

Oil Scarcity Ideology in US National Security Policy, 1909-1980

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Introduction

Over the past century peak oil forecasts have had a profound influence on US national security policy. Unquestioned acceptance of a variety of oil scarcity forecasts, all of which proved wrong, repeatedly led policymakers to assume that rival powers sought to seize dwindling supplies. Perennial expectation of resource conflict gradually elevated the perceived importance of Middle East (ME) oil, which was thought to be the last left on earth. In response, increasingly aggressive US policies were adopted to secure a US share of ME oil. Belief in a scarcity imperative for aggressive policy is here called "oil scarcity ideology." Scarcity ideology and the scientific forecasts that engendered it are the subjects of this essay.

A striking feature of scarcity ideology has been its resistance to contradictory market information. Policymakers' concerns over oil security were repeatedly challenged by market

information, which was always ignored. I therefore compare scarcity ideology against contemporaneous market information to show what security experts could have learned but did not. Repetition is another prominent feature of the history I will describe. Economist Leonardo Maugeri observed that recurring pessimism over future supply during times of high price has always been followed by oversupply and low price.¹ Yet aggressive policies to secure supply were never reconsidered after scarcity forecasts proved wrong. In stark contrast, some readers may recall that following falsification of the WMD rationale for the Iraq war of 2003 there was “a torrent of literature” and “intense scrutiny” of false rationales.² Scarcity ideology escaped comparable scrutiny. In this intellectual void a ratchet developed; ME policy could become more aggressive, but not less. I call the operation of this policy ratchet the “oil scarcity syndrome.” Over the course of three iterations of the scarcity syndrome from 1909 to 1980, pre-emptive action to avert scarcity became a national security norm.

The essay plan is as follows. I first describe early iterations of the scarcity syndrome that recurred around the 20th century World Wars. In both iterations, scientists and high officials of the Department of the Interior convinced national security policymakers that (i) US oil would soon run out, (ii) that Western Hemisphere supply could not meet the shortfall, therefore (iii) aggressive policies were required to wrest a share of ME oil from rival powers. I then describe how peak oil theories advanced during WW2 formed the basis of Cold War scarcity ideology, in which the Soviet Union played the rival’s role.

During the 1970s Cold War scarcity ideology became more complex. Widespread belief in a new generation of peak oil forecasts engendered fear that an Arab oil weapon could cripple the US economy. In addition, the CIA forecast an impending Soviet production collapse. From these two forecasts, security experts inferred that an oil-starved USSR would try to seize Iranian oil production by force. I call the anticipated conflict “The Battle of the Last Barrel.” The Carter Doctrine was adopted to deter the Soviets from this battle. If the Soviets were not deterred by Carter’s verbal warning, some security experts urged that the US must launch its own invasion, occupying Iran’s oilfields to preempt the Soviets from seizing them. If conventional force failed to halt the Red Army, the US must resort to nuclear war. There was no alternative because control of Iranian oil would enable the Soviets to overturn the US alliance system.

In conjuring this oil-marauding USSR from scarcity ideology, security policymakers actively disregarded a great deal of market information indicating that global production would not soon peak and that Soviet production would not soon collapse. The non-apocalyptic outlook

¹ Leonardo Maugeri, *The Age of Oil: The Mythology, History, and Future of the World's Most Controversial Resource* (Westport, Conn.: Praeger Publishers, 2006).

² For a review see Brian C. Schmidt and Michael C. Williams, “The Bush Doctrine and the Iraq War: Neoconservatives Versus Realists,” *Security Studies* 17, no. 2 (2008), 192.

was shared by a large cohort of market analysts, academics and government agencies, most prominent of which was the Defense Intelligence Agency (DIA). Though the CIA remained convinced of Soviet oil crisis throughout the Carter Presidency, it did not expect oil shortage would compel a Soviet adventure in Iran. Nonetheless, the National Security Council (NSC) was able to persuade the President to proclaim that the US would use unlimited force to protect Persian Gulf oil supply. Carter's threat, now known as the Carter Doctrine, has rationalized Persian Gulf force projection ever since.

Following my historical essay of oil scarcity ideology, I briefly consider the implications of my research for international security theory. My research utilizes two sources not widely available, (i) recently declassified documents from the Jimmy Carter Presidential Library and (ii) the historic petroleum trade journal collection of The University of Tulsa McFarlin Library.

The Martial Tread of a Triumphant Foe

In 1909 USGS geologist David Day published the first detailed estimate of US oil reserves³. Its conclusion was that only 10-24 billion barrels of recoverable oil remained in known fields, and that all large fields had been discovered. While conceding that his estimate was "a matter largely of conjecture", Day nonetheless forecast that US oil might be exhausted as early as 1935. The idea proved influential.

By 1914, peak oil was so widely accepted that Secretary of State William Jennings Bryan invoked it as an obvious problem of national security. Bryan wanted President Woodrow Wilson to authorize a military occupation of Vera Cruz, Mexico, where unrest threatened investments of US firms. In a letter to Wilson, Bryan explained that peak oil made Mexican oil strategic. Mexican fields were "...the inevitable source from which, in the near future, the supply of oil for the United States Navy will largely be drawn."⁴

Wilson soon authorized the Vera Cruz occupation, a policy meant to restore order in the oilfields and the elected Mexican president to office. However, opposition to occupation soon united all Mexican factions against the US, including the one Wilson sought to help. After

³ David T. Day, "The Petroleum Resources of the United States," in *Report of the National Conservation Commission, Being a Report on National Vitality: Its Wastes and Conservation* (Washington, DC: Government Printing Office, 1909), 446-64.

⁴ Letter to President Woodrow Wilson from Secretary of State William Jennings Bryan Regarding the Importance of U.S.-Occupied Oil Fields in Tampico, Mexico, Upon the Petroleum Needs of the Southwestern Section of the U.S., April 9, 1914., Record Group 130: Records of the White House Office, Records Relating to the Activities of the President and the White House Office, 1900-1935, Mexico, 1913-1916, National Archive.

seven months and about 150 Mexican and 20 American combat deaths, the US force withdrew.⁵ Despite the debacle, one federal scientist thought Mexican supply so important that the US must return. Mark Requa, a consulting geologist to the Department of the Interior, saw Mexican oil as a refuge from apocalypse,

Mexico contains the great oil field of the world. We must either plan for the future or we must pass into a condition of commercial vassalage, in time of peace relying on some foreign country for the petroleum wherewith to lubricate the highways of commerce, in time of war at the mercy of the enemy who may control...the source of supply or the means of transportation; in either event our railways and factories will cease operation, our battleships swing helplessly at anchor, and our country will resound to the martial tread of a triumphant foe.

To Requa, Americans who failed to recognize the imperative to secure Mexican oil lived “in a fool’s paradise” where they “feast and revel while the handwriting blazes on the wall in letters of fire”.⁶ Revolutionary Mexico was an unstable, often lawless place. Yet it remained a steady oil supplier to the US during WW1 and after⁷. The reason was simple; all Mexican factions needed oil revenue.⁸ Exports to the US rose dramatically during the war, constrained only by a tanker shortage.⁹ However, neither the reliability of Mexican supply nor steady growth of US production moved Interior to amend its peak oil forecasts. Rather, Interior’s forecasts became more extreme and were soon made the basis of a new kind of science-based national security policy guidance.

In spring, 1919, USGS Chief Geologist David White asserted that peak oil afflicted Mexico, too. The US must therefore look elsewhere to replace dwindling US supply. Unfortunately for America, “With far-seeing eyes, England has acquired most of the promising oil territory of the world.”¹⁰ In addition to the ostensible problem this posed for the US Navy, which had begun converting from coal to oil propulsion, British control of peaking world supply also threatened a strategic project, the federal merchant shipping fleet of the future.

⁵Laurie Douglas, "Veracruz Occupation," in *Mexico and the United States*, ed. Columbia University The American Assembly (Englewood Cliffs, N.J.: Prentice-Hall, 1981), 848.

⁶ Committee on Printing, *An Article on the Exhaustion of the Petroleum Resources of the United States*, United States Senate, 64, 64th Congress, 1st Session, March 9, 1916.

⁷ "Mexico Makes Rapid Growth as Oil Producer," *The Wall Street Journal*, May 11, 1918.; George Blardone, "News of Mexican Oilfields," *Oil & Gas Journal* 1919, 30.

⁸ Civil war made life insecure in the oil fields, but had little effect on production. Jonathan C. Brown, *Oil and Revolution in Mexico* (Berkeley: University of California Press, 1993), 200; "Mexican Oil," *Oil & Gas Journal* 17, no. 39 (1919), 2.

⁹ M.d. M. Rubio, "Petróleo Y Economía En México, 1900-1930," *Caeteris Paribus* 8, no. 1 (2005), 13-18.; "Oil Exports from Mexico," *Oil & Gas Journal* 17, no. 32 (1919), 3.; See also "More Liquid Fuel Is Needed to Supply Additional Power for War," *New York Tribune*, January 6, 1918, 14.

¹⁰ "Mr. White Sees Danger of Exhaustion," *Oil & Gas Journal* 17, no. 48 (1919), 54.

The Wilson Administration believed that a federal merchant fleet must be created to challenge Britain for global dominance. The basis for this belief may have been Mahan's theory that a well-defended carrying trade explained Britain's dominance in the 17th and 18th centuries.¹¹ In any case, the enormous wartime merchant ship construction program at Philadelphia's Hog Island would continue into peacetime to build the new fleet. The US Shipping Board, created to supervise merchant shipping during the war, would manage the new enterprise.¹²

The peak oil problem was a grave concern of Shipping Board Director Edward Hurley. How much scarce fuel would the new fleet would need? While admitting that data upon which to base an estimate were "not yet very ample", Hurley was confident that engineers had an accurate "rough and ready" estimate of yearly demand based on deadweight tonnage. On this basis, Hurley offered a breathtaking forecast; within five to ten years the global merchant fleet would consume 50% of global production and 80% of US production.¹³ Peak oil thus made fueling the new US fleet a first-order strategic problem. Fortunately, three federal scientists had a solution. These were USGS Director George Otis Smith; Bureau of Mines Director Van Manning; and geologist Mark Requa, who had become director of the Petroleum Division of the US Fuel Administration. In a letter to H.A. Garfield, head of the US Fuel Administration, the scientists rehearsed familiar Interior peak oil themes before concluding it was "absolutely necessary" that,

...American interests be encouraged by sympathetic Governmental cooperation in acquiring additional sources of foreign supply and by protection of properties already acquired.

The scientists also recommended that American foreign oil operations should become,

...co-extensive with the new expansion of American shipping. This means a world-wide exploration, development and producing company financed with American capital, guided by American engineering, and supervised in its international relations by the United States Government.

In other words, the US must adopt gunboat diplomacy on a global scale in order to defend new interests in foreign oil and the new federal merchant fleet. That the Vera Cruz debacle had evolved from an equivalent policy went unmentioned. Administrator Garfield enthusiastically communicated the scientists' report to his friend President Wilson with the proviso that,

¹¹ A. T. Mahan, *The Influence of Sea Power Upon History, 1660-1783* (London: S. Low, 1890).

¹² Edward N. Hurley, *The New Merchant Marine* (New York: The Century Co., 1920).

¹³ "Oil Burning in the Ships," *Oil & Gas Journal* 17, no. 29 (1919), 2.

