now also new products developed, which included freeon, new synthetic fibres such as lycra and gases used in the manufacture of refrigerators and aerosol cans.[216] The invention of these products brought consumer demand as soon as uses were found for the basic materials and they were incorporated into manufactured goods.

Figure 8.2: Circuit of capital of oil industry

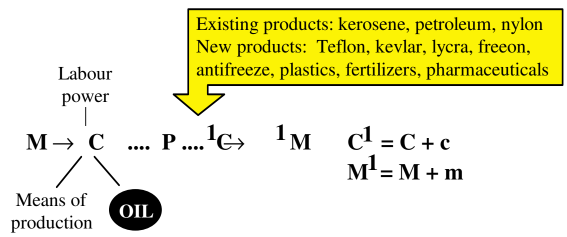


Figure 8.2 depicts the essential features of the circuit of capital in the oil industry, with representation of new outputs that were developed extensively in the 1960s. During this period the continuing economic expansion of western economies required more oil. The investment in oil production using money capital (M) to obtain the inputs to production (C), was an inevitable adjunct to the expanding demand for oil.

Capitalists of the industry took advantage of the opportunity to enlarge the oil production capital in circulation ($P \ldots P^1$). The output commodities of the oil industry are represented as C^1 or C+c in the figure. This value does however mask the fact of a qualitative change in the character of C^1. Output of commodities included both the previously developed commodities such as gasoline, kerosene and lubricants, but also a variety of new products. The usefulness of new commodity outputs was to further stimulate the demand for oil, with an associated increased quantity of surplus value (+m) to be derived by the oil corporations.

The centre of global oil production continued to shift toward the Middle East as well as states in Africa such as Libya and Nigeria. This occurred according to the logic of profit

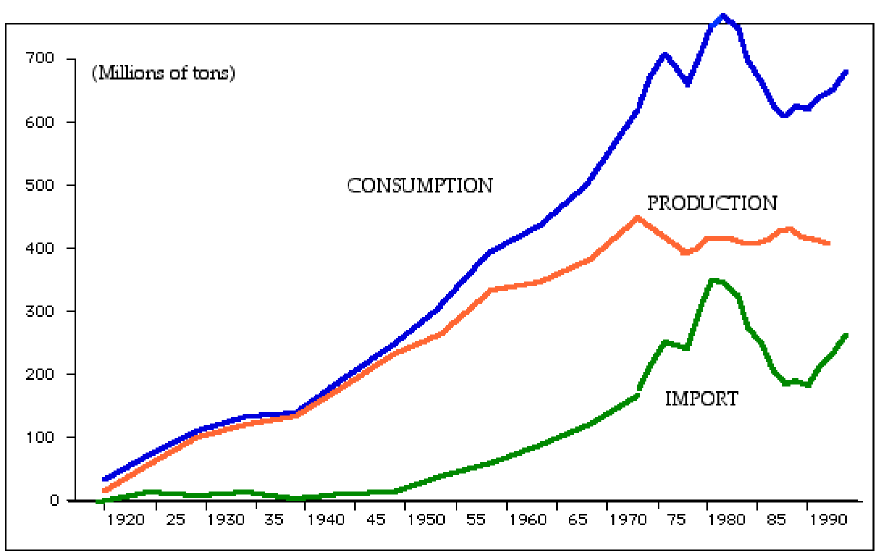
216 DuPont was probably the most significant producer of oil-derived by-products. It had also jointly developed the ethyl additive in automotive fuel. Source: http://www.dupont.com/corp/gbl-company/history.html

maximisation, depicted in the circuit of capital. Input capital purchases (C), including labour, machinery and refining equipment occurred increasingly outside the US, represented in Figure 8.2. Production (P) involved a shifting centre of economic activity to more productive oil territory. This included particularly the Middle East, but also regions such as Nigeria, Indonesia and Mexico.

The consequence of the natural productive advantage discovered in the Middle East and other developing regions resulted in increasing consumption also being met by supply from these areas. US oil companies made joint production arrangements in areas such as the Middle East and began to import oil into the US market rather than produce more oil in the US itself.[217]

Figure 8.3: US Petroleum Production & Importation, 1920-1990

(Millions of tons)



Based on David Painter, *Oil and the American Century*, (Johns Hopkins, Baltimore, 1986): 216-217, and IEA, *Energy Balances of OECD Countries, 1989-1990*: 170.

217 See Ethan Kapstein, *The Insecure Alliance, Energy Crises and Western Politics since 1944*, (Oxford, NY, 1990): In 1959 Mandatory Oil Import Program, ticketing system to import oil into US: 132. Fred Halliday, *Arabia without Sultans*, (Penguin Books, Harmondsworth, 1974): That US consumption of oil based on national production had been protected in the post-war period: 417.

Figure 8.3 indicates the increasing dependence of the US on imported oil. The rise in importation of oil became particularly significant after WWII but experienced intensification in the early 1970s. Indeed, the figure indicates that all new consumption was for a time met by imported oil, while national US production stagnated. The figure also indicates a glitch in the increase of imported oil demand in 1974. This reduction was associated with the oil price shock of late 1973, in which there was a tripling of the price of this commodity.

The posted price of oil moved from around US$1.80 in 1970, $2.18 in 1971, $2.90 from mid 1973, $5.12 in October and $11.65 in December of that year.[218] The rise in oil prices increased the imputed output value of oil and therefore served to increase the differential between input costs and realised prices for the oil industry. The rate of profit for oil companies therefore shot up dramatically in this period. Average costs of oil production were falling while the real price of oil had more than quadrupled in one year.

Despite the significant rise in the price of oil the demand for oil continued unabated for the next 5 years. This was due to the continued essential value of oil in production and the difficulty of substituting other inputs to production, such as alternative energy sources. However by the second oil price shock, which occurred in 1979, it had become feasible to make significant reductions in oil demand. Figure 8.3 indicates a slump in oil sales after 1980, which was primarily associated with increasing energy efficiency in western economies and the use of alternative fuels, such as nuclear energy, gas and hydro-power.

The discussion of accumulation in the oil industry affirms that the industry was guided by profit maximising activities. In concrete terms this involved not only investment in the creation of new products but also investment in the improvement of productivity and the

218 See Yergin, *The Prize,* (Simon & Schuster, NY, 1991) 625; T. M. Rybczynski, (ed) *The Economics of the Oil Crisis,* (Macmillan, London, 1976): 92.

reduction of the cost of production. Given the global character of the industry and the improved quantities of oil that could be found in regions outside the US, the centre of accumulation of the industry made a significant shift toward the Middle East.

Oil and the departments of production

Marxist theory divides economic activity between two departments representing the industries that manufacture consumer goods and producer goods.[219] The identification of departments allows the exploration of the connection between oil production and the rest of social productive activity.

Of special interest to the study is the quadrupled increase of the oil price in 1973, associated with the oil price shock initiated by Arab states. This had an effect on the departmental dependence on oil in advanced states that requires special consideration.

The study examines the sudden oil price increase in terms of its influence on the redistribution of surplus value between departments and its influence on the structure of accumulation.

The following political chapter builds on the analysis here, to explore the political origins and effects of the 'oil crisis'.

Departments of production and rising oil prices

The distinction between two departments in the totality of social production helps to indicate the structural interdependence between industries and identifies the primary location of oil production. The oil industry was mainly engaged in the extraction of oil from the ground and in the processing of oil into useful basic industrial materials.

219 *Capital Vol II*: op. cit.: 472.

The 1960s initially still experienced the continued expansion in oil production and its consumption in other departments. The lowering cost of oil tended to encourage further oil consumption by a greater number of industries. However as the decade progressed the oil producing states demanded higher royalties that drove the price of oil slowly upward.[220] This stood in contrast to the previous decades when the oil price had experienced ongoing downward pressure. By 1973 the upward price trend was dramatically increased when a boycott of several western states by OPEC states resulted in a sudden tripling of the global market price for oil.

The rise in oil prices had a dramatic effect on profitability for industrial departments and the advantage of oil usage in production. Oil had been a significant aspect of costs of general production that now grew to economically destructive levels.

The sudden increase in the price of oil in late 1973 (and again in 1979) served to suck around US$60 billion of money capital from all industrial departments and sectors directly and indirectly dependent on oil.[221] The effect was so substantial that in many cases individual oil-dependent capitalists went out of business when their profit margin was eliminated altogether. Western states experienced foreign exchange crises.[222]

Under normal circumstances oil dependent industries transferred money capital toward the oil industry as payment for its commodity output. Under abstract average conditions oil-dependent industries retained profits (m) despite paying for oil. Indeed, the continuous historic reduction in the price of oil had previously had the effect of helping to generate

220 Ted Wheelwright, *Oil & World Politics, From Rockefeller to the Gulf War,* (Left Book Club, Sydney, 1991: 18-25, 28.

221 Richard P. Mattione, *OPEC's Investments and the International Financial System,* (Brookings Institute, Washington, 1985): 23; Yoon S. Park, *Oil Money and the World Economy,* (Westview Press, Colorado, 1976); Thomas McNaugher, *Arms and Oil - U.S. Military Strategy in the Persian Gulf,* (Brookings Institute, Washington, 1985): 5.

222 Stanislas M. Yassukovich, *Oil and Money flows: The problems of Recycling,* (Banker Research Unit, London, 1976): 69.

access to capital for industrial production and investment as a whole. With the advent of the oil price shock in 1973 a reverse force came into play. The transfer of money capital toward the oil industry was increased significantly. The increased flow of capital toward the oil industry resulted in profits being transferred to the oil industry and by implication to oil producing countries.

Figure 8.4: Two department model with oil branch

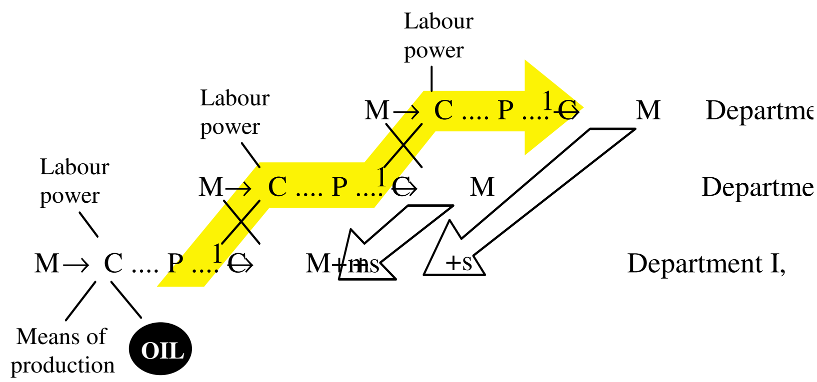


Figure 8.4 indicates the effect of the oil price shock on the flow of capital. Oil production occurred in one of two identified Departments of production, occupying a branch of Department I. The oil product output (C^1) was absorbed into the productive inputs (C) of other branches of Department I. The outputs of both Department I and II as a whole incorporated oil-based commodities. Therefore the value of total final outputs necessarily incorporated the oil commodity as a component of the total price of goods.

The flow of oil through the circuits is indicated by the shaded arrow, heading upward to its final realisation in consumer demand for goods. In turn the payment for the oil input flowed in the opposite direction, to give realisation to the oil circuit of profitable production.

