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How Oil Influences U.S. National Security

Charles L. Glaser

Scholars and policy-makers in the United States commonly worry that a lack of “energy security” is hurting U.S. national security, yet little of their analysis actually links energy requirements with the probability of military conflict. Energy security is usually defined as “the reliable and affordable supply of energy,”¹ and most analyses focus on the physical security of oil supplies, the increasing price of oil, and the economic costs of oil disruptions.² Their key recommendations call for the United States to reduce oil imports, decrease its vulnerability to oil supply disruptions, and prepare strategies for managing available supplies when disruptions occur.³ Not linking these energy issues directly to possibilities for international conflict leaves an important gap in our analysis. International conflict lies at the heart of standard conceptions of U.S. national security.⁴ Issues that are judged to engage U.S. national security are typically granted

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1. John Deutch et al., “National Security Consequences of U.S. Oil Dependency,” Independent Task Force Report No. 58 (New York: Council on Foreign Relations, October 2006), p. 3.
2. There are, however, recent exceptions, including John S. Duffield, *Over a Barrel: The Costs of U.S. Foreign Oil Dependence* (Stanford, Calif.: Stanford University Press, 2008); Brenda Shaffer, *Energy Politics* (Philadelphia: University of Pennsylvania Press, 2009), especially chap. 4; and Keith Crane et al., *Imported Oil and U.S. National Security* (Arlington, Va.: RAND, 2009). An earlier exception is Michael T. Klare, *Resource Wars: The New Landscape of Global Conflict* (New York: Henry Holt, 2001). On the geopolitics of oil more broadly, see Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Simon and Schuster, 1991).
3. See, for example, Deutsch et al., “National Security Consequences of U.S. Oil Dependency”; Jan H. Kalicki and David L. Goldwyn, eds., *Energy and Security: Towards a New Foreign Policy Strategy* (Washington, D.C.: Woodrow Wilson Center Press, 2005); and Kurt M. Campbell and Jonathon Price, *The Global Politics of Energy* (Washington, D.C.: Aspen Institute, 2008).
4. On the debate over the meaning of “national security,” see, for example, Richard H. Ullman, “Redefining Security,” *International Security*, Vol. 8, No. 1 (Summer 1983), pp. 129–153; and Roland

top priority on the national agenda, are given entitlement to U.S. resources, and are frequently thought to warrant the use of military force. Thus, without exploring the links between energy requirements and military conflict, we risk conflating U.S. national security with U.S. prosperity, and misjudging the nature of the challenges facing the United States.

This article has two key purposes. The first is to fill this gap by providing an analytic catalogue of the ways in which states' oil requirements could influence U.S. national security. I apply a traditional national security lens, asking how states' oil consumption, imports, and vulnerability influence the probability of interstate competition and war involving the United States. I focus on oil because it is the only type of energy that the United States imports in large quantities,⁵ and, more importantly, because U.S. oil requirements have substantially influenced American grand strategy and security policy for decades.⁶ Drawing on international relations theory to ground the analysis in well-established arguments, I describe the mechanism/logic chain for each type of potential national security danger through which oil could increase the probability of crises and wars that involve the United States.

A distinctive feature of this analysis is that I also address the ways in which other states' oil requirements influence U.S. security. Other states' efforts to protect their access to oil and U.S. commitments to protect allies in oil-related disputes could draw the United States into conflict. Appreciating these additional mechanisms provides a fuller picture of how oil can influence states' national security and helps to identify some of the largest oil-related dangers facing the United States today.

This article's second key purpose is to assess the magnitude of oil-driven national security dangers currently facing the United States. My findings diverge from the standard assessments. First, whereas U.S. oil concerns have focused on the Persian Gulf, I find that the increasing threats to U.S. security are occur-

Paris, "Human Security: Paradigm Shift or Hot Air," *International Security*, Vol. 26, No. 2 (Fall 2001), pp. 87-102.

5. There are, however, other energy-related policies that could influence U.S. security: for example, helping countries build nuclear power plants. See Matthew Fuhrmann, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security*, Vol. 34, No. 1 (Summer 2009), pp. 7-41. In addition, other countries' security may be more intertwined with other types of energy; a frequently noted example is European dependence on Russian natural gas.

6. Eugene Gholz, Daryl G. Press, and Harvey M. Sapolsky, "Come Home America: The Strategy of Restraint in the Face of Temptation," *International Security*, Vol. 21, No. 4 (Spring 1997), pp. 25-29; Duffield, *Over a Barrel*; Klare, *Resource Wars*; Charles A. Kupchan, *The Persian Gulf and the West: The Dilemmas of Security* (Boston: Allen and Unwin, 1987); and Steve E. Yetiv, *Crude Awakening: Global Oil Security and American Foreign Policy* (Ithaca, N.Y.: Cornell University Press, 2004).

ring primarily in Northeast Asia. In fact, with one important exception, the security dangers associated with Persian Gulf oil have arguably decreased.⁷ In contrast, not only are new oil-driven dangers emerging in Northeast Asia, but these dangers are especially worrisome because they increase the probability of conflict between the United States and China. Second, and related, unlike standard assessments that focus on the energy security dangers that result from U.S. consumption, my analysis identifies growing dangers to the United States that flow from China's consumption. In particular, I focus attention on an oil-driven security dilemma—stemming from China's growing oil imports and its growing power, and the U.S. ability to interrupt these imports—that lacks easy military or political solutions. The crises or wars that are made more likely by this security dilemma need not be over oil; rather, growing strains in political relations also increase the probability of conflict over existing territorial and maritime disputes.