...we will not ultimately help the situation to the greatest extent possible if we permit England to control the supplies necessary to the maintenance of our industries. As the Secretary of the Navy has stated, it is, for example, vital that we control oil supplies necessary for our Navy and Merchant Marine.¹⁴

In summer, 1919, Shipping Board Director Hurley wrote to remind Wilson of the fuel problem, urging him to seek Interior's guidance on where foreign oil could be found. Wilson responded immediately, requesting advice from Interior Secretary Franklin Lane.¹⁵ Interior responded early in 1920 with "The Petroleum Resources of the World", a new paper by Chief Geologist White. White repeated Interior orthodoxy,

...it appears highly probable that the United States will have passed its production peak within five years or very soon thereafter, and possibly within three. Nothing is more certain than that this country must at an early date lose its supremacy in the oil world and become more and more dependent on the oil resources of other lands...¹⁶

White also cited new economic evidence of peak oil,

Besides responding to increased costs of production, the remarkable advances in crude oil prices are to be regarded as reflecting also both the deficiency in our domestic output and an apprehended difficulty in securing foreign oil in amounts sufficient to satisfy our growing requirements.¹⁷

This was a bold claim. All commodity prices rose between 1914 and 1919, the wholesale index by 110%.¹⁸ How White could infer peak oil from rising oil price during a generalized price bubble was neither obvious nor explained. What was clear to at least one economist, however, was the bubble's cause. Professor Alvin Hansen, a Democrat like Wilson, challenged White directly. In the same journal issue as White's report, Hansen contended,

The rise in prices cannot then be explained on the basis of shortage of goods. It can only be accounted for on the basis of inflation of currency and credit. The importation of over a billion dollars of gold [European payments for US war goods], and the credit creating capacity of the federal reserve system made enormous inflation inevitable in the

¹⁴ Memorandum for the President of the United States from H. A. Garfield Concerning the Fuel Oil Situation, Josephus Daniels Papers, 518, Reel 36, Library of Congress.

¹⁵ Edward Hurley letter to Woodrow Wilson and Wilson letter to Secretary of the Interior Franklin Lane, *The Papers of Woodrow Wilson*, ed. Arthur Stanley Link, 69 vols., vol. 42 (Princeton: Princeton University Press, 1990), 114-16.

¹⁶ David White, "The Petroleum Resources of the World," *Annals of the American Academy of Political and Social Science* 89, no. May (1920), 115.

¹⁷ *Ibid.*, 114.

¹⁸ Alvin H. Hansen, "The Sequence in War Prosperity and Inflation," *Annals of the American Academy of Political and Social Science* 89, no. May (1920), 242.

absence of rigid governmental regulation. Thus prices rose with the volume of currency and bank credit.¹⁹

Although White made much of a post-war increase in oil price, oil actually increased less than the wholesale index, restrained by price controls under the Lever Act, wartime regulation of fuel oil production,²⁰ product seizures,²¹ nationalization threats²² and a campaign by Secretary of the Navy Josephus Daniels to repatriate federal mineral patents in California.²³

Meanwhile, some American investors were agitating for another intervention in Mexico in order to preempt its revolutionary government from nationalizing US assets.²⁴ Oilman E.W. Marland, a Democrat later elected Governor of Oklahoma, captured the irony,

I would very much like to help in the solution of that problem upon which the continuance of our national welfare depends, by devoting a large part of my energies and capital in that direction, but I cannot do justice to my friends, partners and stockholders in my business, and employ their capital in this enterprise until I know fully whether our government intends to confiscate the oil produced by American companies or buy it at a price warranted by the laws of supply and demand. I am not afraid of what the Mexican government may do. But I am afraid of conditions in Washington and of what my own government might do.²⁵

The Truth in its Reality of Danger

Isolated to trade journals, pleas such as Marland's had no impact. Rather, alarmist security analysis flourished in anticipation of peak oil. "The Petroleum Resources of the World", for example, cited a British investor's declaration that with America's oil running out, its tilt at world power was at an end. White presented this echo of his own views as evidence that unless

¹⁹ Ibid.

²⁰ "Federal Control of All Fuel Oils," *The Atlanta Constitution*, Feb. 5, 1918, 3; "All Big Oil Dealers Must Have Licenses," *New York Tribune*, Feb. 5, 1918, 11.

²¹ "Confiscation of 15 Tank Cars of Oil and Several of Coal Relieves Gas Shortage at Detroit," *American Gas Engineering Journal* 108, no. 8 (1918), 186.

²² E.g. US Representative C.H. Randall introduced a resolution directing the Secretary of the Interior to investigate policies for increasing federal control over private oil operations, including whether government should acquire by "purchase, condemnation proceedings, or in any manner whatever...the entire oil-producing area of this country, to the end that the United States may protect fuel supplies for its own use in the future..." Committee on Mines and Mining, *Petroleum and Gasoline Hearings*, United States House of Representatives, 64, 1st Session, 1916.; See also "Government Control of Petroleum," *Oil & Gas Journal* 16, no. 32 (1918), 2.

²³ Wm E. Colby, "The Law of Oil and Gas: With Special Reference to the Public Domain and Conservation," *California Law Review* 30, no. 3 (1942), 245-71.

²⁴ Clifford W. Trow, "Woodrow Wilson and the Mexican Interventionist Movement of 1919," *The Journal of American History* 58, no. 1 (1971), 46-72.

²⁵ "Mr. Marland's Warning," *Oil & Gas Journal* 18, no. 44 (1920), 5.

US nationals controlled more foreign oil, fealty to Britain lay ahead. Falsely claiming that the only global fields not controlled by Britain or Holland were within the Ottoman Empire, White implied that US control of Ottoman oil was necessary,

This situation cannot be neglected. Longer to ignore it is to court disaster. The smug complacency that habitually blinds the American public must be torn aside and the truth in its reality of danger faced squarely, courageously, justly, and wisely. An unprecedented crisis in our country may call for action without precedent.²⁶

On November 19, 1920, President Wilson endorsed Interior scarcity ideology, approving a letter to Britain rejecting her attempt to claim sovereignty over Ottoman oil. The letter from Secretary of State Bainbridge Colby to the British Foreign Minister asserted scarcity ideology as an acclaimed truth that justified America's share in the spoils of war. Colby freely mingled America's self-interest with the more generous discourse of the Open Door,

The Government of the United States assumes that there is a general recognition of the fact that the requirements for petroleum are in excess of production and it believes that opportunity to explore and develop the petroleum resources of the world wherever found should without discrimination be freely extended, as only by the unhampered development of such resources can the needs of the world be met.

Scarcity ideology had made its first triumph, defeating market information and competing conclusions that might have been drawn from it. Examples abounded of information's defeat. Mexican exports to the US were unreliable, despite their robust growth.²⁷ Domestic shortages proved that peak oil loomed, despite simpler, more obvious explanations for shortages like price controls and nationalization threats. Rising price proved peak oil was at hand, despite war-induced monetary growth that raised all commodity prices.

The *coup de grace* for scarcity ideology was a 1920 federal threat to ration gasoline, which historians regard as a plausible basis for the widespread belief in peak oil.²⁸ Yet this shortage, restricted to the West Coast, was the result of domestic energy policy. The West Coast gasoline shortage coincided with federal confiscations of fuel oil from California refiners in spring and

²⁶ White, "The Petroleum Resources of the World," 132-34.

²⁷ Mexican supply surged during and after the War. Blardone, "News of Mexican Oilfields." Although Mexican supply did decline after 1921, this was not due to oil shortage but rather to migration of US investment to less contentious Venezuela. Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*, 1st Free Press trade paperback ed. (New York: Free Press, 2003), 216.

²⁸ E.g. Stephen J. Randall, *United States Foreign Oil Policy since World War I: For Profit and Security*, 2nd ed. (Montréal: McGill-Queen's University Press, <http://www.loc.gov/catdir/toc/fy0610/2006411724.html>, 2005), 9; Gerald D. Nash, *United States Oil Policy, 1890-1964 : Business and Government in Twentieth Century America* (Westport, Conn.: Greenwood Press, 1976), 16-19.

summer of 1920, as ordered by Secretary of the Navy Daniels under the Lever Act.²⁹ Reflecting on a summer of these seizures Los Angeles oilman Thomas O'Donnell, who was also President of the American Petroleum Institute, observed,

The attitude of the navy department toward Pacific Coast producers, coupled with governmental agitation for investigation of the industry, 'nearly always by men not familiar with the subject and frequently with pre-conceived prejudice, has had a destructive influence on the development on petroleum resources on the Pacific Coast'.³⁰

Wilson-era political constraints on production were removed after 1920, whereupon US gasoline production rose steeply, California's most of all.³¹

Working Themselves into a Frenzy

During the 1920s a well-studied contest with Britain ensued over control of ME oil, driven in America by scarcity fear.³² Yet as early as 1919, there were market indicators of an impending glut.³³ H.G. James, a refinery association executive, compared optimistic supply indicators to the scarcity ideology emanating from Interior. James dismissed Interior's argument that storage declines foretold peak oil. Low stocks were inevitable; refiners had neither the fiscal capacity nor any incentive to carry a large inventory. It was false to claim low stocks as peak evidence. James also noted the repeated failures of Interior's past peak oil forecasts, then alluded to Chief Geologist White's new article, "...some of our American officeholders are working themselves into a frenzy over the question of England cornering the petroleum resources of the world." James could scarcely believe White was taken seriously,

But I insist there is no good excuse for the stories circulated concerning oil. There is no actual shortage. There is no ground for the scare of exhausted supply. In Wyoming and Texas there is more oil than the refineries can handle. Oil is seeking buyers. The facts

²⁹ "Seize Oil for Navy, Officers Get Supply at Bay City, Action Follows Deadlock with Producers over Prices Offered, Admiral Says They Were within Rights in Demanding Fuel," *Los Angeles Times*, July 27, 1920, 15.

³⁰ "Say Oil Supply Goods for Years: Prominent Petrol Men Declare Resources of World Nowhere near Exhaustion," *The Miami Herald*, November 20, 1920, 5.

³¹ Alan L. Olmstead and Paul Rhode, "Rationing without Government: The West Coast Gas Famine of 1920," *The American Economic Review* 75, no. 5 (1985), fig. 1.

³² John A. DeNovo, "The Movement for an Aggressive American Oil Policy Abroad, 1918-1920," *The American Historical Review* 61, no. 4 (1956), 854-76; Gerald D. Nash, *United States Oil Policy, 1890-1964; Business and Government in Twentieth Century America* (Pittsburgh, Pa.: University of Pittsburgh Press, 1968), 16-20.

³³ "Texas May Swamp the Market with Oil," *Oil & Gas Journal* 17, no. 43 (1919), 44.

are, we are in greater danger of a decline in the price of crude than we are of an advance.³⁴

Mirroring Marland's dismissal of threats to imported supply, James pleaded that there was nothing to fear from foreigners,

Personally, I am not afraid of what England may do. We have scared her with our dismal forecasts of oil.³⁵

By 1921 James' insights had won wider notice. His forecast of a coming glut reached *The New York Times*,

The thing the oil industry is worrying over is a market, not a supply. The oil fraternity is afraid of imports from countries where the potential supply of oil is almost unlimited.³⁶

James was a visionary. While a few had rejected peak oil forecasts, James saw further that there were geopolitical hazards in scarcity ideology. He alone recognized that abundant foreign production would ignite a battle for market share, and he alone condemned scarcity ideology as a needless source of geopolitical friction. That so few recognized the truth of James's forecasts was not surprising. What was surprising was that government's quest for ME oil escaped reconsideration after its peak oil rationale proved wrong. The 1920s oil glut did nothing to deter Wilson's Republican successors from seeking ME oil. Their quest rewarded in the well-studied Red-Line Agreement of 1928, which divided Ottoman resources among a small group of US, British and French oil firms. These firms became the first global oil cartel, the Seven Sisters. Just months after the Red-Line Agreement, however, the Seven Sisters reached the secret "As-Is" Agreement, whose purpose was to suppress global competition in order to maintain members' market share.³⁷ Thus in the commercial battle for downstream markets foreseen by H.G. James, peace among the giant oil firms was achieved by federal support for the new cartel. The cartel's object, of course, was to keep ME oil out of America. Historians have missed the irony.

Something We Have to Have

As an oil glut lasting almost two decades approached its end in fall 1941, Secretary of the Interior Harold Ickes advised President Franklin Roosevelt of an urgent need for action; at the current demand rate US reserves would last only 15 years. The US must therefore secure

³⁴ H. G. James, "Present Stocks of Gasoline Large," *Oil & Gas Journal* 19, no. 7 (1920), 80.