The conventional Marxist view of the circuit of capital assumes that all branches of production yield an average rate of profit in the division of industrial labour ($M{:}M^1{=}M{:}M^1{=}M{:}M^1$). Increases in productivity in the oil industry tended to translate to lower oil prices and therefore lower labour input costs in the other branches and departments. Historically, oil dependent industries had benefited from reducing energy input costs that improved their profitability by increasing the differential between costs (C) and realised prices for outputs (C^1). However the oil shock served to suddenly require industries to pay a vastly larger sum of money to this single input commodity. According to Mikdashi:

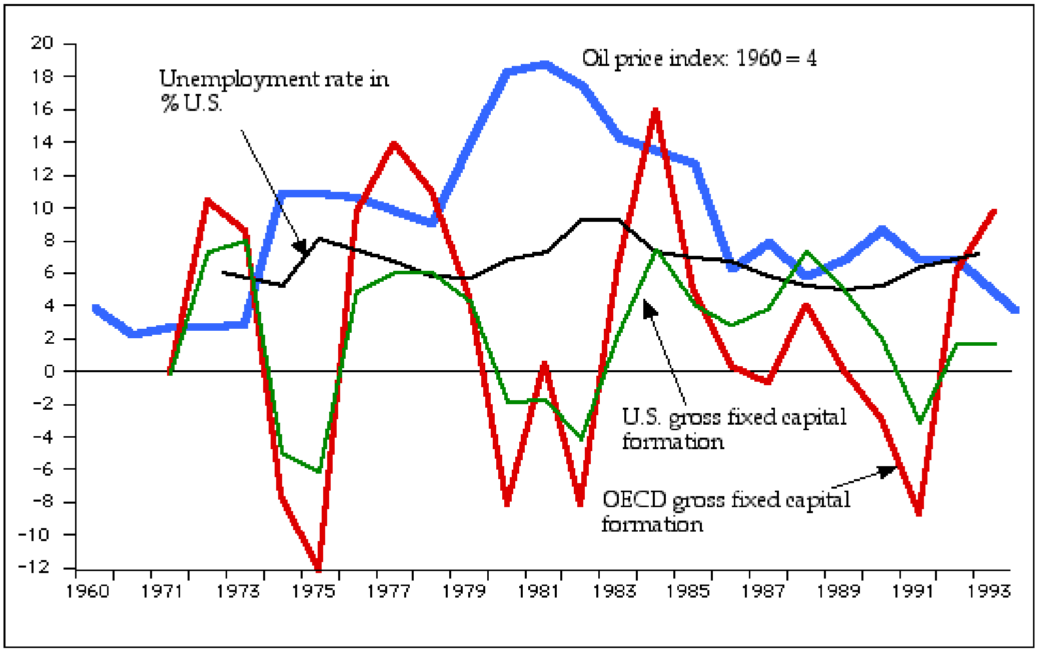
> "At the peak of the oil price increases in 1974, the value of the oil input in the production cost of selected manufactured goods in industrial countries varied from lows of 2.6 and 3.0 per cent for maritime construction and the car industry respectively, to highs of 6.0 and 8.3 per cent for construction materials and transport respectively."[223]

The money to pay for oil had to come out of the profit component of the circuit of capital (+m). The subsequent loss of profit in oil-dependent industries and countries meant that money capital available for investment was diminished while it was gained by oil producing corporations and oil-exporting states.

The financial effect of the oil crisis on investment and capital accumulation is highlighted by the economic data of the period, indicated in Figure 8.5.

223 *The International Politics of Natural Resources,* (Cornell UP, Ithaca, 1976): 189.

Figure 8.5: US and OECD Economic Indicators, 1969-1991



Source: Energy Balances of OECD Countries, 1989-1990 *IEA Statistics* (OECD, Paris, 1992), R. Mattione, *OPEC's Investments and the International Financial System*, (Brookings Institute, Washington, 1985): 183.

Figure 8.5 indicates an inverse correlation between oil prices, employment levels and industrial accumulation in advanced states. The oil price index indicates a three-fold increase in the oil price due to the 1973 price shock. The subsequent capital drain in western economies is distinct. Capital accumulation suffered a severe downturn in the US as well as OECD economies as a whole. The observation of the correlation between the oil price and accumulation is reiterated for the 1979 price shock.

Figure 8.5 also indicates that rising unemployment in the US was contiguous with the oil price rises of 1973 and 1979. This was an effect of businesses collapsing or shedding labour consequent to higher production costs. The effect of the oil crisis on less competitive industries was to undermine their ability to reproduce their capital circuit. The result was a shutting down of production and rising unemployment. This was slightly lagged to the price rise of oil, reflecting the delayed implementation of labour reductions in response to profit squeezes.[224]

During the *Pax Americana* period there had been an imperative to increase consumption of oil in the western world. A rise in the consumption of oil represented directly a rise in productivity in developing societies. Now there was an imperative for industries to reduce consumption of oil and to find alternatives to this substance, in order to survive.

The problem initially faced by states, consuming industries and even private motorists was that there were no ready alternatives to oil fuel. They were helpless to switch to another source of fuel immediately. However over a longer-term period investment occurred in consuming states to reduce oil dependence. This included investment by factories to obtain equipment that ran more efficiently.[225] By increasing insulation in buildings it was frequently possible to halve energy costs associated with oil fuel. Motor vehicles also became more efficient in their fuel consumption, in many respects because people began to buy smaller fuel-efficient cars.

The study of oil in the context of the departments of production indicates that the dependence of departments on oil had been based on the logic of accumulation. The increasing use of oil had been pursued due to the value of the resource in providing opportunities to increase the diversity of productive activities and to increase the productivity of those activities. This was based on the diverse commodities produced by the oil industry and produced at reducing cost over time.

The oil crisis served to highlight in a historically unprecedented way that the reversal of reducing oil prices would undo many of the benefits of oil dependence. High oil

224 Simon Bromley, *American Hegemony and World Oil, The Industry, the State System and the World Economy,* (Polity Press, Cambridge, 1991): 127.

225 For indicators of industrial efforts to reduce oil demand see, D.W. Pearce, *The Economics of Natural Resource Depletion,* (Macmillan, London, 1975)

consumption was no longer a measure of the success and development of industrial activity. The suddenness of this reversal had special implications to capital accumulation that need to be further explored.

The changing motor of growth function of oil

The discussion of oil as a motor of growth has been a reiterated aspect of this commodity throughout the thesis. The analysis of this feature of oil allows us to identify the fundamental changes that occurred in the role of oil as well as the repercussions of this change throughout the economies of the developed world.

The study of the motor of growth function of oil follows directly from the analysis of departments of production. In the departmental analysis the direct relationship between oil price changes and general accumulation were indicated. Here we analyse the qualitative significance of the effect of oil price changes on general production, especially in terms of the oil price shock of 1973.

The role of oil as a motor of growth underwent a fundamental transition between the 1960s and 1970s. It also had a different significance between oil-producing states and oil-consuming states. This split became momentous with the advent of the oil price shock, when the motor of growth function of oil underwent transformation. Unlike the previous era the pricing of oil was no longer approximately balanced with the rest of industrial production. Therefore, states that had large oil industries benefited from a net transfer of capital. For oil-dependent states there was a net negative effect on accumulation. The two classes of repercussion should be looked at in detail separately.

Part I: the oil crisis and growth in western economies

The analysis of the shock rise in the oil price in 1973 is of sufficient importance to the understanding of oil to warrant a special examination. The price shock needs to be viewed from a number of angles, including from the perspective of the oil-consuming states. The analysis of the relationship between these states and their oil dependence provides an opportunity to gauge the effect of price changes in oil on the level of oil consumption and actions toward altering the dependence on oil.

The oil price rise was commonly titled the "oil crisis" in the west due to the severity of its influence on general accumulation and its political repercussions. The analysis here focuses on the economic dimension of the oil price shock. However the event had fundamental political origins and effects that will be explored in the following chapter, on the basis of the examination of economic dimensions made here.

Oil had been directly associated with the growth of capitalist economies in the post-war boom. Throughout the 1960s oil remained unambiguously in the position of supporting expanded capital accumulation in western states. The oil commodity was intrinsically connected to general economic growth in advanced societies. The oil companies were consequently some of the largest companies in the world, due to the scale and concentration of capital that they contributed to production inputs. Oil constituted 10% of the value of world trade, 50% of its tonnage as well as 60% of US colonial income.[226]

The oil price shock was immediately incorporated as an increase in the input costs of production for industries in western economies. Although the rise in input costs was to some extent passed on as an inflationary effect on all commodities it also squeezed profits for all industries and therefore affected the general appropriation of surplus value. This event put a halt to the symbiosis between economic growth in western economies and the oil commodity.

226 Fred Halliday, *Arabia without Sultans,* (Penguin Books, Harmondsworth, 1974): 395. William Woodruff, *America's Impact on the World,* (Macmillan, London, 1975): appendix.

Manufacturers and other sectors began to invest capital to achieve reductions in oil-based energy consumption. This investment contributed, in the long term, to the reduced turnover costs of capital through the reduction of energy costs as an input to production.[227] Dramatic results were effected in some economies, with Japan for example eventually reducing its oil dependency by almost 50% after the 1979 oil crisis.[228]

In addition to improvements in oil energy efficiency, other forms of energy investment resulted in the increased use of alternatives to oil-fuel. The reduced advantage of oil as energy source made investment in alternatives more likely to yield a profit. In several states gas came into greater use as well as nuclear energy (See Figure 8.6). There was also investment to develop additional new sources of alternative energy, including wind, solar and tidal power.

Figure 8.6: OECD Total Primary Energy Supply, (%)

	1973	1979	1990
Solid Fuels	21.0	21.6	24.4
Natural Gas	19.9	19.5	19.3
Nuclear	1.4	3.9	10.5
Hydro/Other	2.4	2.7	2.8
Oil	55.3	52.4	43.0

Source: Annual Oil Market Report, *International Energy Agency*, 1990 Paris: 25.

Figure 8.6 gives an indication of the changing importance of oil as an energy source over the decades following the 1973 price rise. Solid fuel, being primarily coal, gained market share as its economic value gained a resurgent advantage.

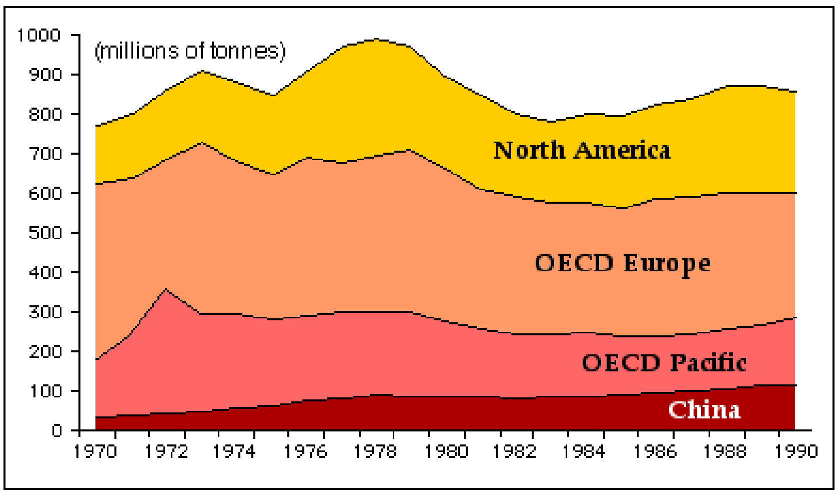
227 According to *Annual Oil Market Report*: "Following the deep recessionary year of 1982, OECD GDP rose quite sharply between 1982 and 1985 at 3.9 per cent per year. Energy demand grew by 2.2 per cent over this period as conservation continued to help restrain the growth in energy demand. Oil demand fell slightly while non-oil energy demand rose by 4.4 per cent over this period." *International Energy Agency*, (IEA, Paris, 1992): 25.

228 Japan reduced oil imports from a 1980 peak of 6.8 million barrels a day to 4.2 million b/d since 1983. William Wester and Newell Ampiah, 'Japan's Oil Diplomacy', *Third World Quarterly*, January 1989: 87.

Nuclear power was the greatest industry to gain from the rise in the oil price. The supply of uranium to nuclear reactors dramatically increased the use of this energy to supply electricity in countries such as France and Germany.

Figure 8.7: World Oil Consumption Trends, 1970-1990

(Millions of tons)



Based on Energy Statistics and Balances of OECD and Non-OECD Countries, 1989-1990, *IEA Statistics*, OECD Paris, 1992: 15, 86.

Figure 8.7 indicates the relative stagnation of oil consumption in the advanced economies from the 1970s. The figure indicates a continued rise of oil consumption up to a peak in 1972-73. In 1979 there was a second oil price shock, which again caused oil prices to rise dramatically. This price increase was again matched by a drop in oil consumption.

The tempering of oil demand from 1973 can be attributed to the combination of the oil price rise and the onset of industrial stagnation, to a large extent linked. However by 1979 industrial development in the advanced economies was shedding oil dependency significantly and the stagnation of oil demand was then affected by its partial delinking from growth. In contrast, developing states such as China doubled its consumption of oil in the period. But this was not enough to raise aggregate demand.

The above analysis indicates that in a variety of ways oil declined in its relative importance to the capitalist reproduction of the western economies. The changes to the role of oil contributed both to reduced oil-dependence but also to greater economic security. The reduction of dependence on a single resource produced largely in one location was associated with a diversification of economic linkages for some oil-consuming states. This had the effect of creating new economic developments in terms of geographic location and energy types.

Oil remained an industry of fundamental importance to industrialised societies but there had been the beginning of significant dislocation. The oil crisis was therefore an accelerator of the decline of oil as a motor of growth in the advanced industrialised economies.

Part II: oil export and the motor of growth function

The analysis of oil production as a motor of growth requires examination of oil-exporting states, especially in view of the oil price shock, which intensified the positive role of this commodity for oil-exporting economies. The thesis identifies oil export rather than simply oil production as an issue because export of oil was a distinct feature of the most significant states contributing to the international sale of oil.

