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ARAB OIL : A HISTORICAL
ANALYSIS AND POLITICAL
EVALUATION

by

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ABSTRACT

Petroleum is a strategic commodity. Since 1913 petroleum has been instrumental in creating an expanding association between Western Europe and the Arab World, which has been characterized by a continuous and dynamic pattern of interaction. This association, extremely complex and intricate, owing to the international political cleavages which exist between the two culturo-geographic regions, has necessarily engendered an increasing political significance circumscribing the petroleum industry.

Any evaluation of the political effectiveness of Arab oil in international relations is dependent upon an evaluation of the following contingent factors: (1) that the political effectiveness of any attempt by the Arab states to control their petroleum will be a direct function of the length of time that this control is exercised and the amount of oil involved in any such policy; and (2) that the economic and diplomatic policies pursued by the West and directed against the Middle East in the event of a cessation of petroleum exports, would serve to hinder and disrupt the Arab economic patterns which rely heavily on crude exports.

Thus, this study concerns an analysis and evaluation of petroleum in the Arab world: its historical development and political effectiveness.

INTRODUCTION

In the contemporary world, petroleum and its principal derivatives, i.e., gasoline, fuel oil, and other petroleum energizing agents, have attained a position of pre-eminence unparalleled in man's attempt at economic and material advancement. Under more favorable conditions this development would create few political implications, but in a century rife with opposing ideologies and fostered by economic inequality petroleum can most aptly be termed a "strategic necessity"; for oil is power to both its owner and user. This state of affairs, the subject matter for this thesis, prompted the study and writing of one specific facet encompassing the politics of petroleum - the relationship between the Arab producer and the Western European consumer.

Western historians have enumerated various factors for the advent of the Industrial Revolution in the Western Hemisphere, most notable among those mentioned being an abundant supply of solid fuel. Coal and its by-products were easily adapted to the requirements established by the nascent industries as it demanded a minimum of technological knowledge in procurement and application as an energy creator. As continuous advancements occurred in the industrial sphere, the need for less expensive, greater heat equivalent producers, and more transportable fuels increased - thus began the era of liquid fuels.

During the Nineteenth century the increasing production of crude petroleum as an energy source in competition with coal was slow and often fraught with an unethical tone. Generally, it was utilized merely to produce domestic heat and light from its primary product, kerosene. Whereas the demand for petroleum was substantially restricted during this period, the development of the combustion engine at the turn of the century created a new and ever-increasing market for gasoline, thereby enabling oil to challenge and eventually surpass the pre-eminent position of coal as the principal energy fuel.

World War I served as the primary stimulus in rendering petroleum a competitive fuel, for never before was the necessity of obtaining and controlling crude deposits more appropriately demonstrated than in the Allied victory over Germany. Prior to the Second World War petroleum continued its competitive trend, gradually displacing coal. Its most notable success occurred in the United States where a nascent, ever-expanding industrial base (primarily in the Mid-West and West), in close proximity with indigenous areas of crude production could, as a result of less expensive transportation costs, be more easily adapted to the changing production techniques required for fuel consumption.

The Second World War may be said to characterize, even epitomize, the contemporary scene, for it is generally accepted that the shortage of petroleum available to the Axis powers contributed to their defeat. This, of course, was due primarily to a total dependency upon mobilized units for successful military action.

Equally significant and of possibly greater importance to the oil industry was the intense destruction heaped upon the European industrial base; as a consequence, modern methods of production were incorporated in the course of reconstruction efforts, thus creating a need for petroleum products far in excess of pre-war demands.

Prior to and following the War, the United States was the single largest producer, consumer, and exporter of petroleum products in the world. As a result of the depletion of American reserves suffered during the War and the subsequent dollar shortage in a monetarily deprived Western Europe, western oil companies increasingly turned to foreign operations in an attempt to satisfy the rising demand for petroleum. Venezuelan and Middle Eastern crude supplies had been discovered many years before, with only the former attain-

ing a degree of respectability as an exporter. With American interests firmly protected in Venezuela, Western Europe turned to the prolific reserves of the Arab world where previous exploration, production, and spheres of influence, guaranteed the security of future operations. American oil companies, operating on a minor scale in Saudi Arabia and Bahrain, intensified their production of crude oil in an effort to reap the economic benefits afforded the petroleum producer. Henceforth, with the Arab position vis-a-vis crude production and reserves becoming a cornerstone of the Western economy, the first of two developments required to transform oil from a thoroughly economic to a political item was complete - the entrance of Arab crude in the economic structure of the West.

The second and most critical factor in the transformation process is partly a result of the preponderance of oil found in the Middle Eastern countries versus the remaining areas of the Non-Communist world. Though an extremely unequal geographic distribution exists, this condition in and by itself fails to create the intense political ramifications circumscribing the contemporary petroleum industry, the economies of supply and demand would tend to inextricably bind the consumer and producer in a harmonious relationship free from situations of stress.

The principal cause underlining the emergence of political controversy among nations is most appropriately stated in the preface to De Tocqueville's

Democracy in America:

there will be found on every page a solemn warning that society changes its form, humanity its conditions, and that new destinies are impending.

The Arab countries more than any other geographic area exemplify the circumstances of the aforementioned quotation and as such, petroleum provides the means of attaining "that new destiny".

That Arab petroleum has political overtones was recently reaffirmed during the West German - Israeli imbroglio when a group of Arab ministers meeting in Cairo uttered words of warning regarding the "political weapon" of oil. Shortly thereafter, Hassanein Heikal, editor-in-chief of Al Ahram, who is regarded as President Nasser's primary spokesman proposed:

to create an Arab Oil Organization through which Arab states will be able to coordinate the positions they should take in petroleum affairs, and to protect their interests through a unified defense line so as to realize for themselves, by one fortunate coup a political weight which would turn the scales in their favor in any balance.¹

Although these words of warning remain mere threats, unactualized to date, their significance in the economic sphere "where the free world's consumption of oil continues to grow at about double the rate of total consumption"² cannot be minimized. Petroleum, the energy base that unites the Arab states - the producers by virtue of ownership - and the Western European states - the consumers by virtue of need - necessarily creates a tenuous balance of interest between the two parties; thus, petroleum becomes an "Archimedian fulcrum" in the realm of power politics.

The two principal geographic areas of interest to this study are the Arab world and Western Europe. The generally accepted limits of regional definition, as to the boundaries of each, have been somewhat altered to facilitate a comprehensive analysis of the subject.

For the purpose of this study, the Arab World includes those nations recognized as culturally Arabized from Morocco to Iraq.³

1

"Al Ahram", Petroleum Intelligence Weekly, July 6, 1964, p.7.

2"How Arab is Oil", The Economist, March 20, 1965, pp. 1291-1292.

3"Morocco, Algeria, Tunisia, Libya, Egypt, Saudi Arabia, Lebanon, Syria, Jordan, Iraq, Kuwait, Yemen, Aden, Bahrain, and the Trucial Coast states.

The European definition, rather than being based on a cultural phenomenon, is dependent upon the political and economic associations that exist amongst the Western Nations. Consequently, two primary alternations are required to establish the most homogeneous unit for analysis: 1) Greece and Turkey are excluded as their economic and political positions differ substantially from those of their continental neighbors; and (2) the United States of America, as a result of the intricate economic and political relationship that it currently maintains with the Europeans, could not possibly divorce itself from Western Europe, and thus, must be considered to obtain a comprehensive and realistic understanding of the Western sector.

The basic assumption underlying this study is that political action connected with the petroleum dependency of Western Europe, if forthcoming, will be initiated by the Arab states. To determine the likelihood of such a situation, the historical background which gave rise to the present circumstances will be considered in detail, as the first of three sections. The second section will contain that information required to establish the degree of European dependency on Arab crude - thereby assessing its degree of political attachment. Finally, an analysis of the Eastern political and economic situation will be undertaken to determine which factors inhibit and which abet the use of oil as a political lever for the Arab world.

HISTORICAL CONTEXT

Having presented in a general fashion the development of the petroleum industry and the consequential political implications that arose from its distribution and place of occurrence, the second and most important aspect of this study, petroleum's political emergence, may now be reviewed.

The most significant development in the Arab political arena was the contradicting tendency engulfing, simultaneously, the Occidental producers and the Oriental owners of the crude deposits. Whereas the European producing agents, faced with opposing ambitions, struggled for petroleum-supremacy during the inter-war period, the owners, i.e., the Arab states, conditioned by similar political motives displayed vague signs of future unified action. These conflicting tendencies persisted up to and partially through the Second World War when, following a cessation of military endeavors the circumstances fomenting and perpetuating this condition were dramatically altered. Western interests, rather than vying amongst themselves, found it infinitely more profitable to coordinate objectives while the Arab world theoretically bound in a common cause for independence and unity was actually being torn and divided by the determination of each nation to procure for itself the enormous financial and commercial benefits derived from crude production.

In this section, the author, will present and analyse four basic historical divisions encompassing the politics of petroleum. Chronologically they are:

1. The Historical Background (1900-1945)
2. The Post-War Period (1946-1950)
3. The Iranian Nationalization (1951-1953)
4. The Suez Crisis (1952-1957)

HISTORICAL BACKGROUND (1900 - 1945)

The present political and economic significance of petroleum as envisaged in the contemporary world can only be assessed, evaluated, and comprehended through a knowledge and understanding of its historical development. As this study is primarily concerned with the political issues encompassing the petroleum industry little emphasis will be given the statistical development of crude production in this section.

Middle Eastern reserves, then largely under the shield of the Ottoman Empire, first came to the attention of the Western business community in 1902.⁴ In that year, a Britisher, William Knox D'Arcy, an enterprising man of great wealth, obtained a concession granted by the Shah covering virtually the whole of Persia. Though the first year of the Company's operations, which D'Arcy formed, were spent almost entirely on exploration, the inaccessibility of the terrain and the complications engendered by this condition resulted in a financial loss of £300,000.⁵ Years of frustrating and expensive undertakings which diminished the capital stocks of its investor, William D'Arcy, resulted in a period of immobility finally alleviated by its merger with the Burmah Oil Company.⁶ Approximately seven years after the Shah granted the concession oil was struck in commercial quantities near Haft Kel on May 26, 1908.⁷

4

The exact year that Western businessmen opened Iran to exploration appears to be a highly controversial question, however, Leonard Fanning Foreign Oil and the Free World uses the date 1902.

5

Leonard M. Fanning, Foreign Oil and the Free World (New York: Mc Graw-Hill Book Company, 1954), p.45.

6

The Burmah Oil Company was formed some twenty years prior to its entrance into Persia to exploit the commercially productive fields of South East Asia. As a consequence of the merger the Anglo-Persian Oil Company was founded in 1909, which, was subsequently changed in 1935 to the Anglo-Iranian Oil Company.

7

Fanning, op. cit., p. 44.

The economic and political significance of the crude discoveries in Iran went virtually unrealized until July 17, 1913, when Winston Churchill, then First Lord of Admiralty, presented before the House of Commons a governmental objective of epic proportions, stating:

It is a twofold policy. There is an ultimate policy and there is an interim policy. Our ultimate policy is that the Admiralty should become the independent owner and producer of its own supplies of liquid fuel, first, by building up an oil reserve in this country sufficient to make us safe in war and able to override price fluctuations in peace; secondly, by acquiring the power to deal in crude oils as they come cheaply into the market..... This second aspect of our ultimate policy involves the Admiralty being able to refine, retort, or distill crude oil of various kinds, until it reaches the quality required for naval use..... The third aspect of the ultimate policy is that we must become the owners, or at any rate the controllers at the source, of at least a proportion of the supply of natural oil which we require.⁸

In May, 1914, two developments affecting the Anglo-Persian Oil Company occurred: (1) The Royal Navy officially converted from coal to oil and entered into a long-term contract with the Company for fuel oil; and (2) The British Government, investing £2 million in the Anglo-Persian Oil Company, subsequently became the controlling shareholder with fifty-one per cent.⁹ Thus, the seeds of eventual dependency were sown as foreign petroleum entered the Western political arena.

Development of the area's oil industry was inhibited primarily by the reactionary and inefficient Ottoman administration during the years preceding World War I, while the political turmoil of the War years resulted in its total suspension. In 1919 European interests resumed exploration and production of crude deposits in Iran and Iraq, their efforts facilitated by the

⁸ P.H. Frankel, Essentials of Petroleum (London: Chapman & Hall LTD., 1946), p. 110.

⁹ Fanning, loc. cit., p. 45.

encouraging presence of the British nation as a mandatory power obviously sympathetic to their operations.

Throughout the inter-war period the petroleum industry developed slowly, but steadily, under the guiding hand of its principle sponsor, England. Following the cessation of war, the British, eager to protect their vested oil interests from encroachments by competitive foreign corporations, i.e., primarily those of the United States, initiated a policy called the "Red-Line Agreement."¹⁰

The Red-Line Agreement originated from a document merging British, German and Royal-Dutch Shell interests in the now defunct Turkish Petroleum Company. The agreement, whose name was derived specifically from its function of delimiting geographic areas of participation within which the group must confine its operations, was to enhance the economic stature of Europe by creating a monopolistic structure capable of thwarting any attempted American entry deemed undesirable. Germany's defeat in the First World War, altering the balance of power in Europe and the Middle East, necessitated a revision of the agreement to correspond more realistically to the new political divisions. Thus, on December 29, 1919, Sir Hamar Greenwood, British Minister in charge of Petroleum Affairs, and Senator Henry Berenger of France, initialled a memorandum of consent as regards Mesopotamia and the Turkish Petroleum Company. French Oil, controlled exclusively by Standar Oil before the War, sought to emancipate itself

10

The Red-Line Agreement provided that the participating groups should confine their operations in the Middle East to the boundaries of the old Ottoman Empire of Europe and Asia while excluding Egypt, Kuwait and the "transferred places" on the Turko-Persian frontier.

by accepting twenty-five per cent¹¹ interest in the British dominated enterprise but, in so doing, merely transferred its dependency from an American to a British enterprise. The aforementioned memorandum led ultimately to the San Remo agreement of April 25, 1920, which, concerning the entry of France, stipulated that ... "it is also understood that the said petroleum company shall be under permanent British control."¹²

American petroleum interests, though the largest and most developed in the world, were temporarily prevented, by these agreements, from expanding beyond their own spheres of influence in North, Central, and South America. Had it not been for the foresight and interest displayed by a few men holding influential positions in the United States Government and the recurrent fear of depleting indigenous reserves, European efforts to exclude American interests from participating in the Middle East would most certainly have been realized during the inter-war period.

Official American action during the 1920's was directed primarily towards developing independent, and, when feasible, coordinated interest among its domestic oil companies in Middle Eastern production. Thus, on August 22, 1922, the Secretary of State wrote to W.C. Teagle, then acting as official representative and spokesman on behalf of all the American oil companies, stating:

In its support of the Open Door policy it is not this Government's

¹¹ Benjamin Shwadran, The Middle East, Oil and the Great Powers (New York: Frederick A. Praeger, 1955) p. 204.

¹² Ibid., p. 204.

desire to set up impractical and theoretical principles or to place obstacles in the way of the participation of American companies in foreign enterprises, but rather to open to American companies the opportunity for such participation if they desire it. It rests chiefly with American commercial interests themselves, once the opportunity is offered, to determine the extent and terms of their participation and to decide whether, under existing circumstances, an adequate opportunity is offered.¹³

Although the above quotation is worded in a typically diplomatic fashion, the conditions, previously outlined as its motivating factors, clearly indicate the nature of its actual objective. Thus, it may be concluded, that the Secretary of State, rather than acting in a gratuitous capacity, was actually concerned with motivating American petroleum interests in the crude reserves of the Arab world.