The recent boom in U.S. oil production and the reductions in oil imports that this boom has made possible have surprisingly little impact on the structure of my analysis and its central conclusions. Because oil trades in a global market, U.S. production does not sever the United States' connection to international oil markets and, in turn, events that disrupt them. Moreover, I argue that because many potential threats to U.S. national security have their roots in other states' consumption, oil production in the United States has virtually no impact on these mechanisms.

The article proceeds as follows. The first section identifies variables—consumption, dependence, and supply vulnerability—that are often used interchangeably, yet can confuse our analysis because they have different security implications. The second section lays out six ways in which states' oil requirements—both U.S. requirements and those of other states—could generate interstate conflict that reduces U.S. national security. The third section uses these mechanisms to assess the key national security dangers generated by U.S. oil consumption and dependence. Because these issues are at least somewhat familiar, my discussion of them is relatively brief, for the most part synthesizing the current state of debate. The fourth section explores in greater depth how other states' oil consumption and dependence could reduce U.S. security. The final section identifies key policy challenges facing the United States today.

7. As discussed below, the exception reflects the growing likelihood of Iran's acquisition of nuclear weapons.

Key Variables

Consideration of a few key variables helps to clarify ways in which oil can influence U.S. security. The variable most commonly tied to U.S. energy security is dependence. Loosely, the argument is that greater reliance on imported oil decreases U.S. security—this dependence leaves the United States vulnerable to fluctuations in oil supplies, which drive up the price of oil, which hurts the U.S. economy. A key link in this logic, however, is flawed. As I just mentioned above, oil trades in a global market and, consequently, reductions in supply influence oil's global price. Therefore, the impact of supply disruptions on the price of oil in the United States is essentially the same whether the United States imports large or small quantities of oil.⁸ Instead, what matters most is the variable of U.S. consumption: the more the United States consumes, the larger the negative impact of global price increases on its economy. Put another way, even if the United States achieves oil independence, its economy would remain sensitive to disruptions in the global supply of oil and, in turn, to global prices.

A third variable is a country's vulnerability to intentional and unintentional reductions of its oil imports via interruption of its supply lines, blockade of its ports, destruction of oil-exporters' infrastructure, or some combination of these.⁹ The analytic issue here is the distinction between dependence—that is, importing oil—and the vulnerability of these imports to disruption. An opposing country could use an intentional disruption to coerce the vulnerable country, to damage its economy, and to undermine its ability to fight a long war. A country could, however, also suffer from the reduction in global oil exports and accompanying higher prices caused by an unintentional disruption such as a regional civil war.

A fourth variable that influences the impact of supply reductions on a country's economy is its ability to offset them. The most direct way for a state to acquire this capability is to create a petroleum reserve from which it can draw oil during a crisis.¹⁰ A state's own reserves may play a central role in offsetting the

8. Other differences are worth noting: for example, domestic production influences whether profits stay in the United States or instead go to foreign producers; as a result, domestic production influences the impact of oil consumption on the U.S. balance of trade.

9. Vulnerability can be defined more broadly to include not only the effect of possible oil disruptions but also the state's ability to offset these effects. I capture this second dimension in a separate variable rather than using the broader definition.

10. Other ways in which supply disruptions can be cushioned include utilization of private reserves, pipelines that avoid choke points, and slack domestic and global production capacity. On the potentially large value of bypass pipelines, see William Komiss and LaVar Huntzinger, *The*

supply shortfalls it faces.¹¹ Because oil trades in a global market, however, effectively restraining price increases would depend not only on a state's ability to replace its own lost imports, but also on other importers being able to replace theirs. This interdependence logic helps to explain why the United States and many other large oil-consuming states have agreed to maintain oil stocks equal to ninety days of imports and have developed plans to coordinate withdrawals from their reserves through the International Energy Agency.¹²

A fifth variable that influences the effect of oil disruptions is a country's energy intensity and, more narrowly, its oil energy intensity. Energy intensity is the amount of energy required to produce a unit of output; at the national level, energy intensity is measured as the ratio of total energy consumption to gross domestic product (GDP). A country with lower oil energy intensity will be less sensitive to increases in the price of oil; that is, a certain percentage increase in the price of oil will have a smaller negative impact on the GDP of a country that enjoys a lower energy intensity. U.S. energy intensity has declined by approximately 50 percent since the late 1970s; the U.S. Energy Information Administration projects it will drop by almost another 50 percent by 2040.¹³

Oil as a Source of International Conflict: Mechanisms/Logics

This section identifies and briefly discusses six basic ways in which oil consumption, dependence, and vulnerability could reduce a state's security by fueling international conflict, with special attention paid to mechanisms that could influence U.S. security: (1) military capability is threatened by vulnerable access to oil; (2) economic prosperity is threatened by vulnerable access to oil; (3) protecting access to oil threatens other states—an access-driven security

Economic Implications of Disruptions to Maritime Chokepoints (Arlington, Va.: Center for Naval Analysis, March 2011).

11. The United States' strategic petroleum reserve (SPR) currently contains approximately 700 million barrels of oil. See U.S. Energy Information Administration, "U.S. Ending Stocks of Crude Oil in SPR," <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCSSTUS1&f=M>. When this reserve is combined with commercially held stocks, the United States can replace almost six months of total imports. On U.S. and other International Energy Agency (IEA) members' stocks, see International Energy Agency, "Closing Oil Stock Levels in Days of Net Imports," <http://www.iea.org/netimports.asp?y=2012&m=10>. China, which is not a member of the IEA, is developing a strategic petroleum reserve; see footnote 69.