The study takes particular interest in the link between the circulation of global capital and the appropriation of surplus value within states selling oil. The study here also examines some foundational issues for the further analysis of the increasing significance of OPEC from 1960.

Among a number of poor oil-producing countries oil had a central role in accumulation activity. The oil industry represented a link with global trade that provided a large portion of national revenue. (See Figure 8.8) Oil revenues were frequently also the primary source of income for the state.[229] The non-oil sector of these economies was often backward and underdeveloped. States of this type existed all over the globe and included Indonesia, Nigeria, Venezuela, Mexico and of course the Middle East states. For these states the oil industry was essential to national development, providing the main source of capital for investment in developing industries.

Figure 8.8: Oil as source of revenue for select export states

Saudi Arabia	90% of government revenue
Qatar	70% government revenue
Kuwait	90% government revenue
Nigeria	90% of foreign exchange earnings
Libya	95% of hard currency earnings
Iran	33% of state revenue, 80+% of total export earnings

Source: US Dept of Energy, http://www.eia.doe.gov/emeu/cabs/opecrev.htm

Figure 8.8 gives an indication of the overwhelming importance of oil exports to the earnings of Middle East states. In many of these states there were no substantial industries that provided a source of foreign revenue except oil. In addition the state was often also the primary beneficiary of the oil revenue. This reduced the burden of revenue collection within the population. Among the countries indicated only the Iranian government collected a substantial revenue from within the country from non-oil sources, in part because it was more economically developed and had a larger population.

The importance of oil to oil exporting economies was usually considered too critical to leave in private hands and was therefore typically state-owned.[230]

229 Nazih N. Ayubi, "Withered socialism or Whether socialism? the radical Arab states as populist-corporatist regimes", in Third World Quarterly, Vol 13, No 1, 1992.

230 As Mandel puts it, national control suited the purpose "of ensuring lower costs of production for the transformation industries.": *Marxist Economic Theory,* (Merlin Press, London, 1977): 502.

For many oil-exporting developing economies it was oil that represented the major source of capital used to stimulate economic growth, thus making it the clear motor of growth industry in these economies.

The role of oil as a motor of growth had a peculiar characteristic, in being based on its exported value, rather than for internal consumption. This fracture in the direct relationship between this branch of production and other oil-dependent branches of production in other countries was significant to the vulnerability of national production and expansion.

The whole success of national economies had been riding on oil and the machinations over its pricing, determined in the external environment. It was for this reason that the formation of OPEC was a significant development to the oil-exporting states, helping them to exert greater control over the international circuit of oil capital.

Figure 8.9: the transfer of oil capital surplus

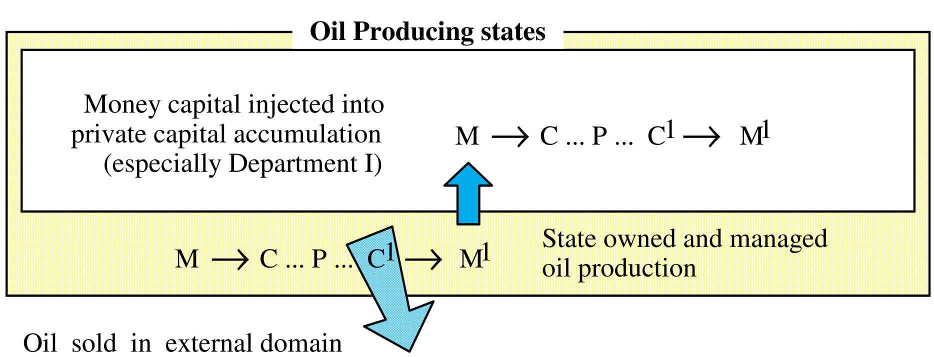


Figure 8.9 gives an indication of the role of oil as a source of capital funds for developing oil-exporting states. For these states oil was often the outstanding export industry that provided both revenue for state reproduction as well as investment funds. The figure reflects the state sovereignty over the oil production industry, though it was frequently managed by foreign corporations, providing a national share of royalties.

The sale of the oil commodity (C^1) is shown as occurring in an external environment. This was a critical feature of the industry as international fluctuations in the price of oil were received as variations in national revenue. The sale of oil obtained money capital returned to the industry plus profit (M+m). The surplus (m) was used as the basis for investment in new industries, most often in basic industrial infrastructure.[231] The surplus of the oil industry therefore acted as the basis for the growth of the economy to an unprecedented degree.

The co-operative association of oil-exporting developing states (OPEC) helped to reduce the uncertainty over prices for these states and provided them with increasing revenue as they made greater demands on host oil corporations.

The oil price shock in which the oil price quadrupled was a watershed in the transformation of the motor of growth function of oil. A dramatically increased money capital fund was subsequently transferred to oil capitalists and to the states that controlled oil industries. The rise in the crude oil price transferred the value equivalent of 2% of world GNP primarily toward several Middle East states.[232] This amounted to around 60 billion US dollars.

For western states oil consumption became a burden to profitable production while for Middle East states it improved radically. For western states the "oil crisis" marked a period of industrial decline while for oil-exporting states it generated a boom of new wealth.

The capital flowing into the Middle East was distributed unevenly and used in different ways. This marks an important aspect of the significance of the oil "petrodollar" surpluses. For states such as Iraq there was an opportunity to use new revenue to generate further national investment by importing capital equipment from western states. However for states

231 John Percival, *Oil wealth: Middle East Spending and Investment Patterns,* (Financial Times, London, 1975): Iraq invested in paper mills, energy production, electrification, cement works, fertiliser plants, and television infrastructure.

232 Richard P. Mattione, *OPEC's Investments and the International Financial System,* (Brookings Institute, Washington, 1985): 23; Yoon S. Park, *Oil Money and the World Economy,* (Westview Press, Colorado, 1976)

such as Saudi Arabia, which received the majority of capital surpluses, there was a glut of capital that was most suitably reinvested in the western banks.[233]

The oil price shock had complex effects on the global production regime. The relatively balanced system of accumulation, by which producer and consumer states had benefited from allocations of capital associated with a global division of industrial labour, was thrown into chaos. Therefore the motor of growth function of oil was also significantly altered, with long-term repercussions to the role of oil in industrial departments and states. This disruption to capital accumulation and to the economic order had repercussions in turn to the stability of the global political regime, which is analysed in the next chapter.

Conclusion

Significant events occurred in the late *Pax Americana* period in regard to oil production that required a separate treatment from the earlier *Pax Americana* era. The period from 1960 was delineated by the formation of OPEC at its beginning and the oil crisis at its end in 1973. The oil crisis is the primary issue that requires analysis due to its economic repercussions to the global economy. The examination of this issue provides the foundation for a later study of its political origins and ramifications.

During the 1960s the western oil industry 'majors' continued to pursue expansion of production for expanding markets, based on the archetypal capitalist imperative to maintain and improve profitability. However they were increasingly joined my 'minor' oil corporations as well as the state-owned corporations of developing countries, especially of those states hosting oil production. The analysis of this transformation indicates profound changes in a number of aspects of the circuit of capital reproduction and expansion.

233 Stanislas M. Yassukovich, *Oil and Money flows: The problems of Recycling,* (Banker Research Unit, London, 1976): 69.

Of central importance to the changing circuit of capital was increased investment in production of oil in the Middle East. This marked the historic relative decline of the US as the centre of world oil production. The oil capitalists continued to increase the diversity of commodity outputs that stimulated demand for oil.

The oil industry was shown to have developed an increasing importance to the general economic activity of both industrialised states and several oil-exporting states. For industrialised states the oil industry represented both a branch of department I but also an industry that was located far from the consumer regions. For oil exporting states the oil industry was not simply one branch of production but frequently the major product of the entire state and therefore a dominant source of investment capital.

The advent of the oil price shock in 1973 suddenly quadrupled the price of oil, due in part to the exercise of economic power by the OPEC states. Their constriction of oil supply had particular significance to the circuit of capital at the point of money capital revenue derived by the oil industry. It also had a fundamental significance to oil-consuming departments and states in terms of their appropriation of money capital. For oil-consuming states in Europe a reduction of dependence on Middle Eastern oil seemed optimal, to reduce the vulnerability of capital accumulation in general and to increase economic autonomy. For the US however the primary imperative was of increasing dependence on this source of oil. The primary benefit was a reduction in reliance on the much higher production-cost national oil industry.

The oil price shock was to make real some of the previous fears about the undue influence of oil for several oil-consuming states. The quadrupled price rise generated a measurable transfer of capital funds between industries and states, indicating the crucial role of oil in general accumulation. The motor of growth function of oil was also demonstrated by the crisis, showing that this specific level of price rise in oil stopped general accumulation in its tracks in western states, for a period. In contrast, it provided an unprecedented surplus capital fund for those in control of oil.

The analysis of this phenomenon provides an opportunity to reflect on the Marxist focus on the issue of capital accumulation. On the one hand the Marxist method gives a valuable insight into the structures of interdependence between realms of economic activity. Capital accumulation in each department of the economy is dependent on inputs from other sectors. However the theoretical approach is also challenged by the unique characteristics of the oil industry. The historically unprecedented influence of this one industry to production and to accumulation must be incorporated into the analysis and acknowledged as distorting a more generalised approach to commodity production.

The analysis indicates that oil production became a critical material that underpinned economic growth. The unique influence of this resource to production and its size in costs of production meant that changes to the oil price had dramatic effects on accumulation in general. This characteristic of oil means that oil cannot be assumed as simply a manifestation of commodity production. It must be given due weighting as a special commodity in the process of accumulation in the post-war period. The subject of oil dependence forms a critical basis of any analysis that seeks to draw wider political conclusions about this resource.

Chapter 9: State and oil production in late Pax Americana

The period of late *Pax Americana* from 1960 to 1973 was characterised by significant disruptions to the stability of the hegemony of the US. This instability is studied here with reference to the oil industry, with a view to develop a comprehension of the forces affecting the development of the oil industry under the political and economic dynamics in the period. The analysis of oil allows us to reciprocally develop insights into the influence of this resource on the political relations of the period.

Of central interest to the analysis is the emergence of the Organisation of Petroleum Exporting Countries (OPEC) of the Middle East as actors affecting the oil regime. The overt relationship between the monopolistic coordinating power of OPEC and the oil price shock of 1973 requires scrutiny, to obtain an understanding of the constellation of political forces that contributed to this event. The dramatic rise in oil prices was so economically disruptive and of such significance to the notion of western decline that it forms a key issue for studying the changing political economic power in this period.

The analysis of the late *Pax Americana* is structured according to the theoretical categories developed in previous chapters, involving an examination of the relationship between realms of political-economic power and their nested interaction. The analysis seeks to develop the theoretical model to give an accurate representation of the influence of political actions to the restructuring of the accumulation activities of the oil industry. The relevant actors were oil corporations and states. The corporations are studied as profit maximising entities that were influenced by state interests. States are analysed in terms of their function as coordinating agents of capital and their material interests in exerting influence over the characteristics of the oil industry.

The first component of the analysis regards the evolution of monopoly production in the oil industry. This focuses on the shift in power during the period, by which the existing imperial corporate monopoly was to face the emergence of the organised interests of oil producing developing economies. The significance of this emergence is analysed with reference to the varied regulatory policies maintained by states such as the US and OPEC, tracing its implications to the stability of the political order.

The second component of the chapter deals with the oil industry in terms of the interaction of states in the period. The analysis focuses on the changing position of the US as hegemon and the role of oil in the US relationship with states that were subject to US domination. The analysis includes consideration of key states able to affect the circuit of oil capital, including European oil-dependent consuming states as well as the increasingly important Middle East states hosting oil production.

Monopoly oil production in the late Pax Americana

In order to understand the complex conditions facing the oil industry in the late *Pax Americana* period it is necessary to address the subject of monopoly production. It has been argued that over the previous 20 years the monopoly control of the global oil industry had become the normal condition of the industry. This monopolisation was achieved by western corporations that exploited global oil resources as part of an imperial domain protected by the US. It has also already been indicated that the western states were subject to a regulated monopoly production. Aglietta indicates that the US oil industry as one example was subject to government agencies that monitored pricing and production levels.[234]

The emergence of the overtly organised interests of Middle East oil producing states under OPEC signalled a definite new power in the global oil industry. They presented a new type

234 Michel Aglietta, *A Theory of Capitalist Regulation, The US Experience,* (NLB, London, 1979): 315.

of monopoly capitalism, with a different agenda and scope of action to that of the US and its allies. It is necessary to analyse the emergence of the oil-exporting states as significant players in the production relations of oil. The analysis must take into account the interaction between these newly assertive states and the imperial oil corporations, backed by the established developed states.