³⁵ *Ibid.*

³⁶ "No Limit to Crude Oil Supply," *The New York Times*, November 7, 1921, <http://query.nytimes.com/gst/abstract.html?res=990CE5D8103EEE3ABC4F53DFB767838A639EDE>.

³⁷ Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*: Ch. 14.

“extra-territorial reserves to guard against the day when our steadily increasing domestic demand can no longer be met by our domestic supply.”³⁸ As with Interior’s peak oil forecasts two decades earlier, there was less to Ickes’ argument than met the eye. By neglecting to explain to Roosevelt that reserves measure inventory, not recoverable oil, Ickes implied an impending peak. Also implicit was that no new exploration would ever take place or, if it did, that it would be unsuccessful. These implicit assumptions were absurd but escaped notice.

Ickes had further peak oil evidence for the President; reserve growth from discoveries of new fields had fallen behind demand growth. Ickes’ aide Ralph Davies had first advanced this argument; “since 1938 we have maintained our paper position with respect to reserves only by increasing the estimates for fields discovered in prior years.”³⁹ The US paper position was in fact remarkably strong, due precisely to the upward revisions to existing fields Davies disparaged. Davies’ argument obfuscated that upward revisions were the result of drilling, just like new discoveries. Davies also failed to explain that firms explore to prove reserves only when they need to replenish inventory, and then only when price provides an incentive. In 1941 incentive was quite low after nearly two decades of low price.⁴⁰ Compounding the problem of low price were federal price controls. When controls were imposed in fall 1941, the 1930s price, an all time low, was made into a ceiling.⁴¹ This array of economic and policy-induced constraints on production fully explained the supply situation Davies claimed as peak oil evidence.

Davies also neglected to acknowledge that that production was responding to incentives for efficiency imposed by extended low price. Companies got better at exploring for reserves in known fields, an activity less costly than exploration for new fields. In 1941, for example, reserve growth within fields discovered since 1935 was a staggering 160-300%, despite flush production in the interim.⁴² Reserve growth from existing fields explained why, despite stagnant exploration, production reached an all time high in 1941.⁴³ The efficiency revolution was driven by the seismic technology that was simultaneously revolutionizing anti-submarine warfare. Reserves would last much longer than Ickes claimed, even if no exploration for new fields *ever* took place. The industry was also beginning to realize the potential of secondary

³⁸ Ickes letter to Franklin Roosevelt, Dec 1, 1941, cited in Gerald D. Nash, "Energy Crises in Historical Perspective," *Natural Resources Journal* 21(1981), 349.

³⁹ Davies remarks were in an address to the American Petroleum Institute, November 7, 1941, "Davies Warns That Reserves Lag Behind Production," *Oil & Gas Journal* 40, no. 27 (1941), 14.

⁴⁰ A. G. White et al., "Crude Petroleum and Petroleum Products," in *Minerals Yearbook 1945*, ed. E. W. Pehrson and H.D. Keiser (Washington, DC: United States Government Printing Office, 1947), 1053 (fig. 2).

⁴¹ The decline of drilling effort relative to nominal crude price, which remained virtually unchanged from 1936-1945 and hence declined in real terms, is obvious from fig. 2. Ibid.

⁴² W. V. Howard, "Analysis of PAW Reserve Estimates Confirms Previous Conclusions," *Oil & Gas Journal* 41, no. 40 (1943), 27.

⁴³ A.G. White et al., "Crude Petroleum and Petroleum Products," in *Minerals Yearbook 1943*, ed. E. W. N. Pehrson and C. E. Needham (Washington, DC: United States Government Printing Office, 1945), 1067 (fig. 1).

recovery; new methods of injecting water or methane into working reservoirs increased production as much as 200%.⁴⁴

Few outside the industry, however, understood how weak Interior's scarcity arguments really were. Further, by 1943 *bona fide* wartime shortages in US supply emerged. Secretary Ickes would conflate these shortages with peak oil to imply a relation. As in WW1, however, the WW2 shortages had nothing to do with peak oil. Supply shortages resulted from war, price controls and factor shortages. First, tanker losses in the Battle of the Atlantic during 1942 reduced transport capacity between mid-Continent production and eastern refineries.⁴⁵ In addition, price controls imposed in 1941 actively destroyed production. Starved of profit, small "stripper well" producers went out of business by the hundreds, their production lost forever. Though production from individual strippers was tiny, under 10 barrels/day (bd), their aggregate was formidable, 20-25% of US production.⁴⁶ Finally, war-related scarcity of production factors was a problem for those producers lucky enough to have survived price controls. Steel became so scarce, for example, that ancient trades like cooperage re-emerged to supply wooden barrels for storage.⁴⁷ Testifying before the House Committee on Small Business, a Texas producer described a daunting array of factor shortages, the shortage of credit being most severe,

...the increase in the cost of labor and the lack of skilled workmen; the scarcity of materials necessary to maintain machinery; the low price of oil; the profit being so small banks and other financial institutions will not make loans on production.

State regulators and small producers explained that shortages were a function of policy, not geology. Oklahoma producer H.B. Fell cited Treasury data showing that 60% of all oil firms lost money in 1940. Subsequent price controls made that bad situation worse. Fell did not claim that oil was superabundant. He merely explained that new reserves could not be proved if firms did not drill, and that their willingness to do so had plummeted under price control. Well completions declined 50% from 1940-1943⁴⁸ while abandonments exceeded Depression levels. Fell made it as simple as he could,

⁴⁴ "Compact to Aid Expansion of Secondary Recovery Work," *Oil & Gas Journal* 41, no. 7 (1942), 55-56.

⁴⁵ Peter Padfield, *War beneath the Sea: Submarine Conflict During World War II* (New York: John Wiley, 1996); Samuel Eliot Morison, *History of United States Naval Operations in World War II*, 1st ed., 15 vols., The Battle of the Atlantic September 1939-May 1943 (Boston: Little, Brown, 1947).

⁴⁶ Committee on Interstate and Foreign Commerce, *Petroleum Investigation: Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce*, United States House of Representatives, 77th Congress, November 23, 24, 25, 30 and December 1 and 4, 1942, 1943, 14.

⁴⁷ J. P. O'Donnell, "Oil Products Containers Remain a Problem," *Oil & Gas Journal* 41, no. 39 (1943), 25-26.

⁴⁸ White et al., "Crude Petroleum and Petroleum Products," 1074 (fig. 2).

I think that it is demonstrable that the price is what gets results. I think that would probably apply to spinach or beets or any other thing as well as to oil.

The Small Business Committee heard dozens of similar accounts before resolving that price was too low to maintain production.⁴⁹ To makers of grand strategy like Secretary Ickes, however, market information had little importance. Six months after the Small Business hearing, Ickes appeared before a Senate Special Committee to lobby for the Petroleum Reserves Corporation (PRC), the new federal ME oil firm that he, as Secretary of the Interior, would lead. Though Ickes reminded the Senators he supported a small increase in controlled price,⁵⁰ he invoked peak oil as the sole explanation for wartime shortages. Ickes argued that the recent decline from a 20- to a 14-year supply of reserves since 1933 demonstrated “a natural shortage of crude”,

Our own reserves have been falling off. Our new discoveries have been disappointing. Where are we going to get the additional oil that we have to have?

Since reserves measure inventory Ickes’ argument was meaningless. Yet, as he boasted to the Senators, his argument had just persuaded President Roosevelt to authorize the PRC. Ickes enthused that PRC’s creation would overcome Americans’ aversion to the use of force to defend private US interests abroad; Britain’s gunboat diplomacy was the model America should follow. Ickes recalled a conversation he’d had with American oil executives seeking US protection for their operations in Saudi Arabia,

I said ‘Gentlemen, the American people wouldn’t stand for using the Navy in protecting your interests, but if there were some national interests there, I imagine our government would feel as the British government feels.’

Turning again to the Senators, Ickes continued:

Here is something we have to have. We can’t fight another war on our oil resources in this country...We have to have them where they are, and the best place is over in the ME.⁵¹

Ickes’ argument became the basis of Cold War oil policy so is worth understanding. He offered a triply-leveraged syllogism that;

⁴⁹ Committee on Small Business, *Petroleum Supply Situation in the United States, Second Interim Report*, House of Representatives, 78th Congress, 1st Session, May 10, 1943, 1943.

⁵⁰ Price ceilings were administered by the Office of Price Administration, which denied requests for an oil price increase. Ibid.

⁵¹ This was apparently secret testimony, as it was not part of the Congressional Record at the time. Overseas Subcommittee, Special Committee Investigating the National Defense Program, *Investigation of the National Defense Program; Executive Session, Conference with the Petroleum Administrator for War*, United States Senate, November 15, 1943, 1-27. Published by the Master Recoding Company

- (a) peak oil would dramatically reduce domestic supply within 14-15 years, leaving the US unable to wage war from domestic supply;
- (b) ME oil could be denied to the US;
- (c) no other supplier could help;
- (d) therefore the US must control ME oil.

A counterargument by Bernard Brodie did not appear until 1947, but evidence for it was obvious in 1943:

- (a) proved reserves in themselves indicated neither scarcity nor abundance, whereas inventory decline under conditions of war, factor shortages and price control was inevitable;
- (b) ME sovereigns were keen to increase oil revenue, thus unlikely to withhold supply;
- (c) Mexico and Venezuela had exported critical increments in both world wars, hence the US had never fought a mechanized war on domestic supply alone;
- (d) therefore it was not obvious that ME oil was "something we have to have".

National security officials embraced Ickes' syllogism enthusiastically, however. Secretary of the Navy Frank Knox repeated Ickes' reserves argument almost verbatim, warning Congress of "the possible exhaustion of our known supplies of crude in America" in as little as fourteen years.⁵² Although none of Ickes' schemes for US ownership of ME oil were adopted, his syllogism of scarcity ideology became the basis of Cold War policy with respect to oil.

An Enormous Handicap

Early in the Cold War two new ideas were incorporated into Ickes' syllogism. First, US analysts came to believe that "access" to ME oil depended on how well its inhabitants liked America. Second, the Soviet Union was believed to want to deny ME oil to Western countries. These ideas were articulated by the Joint Chiefs of Staff (JCS), who worried that prospective US

⁵² "Knox Warns of Crude Oil Shortage, with Exhaustion in 14 to 20 Years," *New York Times*, June 26, 1943, 1.

support for Jewish statehood might turn ME countries towards the Soviets,⁵³ resulting in loss of ME oil to the West. I call this anxiety “the sentiment theory of oil supply.”

The Chiefs’ ideas about the USSR and the sentiment theory of oil supply were not confirmable by any actual market impacts of these concepts. More particularly, the Chiefs ideas about the Soviets flew in the face what had just happened in Iran. After WW2, Soviet forces had at first refused to vacate north Iran in violation of a wartime partition treaty with Britain and Iran. The Soviets eventually departed in late 1946, induced by an oil concession for north Iran and strident US objections to the treaty violation.⁵⁴ In departing peacefully, the Soviets turned their backs on an undefended Iranian littoral overlying one of earth’s largest, most prolific oil formations. Soviet behavior was not easily squared with their ostensible determination to control ME oil. Nonetheless, the Cold War variant of Ickes syllogism was accepted with little question. As the JCS saw it, the USSR was America’s rival for ME oil, soon to be the last left on earth,

This is probably the one large undeveloped reserves in a world which may come to the limits of its oil reserves within this generation without having developed any substitute. A great part of our military strength, as well as our standard of living, is based on oil.⁵⁵

Bernard Brodie offered the only dissent to this emerging Cold War scarcity ideology. He foresaw that US oil would not peak anytime soon or be problematic when it did; gradual US production decline would be readily offset by imports from nearby countries. Brodie grasped that the market had become fungible; the days of exclusive imperial trading blocs were over. Since peacetime supply was available to any buyer anywhere, the real problem was wartime. Then, military power and location would determine resource availability. Resource ownership as Ickes advocated would be meaningless. To adopt Britain’s strategy, *i.e.* to try to defend possessions in the ME, would be dangerous and unnecessary,

If however, we were to become dependent mostly or even largely upon such an area as the Middle East for our supplies of oil in wartime, we should be accepting an enormous handicap, a fact sufficiently demonstrated by the difficulties we experienced in the coast-wise and Caribbean transportation of crude oil by tanker during the recent war before the submarine menace was mastered and interior pipelines built. For regardless of where on the globe military operations were called for, our primary concern would

⁵³ Such ideas were common in the Department of State at the time. See Robert D. Kaplan, *The Arabists: The Romance of an American Elite* (New York: Free Press, 1993).