12. On IEA coordination, see the International Energy Agency, "How Does the IEA Respond to Major Disruptions in the Supply of Oil?" <http://www.iea.org/topics/energysecurity/respondingtomajorsupplydisruptions>.

13. U.S. Energy Information Administration, *Annual Energy Outlook 2013*, early release overview (Washington, D.C.: U.S. Energy Information Administration, 2012), http://www.eia.gov/forecasts/aeo/er/early_intensity.cfm.

dilemma; (4) oil increases the value of territory, thereby fueling conflict; (5) oil-producing states launch wars that threaten oil access; and (6) oil dependence reduces states' willingness to cooperate on shared security concerns. To help construct a still more general catalogue, in footnotes I identify oil-based conflict mechanisms that do not currently threaten U.S. security or that generate non-state-based threats to U.S. security.¹⁴ Many of the mechanisms operate in two directions—one that influences the United States directly and another that influences the United States indirectly through another state's response to its own oil consumption and dependence.

It is helpful at the outset to consider broadly how these mechanisms relate to state security. A state is more secure when it is less likely to be attacked; will suffer less damage if attacked; is less likely to be successfully coerced because it is less vulnerable to attack; and is less likely to face threats to other vital interests, especially its prosperity, that could require the large-scale use of force. Each of the following oil-based mechanisms can be mapped directly onto this general framing of security. For example, if a state's ability to fight can be undermined by disrupting its access to oil, then it is more likely to be coerced and attacked; and, if a state's efforts to protect its access to oil reduce other states' security, then it is more likely to face insecure and hostile states, and consequently is more likely to be attacked.

M1: STATE'S MILITARY CAPABILITY THREATENED BY VULNERABLE ACCESS

Oil dependence could reduce a state's security if its access to oil is vulnerable to intentional disruption and if this oil is necessary for effectively operating the state's military forces. Vulnerable energy supplies would then leave the state open to coercion—recognizing that it is more likely to lose a war, the state has a weaker bargaining position and is more likely to make concessions.¹⁵ Closely related, if war occurs, the state's oil vulnerability increases the prob-

14. Given my focus on interstate war, I do not address the nonstate danger that is most commonly identified with oil—terrorism. One key argument holds that U.S. oil-driven involvement in the Middle East fuels terrorist mobilization. The extent of this danger depends on a central debate over the causes of terrorism. For reviews of this debate, see Daniel L. Byman, "Al-Qaeda as an Adversary: Do We Understand Our Enemy?" *World Politics*, Vol. 56, No. 1 (October 2003), pp. 143–148; Lisa Anderson, "Shock and Awe: Interpretations of the Events of September 11," *World Politics*, Vol. 56, No. 2 (January 2004), pp. 303–325; and Steve A. Yetiv, *The Petroleum Triangle: Oil, Globalization, and Terror* (Ithaca, N.Y.: Cornell University Press, 2011), especially chap. 3. A different terrorism argument holds that U.S. oil imports enable exporting countries to fund terrorist groups. This argument turns out to be weak. See Crane et al., *Imported Oil and U.S. National Security*, pp. 55–57.

15. For a full analysis of oil dependence and coercion, see Rosemary A. Kelanic, "Black Gold and Blackmail: The Politics of International Oil Coercion," Ph.D. dissertation, University of Chicago, 2012.

ability that the state will lose. On the flip side, a state that can interrupt an adversary's access to militarily necessary oil might enjoy a security benefit, because this capability increases its ability to coerce and to fight. Conflict that is influenced by this mechanism is not fundamentally over oil;¹⁶ rather, when states already have incentives for conflict, oil vulnerability influences their assessment of military capabilities and, in turn, the path to war.

To understand this mechanism, we should envision access broadly, to include at least three different features of secure oil supply, each of which identifies different military requirements and potential dangers for the defending state. The first is uninterrupted transport, which is probably the most common understanding of access. Concern about secure transport can take a variety of forms—a state may need to protect its sea lines of communication (SLOCs), to defend choke points that make oil traffic relatively easy to disrupt, or to control territory across which oil is piped. During the Cold War, this set of concerns motivated U.S. planners to protect the United States' SLOCs with the Persian Gulf to ensure the steady flow of oil. This uninterrupted access would have been necessary to enable the United States to fight a long war against the Soviet Union in Europe.

The United States does not currently face this type of danger, because there is no major power capable of severely interrupting its access to key supplies of oil. In contrast, China might face this type of danger, because its oil imports are vulnerable to disruption by the U.S. Navy; the question is whether there are realistic scenarios in which China's oil reserves would be depleted before a war would otherwise be terminated.

The second feature of secure access is the security of supplier states' oil facilities from invasion and crippling attack by a potentially hostile state that could use the interruption to enhance its ability to prosecute a major war. Following the Soviet invasion of Afghanistan in 1979, the United States feared that the Soviet Union posed an invasion threat to Persian Gulf oil, which, among other dangers, would have weakened the U.S. ability to fight in Europe. In reaction, the United States revised its doctrine and force posture to improve its ability to fight in the Persian Gulf.