The influence of OPEC became particularly evident during the oil price shock in 1973, when oil prices quadrupled. It was the actions and interventions of Middle East states that overtly generated the "oil crisis" through their interstate cooperation, their national control of oil and their intention to disrupt western economies.

The oil price shock must be analysed with reference to conflicting political-economic agendas regarding oil. It is necessary to analyse the distinctly different models of monopoly capitalism promoted by individual states. This is necessary to determine how their policies reflected interest in promoting a particular role for oil within a complex web of accumulation activities.

The study splits the subject between a scrutiny of the interests of the US in its role as global hegemon, European states as autonomous consumers and the Middle East producing states. The study analyses the role of oil in each state's accumulation agendas.

The US and the corporate monopoly production of oil

The analysis of monopoly production in the oil industry in the period after 1960 requires firstly a survey of the US corporations operating internationally. The analysis traces a continuation of US corporate interests in the framework of US hegemony. The analysis also considers new issues arising from the reproduction of the international oil regime that challenged the US-dominated monopoly structure.

During the period after WWII US oil corporations had grown in size and economic power to become the largest corporations in the world, selling one of the key resources of post-war reconstruction. Although their activities occurred ostensibly in a free market, this commodity was subject to the interest of the US government.[235]

The US had maintained an intimate relationship with its oil industry international players throughout the previous decades and had supported the expansion of its national oil industry onto a global stage, with particular focus on the Middle East. With this protection US corporations had built a global monopoly structure in alliance with the corporations of several other states, coming to be known as the "Seven Sisters".[236] Although a degree of freedom had provided the corporations with the opportunity to efficiently allocate capital and maximise profits, it also served the interests of US capitalism as a whole. The oil resource proved to be such a crucial strategic economic resource to the development of the world economy that its control by US oil corporations was in turn superseded by the interest of the US government. However it was a largely symbiotic relationship, in a structure originally theorised by Hilferding.[237]

The maintenance of the leadership of the US over other key western states required a strategic engagement with global oil supply and pricing. High oil prices tended to create dissent among European and Japanese allies of the US. Profits would decline with high oil prices and national competitiveness would suffer. Consequently, the US had a general interest in maintaining a 'reasonable profit' structure for the oil industry and reliable

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235 David S. Painter, *Oil and the American Century: the Political Economy of U.S. Foreign Oil Policy 1941-1954*: 40; Ed Shaffer, *The United States and the Control of World Oil*, (Croom Helm, Kent, 1983).

236 Anthony Sampson, *The Great Oil Companies and the World they made,* (H & S, London, 1975). "Seven Sisters" included Shell, Esso, BP, Caltex, Mobil, Gulf and Total.

237 R. Hilferding, *Finance Capital,* (Routledge & Kegan Paul, London, 1981) "[Monopoly capitalism] has no regard for the independence of the individual capitalist, but demands his allegiance.": 332, 334, 199.

supplies from territories it influenced.[238] The logic of the above agenda nevertheless came under attack from a number of sources as the *Pax Americana* period developed.

The investment of capital and supply of oil from regions such as the Soviet Union in particular threatened the control of oil production by US and British corporations. By the early 1960s the Soviet Union had re-established a dynamic oil export industry.[239] By supplying European economies with cheaper oil the Soviet Union undermined the existing basis of monopoly oil production, dominated by US corporations supplying oil from the Middle East. The expansion of Libyan oil production and the nationalism of this state reinforced the trend. The profits and market share of the oil monopoly were undermined.[240]

In order to maintain their profits on declining sales and declining margins the oil corporations began to reduce their payments of revenues to their Middle East host states. This triggered further turmoil in the oil regime. The formation of the OPEC alliance in 1960, in which Saudi Arabia, Iraq, Kuwait and Venezuela initially participated, can be attributed to the rising resistance of oil-exporting states to these corporate-dictated economic agendas.[241] Although OPEC espoused moderate aims initially, it was to form the key challenger to the US-backed corporate control of global oil resources.

Oil became a focus for a general critique of imperial monopoly in this era. The exploitation of third world resources for the benefit of advanced states saw a resurgence of militancy against the imbalance of global economic power. Theorists such as Paul Baran, Gundar-

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238 Baran and Sweezy emphasised indirectly the interest of the state: "…no industries which play an important role in the economy and in which large property interests are involved should be either too profitable or too unprofitable." in *Monopoly Capitalism,* (MRP, NY, 1967): 64.

239 'Kruhchev's oil and Brezhnev's natural gas pipelines', in Robert Lieber, (ed) *Will Europe Fight for Oil*, (Praeger, NY, 1983): 60.

240 Ethan Kapstein, *The Insecure Alliance, Energy Crises and Western Politics since 1944,* (Oxford, NY, 1990): 136.

241 Fred Halliday, *Arabia without Sultans,* (Penguin Books, Harmondsworth, 1974): OPEC states started negotiating 'posted' prices that oil corporations had previously dominated: 407.

Frank and Emmanuel argued that a transfer of value was occurring from poor to rich states; from the periphery to the core states of capitalism.[242] Oil was the most significant example of this phenomenon, but oil-exporting countries were poised to change this relationship.

Economic issues between industrialised economies in the late 1960s brought increasing dissent and conflict over the surplus value allocation effect of oil investments.[243] These developments were part of a chain of events that eventually culminated in the 'oil crisis' of 1973.

The analysis of the period of the 1960s indicates a series of political-economic events that challenged the continuation of US dominance of the oil production structure. Each of these developments needs to be examined in detail to establish their effect on the reproduction of the existing oil monopoly.

OPEC formation as producer monopoly

OPEC (Organisation of Petroleum Exporting Countries) was formed by Iraq, Kuwait, Saudi Arabia and Venezuela in 1960.[244] The analysis of the formation and actions of OPEC is a necessary step for understanding the evolution of the power relations in the oil production regime.

The study of OPEC is considered more appropriate than a general study of oil-exporting states as OPEC formed the nucleus of organised resistance to western-dictated oil production agendas. The study here examines the participants in OPEC and their political-

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242 See Paul Baran (1957) on exploitation of Third World in Etherington, *Theories of Imperialism,* (London, Croom Helm, 1984): 129. Anthony Brewer, *Theories of Imperialism,* (Routledge & KP, London, 1980): Chain of metropolitan-satellite relations: 174.

243 Simon Bromley, *American Hegemony and World Oil, The Industry, the State System and the World Economy,* (Polity Press, Cambridge, 1991). Bromley's review of the late 60s and early 70s indicates higher profits, stagnant wages, reduced productivity growth: 127.

244 The original members of OPEC were supplemented by 10 additional members by 1975. Eric V. Thompson, Petroleum Archives Project, Arabian Peninsula and Gulf Studies Program, University of Virginia: www.virginia.edu/igpr/ apagoilhistory.html.

economic aims, in contrast to the aims of the established oil monopoly under the leadership of the US.

Bruce Jentleson suggests that the formation of OPEC was precipitated by a sequence of events. The emergence of the Soviet Union, as a seller of cheap oil to Europe, forced the established oil corporations to lower their prices. In order to maintain their profit the oil corporations reduced revenue going to the host states of oil production.[245] This then met organised resistance in the form of OPEC. The espoused purpose of the OPEC states was to:

> "…study and formulate a system to ensure the stabilisation of prices by, among other means, the regulation of production, with due regard to the interests of the producing and of the consuming nations and to the necessity of securing a steady income to the producing countries...."[246]

Although the overt aim of the organisation appeared quite conservative the real implication of the organisation of oil exporting states was that the monopoly power of global oil corporations might be matched by an organisation of similar power. This was the first time that third world countries had demonstrated an ability to subvert the 'divide and rule' approach of economic exploitation by the imperial corporations of the west. As the OPEC states were individually weak and had no significant autonomous oil industries it was only by collective action that an influence could be exerted on oil prices and royalty payments.

It became increasingly evident that poor oil-exporting states drew only a small portion of oil production profit while oil corporations were the main beneficiaries of super-profits, particularly from production in the lucrative area of the Middle East. The oil-consuming countries were also beneficiaries of cheap oil. There was therefore scope for OPEC to contest the allocation of the profit attached to the production of oil.

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245 'Kruhchev's oil and Brezhnev's natural gas pipelines', in Robert Lieber, (ed) *Will Europe Fight for Oil*, (Praeger, NY, 1983): 60. See also Daniel Yergin, *The Prize,* (Simon & Schuster, NY, 1991): 515.

246 Zuhayr Mikdashi, *The International Politics of Natural Resources*, (Cornell UP, Ithaca, 1976): 56.

By the late 1960s oil-exporting states were beginning to demand more favourable profit sharing agreements with oil corporations and their demands were becoming increasingly bold. By 1970 revenue to oil-producers was US$.91 cents per barrel while this increased to US$1.27 per barrel under the Tehran agreement of 1971.[247]

The formation of OPEC did not limit Arab states to a leverage over oil prices and royalties. They were also able to manipulate production levels collectively to alter the total international supply of oil. This power was demonstrated after the Yom Kippur War in the Middle East, when Arab states sought to boycott oil sales to several western states. By exercising an oil embargo in 1973 they were able to generate a sudden quadrupling of oil prices. The price of oil rose to US$3.30 in October of 1973 and subsequently reached US$12 per barrel in January of 1974.[248] This price escalation had a fundamental effect on economic activity in western economies, often blamed as the origin of subsequent western economic stagnation.[249]

The rise in oil prices demonstrated the effective power of the OPEC monopoly as well as the degree of dependence of western states on oil. This one producer monopoly in one industry had briefly exercised a degree of power over its commodity output price that manifestly affected the global economy in terms of accumulation activity.

The exercise of economic power by OPEC was designed to serve the interests of developing states, rather than the developed oil consuming states. However the cohesion of this aim and its ability to achieve its objectives were never consistently unified. The individual states of OPEC had varying ambitions, interests and obligations in regard to maintaining a high oil

247 T. M. Rybczynski, (ed) *The Economics of the Oil Crisis,* (Macmillan, London, 1976): 92.

248 T. M. Rybczynski, op. cit.: 92; Yergin, Op. cit.: 625; Shaffer, op. cit.: 190.

249 Horst Mendershausen, *Coping with the Oil Crisis*, *French and German Experiences* (Johns Hopkins, Baltimore, 1976); Paul Sheehan, “US Rage and...” *The Independent Monthly,* 12 March 1991 (Sydney); Ed Shaffer, *The United States and the Control of World Oil*, (Croom Helm, Kent, 1983): 1.

price. Although states like Iraq and Libya pursued high oil prices with great dedication Saudi Arabia had a greater interest in ensuring the stability of the economic reproduction of western states. For this reason Saudi Arabia also ultimately increased production during the oil price shock and undermined a more severe price increase.

Figure 9.1: OPEC States, Oil Production Data, 1973-74

	Oil exports in million barrels p/d			Oil revenues (US$ billions)		
	1973	**1974**	**% change**	**1973**	**1974**	**% change**
Saudi Arabia	7.3	8.2	+12	7.2	27.7	+385
Iran	5.9	5.7	-3	5.6	19.3	345
Venezuela	3.4	2.7	-21	3.2	9.4	295
Kuwait	2.7	2.4	-11	2.0	8.3	415
Nigeria	2.1	2.1	n.a.	2.8	8.0	285
Iraq	2.0	1.8	-10	1.9	6.9	365
UAE	1.3	1.6	+23	2.1	6.6	315
Libya	2.2	1.5	-32	1.2	6.6	550
Indonesia	1.3	1.2	-8	0.9	4.2	465
Algeria	1.0	0.9	-10	1.2	4.0	333
Qatar	0.6	0.5	-17	0.6	1.8	300
Equador	0.2	0.2	n.a.	0.2	0.6	300
TOTAL	**30**	**29**	**-3**	**28.9**	**102.7**	**355**

Source: Shell figures reported in Middle East Economic Digest, June 20, 1975: 30.

Figure 9.1 indicates the actual oil supply and revenue changes during the crucial period between 1973 and 1974. The reduction in OPEC oil supply in this period only amounted to a total of 3%. Nevertheless this was sufficient to generate a panic among oil purchasers that drove the price of oil up threefold.[250] Implicit in the production changes was the cooperative intentions and activities of the OPEC states.