⁵⁴ Robert Rossow, Jr., "The Battle of Azerbaijan, 1946," *Middle East Journal* 10, no. 1 (1956), 17-32.

⁵⁵ Memorandum for the State-War-Navy Coordinating Committee, 21 June 1946 *The United States Recognition of Israel*, ed. Dennis Merrill, 30 vols., vol. 24, Documentary History of the Truman Presidency (University Publications of America, 1998).

have to be with protecting what might easily prove to be a tenuous line of sea-borne communications from the Middle East to our own shores.⁵⁶

Brodie objected to blurring the line between peace- and wartime supply as the JCS had done. What mattered was supply during conflict, a problem geography had solved for the US,

The strategic approach to the oil problem must thus be based on the premise that, so long as it can be made to fulfill our basic wartime needs, the only oil reserves worth defending is that which can be held with a minimum of defensive military commitments. That portion of it which falls within the area we must in any case defend is pure windfall strategically. And since the United States, the Caribbean, and the northern part of South America clearly fall within our "minimum strategic defense area", a sound strategic oil policy must stem first of all from accurate appraisal of reserves within that area...⁵⁷

Brodie's insights were obscure and remain so. They appeared as a white paper of a Yale University security studies program that was soon disbanded. There was no other dissent. ME oil continued to be acclaimed as crucial for defending Europe against communism, in peace as well as war.⁵⁸ After Jewish statehood, Cold War scarcity ideology again overcame market information. That is, the sentiment theory of oil supply held that if America offended Arab producers by supporting creation of Israel, producer-states would defect to the Soviet bloc then deny oil to the West.⁵⁹ President Harry Truman supported Jewish statehood anyway, after which Arab supply to the West grew rapidly. Could this mean that revenue might matter more than Israel to Arab producers? Might the sentiment theory be wrong? No one asked.

The Decisive Weapons in the Present Cold War

In the early 20th century, oil concession terms granted to Western oil companies were generous. This was not necessarily unfair as companies' risks were great. As geology became better known, however, risks declined and resource nationalism rose. Anxious to avoid the bitter politics that led to Mexico's nationalization in 1938, US firms readily accepted a 50-50 profit sharing proposal with Venezuela in 1943.⁶⁰ Iran began seeking to amend its old concessions in

⁵⁶ Bernard Brodie, "Foreign Oil and American Security, Memorandum 23," (New Haven, CT: Yale Institute of International Studies, 1947).

⁵⁷ Ibid.

⁵⁸ See David S. Painter, *Oil and the American Century: The Political Economy of U.S. Foreign Oil Policy, 1941-1954*, The Johns Hopkins University Studies in Historical and Political Science (Baltimore: Johns Hopkins University Press, 1986); David S. Painter, "The Marshall Plan and Oil," *Cold War History* 9, no. 2 (2009).

⁵⁹ Kaplan, *The Arabists: The Romance of an American Elite*.

⁶⁰ Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*: Ch. 22.

1947 when its Majlis (parliament) repudiated the Soviet concession that had lured the Red Army from Iran in 1946. The Majlis also demanded better terms from AIOC⁶¹. Although AIOC and Iran's government eventually came to terms in 1949, anti-British anger ultimately overtook the negotiations, leading to a Majlis vote to nationalize AIOC.⁶² Iran's quest to regain resource sovereignty from foreign powers was hardly a tilt towards communism, but the JCS saw it that way. Moreover, the Chiefs claimed that,

The decisive weapons in the present cold war in Europe are the petroleum resources of the ME and Venezuela. Should these weapons fall into communist hands it would only be the prelude to the lowering of the iron curtain of Soviet communism around Western Europe.⁶³

The purported necessity of ME oil to survival of European democracy was first proposed by Undersecretary of State Robert Lovett in 1948. Since Europe depended on ME oil that the US could not readily replace, Lovett argued that the Soviets could dominate Western Europe by denying ME oil.⁶⁴ The CIA reiterated this idea in 1949, asserting that the Soviet goal was "...acquisition and denial of oil..."⁶⁵ in order to subdue Western Europe. This conception of a Soviet aim to acquire and deny ME oil will be called the "decisive weapon theory."

From first principles, there were only three ways the Soviets could use the decisive weapon, (i) by purchasing ME oil, (ii) by creation of ME client states, or (iii) by invasion and seizure of ME oil production. US officials never indicated which of these scenarios they anticipated. There was never a suggestion that the USSR would become a concessionaire like a Western oil firm, or that the war-ravaged Soviets could afford to buy and store ME oil. Apparently then, the decisive weapon could only have been deployed *via* installation of client states or Soviet invasion. Soviet leaders could hardly fail to grasp, however, that stripping ME countries of their oil revenue, which was inevitable if oil was denied to the West, might embitter the region's inhabitants against Soviet Marxism. To shut in ME production would make the USSR a far harsher energy imperialist than any Western state had ever been. This flaw in the decisive weapon theory is here called "the absconded revenue problem", which American policymakers ignored throughout the Cold War. They always believed that the USSR could and would usurp ME oil unless prevented from doing so by the US.

⁶¹Painter, *Oil and the American Century: The Political Economy of U.S. Foreign Oil Policy, 1941-1954*: 114-15.

⁶²Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*: Ch. 23.

⁶³Memorandum for the President (*Re* 127th Meeting of the National Security Council), December 17, 1952, President's Secretary's File, Box 187, Harry S. Truman Presidential Library & Museum.

⁶⁴Lovett to Hill, 20 August 1948, US National Archives, Record Group 304, (National Security Resource Board Records), Entry 1, Box 3, 'Middle East Oil'.

⁶⁵Relative U.S. Security Interest in the European-Mediterranean Area and the Far East, ORE 69-49, NARA # NN3-263-92-005, http://www.foia.cia.gov/docs/DOC_0000258572/DOC_0000258572.pdf, Central Intelligence Agency Freedom of Information Act Electronic Reading Room.

Iranian oil was believed to be the ME supply most threatened by the Soviets. As is well-studied, Britain exploited US anxiety over this threat by pressuring Presidents Truman and Eisenhower to assist in a coup to recover AIOC assets. Yet as Iran coup planning proceeded, the scarcity premise of Ickes' syllogism fell away. The world was obviously failing to reach "the limits of its oil reserves within this generation".⁶⁶ Rather, huge new volumes of ME oil imports were depressing price, leading to a "clamour by the small producers for a cut in oil imports."⁶⁷ Nonetheless, with the change in presidency from Truman to Eisenhower in 1953, planning for intervention in Iran accelerated. As after WW1, the glut that obliterated Ickes' scarcity rationale did nothing to retard adoption of an aggressive policy to get ME oil.

The Iran Coup

President Eisenhower's Secretary of State, John Dulles, was an adherent of the decisive weapon theory. Dulles also believed that the Soviets might be running short of oil, which fed a worry that if Iran's Prime Minister Mossadegh were removed from power by Soviet intrigue, "the Communists might easily take over." Then,

Not only would the free world be deprived of the enormous assets represented by Iranian oil production and reserves, but the Russians would secure these assets and thus henceforth be free of any anxiety about their petroleum situation. Worse still, Mr. Dulles pointed out, if Iran succumbed to the Communists there was little doubt the other areas of the Middle East, with some 60% of the world's oil reserves, would fall into Communist control.⁶⁸

The Soviets were indeed concerned about their oil production, which was severely damaged in WW2.⁶⁹ Dulles was probably wrong about Soviet anxiety, however. Production tripled between 1945 and 1955, with five-year plan goals repeatedly revised upwards.⁷⁰ Yet even if the Soviets had needed oil and could have reduced the ME to a resource colony to get it, there was a further obstacle to Soviet acquisition of ME oil; the USSR had almost no infrastructure with which to move ME oil to Russia. Existing rail, pipeline and tanker capacity could move only 8%

⁶⁶ *The United States Recognition of Israel*, 24: 29.

⁶⁷ "Comment," *Petroleum* 6, no. 6 (1953), 147.

⁶⁸ Memorandum of Discussion at the 135th Meeting of the National Security Council on Wednesday, March 3, 1953. In Nancy Beck Young, *CIA Intervention in Iran and Nationalization of the Iranian Oil Industry*, vol. 10, Documentary History of the Dwight D. Eisenhower Presidency (Bethesda, MD: LexisNexis, 2005), 30-31.

⁶⁹ Soviet production in 1945 was 78% of its 1940 level. V. Alekperov, *Oil of Russia: Past, Present, & Future*, 1st ed. (Minneapolis, MN: East View Press, 2011), Ch. 2.

⁷⁰ *Ibid.*, 286.

of regional refinery output northwards,⁷¹ refinery output being just a fraction of total regional production. In war, the utility of ME oil to the Soviets would be lower still. As is obvious from geography, Russia-bound Iranian oil would have to be trucked from the Persian Gulf to the Caspian Sea, loaded on ship, hauled across the Caspian and finally transferred to the Soviet rail system, which had not recovered from war damage. As the CIA saw it, any northbound oil trains that could be assembled could be “easily knocked out of commission by air bombardment because of tunnels in the rail net.”⁷² US Army Chief of Staff Lt. General Joseph Collins was more emphatic. Asked how Iran’s oilfields might be defended against Soviet invasion, Collins doubted it could be done with twenty divisions. The General was unconcerned, however,

...it was plain to him that in the event of a hot war nether side - the Russians or ourselves - would ever get any oil from the Middle East. The fields were too vulnerable to attack by air or otherwise, and could be counted out of production during hostilities.⁷³

Coup planning proceeded nonetheless. It did not matter that (i) Ickes’ peak oil forecast had proved wrong; (ii) the sentiment theory of oil supply had proved wrong; and (iii) the decisive weapon theory was politically and logistically far-fetched. On the other hand, there were non-scarcity rationales for the Iran coup. Britain’s government, deeply in debt after two world wars, was deprived of AIOC’s substantial revenue by Iran’s nationalization. The Soviets might exploit Britain’s fiscal straits to make political inroads there. Restoring AIOC’s revenues *via* coup might preclude Soviet agitation in Britain.⁷⁴ Nonetheless, it is difficult to imagine that such an extreme, novel measure as the Iran coup would have been authorized in the absence of extreme anxiety. Scarcity ideology provided that anxiety by constructing oil as the decisive weapon in the Cold War.

This Time the Wolf is Here

The US became a net oil importer in the late 1940s. By 1970, net imports had increased to over 40% of US demand.⁷⁵ Yet these imports were still greatly feared even though they had not produced the national security crisis that Requa, Ickes and others expected. Thus a new

⁷¹ The USSR Petroleum Industry: ORE 24-49 Published 5 January 1950, Soviet Estimate, SE00080, http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:dnsa&rft_dat=xri:dnsa:article:CSE00080, Digital National Security Archive.

⁷² In the CIA’s view, the Soviet’s hypothetical ME oil supply would be so vulnerable to attack that the only Iranian asset of value to the USSR was AIOC’s jet fuel refining capacity, which could be moved to Russia. Ibid.

⁷³ *CIA Intervention in Iran and Nationalization of the Iranian Oil Industry*, ed. Nancy Beck Young, vol. 10, Documentary History of the Dwight D. Eisenhower Presidency (Bethesda, MD: LexisNexis, 2005), 60.

⁷⁴ Steven G. Galpern, *Money, Oil, and Empire in the Middle East: Sterling and Postwar Imperialism, 1944-1971* (Cambridge, UK ; New York: Cambridge University Press, 2009).