The practical importance of oil was reiterated by President Coolidge and brought more forcefully to the attention of officialdom when in 1924 the first Federal Oil Conservation Board was constituted. The President writing in justification of his actions stated:

It is even probable that the supremacy of nations may be determined by the possession of available petroleum and its products.¹⁴

Consequent to the implementation of conservation techniques practiced universally throughout the nation, American companies were confronted with the distinct possibility of a decreasing profit ratio and were, on these grounds, stimulated to adhere more favorably to the Government's Open Door policy in Mesopotamia. Consequently, Herbert Hoover acting in his official capacity as Secretary of Commerce, invited company representatives to

¹³ Ibid., p. 213.

¹⁴ Frankel, op. cit., p. 3.

Washington to determine conclusively their degree of interest in Middle Eastern oil, which, if significant, would be acted upon in a positive manner at diplomatic levels.¹⁵ Shortly thereafter, at a conference held between Standard Oil and the Foreign Trade Advisor's Office of the State Department, the Company officially confirmed its desire to participate in Mesopotamian crude production if opened to American capital.¹⁶

The first in a series of continuous attempts by American petroleum concerns to frustrate and counteract the spheres of influence delimited by the Red-Line Agreement was pursued by Gulf Oil. Having relinquished its rights to further participation in the Iraqi Petroleum Company (I.P.C.) it unsuccessfully sought to obtain in 1926 a concession in the Sheikdom of Kuwait. Though unsuccessful, American interests, largely undaunted by the difficulties posed, continued to apply financial and governmental pressure. Finally in 1930, Standard Oil of California acquired a concession of approximately 156 square miles on the island of Bahrain. What was at that moment viewed as insignificant, because no withdrawal or weakening of British influence occurred, proved ultimately to be of dynamic proportions.

Geologists operating from the Island became intensely interested in the similarity of features in oil-producing Bahrain and the coastal regions of Saudi Arabia. Negotiations were arranged with King Ibn Sa'ud in the hope of securing a concession but once again American ambitions fell victim to the British monopoly within the area. To assist them in their endeavors, Standard

¹⁵ Shwadran, op. cit., p. 209

¹⁶ Ibid., p. 209

Oil of California obtained the support of H. St. J. B. Philby, an Englishman, who had cultivated a deep relationship with the King. Philby's objective was made somewhat easier by increasing financial commitments within the country and unconfirmed but probable United States governmental pressure. England had for a number of years been giving the King a subsidy of £60,000 (gold) annually to protect their interests from foreign encroachments.¹⁷ This allotment, vital to the King's survival, had more recently become rather tenuous as inter-governmental objectives came into conflict.

The combination of these factors culminated in the acquisition of a concession by Socal (Standard Oil of California) in 1933. Gulf Oil, following the success of Standard Oil in Arabia, entered into an equal partnership with British Petroleum, one year later, in Kuwait. In this instance overt United States pressure had been brought to bear on the British Foreign Office to arrange an equitable settlement.¹⁸ As a result of new discoveries in the Gulf Coast region of the United States, American Companies, from the 1930's through the Second World War, became less concerned with their relative position in the Middle Eastern petroleum industry.

British and French immobility during World War II, when combined with an increasing depletion of indigenous American reserves consequent to the War effort, forced the United States to adopt a more strenuous policy directive toward the acquisition of Arab oil. The first concrete reflection of this attitude occurred in connection with Saudi Arabian petroleum. In a

17

H. St. J. B. Philby, Arabian Oil Ventures (Washington, D.C.: Middle East Institute, 1964) p. 64.

18

Shwadran, op. cit., p. 139.

letter written by President Roosevelt to Mr. Stettinius the President stated:

For the purpose of implementing the authority conferred upon you as Lend-Lease Administrator, by Executive Order No. 8926, dated October 28, 1941, and in order to enable you to arrange for Lend-Lease aid to the Government of Saudi Arabia, I hereby find that the defense of Saudi Arabia is vital to the defense of the United States.¹⁹

The differences which existed between the Allied governments over petroleum reserves were accentuated at the Moscow, Cairo, and Teharan conferences where post-war petroleum developments centered principally upon future distribution of known deposits in the Middle East.²⁰ These discussions resulted in the creation of the "Anglo-American Agreement on Petroleum" of August 8, 1944. Although never ratified, it marks a milestone in inter-governmental oil relations.

19

Ibid., p. 309.

20

Frankel, op. cit., p. 142.

POST WORLD WAR II

PETROLEUM ALTERATIONS (1946 - 1950)

The decisions and events, previously under consideration, demonstrate a pattern of conflict amongst the Western consuming nations that undoubtedly would have persisted had not the balance of power been so altered as to render this temporarily impossible. The period under consideration in this subsection has been defined to include those years immediately following the War, i.e., 1946-1950.

World War II had a profound affect upon the future oil requirements and distribution patterns of production ownership in the non-communist world. The leading foreign producers of crude, as previously shown, were European concerns operating principally in the Middle East. Transit difficulties during the War caused a substantial reduction in the flow of Middle Eastern petroleum, thus, placing Europe in a position of precarious dependency on American territorial reserves and American-controlled South American fields. The prolonged hostilities coupled with an increasing industrial dependence on oil created an acute situation of European monetary indebtedness. Western Europe was thus inextricably bound in nearly every instance to the United States economic structure.

The failure of both the United States and England to arrive at a solution concerning the existing difficulties circumscribing the petroleum industry complicated and frustrated the first attempts at European economic recovery by extending its dollar dependency. It soon became apparent that if Western Europe was to serve as a domestic bulwark against the military ambitions of world communist designs the necessity of pursuing more effective and drastic measures to facilitate its reconstruction was imperative. Two primary policy considerations had thus to be resolved. First, American financial assistance

was required to develop a stable domestic monetary system and secondly, petroleum dependency on American crude, then supplying 800,000 barrels/daily,²¹ had to be alleviated.

In response to these considerations and others less politically-petroleum oriented, the United States, under the initiative of President Truman, inaugurated the European Recovery Program of 1948. The principal points of the program revolved primarily around crude supplies and industrial building, for a continuation of dependency on American fuel, incurred most heavily by the industrialized nations of England and France, would more than offset the economic advantages accruing from United States loans. An additional impetus compounding the need to liberate the Continent from its reliance on American petroleum developed as a result of crude deficiencies in the United States.

Obviously, the solution to these circumstances centered principally on Europe's ability to develop a petroleum-refining industry. It was anticipated that this condition would create three common advantages: (1) "it would relieve the drain on United States and Western Hemisphere supplies during a period of stringency; (2) it would relieve the dollar shortage by tapping resources within sterling and franc zones; and (3) by drawing partly on the production of areas developed by American corporate enterprises, it would help to keep those companies operating profitably."²²

American capital was, as a result, exported to Western Europe. In 1948, the Royal-Dutch Shell Group, a predominantly English controlled firm,

²¹Halford L. Hoskins, Middle East Oil in the United States Foreign Policy (Washington, D.C.: The Library of Congress Legislative Reference Service, 1950), p. 48.

²²Ibid., p. 49

obtained a loan of \$250 million dollars²³ for refinery construction from an assortment of American insurance companies. In the following year, Anglo-American Oil Company, a British affiliate of Standard Oil of New Jersey, commenced building operations of Europe's largest refinery in Fawley, England, at an estimated cost of \$150 million dollars.²⁴ The stimulus derived from this capital proved so successful that by 1956, European sterling and franc zones were supplying the preponderance of indigenous Continental petroleum consumption.

Four significant alterations in the petroleum industry became evident during this period. First and foremost as a structural innovation was the transference of refining industries from the areas of production to those of consumption. Though conditioned by economic motives, its practical importance to Western petroleum interests surpassed its immediate financial contributions, as it served to remove one facet of the industry from possible control by the crude-owning states of the Middle East.

Secondly, American petroleum companies prevented prior to and during the Second World War from obtaining adequate access to the crude fields of the Middle East, had, as a result of European political and economic defeat, strengthened their position in Saudi Arabia, Bahrain, and Kuwait. This alteration was realized through the dissolution of the Red-Line Agreement in 1940 because two of its members - Compagnie Francaise des Pétroles and Gulbenkian - had acquired enemy status. Consequently, American petroleum interests were guaranteed a degree of control over foreign supplies by

²³
Ibid., p. 53.

²⁴
Ibid., p. 53.

virtue of their superior position in production, refining and marketing.

The third change dealt primarily with America's role in world petroleum commerce. The United States, a traditional crude exporter, had in 1948 become a net importer. This more than any other development served to dissipate past difficulties between American and European officialdom regarding oil ownership and distribution. The importance of petroleum as conceived by the United States, and for all intents and purposes by England and France, was appropriately expressed in a report by the National Petroleum Council and submitted to the Secretary of Interior in January, 1949:

An adequate supply of oil is essential to the American standard of living. Oil in increasing quantities will be required in the future to meet the needs of our expanding economy. A primary weapon of victory in two World Wars, it is the bulwark of our national security.

The last and most important change affecting future developments occurred within the nations of the Arab World. For the first time, since the discovery of crude oil in the region, an effective wave of popular nationalistic and sovereign sentiment swept throughout the area. The Arab World - collectively, nationally, and individually, - was prepared to enforce its sovereign right amongst the nations of the world.

THE IRANIAN NATIONALIZATION

(1951 - 1953)

The dissolution of European power and prestige resulted in the creation of a political vacuum in the Middle East. Nationalism, nurtured for the past fifty years under the guidance of an enlightened intelligensia, was, in this atmosphere, to become the guiding principle of emerging nations throughout Asia, Africa, and the Arab world. The West, engulfed in economic and social transformation, was both unable to perceive and unwilling to commit its energies toward preventing the growth of this new dogma.²⁵

The first official action of any significant economic magnitude in the petroleum industry which may be considered a direct result of nationalist sentiment in those nations of the Orient was undertaken by Iran. In 1951 the Iranian Government, under the leadership of Dr. Mussadig,²⁶ nationalized the Anglo-Iranian Oil Company, which, as previously established, was controlled by the British Government.

Though Iran is situated beyond the regional definition of the Arab world the importance of this nationalization, in evaluating the economic resistance of the Arab states, necessitates its inclusion. Consequently, the internal effects that resulted from the Western retaliatory policies on the Persian economy and populace will be considered in same detail.

In 1947, the Iranian Government passed a law with regard to their southern oil deposits that the government was "... required to enter into such negotiations and take such measures as are ncessary to regain national

²⁵ Nationalism as conceived and executed in the emerging states of the world differs substantially in scope and content from that which developed in Europe, thus warranting its reference as a new ism.

²⁶ Dr. Mussadig was an active political figure in Iran prior to and during World War II. As a representative of liberal-leftist doctrine his ambitions were continuously thwarted by Iranian right wing supporters until his accession to power in 1951.

rights."²⁷ The law posed no immediate threat to the Company other than Government attempts to procure increased revenue and Persianization of its staff.

By 1950, government-company relations had become increasingly critical as Dr. Mussadig and his National Front Movement, expounding the doctrine of nationalization, gained in stature and popular appeal. The first attempts at mediation and reconciliation, since the passage of the 1949 Agreement which replaced the concession contract of 1933, proved fruitless and inconclusive. Though immersed in political turmoil, the company had made tremendous advances in production since its resumption of operations following the war. Iran was then supplying a respectable seven per cent²⁸ of the total non-Soviet worlds' production of crude and more than a quarter²⁹ of all refined products processed outside the Western Hemisphere.

British official reaction to the proposed nationalization by Dr. Mussadiq was unusually mild and controlled in view of the deteriorating situation. Their belief, based on a logical evaluation, held that nationalization appeared impractical and unwarranted as a settlement favorable to both parties could inevitably be concluded.³⁰ Western interpretation of Iran's position was expressed by the Joint Parliamentary Oil Committee Chairman, Mr. Harrison and his assistant oil expert Walter J. Levy, in a report which

²⁷ Fanning, op.cit., p. 104.

²⁸ Harold Lubell, Middle East Oil Crises and Western Europe's Energy Supplies (Baltimore: The John Hopkins Press, 1963), p.6.

²⁹ Ibid., p. 7.

³⁰ Junil Kanti Ghosh and Firma K.L. Mukkopadeyay, The Anglo-Iranian Oil Dispute (Calcuta: 1960), p. 92.

confirmed and emphasized the extreme difficulties which Iran must confront in producing, refining, and marketing crude products without the services of a capable staff or organizational structure.³¹

On February 19, 1951, the Prime Minister of Iran publicly stated that the proposed nationalization was, according to the experts he designated from the National Oil Committee, impractical. The situation reached a climax, when, on the following day, the Prime Minister was assassinated.

The Oil Committee reopened its investigation of the proposal and within approximately one month sent a revised evaluation of prevailing conditions in the oil industry to the Majlis: that nationalization was feasible. A lapse of two weeks preceded the bill's final acceptance during which time a number of impassioned speeches by parliamentary leaders concerned with such inflammatory issues as sovereign rights and company - colonial interference led to the conclusion that nationalization was justified in order to preserve the nation's security. On April 30th, Dr. Mussadig, the new Premier, finally secured approval of the bill; the Shah, then in a precarious position, signed it the next day.

For the next four months, three world powers - the United States, Great Britain and the Anglo-Iranian Oil Company - were to jointly and successively pit their resources against Persia. Conditions quickly deteriorated in Iran as British objections to the bill resulted in the mass withdrawal of all English personnel from the country, thus systematically forcing a reduction of refining. To further hinder the Iranian position, the United States in support of British interests severed existing and future aid commitments to

³¹

Ibid., p. 92

Persia. Increasing discontent and frustration with Persia intransigence resulted in official confirmation on May 14th, that the British 16th Independent Parachute Brigade Group had been "brought to a state of readiness."³² The result of these Western retaliatory measures meant, for Iran, a steep and sudden decline in revenues further aggravated by the well coordinated policies of the leading oil companies which, of course, called for a general boycott of Iranian oil.

By July, the West, having exhausted its arsenal of defensive manoeuvres against an increasingly intransigent opposition was finally forced to admit that Iran had, at least temporarily, succeeded. Nationalization, then a reality, was ultimately to prove a tragic failure.

By 1953, conditions in Iran were suitably altered to allow for a possible settlement. Dr. Mussadig had been ousted from control; while the Shah, who had previously left the country, returned and consolidated his strength under right-wing support. Persia was bankrupt, its currency debased, and its citizens critical of imposed hardships. Iran was ready, even desperate, to discuss a settlement, which would restore one of its principal sources of income and regain for it a measure of national solvency.

Negotiations began in 1954 between British, American, and Persia spokesmen which culminated in a new agreement ratified on the 21st of October. The following are a list of important clauses in the agreement:

1. The new agreement was to run until 1979, with an option of extension to 1994. (this was longer than the 1933 concession allowed for)
2. The area allotted was basically the same.

³² L.P. Elwell-Sutton, Persian Oil (London: Lawrence and Wishart LTD., 1955), p. 221.