The third feature of secure access is the willingness of suppliers to sell oil at market prices, thereby ensuring a state's ability to acquire oil necessary for fighting a major war. The most acute danger would involve a potential adversary that was also a major oil supplier. During World War II, Japan's vulnerability to a U.S. oil embargo—which combined a U.S. decision not to sell oil

16. For important exceptions, see *ibid.*

with the United States' ability to prevent other imports from reaching Japan—played an important role in destroying Japan's ability to fight.¹⁷ A less severe danger exists when a major supplier is allied with a hostile power and might cooperate to undermine the opposing state's military capability. The United States does not currently appear to face either of these types of access dangers.

M2: STATE'S ECONOMIC PROSPERITY THREATENED BY VULNERABLE ACCESS

When a state's economy depends heavily on consuming oil, severe supply disruptions might do enough economic damage that the state would use military force to protect its prosperity. Serious economic damage could occur before any risk to a state's military capability, especially if a state's economy consumes vast quantities of oil and its GDP is oil intensive. A state that suffers this vulnerability not only risks the economic damage that could be inflicted by a supply disruption, which might be the by-product of domestic turmoil in producer countries or of regional conflicts, but also risks being coerced by an adversary that intentionally cuts off the flow of oil. Consequently, states want confidence that the global flow of oil will be uninterrupted and that major powers will pursue policies to ensure secure access, including using force to restore domestic supplier stability and to open supply routes.

Whether a state's use of military force to protect its prosperity converts an economic interest into a national security interest is debatable. In contrast to M1, which also hinges on secure access, the national security danger generated by this vulnerability arises indirectly, by increasing the state's need to use force, not directly, by reducing its ability to fight. The danger is not that interruption of oil supplies would so severely damage the U.S. economy that the United States would be unable to purchase the military forces required to defend itself from attack and, in turn, from coercion;¹⁸ nor is the danger a long-term negative shift in the global balance of power, which might require retrenchment in ways that jeopardize some U.S. commitments. One could argue, therefore, that these conflicts are not about U.S. security. If the United States decided not to use force to protect these energy interests, the risks would be limited to decreased U.S. prosperity.

Nevertheless, for this analysis I classify these conflicts as energy-driven national security conflicts: they could involve the large-scale use of U.S. military force to protect a vital interest, albeit economic interest; and, possibly more im-

17. Jerome B. Cohen, *Japan's Economy in War and Reconstruction* (Minneapolis: University of Minnesota Press, 1949).

18. This possibility is, however, noted in Crane et al., *Imported Oil and U.S. National Security*, p. 19.

portant, in some of the specific cases the United States might confront, its use of force could escalate to a larger, more costly war that would clearly put U.S. security interests at risk.

In many ways, this is more an issue of categorization than substance; either way, the scenarios the United States faces are identical. At the same time, however, the economic foundation of this type of security danger raises the fundamental question of whether the United States should rely on military means for protecting this set of interests. The answer depends on the economic costs of a disruption, the alternative means for protecting U.S. prosperity, and the military forces required to protect U.S. interests. I return to this question at the end of the article. My point here is simply to make clear the nature of the danger.

The different features of access identified above also help to characterize these prosperity-driven scenarios. Threats to transportation could pose economic risks, as well as more direct military risks.¹⁹ The United States currently worries about Iran's ability to damage its economy by interrupting the flow of oil through the Strait of Hormuz and has plans to use force to reopen transport if necessary. China worries about the economic impact of the U.S. ability to disrupt its SLOCs from the Persian Gulf to Northeast Asia; this disruption poses a clearer threat to China's economy than to its military capability.

The security of major oil suppliers could pose an especially large economic danger if an attacker gained a dominant role in the global oil market. This concern has guided U.S. policy in the Persian Gulf. The U.S. decision to eject Iraqi forces from Kuwait in the 1991 Gulf War was intended largely to ensure that Iraq did not extend its offensive into Saudi Arabia. The fear was that Iraqi control of Saudi oil would provide Iraq with such a large fraction of Persian Gulf oil that it could manipulate oil markets, severely damaging the U.S. economy.²⁰

The Arab oil embargo in the 1970s raised the salience of threats by exporting states that refused to sell oil at market prices. In reaction, a few prominent U.S. commentators advocated using military force to seize Gulf oil fields if the

19. A submechanism that I do not explore is worth noting—a state could form an alliance to gain access to oil, then find itself protecting this ally in a scenario that does not involve oil. U.S. policy has come close to creating this type of danger: NATO's deliberations on whether to include Georgia have been influenced by energy considerations. On the oil dimension, see Ronald D. Asmus, "Europe's Eastern Promise: Rethinking NATO and EU Enlargement," *Foreign Affairs*, Vol. 87, No. 1 (January/February 2008), pp. 95–106. For background on U.S. energy interests in the Caspian regions, see Duffield, *Over a Barrel*, pp. 134–143; and Klare, *Resource Wars*, chap. 4.

20. Lawrence Freedman and Efraim Karsh, *The Gulf Conflict, 1990–1991: Diplomacy and War in the New World Order* (London: Faber and Faber, 1993), pp. 74, 76, 180, 214–215.