⁷⁵ Neelesh Nerurkar, "U.S. Oil Imports and Exports," in *CRS Report for Congress* (Washington, DC: Congressional Research Service, 2012), 1.

iteration of the scarcity syndrome began in the 1970s, catalyzed as before by expectations of peak oil and rapid demand growth.⁷⁶ Most influential among resource exhaustion forecasts was the Club of Rome's, which predicted supply crises not only for oil but for all commodities.⁷⁷ Apocalypsm from these and other highly-regarded academics lent credibility to a new kind of scarcity ideology advanced by James Akins, a State Department Middle East expert. In "This Time the Wolf is Here", Akins placed the old sentiment theory of oil supply in the new context of Arab resource nationalism. Producers possessed an "oil weapon", *i.e.* selective embargo, with which they could punish America for supporting Israel. Akins asserted that if the oil weapon was deployed the US would have but three options, (i) passively suffer economic damage, (ii) break the embargo by war against producers or (iii) accede to Arab demands *re* Israel, as the State Department had advocated since 1946.⁷⁸

Among few who challenged Akins was economist M. A. Adelman. Adelman recognized that unless all Arab producers were willing to forego all sales to all customers, no state could be isolated by selective embargo. Sales to third countries would enable customer swaps, a problem for any embargo in which market power is not absolute. In 1936, a League of Nations oil embargo proposed against Italy had been given up for this reason.⁷⁹ Nonetheless, full of confidence and apparently coached by Akins, Arab OPEC producers imposed their embargo in late October, 1973, promising to cut supply 5% for every month Israel remained outside its 1967 borders. Direct sales to the US and Holland were also stopped. President Richard Nixon ignored these ostensible dangers, electing instead to supply arms to Israel during the October War.⁸⁰

The Embargo soon foundered. Monthly cuts were imposed for only two months. The *de facto* end of the Embargo was January, 1974, when Saudi production increased instead of decreasing as promised. January, 1974, Saudi output exceeded that of January, 1973 by 13%. Iraq, always an erratic producer, essentially ignored the Embargo.⁸¹ Actual impacts on deliveries were trivial; some cross-Mediterranean trade was interrupted for about a month.⁸² Amazingly, US officials had no idea the oil weapon had been routed. Adelman captured the oddity,

The Arab oil producers' so-called embargo against the United States and the Netherlands had no effect. The world oil market, then as now, was one great pool. I was

⁷⁶ Francisco Parra, *Oil Politics: A Modern History of Petroleum* (London: I. B. Tauris, 2004), 114-18.

⁷⁷ Donella H. Meadows and Club of Rome., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972).

⁷⁸ James E. Akins, "This Time the Wolf Is Here," *Foreign Affairs* 51, no. 3 (1973), 462-90.

⁷⁹ Clarence K. Streit, "European Problems Slow up Sanctions," *New York Times*, Feb. 9, 1936, Section E6, p. 1.

⁸⁰ M. A. Adelman, *The Genie out of the Bottle: World Oil since 1970* (Cambridge, Mass.: MIT Press, 1995).

⁸¹ "October 2012 Monthly Energy Review," U.S. Energy Information Administration, <http://www.eia.gov/totalenergy/data/monthly/index.cfm#international>.

⁸² Parra, *Oil Politics: A Modern History of Petroleum*: 184-85.

not alone in pointing out, months beforehand, that if the Arab countries embargoed the United States, non-Arab output and diverted Arab output would supply us. The net result would be confusion and wasted motion but no embargo. The decreased production and higher speculative demand simply meant a higher price for everyone.

The US Secretary of State bounded all over the Middle East to get the nonexistent embargo lifted, and others hinted darkly at using force. For five months, after the panic subsided and supply was visibly far in excess of demand, the US government was, as Secretary Kissinger later said, obsessed with ending the nonexistent embargo. After 23 years, 'the embargo' is still referred to as if it had really happened...

At home, gasoline prices were fixed. This provoked the mile-long gasoline lines. These lines were made in America, not by Arabs.⁸³

Later, it emerged that US policy during the Embargo was stranger than Adelman understood. In January, 1974, President Nixon had begged King Faisal for relief from the embargo,⁸⁴ apparently unaware that that the Embargo had already failed. Unnecessary groveling gave way to unnecessary aggression. Years later Secretary of State Henry Kissinger boasted that in March, 1974 he had threatened US seizure of Saudi production unless the Embargo was lifted.⁸⁵ Confusion reigned at Defense as well. Saudi Arabia had stopped direct sales to US government agencies, leading officials to believe that Vietnam War logistics could be crippled. US officials seemed not know that the Embargo could be evaded, that they could buy oil on the spot market or through third-country customer swaps, like refiners did. Thus, in ignorance of where to shop, America threatened a reasonably loyal ally with invasion. Nixon's blunder proved a Saudi boon. The King quickly announced he would end the Embargo,⁸⁶ which served to disguise his having done so months before.

Concurrent Concepts of Vulnerability

During the late 1970s oil scarcity ideology coexisted with a more influential conception of American powerlessness, a nuclear "window of vulnerability". Organizations such as the Committee on the Clear and Present Danger advanced the idea that the US could not withstand a nuclear first strike and still retaliate against the Soviet economic base. The Soviets, by contrast, could retaliate after a first strike. Until an anticipated build-up of US land-based

⁸³ M. A. Adelman, "My Education in Mineral (Especially Oil) Economics," *Annual Review of Energy and the Environment* 22, no. 1 (1997), 30.

⁸⁴ Raymond Close, "Nixon and Faisal: If Arabs Mistrust America, There's Good Reason," *International Herald Tribune*, December 19, 2002, http://www.nytimes.com/2002/12/19/opinion/19iht-edray_ed3__0.html.

⁸⁵ A BBC television documentary cites a declassified British Government document confirming the seizure threat. "House of Saud," in *Frontline* (2005).

⁸⁶ Mike Ameen and Frank Jungers to Interviewer, *ibid*.

missiles achieved parity with the Soviets, they could exploit their nuclear force advantage by expanding their area of influence. While the reality of the window of vulnerability has come into question⁸⁷, at the time it was believed urgent that the US aggressively contest Soviet efforts to exploit “the window of vulnerability.” The ME would become the theater where the US sought to do this.

The geographic determinism of National Security Advisor Zbigniew Brzezinski was also an important idea. Brzezinski was a follower of Halford Mackinder, who equated power with control of geography and the resources within it. Mackinder believed that Southwest Asia was the “geographical pivot of history,” and that to control the pivot was a prerequisite for global dominance.⁸⁸ Echoing Mackinder, Brzezinski later described the world as a “grand chessboard” where the US must contain Russian influence over Southwest Asia.⁸⁹ The strategic inferences Brzezinski would draw from peak oil by were in essence resource determinism, a simple extension of geographic determinism. Probably without knowing it, Brzezinski would espouse precisely the resource determinism that a group of high officials from Interior and State had set forth during the peak oil frenzy after WW1; resources were the main determinant of global power.⁹⁰

We Are Terribly Vulnerable

US-Soviet relations began deteriorating soon after President Carter assumed office in 1977. The Soviets responded particularly harshly to Carter’s arms control proposals and human rights ideas.⁹¹ In anticipation of possible future conflict over such disagreements, or perhaps to prepare for problems from the window of vulnerability, Brzezinski asked political scientist Samuel Huntington to lead an assessment of Soviet threats. Brzezinski’s aid, USA Colonel William Odom, later reported that Huntington consciously sought to make the study “the lineal descendant of NSC 68.”⁹²

⁸⁷ Pavel Podvig, "The Window of Vulnerability That Wasn't: Soviet Military Buildup in the 1970s—a Research Note," *International Security* 33, no. 1 (2008), 118-38.

⁸⁸ Halford J. Mackinder, "The Geographical Pivot of History," *The Geographical Journal* 23(1904), 431-37.

⁸⁹ Zbigniew Brzezinski, *The Grand Chessboard: American Primacy and Its Geostrategic Imperatives*, 1st ed. (New York: BasicBooks, 1997).

⁹⁰ George Otis Smith, ed. *The Strategy of Minerals: a Study of the Mineral Factor in the World Position of America in War and in Peace*, Problems of War and of Reconstruction, <http://books.google.com/books?id=IxVIAAAAIAAJ&ots=FojElbyErS&dq=the%20strategy%20of%20minerals&pg=PR3#v=onepage&q&f=false> (New York, London,: D. Appleton and company, 1919).

⁹¹ James G. Blight and Janet M. Lang, "Forum: When Empathy Failed," *Journal of Cold War Studies* 12, no. 2, 29-74.

⁹² William E. Odom, "The Cold War Origins of the U.S. Central Command," *Journal of Cold War Studies* 8, no. 2 (2006), 57.

Preparation of the study, which became known the PRM-10 Net Assessment, coincided with declassification by the Carter White House of a CIA forecast that Soviet oil production would soon collapse,

The Soviet oil industry is in trouble. Soviet oil production will soon peak, possibly as early as next year and certainly not later than the early 1980s...

...During the next decade, the USSR may well find itself not only unable to supply Eastern Europe and the West on the present scale, but also having to compete for OPEC oil for its own use.⁹³

Implicit in the idea that the USSR would soon compete for OPEC oil was that supply was not fungible, not "one great pool" as Adelman described.⁹⁴ Also implicit was that only OPEC could increase production to meet demand growth; peak oil was assumed to preclude increases elsewhere. Secretary of Defense Harold Brown described "...a potential energy disaster" against which "we are terribly vulnerable...",

The present deficiency of assured energy resources is the single surest threat that the future poses to our security and to that of our allies.⁹⁵

When PRM-10 appeared in August, 1977, it predicted that the Persian Gulf and Southwest Asia were probable theaters for conflict with the USSR.⁹⁶ Though large sections of PRM-10 remain classified, we can infer that oil was at the core of Huntington's analysis. A memo summarizing PRM-10 declared,

U.S. interests continue to grow as Western access to oil becomes more important; the possibility of conflict, potentially involving the USSR, remains higher there than in other parts of the world.⁹⁷

Carter officials would soon be much more explicit in expressing belief in a Soviet plan to usurp ME oil. It is thus important to recall that any Soviet effort of this kind would have to contend with the absconded revenue problem described above. More importantly, the Soviet oil collapse scenario, which PRM-10 seems to have borrowed from the CIA, was called sharply into question in public. Declassification of CIA's Soviet oil analyses was intended by the Carter

⁹³ Intelligence Memorandum: The Impending Soviet Oil Crisis (Secret, ER 77-10147), March, 1977, http://www.foia.cia.gov/docs/DOC_0000498607/DOC_0000498607.pdf, Central Intelligence Agency Freedom of Information Act Electronic Reading Room.

⁹⁴ Adelman, "My Education in Mineral (Especially Oil) Economics," 30.

⁹⁵ Bernard Weinraub, "Brown Says Lagging Fuel Supply Is Largest Threat to U.S. Security," *New York Times*, Oct. 27, 1977, 88.

⁹⁶ Odom, "The Cold War Origins of the U.S. Central Command," 57-59.

⁹⁷ Memorandum (Top Secret XGDS) for Brzezinski, 8 July 1977, Brzezinski Material, Box 24, Jimmy Carter Presidential Library.