3. The Iranian government conceded its insistence on direct control of operations in Persia.

4. Participating companies could only dispose of their shares with the consent of the Iranian Government.

5. Operating companies would receive all necessary rights from the National Iranian Oil Company (NIOC)

6. NIOC would retain ownership of all fixed assets.

7. Foreign personnel should be reduced - increased Persianization.

8. Consortium guaranteed a minimum production the first year of 15 million tons; 27 million the second year; and 35 million the third year.

9. Fifty-fifty division of petroleum profits (not allowed to sell petroleum below price unless accepted by the Iranian government.

10. Shares in the consortium were divided on the following basis:

a. Anglo-Iranian Oil Company	-	40%
b. Royal Dutch Shell	-	14%
c. Compagnie Francaise des Petroles	-	6%
d. Standard Oil of New Jersey, Socony-Mobil, Standard Oil of California, the Texaco Company and Gulf Oil each received	-	8%

11. The Iranian government then undertook to pay £25 million to Anglo-Iranian as compensation while its new associates agreed to forfeit £32.4 million plus an additional sum equivalent to 510 million (this total to be obtained from a ten cent tax on every barrel.)³³

The 1954 Agreement was slightly revised in the following year with the addition of nine other American companies. Thus, the crisis over Iran's nationalization was finally concluded and operations resumed after nearly four years of diplomatic, economic, and military maneuvering.

The nationalization, in some respects, proved successful. Iran obtained a measure of control over the consortium and it is estimated an

³³
Elwell-Sutton, op. cit., pp 320-323.

additional £100 million³⁴ from oil revenues for the period 1955-57. However, in the final analysis, Iran obtained only a small portion of what was originally intended: domestic control and ownership.

The primary cause for the failure of the nationalization may be attributed to a number of economic pressures which were levied against Iran. The loss of petroleum revenue, aid commitments, capital assets, and imports of vital concern to the country eventually disrupted the economic structure of Iran.

Iran was definitely underdeveloped, and, as a result dependent upon petroleum revenues and aid commitments for development projects in education, health, agriculture, and industry. Consequently, such projects were curtailed, thus preventing any increase in the per-capita yearly income of £20 sterling.

In an effort to compensate for the revenue lost from petroleum (Table I) the government ordered a 15 per cent reduction in the budget. Similarly, a 30 per cent³⁵ and 50 per cent³⁶ tax were respectively placed on tobacco and cars. Comparable duties were levied on all luxury goods.

Iran, due to its impoverished condition, was capable of executing the above mentioned measures without inflicting grave hardships on its populace. However, there was no available means of alleviating the export restrictions of "scarce goods" to Persia that was enforced by England. These goods were sugar, iron,

³⁴ Ibid., p. 324.

³⁵ Elwell-Sutton, op. cit., p. 312

³⁶ Ibid., p. 312.

steel, non-ferrous metals, Alloys and railway trucks and minerals.³⁷ The loss of these items did not immediately affect the country but every so slowly began to have a negative effect on the economy's ability to continue functioning and the people's ability to resist.

TABLE I

Persian Budget³⁸
('000 I.D.)

Item	1947	1948	1949	1950
Revenue:				
Direct taxes on income and wealth	587	696	849	1,160
Customs duties	1,205	1,312	1,911	1,679
Other indirect taxes	1,822	1,808	2,346	2,667
Oil Revenue	677	677	461	901
Other receipts	1,173	1,066	1,587	1,378
Total	5,464	5,559	7,154	7,785
Expenditure:				
Public Debt Interest	124	93	80	50
Education	508	566	675	961
Health	178	211	216	251
Defence	1,545	1,479	1,651	2,478
Capital Expenditure	390	992	1,197	1,656
Other Expenditure	3,250	4,680	3,085	5,291
Total	5,995	8,021	6,904	10,687

³⁷ Ibid., p. 313

³⁸ The Middle East 1955 (London: Europa Publications Limited, 1955), p. 263.

The degree to which these restrictions affected the Iranian economy may be clarified by reviewing the distribution of emergency funds given to Iran after the Shah had made known his intentions to settle the conflict. In August, 1954 the United States announced that \$23 million in Point Four aid was available to Iran for the current year.³⁹ "On September 5th one month later, an additional \$45 million was given in emergency funds \$10 million for essential imports, \$10 million to bolster the Persian currency, \$12 million to avert a sugar famine, and \$13 million to finance other necessary purchases."⁴⁰

The country, its economy and people, could resist no longer. The West, having to a large part replaced Persian petroleum with Arab oil, was in no way dependent upon Iran. However, the opposite was not true, Iran, as previously established in the foregoing analysis, was dependent upon the West for its survival at the subsistence level.

Three definite petroleum oriented developments crystallized as a result of the nationalization: first, it became evident that one oil producing state by itself could not hope to succeed against the combined strength of the international companies and their home governments; secondly, Iran became resentful of the Arab oil fields largely exploited during the nationalization,⁴¹ and lastly, the nationalization indicated that an Eastern nation could, temporarily, withstand its western adversaries but must ultimately concede to them.

³⁹ Ibid., p. 313

⁴⁰ Ibid., p. 313

⁴¹ Lubell, op. cit., p. 7.

THE SUEZ CANAL CRISIS

(1952 - 1957)

The Iranian nationalization, though only partially successful, did contribute to reviving interest in nationalization as a tool to encourage mediation and compromise or, when possible, actual control over foreign enterprise. The political atmosphere in the Middle East regarding Arab-Western relations had become, after the Anglo-Iranian settlement, increasingly strained as indigenous political movements appeared to threaten certain vested interests of the West, i.e., petroleum, other industries, and military bases. To prevent further interference by Pan-Arab leaders, the United States attempted to force Egyptian political acquiescence by cancelling its financial commitment to the proposed Aswan Dam project. In retort, President Nasser announced the nationalization of the Suez Canal Company.

In 1956, petroleum from the Persian Gulf region was transported via the Canal at a rate of 1.5 million barrels⁴² a day (75 million tons a year) to the West; 1.3 million barrels⁴³ a day (65 million tons a year) of this destined for Europe. Seventy per cent⁴⁴ of Europe's requirements were transported via the Canal while the remaining thirty per cent⁴⁵ was carried via pipelines from Iraq and Saudi Arabia to their respective Mediterranean seaports of Tripoli and Sidon. The actual significance of these figures is self-evident in view of the fact that petroleum supplied 18-20 per cent⁴⁶

⁴² Organization for European Economic Co-operation, Europe's Need for Oil (Paris: Petroleum Division, 1958), p.11.

⁴³ Ibid., p.12.

⁴⁴ Ibid., p.12.

⁴⁵ Ibid., p.12.

⁴⁶

Ibid., p.25.

of Europe's energy needs in toto .

For reasons far too complicated to consider in this study, England, France and Israel executed a joint military operation against Egypt. In response to the attack, Egypt, on October 31, 1956, immobilized shipping through the Suez Canal. Arab reaction to this overt infringement of Egypt's sovereignty was manifested in two separate but similar undertakings. On November 3rd., the Syrian Army severed the flow of crude from Iraq by disabling the pumping stations in their territory. Saudi Arabia followed suit by placing an embargo on all petroleum destined for England and France.⁴⁷ Europe's position in November, resulting from the loss of transit facilities supplying nearly 1,800,000⁴⁸ barrels a day or over seven million tons a month - two-thirds her total need, - was temporarily precarious.

The solution of the crisis was basically academic as it merely required a concerted effort in rerouting available tanker facilities to gain maximum utility from each ship; crude supplies from Venezuelan and American fields. were respectively increased by ten and seven per cent⁴⁹ by January. Additional supplies from accumulated stocks of one month in Europe and of three months in the United States served to render the initial impact of the fuel shortage somewhat milder than was first anticipated. Two complementary events served to enhance the European position. The first, occurred as a result of an unusually mild winter, during which time fuel oil requirements for heating

⁴⁷This was merely a token gesture by Saudi Arabia for England and France received the great bulk (90%) of their petroleum needs from Kuwait, Iran and Iraq.

⁴⁸Organization for European Economic Co-operation, op. cit., p. 23.

⁴⁹Lubell, op. cit., p. 10.

purposes fell below seasonal needs as hydroelectric plants continued to maintain an abnormally high production rate.⁵⁰ Secondly, crude shortages created an increase in the price of oil which necessarily curbed the pace of economic expansion causing a concomitant decrease in petroleum requirements.⁵¹ Finally, by mid 1957, after intensive clearing operations under the auspices of the United Nations, petroleum freighters were again carrying crude through the Suez Canal.

The effects of the crisis indicated that the Arab world held a degree of control over the economic prosperity of Western Europe and could when it desired exercise that control. However, the precarious security of Asian Arab petroleum focused attention on alternative sources of energy and crude suppliers: thus the prolific increases in North African exploration and production. Thus, the importance of Arab oil to the West was established along with the ability of the West to develop new sources of supply.

Although a lapse of eight years remains to complete the reader's understanding of petroleum developments from 1900 to the present, the relevant historical data will be included in the course of the economic discussions to follow and will, therefore, not be presented in the formal, historical context.

50

Organization for European Economic Co-operation, op. cit., p. 37.

51

Ibid., p. 37

THE WESTERN POSITION

SHORT-TERM FLEXIBILITY

The importance of Middle Eastern petroleum in the economic considerations of the West manifests itself on two levels: first, as an energy source vital to the Western economic structure; and secondly, as an economic industry in and by itself, i.e., as a vested interest. This section will deal primarily with the former situation - the importance of Arab oil to the West as a source of energy.

In this connection one should be familiar with the distinct area patterns of Arab petroleum exports. The nations of the Arab world comprise, without any doubt, those nations most closely linked to Western Europe by bonds of oil. From the earliest days of crude export up to the present time Western Europe has been the overwhelming destination of Arab exports. By the end of 1964, seventy-three per cent⁵² (249.25 million tons) of Arab petroleum, for that year, had been exported to Western Europe.

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Includes Iranian exports (reference to Table II)

TABLE II

Inter-Area Total Oil Movements⁵³ (millions of tons)

To:	From:			
	Middle East and North Africa			
	1962	1963	1964	Total
U.S.A.	17	15 3/4	16 1/4	40.0
Canada	6 1/2	6 3/4	7.0	20 1/4
Other Western Hemisphere	11	10 3/4	10	31 3/4
Western Europe	150	212 3/4	249 1/2	612 1/4
North Africa	3	4 1/2	4 1/2	12.0
West Africa	1 3/4	3	2	6 3/4
Indian Ocean Area	18	19 1/4	21.0	39 1/4
Australasia	9 1/2	11 1/4	12 3/4	33 1/2
Japan	35	45 1/2	54 1/2	135.0
Other Eastern Hemisphere Unallocated	22 3/4	20 1/4	21.0	63.0

53

British Petroleum Company Limited, Statistical Review of the World Oil Industry, 1962, and 1964.

Other areas of export, i.e., primarily Japan and the United States, imported a substantial part of the remaining Arab crude supplies. Therefore, as a vital supplier of energy, the Middle East has its most meaningful bond with Western Europe. It is principally in this connection that Arab petroleum reserves are viewed as a political lever.

The current significance of Arab oil in the Western European economic context is indicated by the large percentage of the total energy requirements within the region filled by this product. As of 1964, total European consumption was, in terms of thousands of barrels daily, 6,890, or nearly forty-four per cent of absolute needs. Thus in total energy requirements, the Arab world supplied approximately 32.1 per cent or Arab petroleum supplied nearly one-third of Europe's needs. This was by far the largest foreign-originating segment of the Western European energy source for the year (imports of coal and gas are still infinitesimal), and clearly a significant position of potential strength for the Arabs vis-a-vis their Western customers. European dependence is further accentuated by two recent developments: (1) as of the first quarter of 1965, petroleum displaced coal as Europe's leading energy source⁵⁴ with percentage increases of eleven⁵⁵ and nine⁵⁶ per cent respectively in the Common Market countries and those non-affiliated with the select six; and (2) the ever-increasing use of oil-burning rather than

54
"Oil Displaces Coal," Petroleum Intelligence Weekly, December 14, 1964, p. 2.

55 Ibid., p. 2

56
Ibid., p. 2.

TABLE III

Consumption and Percentage in Economy⁵⁷

Countries	Consumption				Percentage total ⁵⁸	
	1964	1963	1964 Share of total	Change 1964 over 1963	1962	1963
Benelux	720	640	3%	+10%		
France	1,010	870	3%	16%		
Germany	1,420	1,240	5%	15%		
Italy	940	800	3%	17%		
U.K.	1,340	1,230	5%	9%		
Scand.	620	570	2%	10%		
Other W.E.	840	760	3%	11%		
Total	6,890	6,110	24%	13%	43%	47%

57

British Petroleum Company Limited, Statistical Review of the World Oil Industry, 1962, 1963, and 1964.

58

Figures for selected countries were unobtainable.

coal-burning equipment in replacing or expanding boiler capacity has meant a continuous reduction in Europe's ability to reconvert to solid fuels.⁵⁹ Thus, it may be safely concluded that current West European economic reliance on the Middle East is, conservatively speaking, substantial with regard to energy supplies. The role of Arab petroleum in the European economic structure continues to increase at an rapid rate (Table IV) though the European industrial base is experiencing a primary transition from a "boom economy" to one exhibiting a more mature and firmly established growth rate.

The political effectiveness of any attempt by the Arab states to control their petroleum exports will be a direct function of the length of time that this control is exercised and the amount of oil involved in any such policy of control. Accordingly, the analysis of the European dependence situation will take into account European ability to withstand a crisis of a short or long term basis.

SHORT-TERM FLEXIBILITY

TABLE IV

Fuel Consumption, West Germany and Britain⁶⁰

	Germany				Britain
	1959	1960	1963	1964	1964
	million metric tons of coal equivalents				
Total of which	198.5	217.4	254.4	261.9	280.7
Coal	122.1	128.9	127.0	121.2	189.6
Lignite	30.7	31.8	35.1	35.2	Nil
Oil ⁶¹	37.4	47.3	82.8	96.0	85.8

The dramatic closure of the Suez Canal in 1956 and the subsequent shortage of petroleum in Western Europe spurred consideration of alternative arrangements by which the West could forestall the possibility of a recurrent crisis arising in connection with a cessation of Middle Eastern crude deliveries. These arrangements, discussed and confirmed under the auspices of the Organization for European Economic Co-operation, are a function of three principal factors: (1) the maintenance of a sufficient shut-in capacity,⁶² thereby, guaranteeing the ability of Western producers to rapidly increase production in various parts of the world; (2) the stockpiling of sufficient quantities of indigenous sources to account for

⁶⁰

"Coal and Un-Germanic Oil," The Economist, February 20, 1965, p. 797.

⁶¹ Oil includes non-energy uses, and is converted to coal equivalents at the rate of one ton of oil=1.43 tons of coal.

⁶²

Shut-in capacity refers to the amount of crude capable of being produced. Assuming that the field is operating at full production.

any immediate interruptions in the flow of crude; and (3) the construction and maintenance of a large and flexible tanker transport fleet capable of satisfying the existing consumer requirements irrespective of the increased distances encountered in carrying Western Hemisphere versus Arab petroleum to Europe.

In this section, the ability of Western Europe to withstand an energy crisis of a relatively short duration, i.e., not exceeding one year, will be considered by analyzing each of the aspects listed above.