Organization of Petroleum Exporting Countries imposed an embargo that was severely damaging to the U.S. economy.²¹ The possibility was carefully analyzed in a Congressional Research Service study that addressed the rationales, legitimacy, and feasibility of seizing foreign oil fields and that included a case study on Saudi Arabia.²² The possibility of conservative religious leaders gaining control of Saudi Arabia and then refusing to sell oil was identified as a potential danger that could warrant U.S. intervention.²³

For this mechanism, a fourth feature of secure access could also be important—unintentional oil disruptions could pose a danger to the state's economy. A large regional war in the Middle East could damage exporting states' oil infrastructure or make shipping oil too risky. A civil war in a major oil exporter, most worryingly Saudi Arabia, could prevent the export of oil. Although such a war might not be intended to hurt oil importers, the United States could nevertheless find using military force necessary if doing so would restore the flow of oil, thereby protecting its economy.

M3: ACCESS-DRIVEN SECURITY DILEMMA

The vulnerability of a state's access to oil supplies could reduce its security via a third, more complicated mechanism: if the state's efforts to protect its access to oil threaten another state's security, then this reduced security could in turn reduce the state's own security. The danger would follow standard security-dilemma logic, but with the defense of oil supply lines replacing the standard focus on defense of territory. The state's initial efforts could be in response to access vulnerabilities that put either its military capability or its prosperity at risk.

In the most extreme case, a state could try to solve its import vulnerability through territorial expansion. In less extreme cases, the state could deal with its vulnerability by building up military forces required to protect its access to oil. The problem arises when this has the unintended consequence of decreasing its adversary's military capability and signaling that the state's motives are malign. The adversary would then face new incentives to build up its own mil-

21. Robert W. Tucker, "Oil: The Issue of American Intervention," *Commentary*, Vol. 59, No. 1 (January 1975), pp. 21–31. U.S. government officials stated, however, that the United States would not use force to reduce the price of oil. See Congressional Research Service, *Oil Fields as Military Objectives: A Feasibility Study* (Washington, D.C.: Congressional Research Service, 1975), annex A.

22. Congressional Research Service, *Oil Fields as Military Objectives*.

23. Thomas L. McNaughter, *Arms and Oil: U.S. Military Strategy and the Persian Gulf* (Washington, D.C.: Brookings Institution, 1985), p. 185.

itary forces, pursue more aggressive foreign policies, or both. The net result would be a classic security dilemma resulting from competing efforts to ensure oil access.²⁴

Just as protecting a distant ally can require a state to adopt an offensive capability, protecting access to oil can require offensive power-projection capabilities. Thus, a state's need to protect its access to oil could create a security dilemma that would not otherwise exist. In fact, the military requirements for protecting access are, in general, more likely to generate a security dilemma than are the requirements for protecting a territorial border: to protect a territorial border, each state needs to protect only its side of the border from attack; in contrast, to protect contested lines of communication, both states need to control the same area, whether land or sea. Thus, offense and defense are essentially indistinguishable for protecting lines of communication; in contrast, offense and defense are potentially distinguishable when protecting borders, depending on technology and geography.²⁵ Moreover, when two countries vie to protect the same lines of communication, it is impossible for both countries to succeed in maintaining the necessary mission capabilities.

Specific conflicts fueled by this security dilemma need not be over oil or access to oil. Instead, by damaging political relations, the security dilemma could prevent states from resolving existing political disputes and avoiding the escalation of crises. For example, states that have come to see each other as more threatening are more likely to deal with political disputes by employing competitive policies than through cooperation and concessions.

Both the United States and China currently face this type of danger, although their situations are not symmetric. The current naval status quo strongly favors the United States, enabling it to interrupt the SLOCs from the Persian Gulf to China, which generates Chinese insecurity. China has begun efforts to protect its access to oil, which the United States views as provocative. The result is growing military competition and strained political relations.

M4: OIL AND THE VALUE OF TERRITORY

Oil can increase the value that states place on territory, which can in turn fuel competition between them, because the benefits of success grow relative to the

24. On the security dilemma, see Robert Jervis, "Cooperation under the Security Dilemma," *World Politics*, Vol. 30, No. 2 (January 1978), pp. 167–214; and Charles L. Glaser, "The Security Dilemma Revisited," *World Politics*, Vol. 50, No. 1 (October 1997), pp. 171–201.

25. Joseph Ford, "Tight Passage: Chinese Maritime Energy Imports as the Powder Keg of Interdependence," M.A. thesis, University of Chicago, 2008.

costs of competition—for example, the costs of arming. For similar reasons, the greater value of territory increases the probability that crises over territory will lead to war instead of negotiated compromises, as states are more willing to run the risks of fighting.²⁶ This type of conflict is the classic resource war, in which access to oil is the most commonly envisioned path leading to conflict.²⁷

We can hypothesize that oil is especially likely to generate conflict when territorial boundaries are contested or the political status quo is ambiguous. Because the norm of state sovereignty is now widely held, states are less likely to launch expansionist wars to take other states' territory. When boundaries are unsettled, however, states are more likely to compete to acquire territory that they value and will compete harder when they value it more.²⁸ In addition, unsettled boundaries increase the possibilities for boundedly rational bargaining failures that could lead to war.²⁹

There are two basic paths through which a state could become involved in this type of oil conflict. First, and more obvious, a state could be a claimant in the dispute and become directly engaged in a territorial conflict. The second path is likely more important for the United States—an alliance commitment could draw a state into a resource conflict that initially began between its ally and another state. The state would not have energy interests of its own at stake, but would intervene to protect its ally. The state might intervene even if the energy interests did not warrant the risks of involvement, because it worried that failing to intervene would undermine its overall credibility for protecting its allies. Along this path, energy would play an important but less direct role in damaging the state's security, because although energy interests would fuel the initial conflict, they would not motivate the state's intervention.³⁰ The United States currently faces this type of danger in the East China Sea, where oil is contributing to a dispute between China and a U.S. ally, Japan. The United States faces a parallel danger in the South China Sea.