Administration to build support for domestic energy policy initiatives. However, the act of declassification was so unusual as to cause a minor sensation. Analysts who rejected the certainty of a Soviet oil crisis suddenly had a wide audience. In *The New York Times*, economist Marshall Goldman doubted whether Soviet production would fall anytime soon. He noted that CIA had been predicting impending Soviet production decline, wrongly, ever since 1970; why believe them now?⁹⁸

Negative reaction to CIA's Soviet oil collapse theory prompted Brzezinski to request "a critical assessment of CIA studies on these issues" from the Departments of State and Treasury. Their assessment found much to question,

CIA's position becomes less convincing when it asserts with great certainty that oil production, after peaking at some point around 1980 at about 12 million barrels per day (b/d), will drop sharply...The skepticism aroused by the study's pessimistic prognosis for Soviet oil production stems from CIA's unstated assumption that the Soviet Union will be unable to respond to what, if the CIA is correct, will amount to an economic emergency.⁹⁹

State-Treasury sent a more detailed critique to Brzezinski a few weeks later, contesting CIA's unequivocal claim that the Soviets "cannot prevent the downturn." The State-Treasury group found two grounds for skepticism, (i) CIA ignored the Soviets' capacity to adapt and (ii) CIA greatly exaggerated the gravity of Soviet oil problems. State-Treasury took particular note of a scathing response from the Defense Intelligence Agency (DIA), which had also answered Brzezinski's request for input on the Soviet oil collapse theory. The DIA report is still classified, but State-Treasury noted that it "challenged the CIA's analysis on the grounds that it understates Soviet oil reserves, greatly exaggerates the fluid lift capacity the USSR will need, and underestimates both the volume and quantity of Soviet exploratory drilling capacity." DIA strongly rejected CIA's contention that the Soviets lacked drilling capacity. The Soviets had been drilling for gas on a large scale since 1961 and could readily redeploy gas drilling capacity to find oil if necessary. State-Treasury concluded that "The differences between the CIA and its critics, particularly the DIA, are sharp, technical and, for the most part, important."¹⁰⁰ This was an understatement. Some of the most fateful decisions of the Cold War would soon be made on

⁹⁸ Marshall I. Goldman, "The C.I.A. And Oil," *New York Times* April 28, 1977, 29.

⁹⁹ Memorandum for Dr. Brzezinski, the White House, *Re* Joint State-Treasury Assessment of CIA Study on Slowdown in Soviet Economic Growth, from Peter Tarnoff, November 5, 1977, White House Central Files, NLC-34-12-2-6-3, Jimmy Carter Presidential Library.

¹⁰⁰ Memorandum for Dr. Brzezinski, the White House, *Re* Joint State-Treasury Assessment of CIA Study on Slowdown in Soviet Economic Growth, from Peter Tarnoff, December 27, 1977, Staff Material, NLC 29-10-7-7-5, Jimmy Carter Presidential Library.

the assumption of Soviet oil collapse. However, I could find no evidence that the important differences between CIA and DIA analyses were ever evaluated within NSC.

Rather, the CIA stuck to oil apocalypsm and NSC stuck with CIA. As the DIA-CIA debate raged, CIA economist John Eckland reaffirmed the impending Soviet oil collapse to Col. Odom. If Soviet production did not increase to 13mbd by 1985, the USSR and its East European satellites would become net importers,

Few, if any reputable forecasters anticipate that Soviet oil output can reach or exceed such a level.

Soviet oil was thus obviously destined to decline soon. Moreover, as Eckland's next declassified passage reads,

The few academics and consultants that specialize on the Soviet oil industry make projections that are much closer to those of the CIA. The individual researchers we have the most respect for include..."¹⁰¹

It was as if CIA's past Soviet oil forecasting errors, which were many and substantial, had not happened. Character assassination of dissenters was now *de rigueur*, as if their views not CIA's should be suspect. Nothing, it seemed, could provoke NSC to doubt. This was remarkable because by 1978 authoritative, contradictory reports in considerable detail were available. For example, Soviet engineers Victor Muravlenko and S.A. Orudjev gave an insider overview of plans for rapid Siberian production growth. The favorable outlook sprang from 220 new Siberian oil and gas field discoveries, among which "six were gigantic and thirty-one large". Modestly claiming these were "a reliable mineral foundation for further increase in oil and gas production", the Soviet engineers detailed a substantial infrastructure project spanning thousands of square miles.¹⁰² Perhaps in recognition of such evidence, academic analysts Herbert Levine and Gregory Grossman joined Goldman in dissenting from the CIA forecast, an event important enough to be reported to Brzezinski.¹⁰³

Yet while NSC kept tabs on dissenters in secret, the CIA tried to backpedal in public; analysts testifying to a Senate Committee investigating the declassification called their forecast "a

¹⁰¹ Soviet Oil Output and Trade, Memorandum for Col. William E. Odom from Maurice Ernst, July 13, Brzezinski Material: General Odom File, NLC-12-42-1-3-8, Jimmy Carter Presidential Library.

¹⁰² S.A. Orudjev and V.I. Muravlenko, "Integrated Planning for Exploration Development, Production and Transportation for Rapid Expansion of Oil Field Operations," *Petrolieri International* 24, no. 12 (1977), 29-40.

¹⁰³ Evening Report to Brzezinski, April 28, 1978, Brzezinski Material: Inderfurth and Gates Chron File, NLC-10-11-1-3-4, Jimmy Carter Presidential Library.

terrible glitch” and “a simple error.”¹⁰⁴ More public scrutiny was to come. In March, 1978, the House-Senate Joint Economic Committee sought the testimony of Arnold Safer, a market analyst who had recently made a forecast similar to Goldman’s. Safer foresaw neither shortage nor superpower competition for oil. Rather,

... world oil markets will continue to experience surplus conditions through at least 1982 and will not revert to shortages as many observers in both industry and Government expect.

Safer believed that Communist-bloc exports would continue to grow; that OPEC market share would decline “dramatically”; and that relations among OPEC members would deteriorate. It would all prove true. Following Safer’s repetition of this forecast to the Joint Committee, USGS geophysicist Bernardo Grossling added that; “...conventional petroleum resources might turn out to be more than two or three times larger than conservative prevailing views.”¹⁰⁵ This also proved accurate.

Dissent to the Soviet oil collapse theory spread still further within government. A group of USGS scientists challenged the CIA argument that a lack of new discoveries meant Siberian production would soon collapse. The USGS group explained that Siberian discoveries in the 1960s had been “so huge that drilling capability during the early Seventies was simply taken up by outlining the new fields.” Once drilling to establish field perimeters was complete, rigs would be freed for exploration elsewhere. Perhaps only 15% of the drilling required in Siberia had been done. Moreover, among wells that had been drilled the finding rate was so high that “renewed exploration can be expected to have a high success ratio.” In the Yuzhno-Surgut field an astonishing 60% of proved reserves had been discovered essentially by accident. This suggested “persuasively” that important Siberian reserves were yet to be discovered.¹⁰⁶

The Arc of Crisis

As the debate over Soviet oil raged in Washington, Soviet interventions in Ethiopia, Yemen or Afghanistan expanded. While there was no evidence that these Soviet efforts were related to oil, Brzezinski concluded that America was failing to confront a Soviet juggernaut in Southwest Asia. In response, he sought to create the military force proposed in PRM-10, which would

¹⁰⁴ Select Committee on Intelligence, *The Soviet Oil Situation: An Evaluation of CIA Analyses of Soviet Oil Production, Staff Report of the Senate Select Committee on Intelligence*, United States Senate, 95th Congress, 2nd Session, 1978.

¹⁰⁵ “Forecasts Disagree on Global Oil Supplies,” *Oil & Gas Journal* 76, no. 12 (1978), 39.

¹⁰⁶ James W. Clarke et al., “Petroleum Geology of West Siberian Basin and Samotlor Oil Field,” *Oil and Gas Journal* 76, no. 19 (1978), 321-28.

deter further Soviet incursions.¹⁰⁷ To convince the President, Brzezinski invoked for the first time the containment theory Huntington had set forth in PRM-10. Brzezinski described an “Arc of Crisis” all around the Indian Ocean. Unless the US acted, regional states would be dominated just as the Soviets had done to Eastern Europe in the 1940s,

Fragile social and political structures in a region of vital importance to us are threatened with fragmentation. The resulting political vacuum might well be filled by elements more sympathetic to the Soviet Union. This is especially likely since there is a pervasive feeling in the area that the U.S. is no longer in a position to offer effective political and military protection [owing to the window of vulnerability]. If the above analysis is correct, the West as a whole may be faced with a challenge of historic proportions. A shift in Iranian/Saudi orientation would have a direct impact on trilateral cohesion, and it would induce in time more neutralist attitudes on the part of some of our key allies. In a sentence, it would mean a fundamental shift in the global structure of power.¹⁰⁸

The language of trilateralism was obtuse, but the scarcity ideology was pervasive. By “a shift in Iranian/Saudi orientation” Brzezinski meant that if ME producers stopped supplying oil to Western democracies, the latter would gravitate to the Soviet camp. Brzezinski did not explain how the USSR would manage the absconded revenue problem if “elements more sympathetic to the Soviet Union” cut supply to the West, but he did not have to. The Cold War syllogism had never been questioned. A retrospective analysis of Brzezinski’s thinking by Col. Odom make oil’s role clearer,

The three zones, Brzezinski argued, were strategically ‘interrelated’ because both Western Europe and Japan were heavily dependent on Middle East oil. The steady increase in Soviet power projection capabilities, he added, posed the risk that the Soviet Union could gain regional hegemony and acquire great leverage over both Japan and Western Europe.

President Carter was thus persuaded to issue Presidential Directive 18, which gave special emphasis to the Persian Gulf and recommended that the force proposed in PRM-10 be

¹⁰⁷ PRM-10, Final Report, Military Strategy and Force Posture Review, 8 June 1977, Presidential Review Memoranda Collection, <http://www.jimmycarterlibrary.gov/documents/prmemorandums/prm10.pdf>, Jimmy Carter Presidential Library.

¹⁰⁸ NSC Weekly Report, Brzezinski to Carter, 2 December 1978, Zbigniew Brzezinski Collection, Weekly Reports, Box 41, Jimmy Carter Presidential Library.

created.¹⁰⁹ The force became known as the Rapid Deployment Force (RDF), the predecessor of CENTCOM.¹¹⁰

The Potential for Soviet Intervention

Shah Reza Pahlavi, whom the CIA had put in power in the 1953 coup, fled revolutionary Iran in spring, 1979. Iranian oil production subsequently collapsed from 5.8mbd to around half that by year's end. In November, 1979, the US Embassy staff in Tehran was taken hostage, while in the US oil price reached new heights. Through it all, oil seemed an ever-more plausible rationale for aggressive policy. Col. Odom explained,

A shortage of gasoline in the United States in the wake of the Iranian revolution caused long lines at service stations and public discontent aimed at President Carter. This disconcerting experience made his domestic advisers acutely aware of the strategic significance of the major oil-producing states in the Middle East...After the embassy was seized, the president had to focus much of his attention not only on Iran but also on the larger issues of the region, including the potential for Soviet intervention.¹¹¹

In conflating the domestic gasoline shortage with the Soviet's ostensible lust for ME oil, Odom showed how readily market information could be made to fit scarcity ideology. Experts expected peak oil; now, with the gasoline shortage, it had arrived. The shortage was in fact an artifact of domestic energy policy. In anticipation of peak oil in the long run and fuel oil shortage in the short run, the Department of Energy (DoE) had directed refiners to "restrict somewhat the amount of oil that is made available to purchasers currently." Gasoline lines grew as refiners obeyed. Crude in storage grew as well due to price controls and attendant hoarding by refiners, which in turn compounded shortages of gasoline. Economist Philip Verleger explained,

...the inventory buildup, which reduced the supply of those products to the market, raises questions about the role of the U.S. Department of Energy (DOE) in those shortages. DOE requested the inventory buildup and ordered crude oil to be redistributed in a way that reduced the supply of gasoline and altered regional distribution.¹¹²

¹⁰⁹ PD/NSC-18, US National Strategy, <http://www.jimmycarterlibrary.gov/documents/pddirectives/pd18.pdf>, Jimmy Carter Presidential Library.

¹¹⁰ Odom, "The Cold War Origins of the U.S. Central Command," 61.

¹¹¹ Ibid.

¹¹² Philip K. Verleger, Jr., "The U.S. Petroleum Crisis of 1979," *Brookings Papers on Economic Activity* 1979, no. 2 (1979), 463-64.