PRODUCTIVE CAPACITY

The maintenance of a sufficient shut-in capacity by the West is dependent upon two principal sources of crude in the Western Hemisphere: Caribbean, i.e., primarily Venezuelan, and the Gulf region of the United States. During the Suez Canal closure it was evident that both the aforementioned sources of Western reserve capacity were sufficient to forestall any significant economic repercussions that might result from the temporary shortage of Arab exports. What existed in 1956-57 and appears no less valid today should a similar crisis evolve, may not be sufficient for the future in view of the continuously altering circumstances surrounding the considerations of production and consumption.

TABLE V

Consumption and Production⁶³ (million tons)

	1957	1964
Consumption		
1. Western Europe	134.0	336.5
2. United States	427.0	528.0
Production		
1. United States	347.0	374.0
2. Venezuela	145.0	153.0

⁶³ "World Petroleum," World Petroleum Report, March 15, 1965, p.38.

De Golyer and Mac Naughton, Twentieth Century Petroleum Statistics (Ballas: De Golyer and Mac Naughton, 1964) pp. 4, 15, 35 and 55.

The economic subtleties involved in the determination of this endurance period are too complex to be presented here. For further information the statistical appendix to Lubell's Oil Crisis in the Middle East and Europe's Need for Oil may be consulted.

From the data presented in Table V three significant developments unfold:

(1) that West European consumption has increased 275 per cent since 1957 to the present; (2) that United States consumption has far exceeded indigenous production; and (3) that total Venezuelan production directed primarily toward the American economy just suffices to guarantee the nation's petroleum needs.

Though Europe can no longer find security in the indigenous crude deposits of the Western Hemisphere, due to expanding American requirements, two additional factors, shut-in capacity and stockpiling would normally remain available in the event of a recurrent crisis. Stockpiling is primarily utilized to fill short-term emergency needs until increased production from shut-in capacity could compensate for the new requirements. The supply of reserve petroleum products in the United States for 1965 is commensurate to seventy-five days⁶⁴ supply (840 million barrels) under normal conditions. Following a lapse of three months required for technical problems a total shut-in capacity of 15.3 and 26.1 million tons a year would respectively have been achieved in Venezuela and the United States. The combined effect of shut-in capacity and stockpiling in Venezuela and America assures Europe a survival period of 163 days or five to six months.⁶⁵

Thus, the Western Hemisphere producers remain a very significant factor in Western Europe's defensive petroleum tactics but one of dubious reliability.

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"World Petroleum," World Petroleum Report, March 15, 1965, p.38.

65

The economic subtleties involved in the determination of this endurance period are too complex to be presented here. For further information the statistical appendix to Lubell's Oil Crisis in the Middle East and Europe's Need for Oil may be consulted.

It is quite conceivable that an issue of national security in the United States occurring simultaneously or nearly so with a petroleum crisis in Europe would necessitate partial or total withdrawal of these supplies from the European market. Europe, its future prosperity in the balance could ill-afford such a development.

INDIGENOUS SOURCES

European stockpiling of indigenous sources of energy would serve to cushion the initial shock of a petroleum stoppage until available supplies from the United States and Venezuela could be thoroughly integrated with the existing patterns of consumption. European production of crude, displaying a reliable upward trend, presently supplies seven per cent⁶⁶ of total domestic petroleum consumption. Stockpiles of oil and refined products have been enlarged from the pre-1957 total of one month to a more protective endurance level of sixty-five days.⁶⁷

TABLE VI

Crude production in Western Europe⁶⁸
(thousand barrels daily)

Country	1964	1963	To change
Austria	52.7	48.7	5.6
France	55.5	49.8	10.5
Germany	149.8	146.1	1.7
Netherlands	42.8	42.1	1.6
United Kingdom	2.5	2.5	.00
Others	80.8	73.2	11.2

⁶⁶ Reference to Table VI.

⁶⁷ "Stockpiles," Petroleum Intelligence Weekly, May 24, 1965, p.3.

⁶⁸ "Worldwide Oil," Oil and Gas Journal, December 21, 1964, pp 106-107.

In 1957 plans were developed to implement the use of coal as a possible energizing alternative, in order to facilitate energy conversion, i.e., transfer from oil to coal, in those areas which have an ability to change, continuous shifts to oil burning machinery, far in excess of expectations,⁶⁹ have virtually nullified any possible deterrent affect such measures might have had on the economy. Combined crude production and petroleum stockpiles on the Continent guarantee the European consumer an energy equivalent to ninety-five days.

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See Table IV

TANKAR CAPABILITIES

The temporary deficiency of petroleum during 1956-1957 in Europe and the apprehensive views stated during the Crisis regarding the Continent's future security was a direct result of transportation inadequacies. The immediate problem was to develop and implement a suitable rerouting system that would minimize the loss of deliverable quantities of petroleum over longer alternative routes. For example, a tanker employed in the Persian Gulf - Europe route via the Cape would undergo a decrease in capacity of forty per cent⁷⁰ when contrasted to travel via the Suez Canal.

Government and company reaction, regarding inadequate transportation capacity, was swift - within two years additional tanker purchases had alleviated a crucial factor of European security. (Table VII) The most significant result of the transit Crisis was the development of super-tankers (65,000 d.w.t. or over) which made transportation via the Cape both in carrying capacity and financial expense, feasible.

The prolific rate of construction from 1956-1957, which returned to normal in the following year, created a situation of depressed prices for tanker services as a surplus of carrying capacity equal to 1425 T-2⁷¹ equivalents existed in 1963. This surplus is of such magnitude as to ensure a transport dependent Europe protection from any recurrent crisis as occurred in 1956.⁷² Though building contracts have again stabilized themselves, the

⁷¹ Organization for European Economic Co-operation, op. cit., p. 23.

⁷² A T-2 tank ship is defined as one possessing a dead-weight tonnage of 16,765 tons and capable of sailing at a speed of 14.5 knots.

⁷³ Lubell, op. cit., p. 55.

TABLE VII

By Age, Size and Propulsion⁷³ (million tons dead weight)

Year of Construction	Size in '000 D.W.T.							Total
	Under 15	15-25	25-35	35-45	45-55	55-65	65 and over	
Before 1941	1.3	0.4	--	--	--	--	--	1.7
1941-1945	0.9	6.5	0.3	--	--	--	--	7.7
1946-1950	1.2	1.7	1.5	--	--	--	--	4.4
1951-1955	1.5	10.0	4.4	0.6	0.2	--	--	16.7
1956-1960	0.9	6.8	7.9	6.8	4.3	0.1	1.7	28.5
1961-1963	0.5	1.0	1.7	2.2	6.4	1.0	3.2	16.0
Total	6.3	26.4	15.8	9.6	10.9	1.1	4.9	75.0
Motor	5.0	14.5	4.0	1.7	1.8	0.6	0.3	27.9
Others	1.3	11.9	11.8	9.1	9.1	0.5	4.6	47.1
New building under construction	0.1	0.8	0.3	0.5	3.0	5.2	8.2	18.1

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British Petroleum Company Limited, Statistical Review of the World Oil Industry, 1964, p. 15.

capacity of vessels actually moving petroleum in 1964 increased by 11.3 per cent⁷⁴ while shipping requirements increased by only 11 per cent.⁷⁵

In view of these developments it appears highly unlikely that a dependent European economy may again suffer from a transport crisis.

As a result of the above analysis, it may be concluded that the actual facts of the current situation suggest the following hypothesis: despite the total stoppage of Arab oil exports to Western Europe, these countries would be capable, with the assistance of Western Hemisphere supplies, of maintaining their present economic standards with little or no strain due to a lack of fuel for approximately 258 days.⁷⁷ This is nearly three times longer than would be the case were the Continent entirely dependent on indigenous supplies. The dramatic impact on the economic structure will vary directly with the amount of Middle Eastern oil lost to the European and inversely to the supplemental imports originating from the Western Hemisphere. In terms of short-run effects, therefore, a crisis of three months could be adequately controlled by indigenous supplies; one of seven to eight months would require Western Hemisphere assistance; while any crisis exceeding this duration would place Western Europe in a critical position.

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Lubell, op. cit., p. 55.

75

"Tanker Freight-Steady As They Go...", " Mid-East Commerce, Vol. VIII, No. 6 June 15, 1965, pp. 23-24.

76

Ibid., pp. 23-24.

77 The number, 258 days, is derived by adding the accumulated petroleum supplies (shut-in capacity and stockpiling of the United States, Venezuela, and Western Europe.

LONG-RUN DEPENDENCE

The energy requirements of Western Europe outlined in the preceding sections are primarily dependent on two sources: oil and coal, the former predominating. The Middle East, as previously shown, is the principal source of this oil and as such, Western European reliance on continued Arab exports constitutes a situation wherein the exporter may possibly exercise a certain amount of influence over Western political objectives.

The objective of this section is to analyze the extent of this influence by determining the long-term degree of European dependence on Arab petroleum. To accomplish this, consideration will be given those alternatives to Arab oil available to Western Europe and the relative desirability of these alternatives vis-a-vis the current situation. Two possibilities exist: dependence on Arab oil may be diminished by lessening the general demand for oil in favor of some other source of energy; or Western Europe may continue its present consumption patterns, but replace, by a more equitable distribution, the regions from which petroleum is currently obtained.

ALTERNATIVE SOURCES OF ENERGY

Among the countless sources of energy that modern technology has developed, four energy producers are the most likely alternatives to petroleum: gas, hydroelectricity, coal, and atomic energy. Energizers are determined by three factors: (1) natural existence; (2) technology; and (3) economic incentives.⁷⁸ In this section, each of the four possible fuels under consideration will be evaluated with reference to the above three criteria. The following diagram gives a comprehensive understanding of natural gas and hydroelectric fuel consumption on a national basis in Europe.

⁷⁸ U.S. Committee on Oil and Gas Availability, Petroleum Productive Capacity (Washington, D.C.: National Petroleum Council Headquarters, 1952), p. 8.

TABLE VIII

Inland Consumption of Energy in Western Europe⁷⁹ (thousands of metric tons of coal equivalents)

Country	Hydroelectricity	
	Net Imports	Natural gas
Austria	2,536	998
Belgium-Luxembourg	39	--
Netherlands	--	185
Denmark	130	--
France	10,412	378
Germany	4,720	319
Greece	121	--
Iceland	155	--
Ireland	219	--
Italy	12,140	4,824
Norway	9,360	--
Portugal	669	--
Sweden	9,496	--
Switzerland	5,520	--
Turkey	36	--
United Kingdom	880	--
Total	56, 433	6, 704

⁷⁹Organization for European Economic Co-operation, Europe's Need for Oil, 1958, p. 26. (situation has not appreciably changed to render this chart worthless.)

Conversion factors: 1,000 million K.W.K. electricity 0.4 million tons of coal. 1,000 million cu. meters of natural gas 1.33 million tons of coal.

A. Gas

Natural gas presently accounts for a mere three per cent⁸⁰ of total West European energy requirements, a consumption figure far below the thirty per cent⁸¹ of the United States' energy pool that gas currently fills. As a fuel, gas compares favorably with petroleum regarding purchasing cost, but is quantitatively less practical than oil, as one-third more gas is required to produce the same heat equivalent.⁸² This condition is considered unimportant in certain phases of heat manufacturing due to the simplicity of production and its cleanliness. These two aspects have inevitably led to the replacement of fuel oil by gas in the development of electrical and heat generation. Approximately seventy per cent⁸³ of all natural gas consumed in the United States went to industrial purposes while the remaining thirty per cent⁸⁴ was absorbed in commercial and residential areas.

Europe has traditionally sought a means of procuring natural and or manufactured gas to complement its energy pool, thus decreasing its dependence on any single energizer. England records the earliest attempt to satisfy its energy need by extracting gas from coal deposits. Manufactured gas, though an adequate fuel substitute, has a cost far in excess of other conventional sources.⁸⁵ The first significant breakthrough in the European gas

⁸⁰ Mid-East Commerce, Vol. VIII, No. 6, June 15, 1965, p. 7.

⁸¹ Ibid., p. 7.

⁸² Reference to Appendix No. 3.

⁸³ Mid-East Commerce, Vol. VIII, No. 6, op. cit., p. 7.

⁸⁴ Ibid., p. 7.

⁸⁵ Oil and Gas Journal, op. cit., p. 98.

industry occurred in the Po Valley region of Northern Italy where sufficiently large deposits of natural gas were uncovered. The Suez Crisis served as the stimulus for increased explorations of natural gas on the Continent. These explorations were concluded with the discoveries of the Lacq fields in France and the Groningen field off Holland. Not all endeavors proved as successful; for example, the British gas industry spend £5 million⁸⁶ in six years of intensive field study throughout the Island without uncovering any natural gas deposits.

Europe's most promising hope for developing gas as an alternative energizer as did the United States, occurred with the introduction of methane gas and the naphtha process of producing it. Methane or liquified petroleum gases, i.e., propane, and butane, are formed by subjecting the gas in its natural state to temperatures of minus 260° Fahrenheit, thus providing a means whereby transoceanic deliveries could be arranged at a practical cost: liquid gas has two to three times⁸⁷ the heat equivalent of natural gas and five to seven times⁸⁸ that of manufactured gas.

The introduction of the naphtha or "catplytic gas rich" process is the most recent innovation in this field. Naphtha, the ingredient required to produce methane gas, is a by-product of the petroleum refining industry and is presently in abundant supply as a feedstock. Though feasible as a future

⁸⁶

J.E. Harshorn, Politics and World Oil Economics (New York: Frederick A. Praeger, 1962), p. 77.

⁸⁷ Alfred M. Leeston, and others, The Dynamic Natural Gas Industry (Norma University of Oklahoma Press, 1963), p. 229

⁸⁸ Ibid., p. 229

method of producing gas its effect on the European economy cannot adequately be assessed at this time.

Irrespective of how successful these new procedures become in developing a financially commercial gas, European dependence on petroleum and its by-products is not likely to decrease in the foreseeable future. The only solution regarding European attempts at diversification through gas appear dependent upon uncovering deposits of natural gas near areas of consumption, yet even this would only serve to increase the fuel's total share of the energizing market to eight per cent by 1975⁸⁹. Natural gas is not and cannot become an adequate replacement for petroleum in the near future.

B. Hydroelectricity

Hydroelectricity can be adapted to many forms of production but is primarily employed to fill domestic and industrial consumption needs in those areas of minimum resistance and maximum utility.⁹⁰ Electricity in this capacity serves as an excellent energizer, however, when increased electrical resistance is required to produce the desired effect, e.g., heating a house or factory, the cost factor prohibits its usage unless found in such abundant supply as to render its initial price virtually negligible.

The second and most important inhibitor of hydroelectric power is its degree of availability and distribution. The possibilities for expansion of

⁸⁹

"Sbchteren," Petroleum Intelligence Weekly, April 13, 1964, p. 5.

⁹⁰

Areas of minimum resistance and maximum utility are generally considered under household appliances and accessories. Certain industrial machines may also be classified in this category.

Europe's hydroelectric systems are nearly non-existent as continuous development has created a situation of virtually maximum exploitation.⁹¹ Although hydroelectricity supplies only five per cent⁹² of Western Europe's energy pool, extreme differences exist between each nation and its ability to employ the source as observed in Table VIII.

Although economically practical for a few countries as an energizer, hydroelectricity's adaptability to the total economy of Europe in competition with petroleum is inconceivable due primarily to a shortage of sufficiently large hydro-systems.