26. On bargaining theory, see Robert Powell, *In the Shadow of Power: States and Strategies in International Affairs* (Princeton, N.J.: Princeton University Press, 1999), chap. 3.

27. For empirical support, see Paul K. Huth, *Standing Your Ground: Territorial Disputes and International Conflict* (Ann Arbor: University of Michigan Press, 1996). For a generally skeptical analysis of the standard resource war arguments, see David G. Victor, "What Resource Wars?" *National Interest*, No. 92 (November/December 2007), pp. 48–55.

28. For related points, see Shaffer, *Energy Politics*, pp. 67–70. Shaffer identifies additional examples, including the Arctic Circle.

29. On this type of conflict, see Jonathan Kirshner, "Rationalist Explanations for War?" *Security Studies*, Vol. 10, No. 1 (Autumn 2000), pp. 143–150.

30. This can be understood as a form of alliance entrapment. See Glenn H. Snyder, "The Security Dilemma in Alliance Politics," *World Politics*, Vol. 36, No. 4 (July 1984), pp. 461–495.

M5: OIL-PRODUCING STATES AND WARS THAT THREATEN OIL ACCESS

Recent research finds that some major oil-producing states are more aggressive than other states. Specifically, oil-producing states ruled by revolutionary governments are more likely to start wars, because oil provides their leaders with greater domestic political autonomy and with larger resources than can be devoted to military capabilities, and because revolutionary leaders tend to accept larger risks.³¹ This type of war can, in turn, produce security dangers for other states when the oil-producer's attack threatens a vital interest, requiring third-party intervention.³² Moreover, the role of oil is twofold when the initial attack is against another oil-producing state or creates instability in an oil-producing region; it is this oil that constitutes the vital interest of the third-party intervener.

Although complex, this string of mechanisms is not merely hypothetical. For example, the Iraqi invasion of Kuwait, which led to the 1991 Gulf War, can be understood as a case in point. A smaller-scale example, from the U.S. perspective, is the United States' involvement in the Tanker War, which occurred during the 1980–88 Iran-Iraq War, and entailed U.S. protection of reflagged oil tankers.³³ Current U.S. worries about the threat that Iran poses to the Strait of Hormuz and, possibly to Saudi Arabia, reflect beliefs that Iran is willing to run a risky aggressive foreign policy.³⁴

We can understand this mechanism as helping to explain an implicit element of some of the mechanisms identified above. For example, vulnerable access to oil supplies poses a true danger only if there are one or more states that are interested in interrupting this access. The revolutionary oil-producer argument provides an explanation for why some states are more likely to adopt these risky foreign policies. Consequently, when analyzing specific dangers facing the United States, I do not explore this mechanism separately, but instead as part of these other mechanisms.

31. Jeffrey D. Colgan, *Petro-Aggression: When Oil Causes War* (Cambridge: Cambridge University Press, 2013).

32. A different, partly overlapping mechanism through which oil could generate interstate conflict combines the "resource curse," which fuels civil war, with mechanisms that generate interstate wars from civil wars: on the former, see Michael L. Ross, *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations* (Princeton, N.J.: Princeton University Press, 2012), chap. 5. On the latter, see Idean Salehyan, *Rebels without Borders: Transnational Insurgencies in World Politics* (Ithaca, N.Y.: Cornell University Press, 2011).

33. On these cases, see Colgan, *Petro-Aggression*, chap. 5.

34. For an alternative view of Iran, see Flynt Leverett and Hillary Mann Leverett, *Going to Tehran: Why the United States Must Come to Terms with the Islamic Republic of Iran* (New York: Metropolitan, 2013).

M6: OIL DEPENDENCE AND REDUCED WILLINGNESS TO COOPERATE

Some oil-importing states may be less willing to support global security initiatives when these initiatives diverge from the preferences of influential oil-exporting states. More specifically, U.S. security could be hurt by other states' oil dependence if the United States requires cooperation from these states to achieve its security objectives and they are unwilling to cooperate because doing so conflicts with their energy interests. Although this type of argument can be made so broadly that it loses its security focus,³⁵ extending instead to many dimensions of U.S. economic and foreign policy, there may be a small number of instances with fairly direct security implications. In a following section, I focus on the implications of China's oil dependence for its willingness to adopt policies designed to slow nuclear proliferation.

Table 1 summarizes the mechanisms described in this section.³⁶

The Security Implications of U.S. Oil Consumption and Imports

Building on the preceding discussion of mechanisms, this section assesses specific current ways in which U.S. oil consumption and imports could reduce the United States' security.³⁷ In addition to illustrating the mechanisms sketched above, this section identifies what I believe are the key potential oil-related national security dangers currently resulting from U.S. consumption and imports.

In many of these scenarios, the oil mechanism is one among a number of links in a chain that could lead to conflict; nevertheless, oil plays an essential role in making the scenario possible. In this regard, there is nothing unusual about my treatment of oil: most paths to war involve a variety of contributing factors and evolve in multiple stages—including strained political relations, crises, and military escalation—yet individual analyses often focus on the role of a single factor, while placing it in context.