Market participants were quick to contest the official view that Iran's troubles had caused US shortages. *Pipeline & Gas Journal* editor Ernestine Adams observed,

...Energy Czar Schlesinger threatens to allocate supplies of oil products because of shortages *caused chiefly by over-regulation and price controls*. DOE blames Iran's political problems for the current shortages, of course.¹¹³ [emphasis original]

Indicators of future supply abundance soon became so ubiquitous¹¹⁴ that Brzezinski unwittingly reported some to the President. In March, 1979 Brzezinski observed that despite Iran's steep export decline, 1979 first quarter supply exceeded 1978's. He added the non sequitur that "the outlook for the next three or four years will depend on the growth of oil consumption and the willingness of OPEC to increase capacity".¹¹⁵ This was obviously wrong. OPEC production had fallen substantially due to chaos in Iran, yet global supply grew. This could only have happened by growth of non-OPEC production, just as Safer and others had predicted.

Next, the DoE Energy Information Administration (EIA) forecast that non-OPEC supply would grow through at least 1995.¹¹⁶ Standard Oil of Indiana's chairman was more bullish; there were more than enough hydrocarbons for the next 100 years.¹¹⁷ There was no indication of short-term shortage either; *Oil & Gas Journal* reported that non-OPEC supply increased 7% over 1978.¹¹⁸ Sheik Yemani, the Saudi Minister of Petroleum, said simply, "There will be a glut...it is coming".¹¹⁹ The idea that the USSR needed OPEC oil was more and more far-fetched.

Crescent of Crisis

Despite optimistic supply forecasts from the market and disbelief in a looming Soviet oil crisis by the DIA, USGS, and DoE-EIA, NSC began to prepare the nation for an oil war. A public relations campaign was begun to cultivate Americans' fear that an oil-starved Soviet Union threatened Iran. Beginning in January, 1979, a barrage of news and opinion rehearsed themes from NSC's evolving strategy for Southwest Asia. The *piece de resistance* was a *Time Magazine* cover image, "Crescent of Crisis", in which a Soviet Bear loomed over a map of the Indian Ocean, nose and claws poised above Iran.¹²⁰ The accompanying article clearly alluded to

¹¹³ Ernestine Adams, "Energy Management Report," *Pipeline & Gas Journal* 206, no. 3 (1979), EM 1.

¹¹⁴ "Crude Surplus Seen for Next 3-5 Years," *Oil & Gas Journal* 76, no. 21 (1978), 42.

¹¹⁵ Daily Report for the President from Zbigniew Brzezinski, March 13, 1979, Brzezinski Material: President's Daily Report File, NLC-1-10-1-5-3, Jimmy Carter Presidential Library.

¹¹⁶ "EIA Optimistic on Crude Supply Outlook, Study Says Non-Communist Oil Output Will Increase by at Least 48% by 1995, Optimism Clashes with Gloomy Outlook of Recent CIA Report," *Oil & Gas Journal* 77, no. 37 (1979), 103-03.

¹¹⁷ "Non-OPEC Productive Capacity Additions Limited," *Oil & Gas Journal* 77, no. 39 (1979), 69.

¹¹⁸ "Global 9-Month Crude Flow Sets Record," *Oil & Gas Journal* 77, no. 48 (1979), 30.

¹¹⁹ Yergin, *The Prize: The Epic Quest for Oil, Money, and Power*: 686.

¹²⁰ "The Crescent of Crisis," *Time*, Jan. 15, 1979.

Brzezinski's "Arc of Crisis" memo and "Crisis Confrontation" scenarios in Huntington's PRM-10. Some market participants believed the PR. *OGJ Newsletter* opined that Europe and Japan were worried over "imminent loss of crucial oil supplies." Ayatollah Khomeini had inspired "a Muslim fury against both the U.S. and Russia", so the crucial question was "which nation will respond forcefully to restore order and assure continued oil supplies to the West?" President Carter faced "not only the prospect of losing 47 American [hostage] lives and Iranian oil, but the very supply lifeline to Western civilization." Of necessity, *OGJ* explained, the President was considering a substantial escalation of US force in the Persian Gulf,

Observers say that for the sake of Afghanistan, the lives of the hostages in Tehran, and oil supplies to the West and Japan, Carter has no other choice.¹²¹

In a joint appearance with Secretary of Energy James Schlesinger, a Phillips Petroleum executive warned "that the Soviet move in Afghanistan is aimed at Middle East oil."¹²²

Afghanistan

As the campaign to brand the USSR as an oil aggressor proceeded, Brzezinski sought to encourage a Soviet invasion of Afghanistan. In July, 1979 he argued that the US should support insurgents fighting Kabul's pro-Soviet regime. This might goad the Soviets into invading Afghanistan to support their new ally there. Such an invasion, Brzezinski reasoned, would weaken the USSR as Vietnam had weakened America.¹²³ The President was persuaded, authorizing arms for the Afghan resistance.¹²⁴ The Soviets seemed to take the bait six months later, invading on Christmas, 1979.

However, the invasion of Afghanistan was not the first stage of a Soviet march to the Persian Gulf. Soviet aims were to restrain extremist elements of the Afghan Communist party, to restore stability on its southern frontier¹²⁵ and to respond to the escalation of US Navy presence in the Arabian Sea. US escalation had followed the taking of hostages in Tehran in November,

¹²¹ "OGJ Newsletter," *Oil & Gas Journal* 78, no. 1 (1980), unpaginated.

¹²² Ibid.

¹²³ David N. Gibbs, "Les Révélations D'un Ancien Conseiller De Carter: 'Oui, La CIA Est Entrée En Afghanistan Avant Les Russes...'," Translated from an Interview in *Le Nouvel Observateur* by William Blum and David N. Gibbs, in *Afghanistan: The Soviet Invasion in Retrospect*, *International Politics* 37, no. 2 (1998), 241-42; Odom, "The Cold War Origins of the U.S. Central Command," 82.

¹²⁴ Finding Pursuant to Section 662 of the Foreign Assistance Act of 1961, as Amended, Concerning Operations in Foreign Countries Other Than Those Intended Solely for the Purpose of Intelligence Collection, <http://presidentiallibraries.c-span.org/Content/Carter/CarterAfghanistan.pdf>, Jimmy Carter Presidential Library.

¹²⁵ David Gibbs, "Reassessing Soviet Motives for Invading Afghanistan: A Declassified History," *Critical Asian Studies* 38, no. 2 (2006).

1979. In response, Carter sent a second US carrier group¹²⁶ to join one deployed to the Arabian Sea the previous spring.¹²⁷ It was this second carrier that prompted the Politburo, much against its previous inclination, to authorize the Afghan campaign. What changed the mind of Defense Minister Dmitry Ustinov was as follows,

The push to change his former point of view of inexpediency of sending Soviet troops in Afghanistan came from the stationing of American military ships in the Persian Gulf in the fall of 1979, and the incoming information about preparations for a possible American invasion of Iran, which threatened to cardinaly change the military-strategic situation in the region to the detriment of the interests of the Soviet Union. If the United States can allow itself such things tens of thousands of kilometers away from their territory in the immediate proximity of the USSR borders, why then should we be afraid to defend our positions in neighboring Afghanistan?¹²⁸

Brzezinski, who had encouraged the Afghanistan invasion, would now present it to the President as evidence that the Soviets planned to invade Iran. Before exploring Brzezinski's final argument, it is important to note that powerful evidence contradicting the hypothetical Soviet oil collapse continued to accrue. Most conspicuous were market reports of the 2,050-mile crude oil pipeline under construction from West Siberia to Byelorussia.¹²⁹ The pipeline project implied an obvious question. If Siberian production was soon to decline steeply, as CIA forecast, existing pipeline capacity would be idled. Why were the Soviets building more? The simplest and perhaps only answer to this question was that Siberian production would increase as Orudjev and Muravlenko had described,¹³⁰ with new production creating a need for more pipelines. All this was obvious, uncomplicated and completely ignored.

This was not all. New construction in the Soviet gas pipeline network was expanding towards NATO countries, financed by Western creditors.¹³¹ It was well-known that the Soviets needed hard currency earnings from petroleum exports. Pipelines to Western Europe would expand Soviet hard currency earnings. Enthusiasm for Soviet gas was a bi-lateral game, even US firms

¹²⁶ Richard Halloran, "Carter Sending 6 More Navy Ships, Including Carrier, to Arabian Sea," *New York Times*, Nov. 21 1979, A1.

¹²⁷ Kenneth H. Bacon, "Carter Is Sending Ships to Arabian Sea to Show U.S. Support for Saudi Arabia," *Wall Street Journal*, March 7, 1979, 5.

¹²⁸ G. M. Kormienko, *Kholodnaia VoiNa : Svidetel'Stvo Ee Uchastnika*, Seriiâ "Dos'E" (Moskva: OLMA-Press, 2001), p. 193-195 (translation available from National Security Archive:

<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB57/r10.doc>

¹²⁹ "Soviets Press Line Work to Boost Gas Production," *Oil & Gas Journal* 77, no. 14 (1979), 39-43.

¹³⁰ Orudjev and Muravlenko, "Integrated Planning for Exploration Development, Production and Transportation for Rapid Expansion of Oil Field Operations."

¹³¹ "Soviets Pushing Projects to Boost Gas Production," *Oil & Gas Journal* 76, no. 21 (1978), 31.

wanted in. A Canadian-American consortium proposed a Bering Sea/trans-Canada pipeline to connect US and Soviet markets directly.¹³²

Further, Western credit was essential for Soviet imports of energy technology and grain. So important was this credit that the CIA concluded the Soviets would do nothing that might harm their creditworthiness; "the Communist countries need the West more than the West needs the Communist countries."¹³³ Thus by 1979, NSC's belief that an oil-starved USSR threatened ME oil required some implausible conditions. All dissent to the Soviet oil collapse theory must be wrong, all optimistic global supply forecasts must be wrong, and Soviet energy policy must be schizophrenic. That is, with one hand the Soviets were making large pipeline investments on Western credit in order to exchange gas for Western currency. With the other hand the Soviets were planning to invade Iran, seize its oil and deny that oil to the West.

On this score, the CIA finally parted ways with NSC. Though CIA Director Admiral Stansfield Turner remained convinced of an impending Soviet oil collapse, he drew a distinction between the projected Soviet oil collapse and the logic of scarcity ideology. Turner did not believe oil shortage would compel the Soviets to fight their way to a new supply in Iran. Turner also questioned Brzezinski's grandiose logic of the Arc of Crisis, subtly mocking the latter's geographic determinism,

It is unlikely that the Soviet occupation of Afghanistan constitutes the preplanned first step in the implementation of highly articulated grand design for rapid establishment of hegemonic control over all of Southwest Asia.

Turner also seemed well-informed of the Politburo's deliberations, which may explain why his assessment of Soviet aims was so accurate,

Rather than signaling the carefully timed beginning of a premeditated strategic offensive the occupation may have been a reluctantly authorized response to what was perceived by the Kremlin as an imminent and otherwise irreversible deterioration in of its already established position in a country which fell within the Soviet Union's legitimate sphere of influence."¹³⁴

These observations appeared little more than a week before proclamation of the Carter Doctrine.

¹³² "OGJ Newsletter," *Oil & Gas Journal* 76, no. 26 (1978), unpaginated.

¹³³ The CIA report was solicited in response to a Wall Street Journal article of February 22, 1977, which speculated that the USSR might default in its debts to Western banks. Attached to Memorandum for Brzezinski: Evening Report, February 25, 1977, NLC 12-21-2-7-6, Jimmy Carter Presidential Library.

¹³⁴ Memorandum for Brzezinski: CIA Assessment of Future Soviet Policy in Southwest Asia (U), January 18, 1980, NLC-6-82-7-14-3, Jimmy Carter Presidential Library.

Nuclear Dunkirk

NSC sought to convince the President to ignore Turner. On January 18, 1980, NSC analyst Fritz Ermarth produced a ghost-written memo for Brzezinski, which was to be sent to President Carter. Ermarth's purpose was to discount CIA dissent from the oil-starved Soviet marauder scenario. A notation on one copy of Ermarth's cover memo indicates that someone, I could not tell whom, disapproved sending the ghost-written memo to the President. Whether or not Carter read the memo, it reveals NSC's isolation. Apparently incredulous that CIA could doubt that a Battle of the Last Barrel was near, Ermarth belittled them,

This is a more sophisticated piece than we usually get from our intelligence analysts. But it does not examine the possibility the Soviets may move more forcefully with their military power against Iran, and possibly Pakistan, in the near future. The Soviets might well construct an argument for moving on Iran sooner rather than later if the tide there is turning away from them.