C. Coal

The contemporary energy import pattern of Western Europe can be traced directly to a depressed coal industry. Three factors contributed to this pattern: (1) the rapid depletion of existing coal reserves on the Continent; (2) the high cost of production; and (3) the lower heat equivalent ratio vis-a-vis petroleum (a ratio of 1 to 1.3).

The rapid depletion of European stocks of coal especially noticeable in the Ruhr region, has necessitated ever more expensive methods of recovery. Such a condition can only be alleviated by uncovering new areas of coal deposits due to the continually increasing costs in shaft operations as the depth of the mining area increases. Whereas dependence on foreign supplies of coal, principally from the United States, was formerly prohibitive due to

⁹¹ Lubell, op. cit., p. 153.

⁹² Ibid., p. 153

high transoceanic rates, a recent unprecedented decrease in freight costs has made American coal competitive with its European counterpart. The future of European coal is further complicated by present American intentions to engage in a major effort of support for its depressed coal industry by subsidizing shipments of Appalachian coal to the Continent. To prevent the complete disabling of their territorial coal industries, mining corporations in Germany are already receiving rationalization subsidies for every mine closed; there are also imposed taxes on fuel oil and heating oil of D.M.⁹³ 25 and M.D. 15⁹⁴ per ton respectively.

The future of coal in the European economy is questionable. With indigenous supplies becoming increasingly critical, dependence on the virtually inexhaustible American deposits is rapidly becoming a reality. Although United States stocks would be far more dependable than Middle Eastern petroleum, the possibilities of political overtones circumscribing such an indebtedness are possible though admittedly of less proportion than an increasing reliance on Arab oil. Unless governmental action is immediately directed toward preserving and assisting the European coal industry its replacement by petroleum is assured. Once such a displacement occurs, a return to coal burning machinery is questionable as the tremendous capital requirements involved would prohibit such a reversal.

D. Atomic Energy

Atomic energy remains a new and relatively unexplored field in-so-far as

93

"Coal and Un-Germanic Oil, " The Economist, February 20, 1965, p. 798.

94

Ibid., p. 798.

its adaptation to domestic and industrial needs.

The availability of economically recoverable uranium and thorium indicates supplies in excess of the combined energy equivalents of oil, gas, and coal.⁹⁵ Major areas of uranium mining in the non-communist world are the Belgium Congo, Canada, South Africa and the United States; auxiliary regions of production are in Australia, France and Portugal.⁹⁶ Its relatively equitable distribution serves to enhance its usage by preventing any political or actual monopoly of the material.

Two processes of conversion presently exist: fission and fusion. Fission, the most widely used of the two entails the conversion of uranium 235 from its heavier source, uranium 238. As the amount of fissionable material is limited and thus exhaustable, science could, if necessary, turn to what in the long run is a more promising source of energy, fusion. Tritium (H_3), the known substance for fusion reactions, abounds in immeasurable quantities throughout the oceans and seas of the earth. A factor, beneficial to the implementation of atomic energy is the ease with which U-235 (a pound weight contains the energy equivalent to approximately two million tons of coal)⁹⁷ may be transported.

The Suez Crisis served to stimulate the production of commercial nuclear power. The United Kingdom, increasingly dependent on imported fuels, sought

⁹⁵ J.V. Dunworth and Philip Sporn, Atomic Energy: An Appraisal (New York: Pergamon Press, 1957), p. 36.

⁹⁶ Ibid., p. 55

⁹⁷ Johnson E. Fairchild and David Landman (ed.), "The Impact on the Nuclear Age," American Faces the Nuclear Age (New York: Sheridan House, 1961), p. 49.

to emancipate itself by developing the first integrated nuclear program in October, 1956, with the establishment of a reactor at Calder Hall, Cumberland.⁹⁸ Since then, many nations have experimented with atomic energy, yet, none have rendered it economically competitive. The principal markets for nuclear energy appear to be in the generation of electrical power (over sixty per cent of total usage)⁹⁹ and process and furnace heat (Table IX). Its incorporation in those areas of land transportation - private and commercial vehicles - is wholly unfeasible today and in the foreseeable future.¹⁰⁰

Thus, it may be concluded, that nuclear energy though potentially capable of altering the present patterns of dependence is not likely to pose a serious threat as a competitive energizer to oil for the next twenty to twenty-five years.

having reviewed the principal sources of energy that could possibly be substituted for petroleum the following general conclusion may be posited: a growing reliance on oil as the foundation of Western Europe's energy production is extremely likely. Western Europe can no longer adequately adjust to its needs by securing other sources of energy; a long-term commitment to petroleum is now an established and irreversible component of the European economy.

98

B. G. Netschert and S. H. Schurr, Atomic Energy Applications in Underdeveloped Countries (Baltimore: John Hopkins Press, 1957), p. 4.

99

Perry D. Teitelbaum, Nuclear Energy and the U.S. Fuel Economy (Washington, D.C.: National Planning Association, 1958), p. 35.

¹⁰⁰Netschert and Schurr, op. cit., p. 7

TABLE IX

Conventional Energy Loss of Potential
Markets to Nuclear Energy, 1980 (10¹⁰ B.T.U.)

Energy consuming category	Added Nuclear Energy	Displaced			
		Coal	Oil	Gas	Hydro
Electric power generation	4,307	2,260	884	276	51
Industrial process and furnace heat	1,454	765	408	281	--
Ship propulsion	491	--	491	--	--
Locomotives	96	--	96	--	--
U.S. Navy	450	--	450	--	--
U.S. Air Force	110	--	110	--	--
Other Military	100	--	20	--	--
Total	7,008	3,025	2,459	557	51
Energy equivalent, conventional units	270 mil. tons coal	116 mil. tons	410 mil. bbls.	538 bil. C.F.	5.6 bil. K.W.H.
Per cent of total used in 1955	17	26	15	5	5

101

Perry D. Teitelbaum, Nuclear Energy and the U.S. Fuel Economy, 1955-1980 (Washington, D.C.: National Planning Association, 1958), p. 56.

ALTERNATIVE SOURCES OF PETROLEUM

Having analyzed the unlikely possibility of Western Europe resorting to alternative sources of energy to rectify its dependency, the only existing method by which Europe could reduce its reliance on Arab petroleum is through a more favorable geographic distribution of the import source itself. National policies oriented toward such an objective would normally assume a two dimensional directive: (1) that of relying upon existing areas of crude production but in a pattern of such diversification as to render any single regional source both politically and economically impotent; and (2) an extension of exploration and drilling in those areas displaying geophysical indications of sub-terrestrial deposits.

A. United States

Although natural gas has displaced petroleum as an energizing agent in many domestic and industrial areas previously within its domain throughout the United States, national consumption of crude distillate products continues to increase at an annual production rate of three per cent.¹⁰² Estimates of indigenous crude production and reserves vis-a-vis present consumption trends indicate that existing deposits of petroleum will not exceed a twelve year period if present growth patterns are sustained.¹⁰³ The United States may then find itself in a situation similar to that of Western Europe - dependence on foreign oil and concomitant susceptibilities to economic pressure from exporter

¹⁰¹"World Wide Oil," Oil and Gas Journal, po. cit., p. 104.

¹⁰²United States crude reserves are 4, 110 million tons while production is 365 million tons yearly. However, it is widely acknowledged that reserve deposits are under estimated, therefore, we can safely assume that the United States is in no real danger of losing its liquid deposits in twelve years.

nations. Consequently, it appears highly unlikely that the United States could be presently considered an alternative source of export.

Although indigenous crude deposits remain in danger of total depletion in the future, auxiliary methods of obtaining petroleum by extracting the liquid from shale rock¹⁰³ could alleviate the present shortage by adding an additional sum of 3.4 trillion barrels¹⁰⁴ of crude to known supplies. Pro-rationing policies in the United States which favor an artificially high-cost oil will tend to make shale oil competitive on the domestic market by 1967.¹⁰⁵ Though nationally competitive in the near future it would be nearly twice the price of Arab crude and thus an impractical source of fuel for European consumption.

The existing and long-range outlook of the United States would seem to indicate the impracticality of Western Europe resorting to American crude, even with production of shale oil, due to the cost discrepancies between American and Arab petroleum, not to mention the conservation policy of the United States government designed to maintain their ten year indigenous reserve supply.

B. Venezuela

The second principal producer of petroleum in the world is Venezuela.

103

Brazil is also a large holder of the world's known shale rock deposits but its inaccessibility poses an engineering problem. There are also large deposits of Canadian shale, however, there appears to be very little factual information pertaining to quantity and cost.

104 "Shale Rock," Petroleum Intelligence Weekly, March 16, 1964, p.2.

105 Ibid., p. 2.

The Venezuelan government has recently taken action to curtail foreign exploitation of Venezuelan oil, thereby, attempting to preserve existing deposits. With the vast majority of Venezuelan exports directed towards the United States it is improbable that Western Europe could increase its present share of imports from the area. Even, assuming that the United States becomes again self-sufficient in crude production from shale rock, the present economy of Western Europe could only survive for seven years on existing Venezuelan reserves.¹⁰⁶ (West European consumption of petroleum as shown in Table V is presently 336.5 million tons a year while proved Venezuelan oil reserves are recorded as being 2,415 million tons.)

The future of Venezuela's petroleum production is somewhat similar to the position of the United States in-so-far-as the country retains one auxiliary source of petroleum, tar sands. Estimated economically recoverable deposits of crude from this source are roughly assessed at some twenty billion barrels or nearly double the nation's present supplies.

Thus, European attempts to disperse their petroleum dependence amongst a multiple number of producers, by employing Venezuelan crude as one potential source, is contingent upon the technically unreliable possibility of processing the vast deposits of crude present in the tar sands.

C. Africa

Recent discoveries in Nigeria should partially alleviate European dependence on Arab oil. Exploitation has been unusually rapid - it is estimated

¹⁰⁶"Venezuelan Reserves," Petroleum Intelligence Weekly, July 6, 1964, p. 5.

that by 1966 production will have reached over 500,000 barrels daily.¹⁰⁷ Although Nigerian production will compare favorably with that of many Arab nations its total impact on the European market will serve to divert only one-fifteenth of total crude needs: a beneficial but less than significant discovery.

D. U.S.S.R.

The only alternative source of crude which might satiate Western Europe's petroleum requirement is Soviet oil. Since 1955 the Soviet government has been shipping increasingly large quantities of crude to the European consumer. Russian exports to Europe increased from eighty-five thousand barrels daily in 1955¹⁰⁸ to over one million barrels daily by 1964.¹⁰⁹ Thus, Soviet crude in supplying seven% of the total West European petroleum consumption: a significant factor in facilitating diversification of crude imports.¹⁰⁹ Existing political cleavages render any transfer of dependency inconceivable though moderate advances may be recorded as needs increase and tensions diminish. The Soviet Union will most probably continue to export its crude so long as a beneficial exchange of petroleum for machines, ships, equipment and other industrial

¹⁰⁷ World Petroleum Report, op. cit., p. 124.

¹⁰⁸ Peter R. Odell, An Economic Geography of Oil (London: Frederick R. Praeger, 1963), p. 52.

¹⁰⁹ Oil and Gas Journal, op. cit., p. 138

¹¹⁰ Switzerland recently arranged to purchase 25,000 barrels daily of Soviet crude.

accessories can be arranged with Western Europe.¹¹¹

TABLE X
Soviet Petroleum Export Patterns¹¹²

Country	Crude Oil Products (thousands of bld.) 1963		Crude Oil Products (thousands of bld.) 1962		Per cent change in total		
Total Europe	515	245	269	466	207	259	+10
Italy	162	140	22	147	123	24	10
West Germany	97	44	53	94	38	56	2
Finland	69	33	35	60	22	37	15
Sweden	57	nil.	57	54	--	54	5
France	33	3	31	22	2	21	49
Austria	27	9	18	20	7	15	24
Greece	19	9	10	22	8	12	-6

E. Exploration

With less than one-tenth the potential crude bearing regions of the earth explored to date, there remains an area of eighteen million square miles¹¹³ of sedimentary basin capable of yielding crude or natural gas deposits. An exam-

¹¹¹Odell, op. cit., p. 53.

¹¹²"Where the Soviet Bloc Sold Oil in 1963," Petroleum Intelligence Weekly, March 30, 1964, p. 4.

¹¹³U.S. Committee on Oil and Gas Availability, op. cit., p. 81.

ple, illustrative of this potential source is the recent North Sea discovery which has had a profound affect upon the Dutch industrial base. This alternative, though inconclusive as regards the immediate situation, poses epic considerations, which, in a condition of acute dependence can hardly be overlooked.

The lack of statistical material dealing with this subject prohibits any further evaluation as it would become primarily conjectural.

It is obvious that alternative sources of petroleum imports could serve to diminish West European dependence on Arab oil. Nevertheless, among those areas where the possibility of export exists and is not nullified by national policy - notably the U.S.S.R. or techniques of processing not yet adaptable - the United States, Brazil, and Venezuela - the desirability of establishing a vital economic relationship from Europe's point of view remains, at least, dubious in view of the present situation.

VESTED INTEREST

As suggested earlier, Western dependence on Arab petroleum is manifested in two ways: as an energy source necessary for the preservation of a viable European economy; and, as interest groups possessing large and influential petroleum industries (directly or indirectly related to Arab oil) whose commercial self-interest dictates a policy of continued reliance on Arab petroleum. In evaluating the degree of interest, i.e., financial, surrounding the corporate-producer relationship, the industry will be analyzed from two aspects: (1) corporate investments; and, (2) the resultant benefit accruing to the home governments.

Arab petroleum is profitable, so much so, that corporate dynasties have been founded and established ones recussitated by its very existence. Profits were exorbitant in its nascent years and though gradually diminished through intense competition, petroleum operations remain a highly lucrative endeavor. Investments by American petroleum corporations in foreign oil increased rapidly: 1919, \$400,000,000;¹¹⁴ 1929, \$1,400,000,000;¹¹⁵ 1939, \$2,400,000,000;¹¹⁶ 1952, \$4,600,000,000;¹¹⁷ and in 1963, \$14,200,000,000¹¹⁸ or nearly one-third the aggregate capital spent in foreign business ventures.¹¹⁹

114
Fanning, op. cit., p. 8.

115
Ibid., p. 8.

116
Ibid., p. 8.

117
Ibid., p. 8.

118
"Petroleum Affairs" Chase Manhattan Bank (New York:Petroleum Division, 1963), p. 19.

119 Ibid., p. 19.

TABLE XI

U.S. Companies Investment¹²⁰ (\$ millions)

Year	Net Income	Depre. Deplet.	Funds from		Total
			U.S.	Abroad	
1957	1,738	688	1,043	832	4,301
1958	1,325	830	529	623	3,307
1959	1,196	914	528	255	2,893
1960	1,366	957	454	153	2,930
1961	1,553	1,099	743	301	3,696
1962	1,824	1,095	340	506	3,765
1963	1,953	1,148	789	777	4,667
1964	2,510	1,470	1,010	1,000	5,990

Although expenses are high - it is estimated that at least ten million dollars¹²¹ must be spent in assessing the possibilities of uncovering crude deposits in a non-producing country - the rate of return on each dollar invested is conservatively placed at ten to eleven cents.¹²² Most of the revenue arising from the various stages of production and marketing is directly related to the sale of crude and refined products. These items, combined, supply from 66.3 to 87.1 per cent¹²³ out of every dollar received while petro-

¹²⁰"

"Investment," Oilgram, Vol. 43, No. 1225, June 30, 1965, p.2.