Saudi Arabia was the largest OPEC oil producer and had great economic influence within the monopoly. Saudi Arabia gained the largest increase in revenue in this period, with about

250 Thomas McNaugher, "Although the Arab oil embargo of 1973 did not take much oil off the market, it provoked massive speculative buying by consumer countries and oil firms worried about future shortages. This precipitated a sharp increase in price. Members of the Organisation of Petroleum Exporting Countries (OPEC) were able to capture what amounted to a risk premium in the new price structure." *Arms and Oil - U.S. Military Strategy in the Persian Gulf*, (Brookings Institute, Washington, 1985): 5.

US$20 billion dollars. It also undermined the effectiveness of the maintenance of the price rise by increasing production in the period. The states most dedicated to the raising of prices were primarily those that reduced their output the most. Libya, with one of the most militant governments had the greatest output reduction. Despite this it experienced a revenue increase of some 500%.

The most significant implication of the formation of OPEC was the long-term fracture in the singular accumulation agenda achieved by the imperial corporations under the direction of the US government. A new monopoly formation of oil-producing states shifted accumulation funds toward these developing states. Oil corporations acted now as intermediaries between the oil-producing states and the countries that were now forced to pay radically increased prices for their oil.

There was limited immediate scope for action by the US to influence the interests and actions of OPEC regarding oil output and prices. This was one of the reasons why it was feared that the US had lost much of its influence in the world economy given the fundamental importance of this one resource.

Conclusion

The analysis of the late *Pax Americana* period indicates that the growth of economies during the previous long boom had created aspects of its own destabilisation. The economic development of capitalist economies had occurred under the distinct historic conditions of the post-war period, with European states dependent on oil produced in the region of the Middle East, controlled largely by the US dominated oil-monopoly. As economic insecurity and antagonisms between advanced economies increased the issue of oil dependence and monopoly production became increasingly significant.

The oil corporations of the west had acted in their own interests in the pursuit of maximum profits and had achieved record profitability through production in the Middle East. However their activities were also tempered by the US, due to its interest in maintaining the stability of the wider political economic realm under its hegemony. This global regulated framework of production was subverted by the diversification in the supply of oil as well as the increased economic power of oil producing regions.

On one side the anti-monopolistic effect of rival Soviet oil sales to Europe undermined monopoly prices and the exclusive oil supply loop involving the imperial companies. On the other side the coordination of Middle East producer states served to raise both revenue for these states and international prices in an explosive manner by the early 1970s.

The analysis indicates a degree of ineffectiveness emerging in the coordination of the oil regime. There were rival influences undermining the previous unity in the economic structure of oil production.

US oil corporations had benefited from US state power to take control of a strategically vital resource. The corporations maximised the appropriation of surplus value through production that maximised profit. Their efforts were however subject to a key vulnerability. The major portion of the oil resource was produced in a region of the world that was potentially at odds with the existing accumulation regime.

Any state in the Middle East would be powerless to influence the accumulation conditions of the global production of oil acting in isolation. Yet by acting collectively Middle East states could potentially subvert US imperial economic dominance, through the fostering of a rival monopoly.

The economic coordination and power of the oil industry had potent implications to the reproduction of the global relations of production in the existing US hegemony. The political aspects of this regime need to be analysed in detail, in order to gain insight into the influence of oil relations on the general relations of political economic power.

The politics of oil production in late Pax Americana

The analysis of the political order in the late *Pax Americana* period is an intrinsic element for the understanding of oil production. The political turmoil of the period, particularly associated with the oil price shock, must be examined in terms of how this affected the stability of the oil regime and generated changes to oil industry power and accumulation processes.

The analysis seeks an insight into the relationship between oil and the effort of states to secure the effective reproduction of capitalist relations within the domain of their power. This includes an examination of both the US as hegemonic state and the frequently contradictory interests of states beholden to US leadership. Of particular significance to the subject is the examination of US hegemony in the context of a widespread belief that the US was in imminent decline in the period.

The previous analysis indicated that oil production pricing had profound significance to the whole accumulation structure of advanced and developing states. In this respect the states that had their industries affected by oil price changes were all compelled to take action to create a secure environment for the reproduction of their oil-dependent industries. The analysis includes scrutiny of the US as leading state, the oil producing states of the Middle East and the oil-consuming states of Europe as the primary actors in the issues surrounding oil in this period.

US as hegemonic state and its oil interests

The analysis of the US in the world economy during the 1960s and early 1970s requires an examination of both the oil interests of the US as well as its changing relative power over the oil regime.

The aim of the US as capitalist state was to support the natural expansion of its industries, increasingly willing and able to implement production on a global scale.[251] For several decades US corporations were able to pursue accumulation on a new global terrain after the US established itself as the hegemonic state of the world economy from 1945.[252]

During the 1960s a belief emerged that the US was losing its ability to maintain a global order under its leadership.[253] The US failure to subvert the establishment of communist regimes in Vietnam and Cuba suggested that the US was no longer able to uphold the authority of its imperial political power. The US was also suffering from a loss of economic competitiveness, relative to its political allies. This induced dissent over global financial policy, culminating in the end of the Bretton Woods international agreement by which the US currency was linked to the price of gold.[254]

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251 Mira Wilkins, *The maturing of multinational enterprises, American business abroad from 1914 to 1970,* (Cambridge, Harvard, 1974) In Thomas Larson, David Skidmore, *International political economy: The struggle for power and wealth,* (Harvard Brace, 1993): The heyday of US hegemony: 1958-1973.

252 The position of hegemon entailed that the US had a political dominance over the world economy, standing behind the ostensible cooperative framework established under the United Nations umbrella. Herman Van der Wee, *Prosperity and Upheaval The world Economy 1945-1980,* (University of California Press, Berkeley, 1986); W.M. Scammel, *The International Economy since 1945,* (Macmillan, London, 1980); Angus Maddison, *Phases in Capitalist Development,* (Oxford UP, Oxford, 1982).

253 Immanuel Wallerstein suggested 'systemic' processes of hegemonic decline, emphasising economic factors in world capitalist epochs: See T Hopkins, I Wallerstein, *The Age of Transition,* (Zed Books, London, 1996): The global picture, 1945-1990: 209; Paul Kennedy emphasised political and military components of decline in, *The Rise and Fall of Great Powers,* (Random, NY, 1987).

254 There was particularly resentment at US seignorage on its currency. For a 'pro-US' and financially oriented account see, Paul Einzig, *The Destiny of the Dollar,* (Macmillan, Edinburgh, 1972), T. M. Rybczynski, (ed) *The Economics of the Oil Crisis,* (Macmillan, London, 1976). For an

It is appropriate to return to the definition of hegemony to note the significance of the issue facing the US. According to Robert Cox:

> "To be hegemonic, a state would have to found and protect a world order that was universal in conception, i.e., not an order directly expressing the interest of one state but an order that most other states could find compatible with their interests given their different levels of power and lesser abilities to change the order."[255]

The existing global structure of oil industry accumulation provides a key reference point for the examination of the emergence of political dissent against the hegemonic power of the US. The analysis of the circuit of oil capital is also the basis for the examination of the issues that emerged in the political realm.

The focus on the circuit of capital indicates that the reproduction of the global oil circuit, controlled substantially by US capital, relied on stable capital inputs and outputs. This included the maintenance of power over the inputs to oil production, the maintenance of power over oil producing regions and the maintenance of a dedicated source of oil customers facilitating the realisation of the commodity value of oil.

Interest in the security of the oil circuit was not simply for its own sake but for the disproportionate influence that this particular circuit could exert on production in general. For this reason the political actions to secure oil were important to the very reproduction of the order and the disruptions to the control of the oil circuit were considered indicative of a tendency toward the loss of US hegemony.

In order to understand the turmoil in the stability of the global oil regime it is necessary to study the sources of political and economic changes that caused the loss of stability. These have been identified as developing from within the Middle East as well as from Europe and

account critical of the US economic order see, Riccardo Parboni, *The Dollar and its Rivals,* (Verso, London, 1981).

255 Robert Cox, Production and Hegemony, in Harold Jacobson (ed.), *The Emerging International Economic Order,* (Sage, Beverley Hills, 1982): 45.

the actions of the Soviet Union. It is appropriate to scrutinise the motivations of these actors in greater detail to get an insight into the general political order as well as the dialectical transformation of the regimes subject to US interests.

Security of the oil circuit in Middle East production

A study of the economic power of oil-exporting developing states of the Middle East has already been made. It is appropriate to also examine the threat Middle East states posed to the reproduction of the existing US dominated global order in terms of their effort to pursue their own political-economic agendas.

The production of oil for world markets, controlled primarily by US corporations, required stable access to Middle East oil resources due to the increasing demand made for production of oil sourced from this region over the 1960s.

The oil reserves of the Middle East oil fields made it not only more profitable for US oil corporations to operate here, but also increasingly established this region as the benchmark of oil productivity.

The power of the US in this production territory was contingent upon the stability of the Middle East as a whole. Over the previous decades there had been periodic political agitation to oust British imperial influence from the region. Major protests occurred in Iran as recently as 1951 and in Iraq in 1958.[256] The ongoing militancy of Middle East states in subsequent decades was of critical significance to the production circuit of US-controlled oil.

Although the US had initially been seen as a positive influence in the region opposition to the US rose in the 1960s, when its imperial intentions were increasingly recognised. Iraq was one of the more significant states opposed to US influence. By 1972 Iraqi leaders decided to

256 See Marion Farouk, Peter Sluglett, *Iraq since 1958, From Revolution to Dictatorship*, (Taurus, NY, 1990); Hanna Batatu, *The Old Social Classes and the Revolutionary Movements of Iraq*, (Princeton, NY, 1978).

nationalise oil resources, owned by foreign multinational corporations, with a conscious hostility to the established hegemony of the US. President Bakr of Iraq claimed quite overtly that:

> "...the oil companies are the dangerous tools which represent imperialist logic, the logic of plunder and monopolistic exploitation and the impoverishment of the masses."[257]

Michael Tanzer theorised that the Iraqi nationalisation had wider implications and that this was a key underlying issue for the US and its corporations:

> "The real danger to the international oil companies is nationalisation in which the government of the oil producing country takes command of the crude oil supplies and either uses them internally, by building indigenous refineries, or markets them directly to foreign buyers…thereby cutting off the oil companies' crude oil and gas profits, and ultimately their refinery profits."[258]

Iraq had already achieved this result and it had done so with the assistance of the USSR.[259] However the US was still influential in other states such as Saudi Arabia and it was thereby able to counterbalance the economic significance of the Iraqi action.

The Yom Kippur War of 1973, a year after the Iraqi nationalisation, represented a critical stage in the effort to reduce US influence in the Middle East. The Israeli defeat of Arab states resulted in an increased unity of purpose among Middle East states and a concerted action to use economic coercion as a means to gain political leverage over the US and its allies. The Arab boycott of sales of oil to the US and Netherlands caused sufficient damage to political-economic relations in the west that it became known as "the oil crisis".

257 In Zuhayr Mikdashi, *The International Politics of Natural Resources,* (Cornell UP, Ithaca, 1976): 56, 149.

258 Michael Tanzer, *The Energy Crisis: World Struggle for Power and Wealth,* (MRP, NY, 1974): 127.

259 Zuhayr Mikdashi, op. cit.: Despite being subsequently boycotted by oil corporations Iraq received aid from the Soviet Union and oil purchases by states such as France: 149. See also T.M. Rybczynski (ed), *The Economics of the Oil Crisis,* (Macmillan, London, 1976): 178.

US hegemony and leadership of western states ostensibly involved the fostering of an economic system based on free markets. In fact, the analysis of the oil regime has already indicated that this crucial sector of production was not free. It was an orchestrated industry in which a loose cooperation between capital and state ensured a production regime in which prices of the commodity and output shares were regulated in favour of western interests. Regulation had been based on the western need for cheap oil, which had been used to boost the pace of general production and had contributed to sustained economic growth.

The "oil crisis", initiated by Middle East states overtly symbolised a dramatic reduction in US political-economic control of the Middle East. The increasing centrality of Middle East oil to global oil pricing meant that the oil price rise demonstrated a loss of US control of an underpinning economic element in its hegemony. The possibility of widening nationalisation was a key element in the threat to US control.

Europe and the oil regime in late Pax Americana

Understanding of the political and economic turmoil that emerged between Europe and the US during the late *Pax Americana* period is informed by an analysis of oil. This occurs in the context of the role of oil as a foundational input to European economic growth and the changing structure of European oil dependence.

European states had been the primary consumers of a large boost to oil production during the post-WWII period. This oil had been supplied almost exclusively from the Middle East, under the tutelage of the US and primarily by US corporations.[260] This arrangement had been imposed on European states both because of US political dominance but also because the US controlled vast amounts of capital that developing and reconstructing states required as inputs to a new production regime.