Much more important was a memo Ermarth sent Brzezinski later that day. Expanding on the urgency for action, Ermarth claimed,

...there is a real danger of a more dramatic Soviet move on Iran very soon; we see both motive and circumstantial evidence.

The threat to Iran was acute, in Ermarth's view, because the Soviets were insufficiently fearful of US retaliation. Ermarth pleaded that Soviet fear be amplified *via* presidential declarations of US will to use force. The Politburo must be convinced that if the USSR invaded Iran the US would wage war in response. If presidential words did not stop the Soviet invasion the US must make good its threat with an invasion of its own, occupying Khuzestan¹³⁵ before the Soviets could do the same. Ermarth then elaborated a frightening new battlefield context for the old familiar decisive weapon theory. The US must defend Khuzestan at any cost because without Iranian supply the Western Alliance would crumble,

If we face a massive onslaught aimed at taking all of Iran, we would have to try to move in and fight them as best we can, even at the cost of a Dunkirk, while also striking them elsewhere in the region. To adopt a posture of strategic retreat or strategic "holding back" because of our local weakness in the hopes of striking a deal – the Soviets get Iran in return for our getting Persian Gulf oil by Soviet grace – would be a disaster. Our power in the region would be at an end. Europe and Japan would rapidly come under Soviet domination.

¹³⁵ Khuzestan is Iran's oil province on the Persian Gulf.

Since the stakes for the Western Alliance were existential, the US must be prepared to escalate if conventional force failed to halt the Red Army,

I fully appreciate that all of the above carries with it, not merely the risk of a war with the Soviet Union in SW Asia, but the risk of a general war, a nuclear war. If the issue is a major Soviet invasion of Iran, that is what we have come to.¹³⁶

Scarcity ideology now had its own nuclear war plan. It is not clear whether President Carter was prepared to begin a nuclear Battle of the Last Barrel, or whether he took no more from Ermarth than his advice to threaten nuclear war. Whatever the case, the President used his State of the Union Address of January 23, 1980, to issue the threat Ermarth wanted and which Brzezinski wrote; Persian Gulf oil was a vital interest the US would defend "by any means necessary, including military force."¹³⁷ From seventy years of the scarcity syndrome, the Carter Doctrine had emerged.

Scarcity ideology was by now generating its own geopolitics. Rattled, the Politburo misread US intentions; America's naval escalation and support for Afghan insurgents were obviously the opening gambits in a plan to dominate the region. The Kremlin believed the US was trying to make Afghanistan a client; that Afghan President Hafizullah Amin might already be a US agent; that Afghanistan could become a base for US missiles; and that America's ultimate goal was its own Ottoman Empire that would include the Soviet Muslim republics.¹³⁸ A newly-translated history summarizes the Politburo's alarm,

American military vessels had entered the Persian Gulf. It appeared as though they were preparing to deploy their paratroopers in Iran. If they followed through, the balance of power in the region would shift against Soviet interests. It would be catastrophic to allow the Americans to gain a foothold in Afghanistan. A contiguous noose formed by Turkey, Iran, Afghanistan, and China would begin to tighten. The entire territory of the USSR would find itself in the crosshairs of American missiles.¹³⁹

Fortunately, the Soviets were not playing the invader's part assigned to them by scarcity ideology so the Battle of the Last Barrel was never fought. As in all previous iterations of the scarcity syndrome, an oil glut soon followed, obliterating the scarcity rationale for aggressive

¹³⁶ "Outside the System" Memorandum for Zbigniew Brzezinski: US Reactions to Soviet Threats against Iran (Ts), January 18, 1980, NLC-31-205-6-5-9, Jimmy Carter Presidential Library.

¹³⁷ More than half of Carter Library holdings remain classified. Future historians may learn more than I could.

¹³⁸ Gibbs, "Reassessing Soviet Motives for Invading Afghanistan: A Declassified History."

¹³⁹ Vladimir Snegirev and Valery Samunin, *The Dead End: The Road to Afghanistan*, ed. Svetlana Savranskaya and Malcolm Byrne, trans. Anna Vassilieva, vol. 396, National Security Archive Electronic Briefing Books (Washington, DC: George Washington University, <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB396/>, 2012).

policy. Even the Iran-Iraq War, which began in 1980, could not reverse a price collapse that would persist until 9/11.

Conclusions

The oil scarcity syndrome, culminating in the Carter Doctrine, demonstrates the durability of oil scarcity ideology. Scarcity ideology emerged before the US became a great power and is the only remnant of national security thinking to descend intact from that era. Scarcity ideology's capacity to escape inquiry seems responsible for its longevity. Although lasting scarcity never materialized, scarcity ideology provided a simple, resource-determinist world view in which power, in the form of oil, was shifting away from the US. Alarmed over peak oil in a world where resources were thought to determine power, security experts believed that aggressive policy to secure foreign oil was imperative.

The pseudo-science of scarcity was essential to scarcity ideology's success. The peak oil models that rationalized scarcity ideology came mainly from geologists, yet the scientists' forecasts were not works of geological science. Peak oil forecasts were really implicit economic forecasts. Their dubious assumption was that no combination of increasing price or technology innovation could reverse the anticipated downward production trend. Over and over these forecasts proved wrong, always because they discounted technological change too heavily. Compounding problems borne of bad science was policymakers' naiveté about markets. Security experts never grasped that occasional shortages, characteristic of expanding oil markets, were exacerbated by price controls adopted when shortages caused price to rise. Policy-induced shortages were thus repeatedly mistaken for peak oil evidence. In this special intellectual environment, pre-emptive policies to avert imagined oil scarcity threats became the norm; the occupation of Vera Cruz in 1914; the Navy's assault on California producers in 1920, the Iran coup of 1953, Secretary Kissinger's 1974 threat to seize Saudi oil, and finally the Carter Doctrine of 1980. The 21st century principle of pre-emptive ME war evolved from the scarcity syndrome in the 20th century, even though scarcity was no longer the only ideology involved.

The early Cold War syllogism was that the USSR threatened to usurp ME oil, with which it could subjugate Europe and Japan. Carter's security experts shaped this syllogism into a rationale for nuclear confrontation. By accepting two dubious scarcity forecasts, *i.e.* global peak oil and impending Soviet production collapse, NSC thinking migrated naturally to belief that the Soviets had no choice but to seize Iranian oil supply. To protect this supply from the oncoming Red Army, NSC officials urged a concurrent US invasion of Iran. If these US forces faced a Dunkirk, there was no alternative but to defend Khuzestan *via* tactical nuclear attacks on Soviet forces around Southwest Asia. Many lives might be lost in the general nuclear war likely to follow, but this was too bad; appeasement would lead to Soviet world domination.

Whether the President was prepared to fight a nuclear Battle of the Last Barrel I could not determine; about half of the Carter Library's documents remain classified.¹⁴⁰ Whatever the President's intentions, his decisions initiated a spiral. The Politburo believed that America must be planning to control Southwest Asia, including the Soviet Muslim republics. Fortunately, the Soviets were not playing the invader's part assigned to them so the Battle of the Last Barrel was never fought.

Because there was substantial dissent to CIA forecasts of Soviet oil collapse and NSC expectation of a Soviet invasion of Iran, adoption of the Carter Doctrine required policymakers to ignore a great deal of market information. First, NSC ignored the long chain of erroneous peak oil forecasts that rationalized aggressive ME policies since 1920. Questions thus never arose as to whether new forecasts might also prove wrong. Second, NSC mistook policy-induced shortages as peak oil evidence. Third, NSC made very poor use of intelligence. Whereas CIA foresaw that the USSR had no motivation to invade Iran, NSC clung to that scenario. Whereas CIA proved wrong that Soviet production would soon collapse, NSC clung to that forecast despite abundant market information to the contrary and vigorous counterargument from many sides. Lastly, NSC implicitly assumed that the Soviets could confiscate Iranian oil with no political consequence to themselves, even though resource nationalism was the dominant producer-state ideology.

Policymakers were not wrong to concern themselves with oil supply. Lessons drawn from 20th century world wars were obviously true; oil wins wars. Yet the most significant lesson of those wars applied to the aggressors, not to the US. The lesson is this; to attack one's major suppliers, as Japan did once and Germany twice, is a doomed strategy. America's strategic problem was and is far narrower. As Brodie recognized in 1947, US supply is relatively invulnerable in war, coming as it does mainly from the Americas. Brodie's deeper insight was that in a peace where there are many suppliers, oil will always be available. This characteristic of fungible markets explains why there was no oil weapon, and how the US could import ever-greater fractions of its oil supply and still become the world's dominant power. Put another way, if oil had been the decisive weapon in the Cold War, as most still believe it was, the largest producer should have won. The USSR did not win, however. Rather, an alliance with different governance created economies that could pay the market-clearing price, which made meaningless their smaller endowment of petroleum.

The longevity of oil scarcity ideology provides a novel example of psychology's role in international relations. Richard Herrman and Jong Kun Choi showed that security experts were

¹⁴⁰ Keith Shuler, personal communication, 2012.

unable to learn quickly and accurately from unfolding history over a five-year period.¹⁴¹ In the oil scarcity syndrome, inability to learn persisted over many decades. My research also supports the argument that misplaced certainty drives conflict. Misplaced certainty as described by Jennifer Mitzen and Randall Schweller means “cases where decision makers are confident that they know each other’s capabilities, intentions, or both; but their confidence is unwarranted yet persists even in the face of disconfirming evidence.”¹⁴² Carter officials had unwarranted confidence (i) that global oil production was peaking, (ii) that Soviet oil production would soon collapse and (iii) that the USSR meant to invade Iran. Disconfirming evidence abounded. My research also shows that in the sway of scarcity ideology, policymakers repeatedly failed to meet requirements for good political judgment as described by Phillip Tetlock. He argued (i) that experts’ private beliefs should be empirically confirmable and (ii) that their judgments should be internally consistent and updated in response to new evidence.¹⁴³ Development of the oil scarcity syndrome from 1909 to 1980 suggests that the problem of pre-emptive war is not some 21st century distortion imposed by neoconservatives on an otherwise rational policy process.¹⁴⁴ Repetitive acceptance of scarcity ideology and geographic determinism required policymakers to fail Tetlock’s test over and over. The policies adopted as a result were highly provocative to ME inhabitants, whose region became a backdrop for America’s quests to save itself from the imagined calamity of peak oil. As early as 1916, Mark Requa posited Mexico as a refuge from just such a calamity. Expansion on this idea enabled the scarcity syndrome.

Finally, research presented here shows that, for good or ill, policymakers’ ideas about energy are very important. Most security policymakers are educated as political scientists or international relations specialists at a relatively small number of universities. Adding empirical energy market studies and geography to their curricula might help make future policy less provocative.

¹⁴¹ Richard K. Herrmann and Jong Kun Choi, "From Prediction to Learning: Opening Experts' Minds to Unfolding History," *International Security* 31, no. 4 (2007), 132-61.

¹⁴² Jennifer Mitzen and Randall L. Schweller, "Knowing the Unknown Unknowns: Misplaced Certainty and the Onset of War," *Security Studies* 20, no. 1 (2011), 2-35.

¹⁴³ Philip E. Tetlock, *Expert Political Judgment: How Good Is It? How Can We Know?* (Princeton, N.J.: Princeton University Press, 2005), 7.

¹⁴⁴ Among many examples, John J. Mearsheimer and Stephen M. Walt, *The Israel Lobby and U.S. Foreign Policy*, 1st ed. (New York: Farrar, Straus and Giroux, 2007); A. J. Bacevich, *The Long War: A New History of U.S. National Security Policy since World War II* (New York: Columbia University Press, 2007).