¹²¹

Fanning, op. cit., p. 16.

¹²²

Hartshorn, op. cit., p. 97.

¹²³

Chase Manhattan Bank, op. cit., p. 7

chemicals provide 5.3 to 10.0 per cent¹²⁴ and natural gas approximately 3.0
to 5.2 per cent.¹²⁵

The advantages bestowed upon those Western governments either directly or indirectly associated with company operations are primarily twofold: (1) revenues are obtained in payment for corporate profits; and (2) gold reserves are maintained.

Actual figures of corporate taxes paid by petroleum concerns to American and British governments are extremely difficult to assess as observable profits are apt to differ radically from real profits. However, as shown in Table XII the British government obtained £188 million from its association with Shell Oil and British Petroleum in 1963.

The second advantage accruing from this relationship may, in view of existing developments, be classified as more essential and beneficial than the tax returns. Where governments are indirectly involved, as the United States, gold reserves are maintained by selling petroleum within a dollar zone. British benefits are somewhat larger than those of its American counterpart as direct control of its corporate oil enterprises enable England to obtain their crude at one-third the actual price¹²⁶ - a savings of £200 million yearly.¹²⁷ Such a lucrative enterprise, beneficial as it is, guarantees that every effort will be made by the home governments to secure its future success. (Table XII)

124
Ibid., p. 7

125
Ibid., p. 7.

126
"What Oil Costs Britain," The Economist, May 21, 1965, p. 782.

127
Ibid., p. 782.

TABLE XII

128

Britain's Oil Balance in 1963

(Order of Magnitude)

£ million	Shell	BP	All others	Total
Imports of oil at world prices, f.o.b. Less.	-141	-114	-150	-405
Exports of oil at world prices, f.o.b. U.K. Plus.	30	48	30	108
Exports of equipment, etc. to subsidiaries	29	10	10	49
Visible balance	-82	-56	-110	-248
Add				
Tanker invisibles	-4		-15	
Add		125		181
Interest, Profits, Dividends	85		-10	
Current balance	-1	69	-135	-67
Less				
New investment overseas	-29	-28	20	-37
Imports of oil at actual foreign exchange cost if imported otherwise...	111	66		
Hence "contribution" through import via British company is	81	107		
Total Receipts	188			

The preceding analysis of the integration of oil in the Western economic structure indicates that both as a vital source of power and as a commodity essential to the interests of certain vested economic concerns, this oil possesses considerable political relevance. The following section will deal primarily with Arab capabilities in utilizing this viability.

THE MIDDLE EASTERN SITUATION

Having considered the European situation vis-a-vis fuel and energy requirements and the dependence on Arab producers that characterizes these requirements, the final section of this study concerning the supplier partner in this relationship may now be reviewed: the petroleum-producing states of the Arab world.

As previously established, the use of Arab petroleum as a political weapon is greatly facilitated by the increasing dependence of the European economy on Arab oil. Nevertheless, certain other factors exist which several inhibit the utilization of this asset, all of which will be evaluated to determine its ultimate usage. In this context three principal inhibitive conditions exist: (1) economic dependence; (2) export controls; and (3) lack of coordination of Arab policy. Each condition is vital in determining whether a translation of Arab petroleum from a purely economic-commercial commodity to a politically relevant one is feasible.

ECONOMIC DEPENDENCE

In any supply-demand relationship there necessarily exists some form of exchange which each participating group considers beneficial to its welfare. Should either the producer or the consumer assume that its dependence on the relationship is of a less critical nature than that of the other member a conflict situation is apt to ensue. The situation could then only be alleviated by correcting the imbalance, thus making it equally detrimental for either participant to again initiate such a policy.

Consequently, in order to determine whether the Arab producing states have at their disposal an instrument of any actual political significance it will be necessary to evaluate the degree of economic dependence that currently characterizes the producer-consumer relationship.

Since, as previously established, the most meaningful cessation of petroleum exports requires the participation of Algeria, Iraq, Kuwait, Libya, and Saudi Arabia, each of these nations will be analysed as to its economic dependence upon the West.

Algeria:

Algeria, a former French colony since 1830, gained its independence in 1967. Though politically independent of its former ruler Algeria remains, to this day, economically bound to France.

Table XIII indicates that the revenue source of the government has continually declined from 3,217.9 million francs in 1962 to 2,633.0 million francs in 1964. This represents a decrease of approximately 19 per cent. At the same time petroleum revenue has increased from 190 million francs to 220 million francs or nearly 14 per cent. Consequently, petroleum revenues

TABLE XIII

Algerian Ordinary Budget 1962¹²⁹

(million Algerian francs)

Revenue		Expenditure	
Income Tax)		Debts	356.38
Property Tax)	830.14	General Expenditure	568.27
Stamp Dues	33.25	Health and Welfare	330.68
Customs Dues	662.00	Security	308.74
Business Taxes	1,046.50	Education	483.06
Other Indirect Taxes	916.70	Finances	117.85
Land Tax	23.40	Public Works	385.18
Miscellaneous	394.14	Miscellaneous	665.84
Total	3,217.90	Total	3,216.00

Oil Revenue : (1962) 190 million Francs, (1964) 220 million Francs.

1963 Budget : Revenue 2,810 million francs; Expenditure 2,910 million francs.

1964 Budget : Balance at 2,633 million francs.

4.9 Algerian francs = \$1.00 dollar (U.S.)

TABLE XIV

Development Budget¹³⁰

(million Algerian franc)

Item	1962	1963	1964
Economic Projects	1,733	1,490	1,229
Social Projects	1,352	578	368
Administration Projects	87	92	559
Various	3	40	
Total	3,175	2,170	2,156

are beginning to enjoy an ever more important position in the internal life of Algeria.

Essential as these revenues are to the prosperity of the country this source is virtually infinitesimal as compared to its dependence on foreign loans. The development budget for 1964, as shown in Table XIV, is 2,156 million francs. Of this Algeria could raise only 490 million francs from increased taxes and domestic loans.¹³¹ The remaining 950 million francs was obtained from France and other foreign sources.¹³² Thus, France contributed nearly 45 per cent of Algeria's capital requirements for development in 1964. From the period beginning with independence to the end of

130

Ibid., p. 102

131

David Gordon, The Passing of French Algeria (London: Oxford University Press, 1966), p. 224.

132

Ibid., p. 224

1964 France gave Algeria a total of 1.6 billion francs¹³³ or more than the combined revenue that Algeria obtained from internal sources for the same period.

A third form of dependence upon the West, primarily France, entails the more subtle, but no less relevant, receipts from exports. Excluding petroleum, Algeria depends on the sale of wine for 50 per cent of its exports.¹³⁴ France, the importer of nearly all of this wine, consequently, maintains a substantial degree of control over Algerian exports. This control, if the 300 million francs¹³⁵ annually transferred by Algerians working in France to their families is included, becomes substantially larger and indicates that France has virtually complete power over Algeria's ability to procure capital assets.

Algeria, a nation of eleven million¹³⁶ people with nearly two million unemployed¹³⁷ and a population growth rate of four per cent¹³⁸ annually (400,000) is, in view of its economic dependence on France, not likely to initiate a policy which would jeopardize this source of assistance so vital to its welfare.

133
Ibid., p. 225

134
Ibid., p. 225

135
Ibid., p. 225

136
The Middle East and North Africa 1965-1966 op. cit., p. 99.

137
Ibid., p. 98

138
Ibid., p. 99

Libya:

Prior to the exploitation of petroleum in 1961 the Libyan economy was wholly dependent upon its meager domestic enterprises and foreign subsidies. Agriculture, animal husbandry and a few small industries comprised the basic structure of the economy.

Until 1961, 70 per cent¹³⁹ of Libya's population was engaged in agriculture while the remaining 30 per cent¹⁴⁰ was listed as nomadic. Libya was so impoverished during this time that nearly 50 per cent¹⁴¹ of her imports required to maintain life at the existing low standards had to be financed by foreign capital. With imports roughly assessed at £L8 million¹⁴² there existed an annual deficit of £L 4.2 million.¹⁴³ This deficit was largely accounted for from payments to the government by England and the United States for the right to establish and maintain military bases in the country.¹⁴⁴

Since all of the revenues received from exports and military bases were required to maintain the existing standards of livelihood there was no hope of improving Libya's economic position. Consequently, the Libyan Public Development and Stabilisation Agency was established in 1951 to administer the distribution of capital received under this program.¹⁴⁵ England, the main benefactor,

139

Ibid., p. 383

140 Ibid., p. 391

141 Ibid., p. 384

142

Ibid., p. 389

143 Ibid., p. 389

144 Ibid., p. 389

145

The Middle East 1959 (London: Europa Publications Limited, 1959), pp. 225-226.

TABLE XV

Libyan Public Development
and Stabilization Agency¹⁴⁶
(£ L '000)

Expenditure	1954-55	1955-56	1956-57
Harbours, Roads, and Airports	185	281	333
Agriculture, Soil and Water Conservation	204	105	205
Health and Education	179	201	160
Public Utilities	197	170	165
Others	60	60	60
Total Development	825	817	923
Stabilisation (famine control)	275	273	307
Management	30	30	35
Total	1,130	1,120	1,265

gave £1 million annually, the remaining amount was obtained from the United States, France, Italy, Egypt and Turkey.¹⁴⁷ Although the total expenditure under this program was comparatively small (Table XV) it represented nearly 14 per cent of Libya's yearly income.

¹⁴⁶ Ibid., p. 226.

¹⁴⁷ Ibid., p. 226.

TABLE XVI

Libya's Development Plan 1963/68¹⁴⁸

(one Libyan pound = one £)

Sector	Estimated Cost	1963/64	1964/65
1-Agriculture	29,275,000	2,350,000	4,850,000
2-Industry	6,900,000	545,000	1,245,000
3-National Economy	2,870,000	440,000	680,000
4-Communications	27,460,000	5,067,000	8,678,000
5-Public Works	38,662,000	5,882,000	10,940,000
6-Education	22,365,000	1,975,000	3,895,000
7-Public Health	12,500,000	775,000	2,425,000
8-Labor and Social Affairs	8,690,000	940,000	2,060,000
9-News and Guidance	2,550,000	575,000	655,000
10-Public Administration	6,425,000	2,535,000	1,290,000
11-Planning and Development	11,400,000	650,000	1,600,000
Total	169,097,000	21,734,000	38,318,000

70 per cent of petroleum receipts go to the Development Plan.

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Libya Libyan Ministry of Petroleum Affairs, Petroleum Development in
(Tripoli: Division of Petroleum, 1964), p. 17.

Libya was a subsistence economy until 1961 this situation was dramatically altered with the production and marketing of its petroleum deposits. Consequently, the entire structure of the Libyan economy was transformed to adjust to this new wealth. The degree of economic change that has resulted from petroleum revenues becomes apparent when the Libyan Development Plan 1963/68 (Table XVI) is compared with that of the Libyan Development and Stabilization Agency. From a yearly allotment of approximately £ L 1,150 million development expenditures have grown to nearly £ L 34,000 million.

An analysis of Libyan exports is instrumental in developing a comprehensive understanding of the country's dependence on petroleum revenues.

In 1963, exports totalled £ L 119.1¹⁴⁹ million of which petroleum revenue accounted for £ L 117.4 million¹⁵⁰ or approximately 98.8 per cent. By 1965, petroleum was the source of 99.2 per cent¹⁵¹ of receipts totalling £ L 171.0 million. (Table XVII)

Where once Lib a could exist at a subsistence level this no longer seems, drastic at all likely. Its population is experiencing a skastic change one of very rapid migration from a rural to urban setting. In 1961, nearly all of its populace was rural, but, by 1965, approximately 30 per cent of its inhabitants were urban.¹⁵² Similarly, there were 9,000 Libyan¹⁵³ employed in the

149

Ibid., p. 18

150

The Middle East and North Africa 1965-1966, op. cit., p. 389

151

Ibid., p. 389

152

Ibid., p. 387

153

Libyan Ministry of Petroleum Affairs, op.cit. p. 24.

TABLE XVII

Libyan Ordinary Budget 1965-66¹⁵⁴

(£ 1 sterling = 1 Libyan pund)

Revenue	£ L'000	Expenditure	£ L'000
Petroleum	123,900	Ordinary Expenditure	79,000
Customs and Escise	15,000	Development	86,800
Others	33,000		
Total	171,000	Total	165,800

petroleum industry where none previously existed.

Large scale urbanization and employment are instrumental in the formation of a viable economy and society. Advantageous as this is there necessarily develops a countervailing negative aspect which is apt to restrict the governments' freedom of action, namely, a greater vested interest in the existing forms of revenue.

Petroleum revenues have resulted in the development of urbanization and industrial employment, consequently, these two conditions depend upon these revenues continuing. The populace that responded to this stimulus have totally altered their existence from one of self-sufficiency to dependency. As they accumulate capital and invest it to higher their living standard there results a concomitant increase in their vested interests. Consequently, these people become a significant political force which is primarily concerned with

preserving and expanding their economic well-being.

Libya's position, with regard to its petroleum revenues, was most appropriately expressed by its Minister of Petroleum Affairs, Mr. Fuad Kabazi when he said:

In conclusion it can be stated that the oil revenues have become a major asset for a well-planned economic development, a dream of all developing countries. It is hoped that this progress continues and happiness and prosperity prevail in Libya.¹⁵⁵

TABLE XVIII
Iraqi Ordinary Budget¹⁵⁶
(1000 I.D.)

Revenue:	1954-55	1955-56	1956-57
Oil Royalties ¹⁵⁷	17,160	25,320	8,450
Income Tax	2,246	2,181)	2,660
Property Tax	668	705)	
Stamp Duties	716	847	
Agriculture, Customs, Cement	25,284	28,166	40,970
Posts, Telegraph, Other	6,105	8,067	9,600
Total	52,179	65,286	61,680
 Expenditure:			
Total	53,798	55,279	74,510

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The Middle East 1959, op. cit., p. 134

157

30 per cent of total receipts.

1 I.D. = £ 1 sterling.

Iraq:

The economic dependence of Iraq is of a distinctly different nature than either Algeria or Libya since both are wholly dependent on revenues derived from the West. Consequently, Iraq may be in a position to endure for some time a loss of petroleum revenue but the long term ramifications are apt to present rather serious difficulties.

Since the end of World War II the primary source of income for the government has been derived from petroleum. As of 1954, approximately 60 per cent of the country's revenue originated from the petroleum companies. (Table XVIII) of this, nearly 70 per cent was allocated to the Development Board with the vast majority being spent on communications, agriculture and industry (Table XIX)¹⁵⁸. Thus, as early as 1954 Iraq found itself committed to petroleum revenues.

From 1959 to 1963 the country's total revenues increased respectively from I.D. 89.7 million¹⁵⁹ to I.D. 113.7 million¹⁶⁰ largely as a result of increased crude exports. In other words, petroleum was the primary factor in increasing Iraqi revenues by 25 per cent over a four year period.

The 1963-64 Budget shows a revenue total of I.D. 120, 337 million of which nearly 43 per cent was contributed by oil receipts. (Table XX). Expenditures for the same period totalled I.D. 134,907 million a deficit of approximately I.D. 14,600 million. This meant that an additional I.D. 14,600 million had to be deducted from the development plan (Table XXI)

158

The Middle East And North Africa 1965-66, op. cit., p. 236.