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260 See *Annual Oil Market Report,* International Energy Agency, (IEA, Paris, 1992): 22-25. Fred Halliday, *op. cit.*: 412.

European states undermined the existing oil regime. This occurred as increasing economic development in subsequent decades gave them greater scope for autonomous economic and political action. The motivations for the subversion of the US-imposed oil regime fell into two main forms. The first relates to the competitive economic imperative within capital accumulation at an industry level. The second was a strategic imperative of European states relating to their efforts to enhance the security of the reproduction of European capital in general.

European capitalists had firstly initiated efforts to develop indigenous oil production infrastructure and ventures. These were not simply profitable ventures but contributed directly to the reduction of foreign exchange reserves required to purchase oil. This had become a significant issue to inter-state relations in the period of emerging economic crisis of the late 1960s, when countries suffered exchange fluctuation pressures.[261]

European economies also developed alternative fuel sources such as nuclear energy and gas and a number of other experimental forms of energy such as solar energy and geothermal energy (see Figure 8.6). These energy forms can be considered part of the capitalist quest for alternative profitable energy sources. However they also contributed to energy diversification and increased security.

The new energy forms started to compete with oil and therefore posed a threat to oil dependence controlled by the US. Nuclear energy in particular went from 1.4% of total primary energy supply in 1973 to more than 10% by 1990.[262] European states thereby

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261 Riccardo Parboni, *The Dollar and its Rivals,* (Verso, London, 1981). The exchange issue lasted throughout the 1970s and was exacerbated by the second oil crisis. "...in order to be able to pay for their energy sources the other industrialised countries...will have to continue to export massive quantities of manufactured goods to markets that will be increasingly difficult to penetrate because of enhanced American competitivity.": 56. See also Richard Stubbs and Geoffrey Underhill, *Political Economy and the Changing Global Order,* op. cit.: 150-159.

262 Annual Oil Market Report, *International Energy Agency*, 1990 Paris: 25.

reduced their dependence specifically on Middle East oil. This proved to be of great benefit as oil dependency on the Middle East had grown precipitously.[263]

Both Germany and Italy moved toward increasing dependence on Soviet oil in the 1960s, which was arguably both a strategic economic and political issue.

States such as Italy had aggressively sought to acquire oil and gas by avoiding dependence on the US-centred oil monopoly. The Italian state and Italian capital sought oil ventures by undermining the existing share arrangements of the oil majors and striking deals with states such as Libya and Russia for oil and gas supplies.[264]

Germany directly benefited from access to Russian oil. This dependence increased the diversity of trade links. It also stimulated industrial production at a time when there had been economic contraction. The investment in oil and gas pipeline construction to Russia provided an important basis for investment in new infrastructure for the German steel industry for example.[265]

The US expressed concern at the increasing ties between Europe and the communist states, seeing in the oil relationship the basis for a degree of hegemonic collapse.[266]

263 An account of this problem and its connection with European solidarity against oil producing states is given in T. M. Rybczynski, (ed) *The Economics of the Oil Crisis,* (Macmillan, London, 1976): 178. See also Herman Van der Wee, *op. cit.*: 388.

264 By the 1990s Italy obtained two-thirds of its gas from CIS states (former Soviet bloc) and 28% of its oil from Libya. MEED 3 July, 1992: viii.

265 Ted Wheelwright, *Oil & World Politics, From Rockefeller to the Gulf War* (Left Book Club, Sydney, 1991): 51: on the 1982 period US EEC rivalry over economic links (pipeline) and recession.

266 See Robert Lieber (ed), *Will Europe Fight for Oil,* (Praeger, NY, 1983): 8. "Rivalry among the allies encompasses a wide array of common problems. The pressures engendered by oil import costs and resultant balance of payments anxieties lie at the heart of this rivalry, as do the concerns over unemployment and deindustrialisation."

Figure 9.2: US hegemony and changing circuit relations

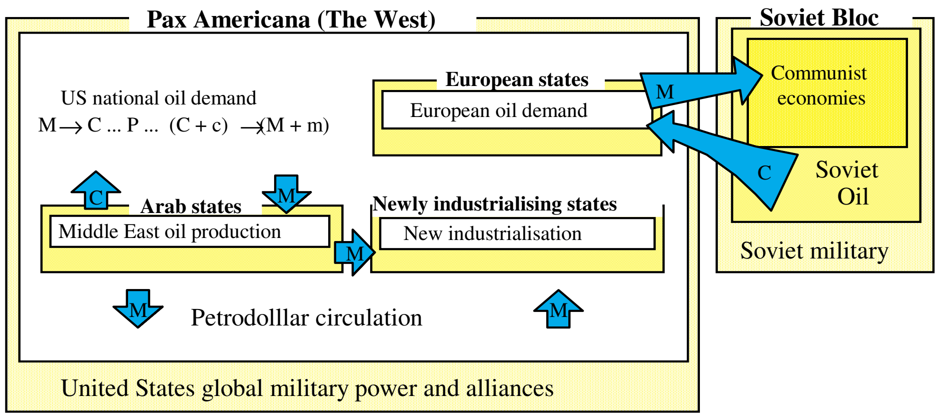

Figure 9.2 provides an indication of the primary features of the *late Pax Americana* order and features of the oil circuit. The depiction of elements of the order reiterates the analytical focus on new avenues of capital flows that had emerged in the period, contributing to flux at the higher level of the political order.

In the western alliance there had been a complex division of industrial labour, which had become highly dependent on oil from the Middle East. The figure indicates here no reference to European consumption of Middle East oil, emphasising the new dependence of Europe on emerging Soviet supplied oil. In addition, new sources of energy had been developed, including oil extracted within the European territory. In contrast, the US increased its dependence on Middle Eastern oil as this represented an optimal move away from dependence on increasingly inefficient national oil production.

Figure 9.2 also reflects certain aspects of the "oil crisis". The rise in the oil price in 1973 saw a dramatically increased flow of money capital to Middle East states. This money capital amounted to around US$60 billion and was subsequently recirculated as "petrodollars" to European and American banks as well as newly developing economies.[267]

267 Richard P. Mattione, *OPEC's Investments and the International Financial System*, (Brookings Institute, Washington, 1985): 23; Yassukovich: op. cit.: 69.

The figure cannot fully capture the significance of the changes to global trade and capital flows. The changes to consumption and production patterns in oil were a potent feature of concern at US decline. The increasing dependence of Europe on Soviet oil suggested an increasing linkage between these economies and a loss of subservience to US economic and political policy. The militancy of Middle East states suggested that capital previously controlled by western states was now controlled by states often hostile to western political economic agendas.

The integrity of the circulation of western capital flows and its stability was subject to forces of dissolution. These forces, originating in the economic realm, were the underlying basis of the flux at the political level.

Conclusion

The analysis of the late *Pax Americana* order identifies critical tensions in the oil regime. These were examined on the basis of the preliminary study of the economic relations and capital flows evident in the oil industry of the period.

The study of capital accumulation as a dynamic force in oil production is an effective means for understanding the development of this industry. However the Marxist approach is not sufficient unless engaged in the complexities of economic and political power applicable to this singularly important industrial sector.

The analysis indicates that oil capitalists pursued the accumulation of capital and profit maximisation in this period of fluctuating oil demand. These oil capitalists were also operating as monopolists, by which their market power was exercised not only over other departments of production but potentially over states dependent on oil. This level of economic power resulted in intervention by individual states.

The US provided protection to its own oil capitalists but this support was constrained by its overriding interest in managing an accumulation regime that balanced national interests with those of allied states. This dictated that the US subdued monopolistic pricing policies by its oil companies, primarily through institutional intervention.

The major oil companies were able to take advantage of the cheapening production conditions in the emerging location of the Middle East and expanding world oil demand. This occurred mainly in lieu of seeking maximum profits through the exercise of monopoly power over consumers. The consequent increasing economic importance of the Middle East in production and of Europe in consumption generated its own political contradictions that were to unwind in the period.

The act of maximising the efficient reproduction of industrial capital in the US and the rest of the world was an act necessarily also of maintaining control of the political map of the world. Control of the Middle East formed a crucial element of US power in this respect alone.

The US stood at the centre of an accumulation regime that incorporated other developed states. These states did not passively accept continued US dictatorship of their development agendas. They in turn pursued capital accumulation agendas that involved priorities and strategic considerations that conflicted with the aims of the hegemon.

The states in the Middle East region were literally created by imperial powers. Yet some of these states would come to seek to manage and appropriate a portion of the capital flows occurring in their domain. Efforts at control were exercised by the formation of OPEC, which gave allied Arab state greater influence over global oil supply and prices. Some states also pursued nationalisation.

The potential conflict between the US as hegemonic imperial state and emerging states such as Iraq formed the basis of long term strategic tensions over the control of oil. Although states such as Saudi Arabia came into a cooperative relationship with the US, others such as Iraq had less interest in cooperation. The US had a different accumulation agenda to Iraq, due to its overriding need to manage a complex of economic and political relationships. In this respect the significance of oil accumulation by individual capitalists was also overridden by national interests affecting global accumulation agendas.

The continuing alliance between the US and Europe was of significance to oil production and to global hegemony. European economies obtained a growing fund of autonomously controlled capital. They subsequently altered their energy supplies both by internal production and by diversified external demand. This threatened directly the relative significance of the Middle East in the oil capital circuit but also the very structure of the Western alliance.

The oil price shock of 1973 represented the pinnacle of the divisive forces fomenting in the oil regime. The oil shock drastically increased the price of oil and altered its role as an industry promoting the pace of accumulation in western economies.

The dialectical interaction between economics and political processes, as manifested in oil accumulation, contributed to profound changes in the post-war *Pax Americana* hegemony to the point where the very stability of the regime came into question.

A key lesson in the study of this period is the affirmation that the analysis of oil must occur in terms of nested realms of power and accumulation imperatives. The analysis of economic forces must acknowledge the unique power of certain industries but also the effect of this power on political behaviour. In turn our analysis of the political dimensions of oil production must take into account the uneven power of states and their differing influence on the layers of the oil-based accumulation structure.

Capital accumulation was the source of political conflict on a global level and the control of oil was a pivotal subject of this conflict in a way that few commodities had ever before achieved.

Chapter 10: Conclusion

The thesis has provided a political economic study of the oil industry, taking into account distinct epochs of world political history within the period from the 1850s to 1973.

The analysis of the oil commodity in its particular context studied here requires a review, in order to make an assessment of the significance of concepts explored and empirical evidence covered.

The thesis incorporated a dialectical approach to analysis of the oil industry. In dual chapters the thesis studied the economic developments significant to the growth of the oil industry in historic epochs and then subsequently the political aspects of oil production in each of these periods.

The economic analysis charted the capitalist dynamics underpinning the expansion of the industry in terms of capital circulation as well as in terms physical terrain. The economic chapters provided the basis for the subsequent analysis of political issues in each period.

The chapters dealing with the political aspects of oil analysed the state response to oil both in regulatory terms as well as in terms of interstate relations. The analysis of the political dimension allowed us to explore the influence of political orders on the development of the oil industry. In turn these chapters provided the basis for examining the influence of the capitalist relations of oil production on the development and decline of these political orders.

Each set of chapters provided a relatively autonomous segment in the analysis, showing both linear developments in the evolution of political economic orders as well as cyclical phenomena pertinent to the study of the oil industry. It is appropriate to summarise these developments as the basis for articulating a more cohesive reflection on the relationship between oil and the intermediate structures reaching to the global political realm.

In addition to the assessment of the political economy of oil there is an opportunity to reflect on the theoretical structure designed to coordinate the several elements of the thesis. This structure is composed of a Marxist theoretical core that binds together several layers of analysis. Each of these has a unique and distinct internal purpose and characteristics in regard to the conceptualisation of the role of oil in social accumulation. Oil production, the departments of production dependent on oil and the state regulation of oil capitalists were therefore subjects studied separately as well as within a unified model.

The success of the thesis project is dependent on its ability to conceive disparate subjects of Marxist analysis in a new conceptual framework. This framework draws the analytical units of the thesis together into a new representation of the political economy of global oil production.

Following is a more detailed reflection, charting the territory of each of the subject categories of analysis.

The economics and oil production

The Marxist theory of economics has at its foundations a model of the circuit of capital, which constitutes the fundamental elements of capitalist production and is the foundation for any discussion of capitalist economic processes. It forms the basic building block of the analysis of the economic dimension of the thesis on oil production. The study of the economics of the oil industry has been analysed in terms of the circuit of capital and its elements, providing insights into the motivating forces driving the development and transformation of the oil industry historically.