35. See, for example, Deutch et al., "National Security Consequences of U.S. Oil Dependency," pp. 26–27.

36. As I mentioned earlier, this is not a complete list of mechanisms—I have focused on those that I judge to currently be most important for U.S. security. A more complete list, as suggested in preceding footnotes, would include (1) oil disruptions that severely slow U.S. economic growth, eventually denying the United States the power necessary for adequate defense; (2) an alliance formed to increase U.S. access to oil, which then draws the United States into a non-oil conflict; (3) U.S. oil policies that are alleged to fuel terrorism in a variety of ways; and (4) a civil war fueled by the resource curse, which expands to an interstate war, which then draws in the United States.

37. To avoid possible confusion, I want to stress that I am not testing the validity of the mechanisms. They are built on established international relations theories, including rational structural theories and bargaining theories of war, from which they get their analytic strength.

Table 1. Summary of Mechanisms Linking Oil to War

Mechanism	Requirements	Current Examples
M1 Military capability threatened by vulnerable access transport supplier facilities supplier willingness to sell	vulnerable oil dependence inadequate reserves	China?
M2 Economic prosperity threatened by vulnerable access	oil consumption (whether or not imported) global market economy sensitive to oil prices	Strait of Hormuz-Iran Saudi domestic instability
M3 Protecting access to oil threatens others → security dilemma	vulnerable oil dependence requirement to control common space	China and U.S. sea lines of communication to Northeast Asia
M4 Oil increases the value of territory direct conflict conflict via alliance commitment	greedy states disputed status quo	East China Sea South China Sea
M5 Oil-producing states launch wars that threaten access	revolutionary state oil producer	Iran
M6 Oil consumption reduces cooperation on shared security concerns	oil consumption (whether or not imported) global market economy sensitive to oil prices	China's reluctance to sanction Iran

Assessing the extent of security dangers is more difficult than identifying them. That is, assessing the probability that specific scenarios will occur and the magnitude of the security costs if they do occur requires a variety of military and political judgments, many of which are complex and at least some of which are highly controversial. This article provides a first cut; where analysis depends on long-standing debates, I explain how the debates matter but do not try to resolve them. In so doing, I lay the foundation for still more extensive future analyses.

Some of the mechanisms identified in the previous section do not come into play here—the United States is not vulnerable to a major power cutting access to its oil, and it is not directly involved in disputes over oil-rich territory. This

section explores two prosperity-based possibilities—Iran’s closing of the Strait of Hormuz and a cutoff of Saudi oil.

M2 (AND M5): INTERVENING TO PROTECT U.S. PROSPERITY—STRAIT OF HORMUZ
Given the geographical distribution of oil, a disruption large enough to warrant U.S. military intervention, if one exists at all, is most likely to occur in the Persian Gulf. During 2011, the daily flow of oil through the Strait of Hormuz was 17 million barrels, which was the vast majority of Persian Gulf oil and almost 20 percent of global production.³⁸

The greatest danger is now posed by Iran, which in 2011 threatened to close the Strait of Hormuz in retaliation for U.S. and European sanctions designed to severely reduce Iran’s oil revenue;³⁹ the sanctions are intended to convince Iran to forgo its nuclear weapons program. Although concerns about Iran possibly closing the strait are long-standing, estimating the probability that it would actually do this is difficult. Analysts have offered reasons for expecting the probability to be low: Iran would lose the oil revenue from its own exports; and Iran would likely be deterred by the probable costs of U.S. intervention, which could include the destruction of key military bases and occupation of some of its territory. There are, however, plausible scenarios in which Iran blocks the strait, for example, as retaliation for an attack against its nuclear weapons program or as a coercive measure if it were losing a conventional war.⁴⁰ And, of course, if sanctions are highly effective at cutting Iran’s oil revenue, Iran has less to lose by disrupting the flow of oil.

Because so much oil flows through the strait, the United States, at least given its current policies, would almost certainly respond to keep it open. In early 2012, the United States communicated to Iran that closing the strait is a “red line that would provoke an American response,” and Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey publicly stated that the United States would “take action and reopen the strait.”⁴¹

38. U.S. Energy Information Administration, “World Oil Transit Chokepoints,” August 22, 2012, <http://205.254.135.7/countries/regions-topics.cfm?fips=WOTC>.

39. David E. Sanger and Annie Lowrey, “Iran Threatens to Choke Route of Oil Shipments,” *New York Times*, December 28, 2011. For background on sanctions against Iran, see Kenneth Katzman, “Iran Sanctions,” Congressional Research Service Report (Washington, D.C.: Congressional Research Service, July 26, 2013).

40. Caitlin Talmadge, “Closing Time: Assessing the Iranian Threat to the Strait of Hormuz,” *International Security*, Vol. 33, No. 1 (Summer 2008), p. 87–88; and William D. O’Neil, “Correspondence: Costs and Difficulties of Blocking the Strait of Hormuz,” *International Security*, Vol. 33, No. 3 (Winter 2008/09), pp. 190, 195.

41. Quoted in Elisabeth Bumiller, Eric Schmitt, and Thom Shanker, “U.S. Sends Top Iranian Leader a Warning on Strait Threat,” *New York Times*, January 13, 2012.

Careful analysis suggests that the United States would succeed in reopening the strait, but that a successful campaign could take many weeks or more, and that oil prices would increase significantly during this period.⁴² Iran would likely be unable to entirely close the strait, among other reasons because exporters would adapt, employing tactics that would enable them to continue to transit the strait. One estimate suggests that reducing the flow by one-third would likely be beyond Iran's reach.⁴³ Nevertheless, reductions of this size would be significant, and uncertainty in the oil market, which would add to price increases, would be even larger.