159

Ibid., p. 236

160

Ibid., p. 236

TABLE XIX
Iraqi Development Board¹⁶¹
(Iraqi Dinars)

Particulars	Provision for the year 1955	Provision for the year 1956
Administrative expenses	650,000	650,000
Amortization of tharthar loan	--	550,000
Irrigation, drainage and storage	21,700,000	23,400,000
Roads and bridges	10,970,000	16,200,000
Airfields	500,000	1,500,000
Main buildings	4,300,000	7,450,000
Industrial, mining and electricity	8,211,000	12,737,000
Development of animal, plant and underground water resources	1,665,000	1,565,000
Buildings and institutes	6,250,000	6,250,000
Miscellaneous projects	1,525,000	1,275,000
Railways	5,500,000	2,500,000
Total	61,271,900	74,077,000

70 per cent of annual receipts from oil royalties are credited to the Development Plan.

TABLE XX

Iraqi Ordinary Budget 1963-64¹⁶²

('000 I.D.)

Revenue		Expenditure	
Oil Revenues ¹⁶³	52,000	National Defence	39,000
Income Tax	1,763	Education	27,000
Customs and Excise Tax	40,000	Security and Justice	12,678
Revenues of State Enterprises	4,749	Health	8,331
Departmental Receipts	4,625	Social and Municipal Affairs	10,868
Other Receipts	11,200	Pensions and Gratuties	8,002
		Communications, Works, & Welfare	5,732
		Foreign Affairs and Guidance	3,201
		Others	20,095
Total	120,337	Total	134,907

1 I.D. = £ 1 sterling

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Europa Publications Limited 1965-66, op. cit., p. 240.

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50 per cent of oil revenues

TABLE XXI
Five Year Development Plan¹⁶⁴
('000 I.D.)

Item	1961-62	1962-63	1963-64	1964-65	1965-66
Agriculture	19,782	20,179	22,760	24,698	25,571
Industry	14,424	24,675	39,607	43,008	45,072
Transport and Communications	24,860	32,410	29,800	27,890	21,490
Building and Housing	38,073	30,792	25,457	24,009	21,783
Total	97,139	108,056	117,624	119,605	113,916

to compensate for the deficit. Consequently, oil revenues as a source of income in balancing the budget increased from 43 per cent to 51 per cent. This also meant a corresponding decrease in the development budget for the same period. Due to heavy expenditures for defence and necessary social services, the Five Year Development Plan from 1961-1966 has undergone radical adjustment to compensate for these increases.

The importance of petroleum revenues in maintaining a favorable balance of payments and a viable economy is indicated through a comparison of the country's exports, excluding oil, and its imports. (Table XXII)

164

Ibid., p. 241

TABLE XXII
('000 I.D.)

Year	Imports	Exports ¹⁶⁵
1961	145,671	7,874
1962	128,762	19,317
1963	114,057	16,726
1964 (Jan.-June)	76,235	7,024

Consequently, Iraq is capable of obtaining from its domestic exports (excluding oil) only 13 per cent of its capital requirements needed to balance its imports.

The foregoing analysis of the Iraqi economic structure strongly suggests that the existing and future dependence of Iraq is contingent upon the untrammelled continuation of petroleum exports.

Kuwait:

Before the introduction of the petroleum industry to Kuwait the country lived primarily of the sea. Its principal sources of income were derived from ship building, pearls and fishing. An equally important source of revenue came from its entrepot trade.

The situation since then has, of course, undergone drastic change. Kuwait is a prosperous nation with one of the highest per-capita incomes in the world. Kuwait town has been built into a modern metropolis with a population of 250,000 people.¹⁶⁶ Medical care, education, housing and numerous other services are given free to its inhabitants. All these benefits are dependent upon the revenues received from the exploitation of its petroleum.

TABLE XXIII

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Kuwaiti Ordinary Budget 1964-65
(K.D.)

Revenues	1963-64	1964-65	Expenditures	1964-65
Oil Revenues	183,500,000	191,186,000	Wages & Salaries	53,890,019
Other Revenues	12,571,257	13,693,796	Administration	24,849,197
			Other Allocations	<u>41,119,916</u>
Total	196,071,257	204,879,796	Total	119,859,132
			Development Project	47,133,674
			Acquisition of Property	<u>25,000,000</u>
			Total	<u>72,133,674</u>
			Allocations for General Reserve	<u>12,886,990</u>
			Grant Total	204,879,796

¹⁶⁶ Ibid., p. 333

¹⁶⁷ Middle East Economic Survey (Beirut: Middle East Research and Publishing Center, June, 1964), p.2.

TABLE XXIV
Kuwait Ordinary Budget 1963-64¹⁶⁸
(millions of K.D.)

Item	Expenditure
Given to the Ruler for different purposes	10,000,000
The throne	117,855
The Chamber	661,085
The Accounts	810,556
The Ministries	5,028,419
Administrators	407,651
Public Works	8,894,064
News and Information	4,653,942
Religious Lands	590,203
Telegraphs, Telephones and Mail	2,944,804
Commerce	265,834
Education	14,439,041
University	158,226
Foreign Affairs	2,211,811
Interior	12,116,718
Defence	10,500,000
Public Interest and Works	3,131,207
Health	11,242,730
Law	913,712
Water and Electricity	6,717,659

¹⁶⁸ The Guide of Kuwait (Kuwait Town: Chamber of Commerce and Industry, 1965), p. 245.

TABLE XXIV (Cont'd)

Item	Expenditure
Industry	8,101,475
Diaster Fund	50,000
Pensions	700,000
Gifts	400,000
Assistance	1,000,000
Political Meetings	500,000
Education Outside	150,000
General Purposes	300,000
Inflation	150,000
Reserves	2,000,000
Assistance to Gulf States and Yemen	2,528,253
Total	111,387,744

Revenues and expenditures for the year 1964-65 are balanced at K.D. 204 million (Table XXIII). A more thorough analysis of expenditures is contained in Table XXIV which shows that the greatest proportion of revenue is consumed by industry, health, water and electricity, defence, interior, education, public works and the ruler. Consequently, only a small segment of the income is destined for developing auxiliary sources of income. Kuwaiti exports, excluding oil produced only 10 per cent of the capital needed to pay for imports in 1964. (Table XXV)

TABLE XXV

Kuwaiti Exports vs. Imports

(million K.D.)

Year	Imports	Exports ¹⁶⁹
1961	89.1	9.2
1962	101.9	8.1
1963	115.7	10.5
1964	116.0	12.0

oil excluded

The material presented above clearly establishes that "the whole economy of Kuwait is based firmly upon this income derived from the extraction of the petroleum"¹⁷⁰ However, due primarily to the extremely strong liquidity situation of Kuwait it is in a relatively advantageous position to withstand a loss of revenue for some period of time. In 1964, Kuwait had a total capital reserve of £248 million¹⁷¹ or an adequate amount with which to survive for one year even should existing expenditures be maintained.

Financially Kuwait could maintain itself for a time, but logically it seems unlikely that a nation so totally dependent on petroleum revenue is apt to threaten its continued existence.

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The Middle East and North Africa 1965-66, op. cit. p, 338

170

Ibid., p. 335.

171

Economist Intelligence Unit, Middle East Oil and the Arab Peninsula (London: December, 1964), p. 49

Saudi Arabia:

Saudi Arabia, the last of the country's under consideration in this section, is economically very similar to the desert economies of Kuwait and Libya. In other words, Saudi Arabia is largely dependent upon its petroleum revenues for existence as it has little or no agricultural or industrial base.

TABLE XXVI

Saudi Arabian Ordinary Budget 1963/4¹⁷²

(S.R. million)
(6.4 S.R. = \$1 U.S.)

Revenue		Expenditure	
Oil Royalties	721.0	Privy Purse	183.0
Income Tax	563.0	Ministry of Interior	256.0
Tapline Fees	18.0	Defence	345.0
Other Sources	35.0	National Guard	134.0
Total	<u>1337.0</u>	Education	244.0
		Communications	111.0
		Agriculture	58.0
		Health	103.0
		Total	<u>1434.0</u>

Of the revenues received petroleum accounted for 86.4 per cent¹⁷³ of the total. The expenditure deficit was made up from back payments given the

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Economist Intelligence Unit, Middle East Oil and the Arabian Peninsula (London: January, 1964) pp. 14-15.

173

Ibid., p. 15.

government by Aramco and Tapline which were estimated at SR 200 million.¹⁷⁴

This revenue was, subsequently, given to the Development Board (Table XXVI) and remains its only source of income.

TABLE XXVII
Specific Development Allocations¹⁷⁵

SR million

	Allocations 1962/63	Actual Spending 1962/63	Total Alloca- tions 1963/64
Roads	114.1	60.9	109.3
Ports	20.0	12.2	17.1
Railways	3.6	1.2	4.5
Civil Aviation	32.8	37.0	39.8
Posts, Telegraphs, and telephones	8.0	3.9	26.2
Agriculture, water	34.3	29.4	86.6
Petroleum, minerals	7.5	6.7	23.3
Education	35.4	16.4	60.8
Health	11.6	5.8	16.0
Municipalities	87.8	86.6	110.4
Mosque reconstruction	40.0	61.2	40.0
Agricultural Bank	10.0	10.0	-
Industrial Bank	10.0	-	10.0
Studies	46.3	53.0	6.0
Total	550.0	436.0	701.6

¹⁷⁴

Ibid., p. 15

¹⁷⁵

Economist Intelligence Unit, Middle East Oil and the Arabian Peninsula (London: December, 1964), p. 33.

Saudi Arabian dependence upon oil revenue may be further exemplified by an analysis of its exports and imports (Table XXVII).

TABLE XXVII
Total Trade¹⁷⁶
(SR million)

Year	Total Exports	Non-Oil	Imports
1959	2,947.9	120.3	964.7
1960	3,316.5	158.0	917.6
1961	3,888.5	197.0	1,052.9
1962	4,231.0	311.5	1,155.2
1963	4,405.3	146.5	1,385.8

The figures given above indicate that Saudi Arabia's petroleum exports accounts for approximately 99.5 per cent of the total. This means that the economy on an export-import basis is wholly dependent on petroleum to maintain its present expenditures.

The international liquidity position of Saudi Arabia is roughly comparable to that of Kuwait in-so-far as the country maintains a capital reserve of approximately SR 2,000 million.¹⁷⁷ At present rates of expenditure this

176

Ibid., p. 41

177

Ibid., p. 40.

sum total is capable of allowing Saudi Arabia to forsake its oil revenue for nearly one year.

However, for the longer term, Saudi Arabian dependence on oil revenues is of such a nature as to prevent the country from possibly jeopardizing this source of income.

The foregoing analysis of each states' economic dependence on West and primarily petroleum indicates that no single state is in a position to forsake this revenue for a period in excess of one year. Kuwait and Saudi Arabia maintain substantial financial reserves which may be used to bolster the economy if revenues were stopped but could by no means consider this an acceptable permanent substitute for petroleum revenues. Algeria, Libya and Iraq, with little or no financial reserves, are even more heavily dependent upon a continuation of oil revenues to continue the existing economic structure of the country. As a result, it appears most doubtful that the principal Arab producing states would consider any action which might permanently threaten this source of income.

EXPORT CONTROLS

Export control is a common tool of national policy generally exercised in order to prevent hostile powers from resolving their commodity shortage problems and thereby improving their relative power positions. The exceptional degree of dependence characterizing the Arab world - Western European relationship presents a unique opportunity, whereby, export controls may be employed as a positive tool for implementing Western objectives as opposed to its traditional international use as a negative force. In this context, the term export control is used to represent those considerations which would undoubtedly evolve should a prolonged shutdown of Arab petroleum occur. The two most important considerations are: (1) a long-run loss of markets; and (2) a structural change in the petroleum industry.

A. Long-Run Loss of Markets

The use of petroleum as a political lever will necessarily force Western Europe and the petroleum companies to intensify their search for alternative sources of crude and energizers through which future interests could be reasonably and adequately protected. The initiation of petroleum pressure by the Arab States against Europe will automatically encourage the West in this search, diminish the current level of reliance on Arab oil, and, consequently, reduce their consumption of Arab crude exports.

Europe's response to the consequences of the Suez Crisis clearly illustrate her extreme sensitivity with regard to energy supplies. The discoveries and proliferation of production in Libya, Algeria, and Nigeria are a direct result of the transport crisis of 1956. Furthermore, Western interest in alternative sources of energy, primarily natural gas and atomic energy, quickened

in the hope of diminishing the Arab bond.

The hypothetical situations arising in connection with future oil discoveries outside the Arab world cannot be logically discussed above the level of idle speculation. Thus, this element of unpredictability is fraught with purely negative possibilities for the petroleum economies of the Arab world. Any policy which stimulates such speculation entails a potential and permanent loss of almost the entire Arab export market. The West's capability in translating this potential alternative into actual production was appropriately demonstrated by the suddenly burgeoning reserves of Africa. Thus, to apply export restrictions with the avowed objective of pressuring Europe into acquiescence on international issues not included in the latter's lexicon of vital affairs but which loom large in Arab planning is to remove the issue from the realm of the casual in Western eyes and escalate it to the level of the crucial by linking it to a vital commodity. Stiffened European resistance in the face of what it may regard as a precedent is not unlikely, and Western efforts to remove the cause of its discomfort, dependency on Arab oil, is virtually certain. France, as of 1964, has already undertaken to do so.¹⁷⁸

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The French cabinet at the end of 1964 decided to limit its dependence on Algerian and other Arab petroleum states. Algeria presently supplies 35 per cent, the Middle East 41.9 per cent, and Libya 3 per cent. French companies have recently made petroleum discoveries in Nigeria, Canada and Gabon while simultaneously exploiting part of the natural gas fields of the Netherlands. The Government goal: 10,000 million barrels of new foreign oil reserves in three years. France is also buying 26,000 barrels daily of Soviet crude on the basis of a five year contract.

B. Structural Changes

Other than the effects incurred from a possible loss of markets is the realization that structural changes in the petroleum industry vis-a-vis company-government relationships would inevitably be affected by any attempt to utilize petroleum exports as a political vehicle in order to foster Arab ambitions. The contemporary scene is characterized by a preponderance of American and British companies in the Arab world, (Statistical Appendix 3, p. 114). The primary exception being French interests in Algeria. Oil companies chartered under these governments or controlled by them constitute a force which must, in any petroleum oriented policy, be dealt with.

As the concessionaires, these companies, through the inability of the owning state to exploit and market the crude, have virtually absorbed nearly every facet of the industry. Due to the multitude of concerns operating in the Arab world this analysis will center principally on the eight largest foreign enterprises; Standard Oil of New Jersey; Royal-Dutch Shell; British Petroleum Company; Gulf Oil Corporation; the Texaco Corporation; Stand Oil of California; Socony Mobil Oil Company; and Compagnie Francaise des Pétroles. These eight giant companies are responsible for over eighty per cent¹⁷⁹ of tanker ownership and long term charters and approximately seventy per cent¹⁸⁰ of marketing distribution and refining plants. Thus, petroleum may be basically viewed as under company not owner auspices.

The United Nations Review of Economic Conditions in the Middle East for

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Odell, op. cit., pp. 28-29.

180

Ibid., pp. 28.29.