Investment in the oil industry from its modern beginnings started as an innovative response to a social demand for goods derived from crude oil. The driving force for investment of money capital (M) was the pursuit of personal gain by oil entrepreneurs who sought to ensure a return of profit to reward their capital inputs (M...M+m). The acquisition of profit occurred through the harnessing of labour power and means of production in the creation of a socially useful commodity. However profitable production did not occur as an automatic consequence of production. It occurred under circumstances where individual entrepreneurs had to produce oil products at a competitive price for the supply of expanding oil markets.

The accumulation of capital in the oil industry was a necessary imperative for the survival of the individual entrepreneur as it increased the productivity of labour and reduced unit costs of oil. Ongoing investment ensured that the oil industry experienced dramatic growth.

Investment in oil production was not simply a linear process in expanding productive capacity. The circuit of capital of oil involved investment in scientific experimentation to yield new types of products. This was a necessary capital cost that resulted in the increasing use value of oil. The growth of the oil industry was predicated fundamentally on the usefulness of the oil resource when transformed by labour. The improvement of labour productivity and rising demand stimulated ongoing investment and made this industry increasingly important to modern societies.

The oil industry transformed from primitive backward origins to a highly complex and advanced international industry. Crude oil was initially derived in the backwoods of the US in the 1850s, where oil was transported to markets by horse drawn carts in wooden barrels. The products derived from oil were limited to products such as lubricants, kerosene and waxes. Over subsequent decades oil was transported in trains and through pipelines while an increasing number of products was derived from the raw material including gasoline, plastics and gases. Today most of the world's oil comes from the Middle East and it is transported in large ships to global markets. The oil industry has some of the biggest corporations in the world, while its products pervade consumption in every conceivable application, from rockets to toothbrushes.

The reliance on a Marxist analysis of the oil industry provides the basis for a comprehension of the fundamental economic imperatives, dynamics and linkages driving the growth of this industry. This approach forms the basis for subsequent analysis of different aspects of the industry including its interaction with other realms of social production.

The departments of production and oil

The analysis of economic departments is a feature of Marxist economics and is a vital component for the study of the oil industry. Economic activity is divided in Marxist analysis between Department I in which producer goods are made and Department II in which consumer goods are made.

Department I production is viewed as an essential area of production for the reproduction of society and as the basis for improvements in standards of productivity in general. Department II is seen as less essential to the improvement of productivity in society. The increase of productivity of Department II impacts primarily on luxury consumption and on the improved living standards of the working class.

The Departmental taxonomy is the basis for analysis of interactivity and interdependence between oil production and production in general in the epochs under scrutiny. It is particularly relevant for examining the role of oil in increased social productivity. This encompasses the specific product outputs of the oil industry that were consumed and the significance of these products to wider production.

As a primary industry the production of crude oil required transformation in other branches of production, in order to serve as a use value to producers and consumers. Crude oil started always as a natural material without exchange value but with labour it was transformed into a saleable commodity.

At the very early stage of the oil industry, in the 1850s, its use was promoted as a natural medicinal product. This was a Department II industry, catering to luxury applications. As production became more reliable and increased in scale the role of oil in lighting in the form of kerosene soon became a central feature of oil consumption. This application covered both the consumer industry and producer industry branches. In other words, the consumption of oil in lighting had applications for both individuals and for factories producing goods. Such large-scale applications for the resource helped to drive the investment in oil production and became a springboard for further investment in developing new products.

By the beginning of the 20th century gasoline was poised to become the central derivative of crude oil. Once again there were both Department I and Department II applications, although for states with limited access to oil the non-luxury industrial application was notably dominant. The use of trucks, diesel trains and oil-powered ships therefore became more common in western states as a whole, but not the automobile. This vehicle was only abundant in the US, due to the wealth of oil production there and the capacity of this state to sustain luxury consumption of oil.

Oil productivity became greater in the post-1945 period as the restricted use of oil eased in the west as a whole. War had held back development of consumer goods sectors. Now both productivity and consumer goods applications for oil increased dramatically. A variety of products were developed from oil in the intervening period that all contributed to its usefulness, both in Department I and Department II. The invention of synthetic rubber, plastics, nylon, fertilisers and paints saw application in industry as well as households.

The study of the departmental consumption of oil indicates a rising dependence of both industrial applications and consumers on the oil commodity. This meant that industrial production and standards of living were increasingly enmeshed with the supply of oil. The security of oil supply and the possible expanded role of oil in production were factors in production decisions.

The demand for increasing quantities of oil was predicated on the ability of oil producers to reduce costs of production and for the output commodity to decrease in price. In reality the price of oil fluctuated dramatically over the 100 year period studied but was also on a long-term downward course. This ensured that oil was the source of a cheapening alternative to the supply of energy by coal.

The use of oil as an energy source increased the profitability and efficiency of industrial branches dependent on oil and therefore heightened the imperative of oil use. This trend was however powerfully negated by the events of the early 1970s when oil prices rose critically. In 1973 the oil price shock quadrupled oil prices from historic lows and therefore negated many of the benefits of increasing oil usage.

Not only has the discussion of departments been the basis for a more detailed taxonomy of oil applications. In addition, it allows us to acknowledge that the oil industry did not exist as a circuit of capital in isolation. Oil production was connected to consumer demand in other industries. A web of linkages between the oil industry and other industries ensured an increasingly integral and interdependent relationship between oil and industrial society in general. The production of oil became a necessary part of the competitive accumulation evident in advanced societies. It was only with the advent of the "oil crisis" of 1973 that the integral relationship between oil and the other departments was disrupted.

Oil industry and military applications

The analysis of military applications for oil was a necessary exercise to augment the study of departmental categories. The analysis of the military applications for oil indicated an avenue of oil consumption that did not conform to the taxonomy that identified only industrial and directly capitalist applications. The use of oil in military applications was a significant area of consumption that could not be ignored either from an economic or political perspective.

The military and therefore state demand for oil stimulated the scale of investment risks that could be taken to meet oil demand. Military demand provided opportunities to develop larger production infrastructure by oil capitalists with reduced risks and greater economies of scale.

The use of oil in military applications ranged from lighting railway platforms during troop manoeuvres in WWI to the supply of fuel for submarines, tanks and aircraft throughout the 20th century. These applications required new technical specifications for oil that also stimulated consumption in civilian applications in post-war periods. The age of the aircraft was effectively fostered by World War I military applications and the use of oil in powering these craft. The use of synthetic rubber was likewise stimulated after WWII through the technical development of this material during the war to meet military shortages.

The analysis of military consumption of oil forms a key element for understanding the factors that drove the economic development of the industry in terms of the pace and character of accumulation of capital to increase production. However the study of this subject also forms the basis for a subsequent analysis that gives greater consideration of the political implications of the military usefulness of the resource.

Oil industry as motor of growth

The oil industry has been measured throughout the thesis in terms of its role as a ‘motor of growth’ industry. The definition of such an industry incorporates the condition where that particular industry is the subject of a disproportionate level of social investment. This investment is also assessed in terms of its significance to the accumulation of capital as a whole.

The development of the oil industry was firstly measured in terms of the industries that were developed specifically to supply infrastructure and goods that could make use of the revolutionary resource. Secondly, oil and its associated industries were assessed in terms of their ability to contribute to reducing costs of general production. The aim was to provide an indication of the contribution of oil to the pace and character of capital accumulation throughout an extended historical period.

The thesis indicates that the oil industry was not a generalised motor of growth industry during *Pax Britannica*. However it is arguable that it had developed such a role in the US and in the specific industrial area of military applications.

As with the gold rush, the oil industry witnessed very significant levels of investment in the US, from the 1850s and throughout the 20th century to the 1970s. Initially this was largely due to the value of oil as an export, contributing a significant portion of foreign earnings. Increasingly the oil resource was consumed within the US, as one of the direct inputs to its development.

The production of oil made a substantial contribution to the economic development of the US, with it becoming the largest economy in the world by the beginning of WWI. The US was a model for the influence of oil that would be replicated in many other societies much later.

The oil resource was also arguably a motor of growth industry for the military sector during the *Pax Britannica* period. It was discovered that oil was a more efficient method of powering ships than coal. This critical feature of oil spurred an arms race between Germany and Britain in the construction of oil-powered battleships.

Demand for oil was so high for a variety of military applications that a new military infrastructure began to be developed. This included submarines, tanks and aeroplanes. The construction of these weapons was an important industrial sector that in turn became the future basis for general industrial development.

The invention of the internal combustion engine was perhaps the main example of an oil-dependent industrial application that would revolutionise production, profits and social organisation. This began to occur at the beginning of the 20th century. The use of oil in engines was categorically an energy application.

The use of oil as an energy source to power vehicles speeded the turnover time of capital and the mass of product that could be taken to market and therefore boosted the rate of accumulation of capital. Although increasing use of oil had positive effects on profit for industries and facilitated industrial transformation its use also became necessary, as it was a question of competitive survival for industries.

By the period described as *Pax Mirabilis*, after WWI, there was a distinct and politically significant imbalance in the utilisation of oil. The US had taken up oil as a primary source of energy and its economic development and wealth were fundamentally intertwined with oil. For less developed industrialised states the limited access to oil restricted their use of the resource and held back their ability to pursue this model of development. There subsequently emerged a drive to incorporate foreign oil resource territory into national control to increase the role of oil in production. Western oil corporations, particularly from the US and Britain, consequently became significant early examples of multinational enterprise, deriving their materials and profits from foreign production.

In the *Pax Americana* period there was a generalisation of the role of oil as a motor of growth throughout the western world. Essentially this period marks the duplication of many elements of the US model of oil-dependent development in Europe, Britain and Japan. We can describe this period as witnessing an 'Americanisation' of oil consumption patterns in industrialised states, contributing to growth in these economies, as well as the US itself.

It is arguable that the "long Boom" of the post-war period of consistent growth was fundamentally predicated on the supply of cheap oil. This was the peak of the "age of oil", in which this resource became a pervasive commodity input to production.

The scrutiny of the *late Pax Americana* period highlights new issues. The centre of global oil production had now shifted from the US to the Middle East, bringing large new capital investments into this region. The increasing power and wealth of Arab states was derived almost exclusively from oil sales to western consuming states, such was the contribution of oil to national accumulation for these oil-exporting states.

The period described as the late *Pax Americana*, from the 1960s to 1973, marked significant changes to the role of oil that required a separate treatment to the earlier period of *Pax Americana*. This treatment includes consideration of oil as a motor of growth industry. The formation of OPEC in 1960 was one marker of changes but more significant to the economic discussion was the specific oil price shock that OPEC states helped to initiate within this period, in 1973.

The restriction of oil output by Arab oil-exporting states resulted in a threefold increase in the price of oil. This dramatic price rise intensified the motor of growth role of oil to Arab states and fundamentally undermined the motor of growth function of oil for western economies. The rise in the oil price reversed the trend to increasing oil dependency in the west and was of sufficient scale to suck a vital portion of money capital away from industrial production in the west. It is arguable that this period marks the beginning of the decline of this industry in terms of its central role in western accumulation.

The measure of oil, not only as a manifestation of capitalist production, but as an industry underpinning social accumulation, provides a means to gauge the value of this industry from the perspective of accumulation in general. Oil was an exceptional resource in terms of its effect on accumulation in the period studied. Although the discussion of the role of oil occurs in a Marxist theoretical context, the special function of oil highlights the need to identify the unbalanced effect of oil on historical capitalism. The underpinning importance of oil to production highlights the need to acknowledge and scrutinise the political relations of the industry in greater depth.

The discussion of the above economic elements of oil production is incomplete without reference to the development of monopoly in the industry and the relationship between oil capitalists and the state. This initial economic discussion provides a basis for the deeper examination of the state and its interest in oil in terms of its economic and geo-political significance.

The oil industry and the state

The study of the role of the state in relation to the oil industry was treated in a separate series of chapters that referred to the corresponding periods analysed in the economic chapters.

The analysis of the state took into account the actions of the state to influence the development of the oil industry. In addition, the analysis incorporated an examination of the influence of the oil resource on the actions and power of the state itself.

The two primary subjects covered by the chapters dealing with the state included the monopolisation of the oil industry and the interaction of states, where oil was a subject of their interests.

The study of the monopolisation of the oil industry was treated as a subject covered by the study of the state because monopolisation brought state intervention in the oil industry. In addition, the monopolisation of the oil industry was in many respects the basis for a symbiosis between oil industry and state, acting together on the international plane.

The study of the interaction of states was the second component of the examination of the state. The analysis throughout the thesis takes into account the sovereign power of states over their national domain and their role in coordinating capitalist activity. In addition, it was necessary to take into account the uneven power of states in the international sphere. This brought into account the hegemonic power of states such as Britain and the US in the world economy. The discussion of hegemony provided an opportunity to consider the role of oil in the interests of hegemonic states and indeed the role of oil in the maintenance of the hegemony of states.

Below is a review in detail.

Monopoly oil production and the state

The study of the monopolisation of the oil industry occurred in all the historic chapters in the thesis. This was the basis for the examination of the particular characteristics of monopoly in the oil industry and its significance to production in general. In addition, it was the basis for an examination of the specific actions taken by states in regard to the exercise of economic power by monopoly corporations and the effect of their actions on that economic power.

The chaotic character of the oil industry in its first 10 years was a classic manifestation of capitalist organisation. The boom and bust cycles of capitalism were strongly manifested in the oil industry, especially in the early phase of the 1860s. The industry subsequently underwent monopolisation tendencies in a number of states, which altered the competitive basis of the accumulation process and the structure of the industry. Monopolisation involved the increasingly centralised planning of sales and determination of prices by large companies, no longer beholden to competition at a particular level.

The primary example of monopolisation was that of The Standard Oil Trust in the US, led by Rockefeller. The formation of Standard Oil, which controlled about 90% of the US industry by the 20th Century, was not based on greed or personalities. Monopolisation was the inevitable tendency of capitalist production. Increasingly large enterprises periodically engaged in bouts of fierce competition. The subsequent periods of economic crisis for the industry were resolved through rationalisation of the market and the limitation of capital competing to sell oil product.

Monopolisation of the industry was a long-term trend on an increasingly large scale. It occurred initially in the US oil industry on a national level but then also occurred internationally with the formation of companies such as APOC, Royal Dutch and Shell. The formation of OPEC in 1960, while based on national oil corporations, was arguably a similar phenomenon. It had become necessary for poor oil-exporting countries to band together in order to express their interests against the interests of the established western oil corporations.

From as early as the 1860s the state response to monopoly was the enforcement of a regulated capitalism in the industry. The state response was necessary due to the dysfunctional effect of monopoly on accumulation in general. Antagonism was expressed by economic sectors that 'fell victim' to the monopoly pricing and economic privilege of the monopoly. As many theorists have emphasised, the state needed to ensure a balanced accumulation regime in regard to oil, with profits neither too high nor too low. Negotiations, legislative actions and enforcement of state interests were witnessed in all the historic periods under consideration.

The regulation of national oil monopolies manifested in a variety of forms and with degrees of effectiveness historically. In the US in the 1890s the Sherman antitrust Act established a formal framework for maintaining legislative power against oil industry collusion. However there were also industry "watchdogs" established that remained a feature of the industry for subsequent decades. Prosecutions of oil corporations occurred again after WWII, when the US found its corporations to have engaged in exploitative pricing.

The key lesson in the regulation of oil capitalists is that individual manifestations of capitalism could not act autonomously of the intervention of the state. States intervened in the oil industry to obtain goals regarding the distribution of profit that reduced tensions within the capitalist class. Although states served the interests of capitalist reproduction they did so on a general level rather than in the interests of individual industries.

The state also had a direct interest in the success of the oil industry that went beyond responsibilities to temper monopoly. Oil was an industry of such vital national importance, growing through much of the period studied, that states took an active part in supporting the development of this industry, either nationally or internationally. This created a seemingly contradictory imperative for the state. On the one hand, there was a need to act to stifle the actions of the oil monopoly, in its actions of exploiting fellow capitalist industries. On the other hand, it was also necessary to indulge and support oil capitalists on an expansionary drive in foreign territories as this was in the national capitalist interest.

The symbiosis between oil industry capitalists and state is a subject that required consideration focusing on the state. In several respects the interest of states in the oil industry transcended the interests of the oil industry at the level of profitable production and entered a more political realm.

The state and oil production

The study of the state relationship with the oil industry has been an intrinsic element of the investigation into the evolution of the oil industry. The analysis of state interest was divided between the regulatory imperative and that of interstate relations. The study of interstate relations in turn was developed in the context of the varied power and level of development of individual states throughout each historic period of study.

The varied power of states has been studied with consideration of the specifically hegemonic power exercised by certain states in the world economy. Marxist theories of hegemony constitute an important element for the study of oil. The concept of hegemonic eras, in which particular states dominated the world economy, provides a framework for studying meta-state orders that bound the separate activities of individual capitalist states.

Intrinsic to the analysis of hegemony is the assumption that the hegemonic state acts like all capitalist states, in pursuing activities that support capital accumulation. However it does so with consideration of the cooperative and conflicting interests of other states pursuing the same agenda.

Each historic order was studied in terms of a rise and decline in the ability of a leading state to maintain cooperation among disparate states seeking to fulfil internal economic agendas. Although chapters were structured with this hegemonic cycle as a precondition the study of oil revealed a convergence with these cycles.

The study of the *Pax Britannica* period indicated the dominance of the British state in world economic and political power in terms of access to foreign territories. This power was manifested in Britain's early access to oil resources in the Middle East, at the beginning of the twentieth century. Britain's power was however challenged by newly emerging states and oil facilitated this challenge in the form of its use as energy to drive new military hardware. Oil was therefore a commodity playing a role in the maintenance of power of *Pax Britannica*.

The study of the period after *Pax Britannica* and before the ascendancy of the US is identified in the thesis as being equated with the interwar years between 1918 and 1939. This period, entitled *Pax Mirabilis* is identified as subject to a continuation of the imperatives witnessed during *the Pax Britannica* era in respect of oil production. The ostensible victory or Britain and the ascendancy of the US were mirrored in important aspects of world oil territory. The greatest victors of war gained the largest part of global oil territory. However the flux evident due to the instability of the order was also manifested in the oil regime with the US gaining an increased share of oil territory in the now conspicuous Saudi Arabia oil-producing state.

The US came to a more overt leadership after WWII in the form of Pax Americana. This ascendancy marked an extended period of stability and a more clearly demarked division of international territory in oil. The US facilitated the dominance of US capital in the control of oil producing territory. This was in consideration of the fact that the oil resource was now essential to the maintenance of economic stability between western states that were on a path of oil-based development. The concomitant decline of the British Empire after 1945 was manifested in the reduction of Britain's control of international oil territory. Revolt in critical regions of the Middle East, Iraq and Iran, highlighted the loss of imperial power and the ascendancy of the oil-exporting states.

A late period in the *Pax Americana* is identified in the thesis, approximately in line with conventions on the notion of US decline. The focus of this decline is frequently identified with the 'oil crisis' of 1973. The overt seizing of control of the world's premiere oil resources by Arab states suggested the inability of the US to continue to ensure the stability of the oil regime and its associated political infrastructure.

The decline of the US hegemony can be identified in seed events such as the establishment of OPEC in 1960, by which Arab states began to formally establish a presence in the determination of oil production and pricing. This marked an overt entry of oil-exporting states in the control of a resource that was vital to global capital accumulation. Although oil was not the sole focus of a loss of faith in US leadership it was of primary consideration in respect of the flow of international commodities. The control of oil and its role in economic reproduction of the global economy was unambiguously linked to hegemony and indications of its decline.

A reflection on contribution to the subject

At the core of Marxist analysis is a theory of the power relations of society. The relations of production are conceived as relations of power and the attendant privileges that this conveys. The relations of production in capitalist societies are also seen as the basis for the drive for the accumulation of capital and the transformation of societies toward greater productive capacity. This feature of Marxist theory is reiterated in this study of the oil industry, augmented with more complex elements of analysis.

The study of oil production provides an opportunity to draw together disparate theoretical concerns into a cohesive systemic model. The thesis has considered aspects of the oil industry that normally gain no place in a Marxist theory. Yet these elements of analysis are essential to the development of a conceptual understanding of social processes that takes into account all influences on the relations of economic and political power.

This thesis is a study whose specific aim has been to provide an empirical examination of the unique industrial development of an exceptional resource. The size of the oil industry and its economically strategic role in accumulation over the last 100 years precludes it from being considered as simply another commodity. As stated by the former Secretary General of OPEC:

> "...you have to realise that oil is not coffee, or tobacco, or copper, or pepper or peanuts. Oil is a political commodity. It has important strategic and political significance which is not the case say with tin or cocoa. No commodity has the value of oil."[268]

The oil industry was an industry that expanded according to the logic of capitalist accumulation. The imperative to maintain competitiveness drove the industry to expand globally. However, this relentless expansion occurred with a number of key historic constraints that channelled the pace and character of global accumulation in the oil industry,

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268 Dr Subroto, Secretary General of OPEC, *The Courier*, No. 130 November-December 1991.

mainly determined by the geography of oil. In addition the industry was influenced by political factors. These not only determined to some extent the national sovereignty over oil but also the direction and structure of its expansion.

The disproportionate importance of oil to the reproduction of capitalist states, its role as a motor of growth and its eventual monopoly organisation created complex issues. In this context states could not simply be seen as representatives of capital but needed examination in terms of the precise constellation of economic and political forces they represented. States acted in the interest of the oil industry as a representative of capital. Equally, they acted against the oil industry, in terms of regulation of the industry, insofar as they were also representatives primarily of capital in general. On top of this layer, states pursued the interest of their own reproduction, which involved access, control and utilisation of oil, primarily for military means.

What we have encountered in the study of oil is a complex symbiosis of intentions and forces impacting on the development of the oil industry in the periods analysed. Support, dissent, synergies and hostilities were evident in regard to the oil industry, with consideration to the industry itself, oil-dependent industrial departments and states.

Broadly, Marxism theorises the capitalist state as a representative of capitalist economic interests. We should not however see the state as simply subservient to the monopoly interests of the oil industry, despite its economic power. The thesis has demonstrated this with a detailed theoretical exploration of the relationship between state and oil industry. The study indicates that the state should be viewed to a much greater degree as a mediator of power emerging from different realms of capitalist production.

The state seeks to sustain and promote capital accumulation within the domain of its jurisdiction and power. In doing so it acts to mediate the power of economic actors, such as the capital of the oil industry and the interests of oil-dependent industries. In addition, the state frequently engages other states, in its support for the expansion of its industries internationally. The interaction it has with economic sectors is thereby matched by the representative role of rival states, supporting economic sectors.

The analysis indicates that relations between states are based on the role of the state in protecting both individual industries as well as the departments that constitute the totality of the national economic interest. The international character of the oil industry required us to incorporate these issues in the theoretical model. Using this analytical approach allows us to conceive more systematically the occurrence of state support for particular economic sectors to represent the reproduction of the whole accumulation structure belonging to its controlling domain.

The oil industry evolved in a symbiosis that represented its internal logic in conjunction with the interests of the state. The state intervened in the development of the oil industry in the context of the imperative for the state to protect and enhance accumulation processes. This state role was acted out within the borders of its jurisdictional domain as well as in the international domain. The increasing importance of oil to national accumulation historically required states to act beyond national borders. These actions were the basis of political conflict.

The thesis emphasises that we cannot be bound by an economic determinism in studying the relationship between economic and political relations. The analysis of oil shows decisively that the unique historic conditions of particular capitalist industries must be factored into empirical analysis.

Any analysis of the role of oil in contemporary political events must take into account the historically developed relations of power surrounding this industry. The events of the Gulf War in 1990 are a significant example. The study of this war from a purely political (and moral) perspective was frequently encountered.[269] Economic determinism was also evident in some analyses. The more complex modelling of political economic relations, as demonstrated here, provides the basis for examining such events with a greater sophistication, demonstrating the layered structure of interests involved in that conflict.

The thesis has indicated that the oil industry developed into a position of great significance to a number of states. The contemporary oil industry continues to have global economic influence, particularly in terms of its pricing. The increasing importance of the Middle East to oil production, developed over a period of decades, forcefully indicates the importance of analysing the political-economic issues surrounding the role of oil in political disputes.

The conceptual framework developed in the thesis can contribute to examination of contemporary issues that involve the political and economic aspects of oil production.

269 Strobe Talbott, Defusing Baghdad's Bomb, *Time,* April 30, 1990: 38. George Bush, in *Strategic Digest*, Vol XXI, No 3, Institute of Defence Studies, March 1991: 470. American Secretary of State, James Baker commentary in *The Guardian* November 11, 1990; E. Lauterpacht, (ed) *The Kuwait Crisis: Basic Documents*, (Grotius, Cambridge, 1991): 173.

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