1949-1950 summarized the company-government relationship as follows:

The terms of their concessions give the foreign companies a freedom of action which substantially insulates them from the economy of the Middle East countries. Output is determined by considerations of world rather than local conditions. Moreover, it is the Companies which provide and own the means of transport, whether pipelines or tankers, to carry Middle Eastern oil to its markets, and it is they who secure these markets, both in Western Europe and in other parts of the world. The foreign exchange derived from sales of oil accrues¹⁸¹ to the petroleum companies and is in a large measure retained by them.

Since the time the Arab states have put forth every effort to obtain many of the benefits currently accruing to them. Prices have been stabilized, more equitable contracts written, and employment procedures altered to ensure greater national participation. These benefits were secured not through the gratuitous endeavors of the companies but through official Arab action after years of negotiating, threatening, and compromising. Important as these successes are, all would be jeopardized by a coordinated shutdown of exports. In a life and death struggle with the West, the Arab world would have to defeat its adversary or suffer the inevitable consequences - a loss of all rights and powers over petroleum deposits and production. The situation would undoubtedly revert to those conditions prevailing fifteen years ago.

Each of these aspects - economic dependence, long-run loss of markets and structural alterations - in and by themselves should and would inhibit the untrammelled use of an otherwise ideal political weapon. Severe as the consequences might be from the implementation of any one or multiple number of these aspects, one essential factor remains in determining the potentiality of

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Shwadran, op. cit., p. 440

petroleum as a political lever: coordinated Arab action. The evaluation of this factor will comprise the final section of the Eastern position vis-a-vis petroleum.

COORDINATED ARAB ACTION

As suggested earlier, the success or failure of any Arab objective entailing the political use of petroleum will be a direct function of inter-Arab coordination. The five primary producers of the Arab world are Kuwait, Iraq, Saudi Arabia, Libya and Algeria. Their individual shares of production are definitely not equal but for the purpose of analyzing the necessity of coordination they will be hypothetically considered as possessing equal shares of the Western consumer market.

Western Europe, as previously stated, derives approximately eighty per cent of its petroleum requirements from the Arab world. Each of the five Arab states would be supplying in this case sixteen per cent of those requirements. Obviously, the most advantageous development for the Arabs would be a total cessation of crude exports to Europe, which, in view of the figures formerly computed, would allow Western Europe a survival period of eight months. A cessation of exports by only four or three producers would increase Europe's survival time from eight months to ten and thirteen months respectively.¹⁸²

The minimum degree of adherence that can justify the consideration of petroleum as a lever would be a cessation of exports by at least four states, for an increasing longevity in European crude consumption entails a counter-vailing decrease in Arab resistance to foreign and internal pressures.

In attempting to coordinate Arab petroleum policies to maximize the

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The survival periods given above exclude the possibilities of increasing production in those states nonaligned with the Arab embargo of Europe. Insufficient data prohibits a thorough evaluation of this situation, however, it appears feasible that production, under favorable conditions could be doubled in one year.

embargo's political effectiveness, several possible levels of policy coordination must be reviewed: the official or governmental level; the direct or industrial level; and the illegal level (sabotage, etc.).

A. Official Level

Two organizational bodies exist at this level which might serve as a platform for developing coordinated Arab action: the Arab League and the Organization of Petroleum Exporting Countries. The Arab League, owing to its universal Arab participation, would appear to be the most likely vehicle for developing and coordinating a combined objective. However, the inclusion of numerous non-producing states extremely hinders its practical application to such a problem. The formulation of an embargo policy would undoubtedly originate in the Organization of Petroleum Exporting Countries where those Arab states involved in a cessation of operations could determine the sentiments of non-Arab producing states and at the same time determine the advisability of pursuing a policy antithetical to their economy.

A sharp decrease in the price of Middle Eastern crude initiated primarily by Standard Oil of New Jersey on August 9, 1960,¹⁸³ served as the stimulus for the creation of the Organization of Petroleum Exporting Countries. On September 5, 1960,¹⁸⁴ Iraq invited the governments of Saudi Arabia, Iran, Kuwait, Venezuela and Qatar to send representatives to Baghdad to discuss the unparalleled price cuts and develop some type of unified front to protect.

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"Organization of Petroleum Exporting Countries," Middle East Forum, December, 1962, p. 17.

184

Ibid., p. 17

their interests. Five months prior to this conference was the establishment of a Petroleum Consultation Commission which served as the forerunner in the evolution of this new international structure.¹⁸⁵

Under the able leadership of a group of national petroleum experts the organization undertook to solve the complex problem of crude price stability and increased profit-sharing. After five years of research and debate, prices have been slightly increased and stabilized. Although a significant accomplishment its most notable success occurred in the realm of profit-sharing procedure, whereby, the international oil companies agreed to increase the host governments proportion of crude profits.¹⁸⁶

Successes have been recorded but continuous dissension amongst its members has posed the greatest deterrent to further accomplishments. The addition of new members, such as Libya, who are anxious to increase their share of markets against the more established producers has created a situation of conflicting Arab interests which is apt to create dire consequences in an organization dependent upon coordinated action. In view of these difficulties it appears unlikely that the Organization of Petroleum Exporting Countries can bring any pressure to force unanimity of action.

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Ibid., p. 17

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<u>Present Basis</u>		<u>New Basis</u>	
Posted price	\$ 1.80	Posted Price	\$ 1.80; less 8 $\frac{1}{2}$ % \$ 1.647
Costs	.80	Costs	.20;20
Taxable income	<u>1.60</u>	Royalty	.23;23
Tax at 50 per cent	.80	Taxable income	<u>1.217</u>
Less royalty	.23	Tax at 50 per cent	.608
Net tax payable	<u>.57</u>	Total government income per barrel (royalty plus tax)	83.8 cts.
Total government income per barrel	80 cts.		

B. Direct or Industrial Level

The second possible level of policy coordination is the use of public pressure as an active political force with which to create support. As the principal producing states in the Arab world are either of a monarchical or military character, the possibility of generating enough public action to motivate changes in foreign policy is questionable; for popular demonstrations of support for any measures construed as officially undesirable would be immediately repressed.

The only alternative to popular support at this level would be a reliance upon pressure generated from national labor unions to the government. Presently, there are only three international Arab labor organizations that have such potential: the International Confederation of Arab Trade Unions, 1956; the Arab Federation of Petroleum Workers, 1961; and the Arab Labor Organization, 1955. Unionist difficulties in establishing adequate membership in the five crucial oil producing states renders this coercive force virtually impotent as a means of generating popular support.

C. Illegal Level

An alternative level that might possibly serve to coordinate Arab oil policies is sabotage. It is difficult to envision any meaningful or lasting policy based on the destruction of oil fields or their transit facilities, but the potential effectiveness of such activity necessitates its analysis and evaluation.

Many of the oil fields and transit routes lend themselves to the possible use of sabotage as a weapon against a nonaligned producing state, such

as the miles of trans-national pipelines originating in Iraq and Saudi Arabia. Iraq as the principal producer could be virtually nullified due to its dependence on pipelines while Saudi Arabian production would only be nominally affected.

Sabotage might also occur within the national borders of a state at such points as terminals, transit facilities, oil fields, storage tanks,¹⁸⁷ and dockyards. The likelihood of effectively thwarting a sovereign power aligned with the West by guerilla or underground tactics appears negligible.

In view of the conflicting national petroleum interests prevalent at this time amongst Arab producers and the inability to persuade or coerce acquiescence of nonaligned oil states, it must be concluded that coordinated Arab action is extremely unlikely.

This concludes the Analysis and evaluation of the Arab world's position should they decide to use petroleum as a political weapon. The foregoing analysis indicates that, despite its potentially persuasive power, Arab petroleum would be, at best, a politically clumsy weapon, and at worst, a self destructive one.

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On July 23, 1965, three Libyan oil tanks were blown up at Marsa Breqa terminal. The cause of the explosions was not immediately clear but it was assumed they were a result of saboteurs. The tanks were repaired in two days.

CONCLUSION

This study will be concluded, therefore, by considering the data presented above with the objective of evaluating the political potency of Arab oil, present and probable.

The political significance of oil, as suggested in the reports' introductory section, stems from the extraordinary degree of dependence on the current relationship that is exhibited by the Western, especially European, community. To renounce this relationship is to endanger the very basis of the European economy its energizing force.

Consequently, it is not surprising to note the frequent suggestions emanating from the Arab world that advantage be taken of Western Europe's reliance on an Arab commodity - a commodity, moreover, which is to some extent, an Arab monopoly.

The Arab petroleum producing states, primarily Algeria, Iraq, Kuwait, Libya, and Saudi Arabia, are in a position to exert some amount of political pressure on Western Europe, and thus, on the United States. However, the degree of effectiveness that this pressure is capable of generating is dependent upon the issue to which it is applied.

As previous section producing states are in no way independent of the benefits received from the exploitation of their petroleum reserves. Kuwait and Saudi Arabia are in the most favorable position in-so-far as they have capital reserves equivalent to approximately one year at existing rates of expenditure. This, obviously, would represent only the minimum length of time that these two countries could maintain a degree of solvency since luxury goods and numerous administrative expenditures and development

projects could be reduced or even entirely excluded from the budget. However, this would mean a significant loss of revenue and a stagnant economy for the duration of the crisis .

The remaining Arab producing states, Algeria, Iraq, and Libya, possess no appreciable capital reserves and would, consequently, be confronted with immediate solvency difficulties. Thus, their ability to withstand a cessation of oil revenues would be distinctly more complicated than that of either Kuwait or Saudi Arabia. However, Libya, could, as a consequence of its internal social and economic development, maintain a stable domestic situation for a longer period than either Algeria or Iraq.

From the foregoing economic analysis it may be concluded that the Arab producing states do retain a degree of economic independence that could be exercised over a rather limited period without the concomitant result of extreme economic hardship.

By comparison, the Western sector appears to be in a more advantageous position. Western Europe, as previously stated, could maintain its present consumption level without Arab oil for a minimum of 258 days. This figure would, obviously, be increased once consumer restriction were enforced to curtail the excessive use of petroleum.

However, in placing restrictions on petroleum usage Western Europe would be confronted with a partially reduced economic growth rate. This would automatically affect employment, and consequently, the entire economic structure. Although difficulties would ensue, Western Europe could, adequately, with the assistance of the United States, adjust to the economic pressures caused by a cessation of Arab petroleum for either an interim or extended period.

The economic evaluation has, to this point, dealt principally with a comparison of the absolute ability of the Eastern and Western sectors respectively to compensate for a loss of relations few developments require a political confrontations in absolute terms to resolve the conflict. Normally, the mere intent to exercise one advantage is sufficient to force negotiation procedures, thereby, arriving at a compromise solution.

Consequently, it may be concluded that the Arab states possess a commodity, i.e., petroleum, that has political significance. However, its political value is contingent upon the method employed to exercise its effectiveness. The most meaningful method being, to threaten the West with a cessation of petroleum, but under no means to actually initiate such an action as this would force the West to assume defensive tactics which, as previously established, would cause excessive harm to the Arab states.

Petroleum has political significance but this is of little value to the Arab world unless it can be directed against the West to procure compromise arrangements favorable to their welfare. Obviously, such a task requires astute diplomats to conduct negotiations and determine those issues which are of greatest value to the Arabs and of least value to the West. The latter consideration is, of necessity, a principle condition for the proper application of Arab petroleum as a political vehicle. The Arab states must have a unified cause which could, if not alleviated, endanger their security, otherwise, they are not likely to raise an issue which might antagonize the West, and consequently, jeopardize their primary source of revenue. A second factor which adds considerable weight to this analysis stems from the nature of the governments that exist in the Arab producing states. All are of either a

monarchical or dictatorial nature. Iraq and Algeria, the two dictatorial states, are apt to react rather hastily due to their present preoccupation with Arab socialism and attitude toward the past, but not forgotten, imperialism of Western Europe. However, Libya, Kuwait, and Saudi Arabia have monarchs, which, for all intents and purposes, control the government and dictate policy. These rulers have been traditionally pro-West or to phrase it more appropriately, pro-revenue source. So long as these rulers maintain effective control of their governments, they are not apt to endanger their principal source of income over an issue that has little direct relevance to their domestic situation.

In view of the foregoing, it must be concluded that Arab oil is politically valuable but only in-so-far as it is discreetly used. Limiting the study to an analysis of the possibilities of Arab-initiated action, it must be assumed that the political and economic situation in the present context of world developments is not favorable for such an undertaking.

The political significance of Arab oil is contingent upon the relative power positions of the East and West, consequently rendering Arab oil politically weak. For in the final analysis the Arab states are as dependent on the status quo as their Western counterparts.

The future may be with the Arabs as their sense of unity and their dependence on and fear of the West decreases, but the present lies with the status quo.

STATISTICAL APPENDIX

Shell Transport Companies and Their Shares in Arab Oil

Name of Company	Countries and Concessions	BP	CFP	Gulf	(Iraq) C.O.P.T.	Moody Mobil	Royal Dutch/Shell	(CANTON) SINA Terms	Others
I.P.C., I.P.C., S.P.C.	Iran	23.75	23.75	--	11.875	11.875	23.75	--	23.75
Consortium	Iran	40	6	7	7	7	44	7	7
K.O.C.	Kuwait - onshore	50	--	50	--	--	--	--	2 smaller American companies
K.S.P. Co.	Kuwait - offshore	--	--	--	--	--	100	--	Relinquished areas taken over by Kuwait National Petroleum Co.
TAPOC	Bahrain	--	--	--	--	--	--	50	50
AMMO	Saudi Arabia	--	--	30	10	--	--	30	30
O.P.C.	Qatar - onshore	23.75	23.75	--	(U.S.P.C.) 11.875	(U.S.P.C.) 11.875	23.75	--	PARSONS
Shell Co. of Qatar	Qatar - offshore	--	--	--	--	--	100	--	--
A.P.O.	Abu Dhabi - onshore	23.75	23.75	--	(U.S.P.C.) 11.875	(U.S.P.C.) 11.875	23.75	--	PARSONS
AMMA	Abu Dhabi - offshore	66.67	33.33	--	--	--	--	--	--
Tubal Petroleum Co.	Tubal - onshore	--	--	--	--	--	--	--	Continental Oil Company
SINA	Tubal - offshore	66.67	33.33	--	--	--	--	--	Continental (operating share)
EMCOB	Sherjah	--	--	--	--	--	--	--	John W. Bacon
S.P.O.	Muscat	--	--	--	--	--	53 (approx.)	--	PARSONS

I.P.C. - Iraq Petroleum Company Ltd.
M.P.C. - Mosul Petroleum Company Ltd.
B.P.C. - Basrah Petroleum Company Ltd.
K.O.C. - Kuwait Oil Co. Ltd.
K.S.P.D. - Kuwait Shell Petroleum Development Co. Ltd.
BAPCO - Bahrain Petroleum Co. Ltd.
ARAMCO - Arabian American Oil Co.
Q.P.C. - Qatar Petroleum Co. Ltd.
A.D.P.C. - Abu Dhabi Petroleum Co. Ltd.
ADMA - Abu Dhabi Marine Areas Ltd.
DUMA - Dubai Marine Areas Ltd.
P.D.O. - Petroleum Development (Oman) Ltd.
CFP - Compagnie Francaise des Petroles
S.O.N.J. - Standar Oil of New Jersey
N.E.D.C. - Near East Development Corporation
PARTEX - Participations and Explorations Corporation (Gulbenkian Trust)
SOCAL - Standard Oil of California

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