Although a war to regain control of the strait would require substantial U.S. naval and air forces, the fighting costs of this conventional war would likely not be large (at least compared to recent U.S. ground wars), because the U.S. military would be able to dominate the fighting and would not need to employ ground troops. In contrast, future Iranian acquisition of nuclear weapons would increase the risk of this scenario in two basic ways. First, Iran might believe that its ability to escalate to the use of nuclear weapons would deter the United States from responding, making Iran more willing to interrupt tanker traffic⁴⁴—this is the basic emboldenment logic of nuclear proliferation. The United States might nevertheless intervene, questioning Iran's willingness to escalate to nuclear use because America's far more capable nuclear forces would pose a formidable retaliatory threat. In addition, the United States might intervene because it believed that this would help to preserve its ability to deter other emerging nuclear powers.⁴⁵ Second, U.S. conventional operations, which would likely involve sustained attacks against land-based Iranian forces,⁴⁶ could increase the probability nuclear war. A number of paths are possible, including accidental Iranian attacks fueled by concern about the

42. Talmadge, "Closing Time." For a more optimistic assessment, see Gholz and Press, "Protecting the 'Prize,'" pp. 478–480. Energy analysts estimate that closing the strait would increase the price of a barrel of oil by \$50 or more within a few days. See Clifford Kraus, "Oil Price Would Skyrocket If Iran Closed the Strait of Hormuz," *New York Times*, January 5, 2012.

43. Gholz and Press, "Protecting the 'Prize,'" p. 480.

44. See, for example, Scott D. Sagan, "How to Keep the Bomb from Iran," *Foreign Affairs*, Vol. 85, No. 5 (September/October 2006), p. 53. Nuclear weapons could, however, have a countervailing effect if Iran is partly driven by insecurity. See Kenneth N. Waltz, "Why Iran Should Get the Bomb: Nuclear Balancing Would Mean Stability," *Foreign Affairs*, Vol. 91, No. 4 (July/August 2012), pp. 2–5. In addition, Iran might be more cautious while pursuing nuclear weapons to avoid giving the United States an excuse for preventively destroying its nuclear program.

45. For a similar argument in a related context, see Barry R. Posen, "U.S. Security Policy in a Nuclear-Armed World, Or: What If Iraq Had Had Nuclear Weapons?" *Security Studies*, Vol. 6, No. 3 (Spring 1997), pp. 1–31.

46. Talmadge, "Closing Time."

survivability of Iran's forces, U.S. attacks fueled by concern that Iran was preparing to use nuclear weapons,⁴⁷ and inadvertent Iran escalation fueled by U.S. attacks against its command and control systems.⁴⁸

M2: INSTABILITY IN SAUDI ARABIA

Saudi oil accounts for more than 15 percent of global oil exports, and a long-term cutoff of Saudi oil could impose large costs on the U.S. economy. Even analysts who believe that most supply interruptions can be absorbed and offset by the international oil market and countries' strategic petroleum reserves conclude that the loss of Saudi oil is the exception.⁴⁹ Nevertheless, although a cutoff of Saudi oil could occur in a variety of ways, none of them seem likely, and large-scale use of U.S. military force might be useful in only one.

Saudi leaders appear highly unlikely to impose another embargo, because their country depends heavily on oil revenues and, possibly more important, because the stability of the Saudi regime depends on the prosperity provided by the flow of oil. This reluctance is reinforced by Saudi recognition that the embargo it imposed in 1973 resulted in a variety of substantial costs.⁵⁰

Another potential threat to Saudi oil could come from regional adversaries. Especially given the weakening of Iraq, however, Saudi Arabia does not currently face the type of threat that guided earlier U.S. policy—an adversary capable of conquering Saudi Arabia and thereby controlling the majority of Gulf oil.⁵¹ A different type of regional threat could arise from a nearby state's ability to severely damage the Saudi oil complex without invading. The most commonly cited threat is now from Iran, which experts worry might attack the Saudi oil complex, possibly in retaliation for a U.S. or Israeli attack against its nuclear weapons program. Although the overall Saudi oil complex is large and spread over a vast area, there is a relatively small number of choke points—including pumping stations, stabilizing towers, and oil terminals—which

47. On incentives for counternuclear attacks, see Charles L. Glaser and Steve Fetter, "Counterforce Revisited: Assessing the Nuclear Posture Review's New Missions," *International Security*, Vol. 30, No. 2 (Fall 2005), pp. 84–126.

48. On this type of danger, see Barry R. Posen, *Inadvertent Escalation, Conventional War, and Nuclear Risks* (Ithaca, N.Y.: Cornell University Press, 1991).

49. Gholz and Press, "Protecting 'The Prize,'" pp. 481–483.

50. On Saudi Arabia, see Yetiv, *Crude Awakening*, chap. 8, particularly pp. 153–156. Yetiv's analysis relies partly on low oil prices, so the constraints today are less severe. See also Steven R. David, *Catastrophic Consequences: Civil War and American Interests* (Baltimore, Md.: Johns Hopkins University Press, 2008), chap. 2.

51. For a back-of-the-envelope assessment supporting this conclusion, see Gholz and Press, "Protecting 'The Prize,'" pp. 474–476.

means that an attacker might severely disrupt the flow of Saudi oil by destroying a small fraction of the total complex. Nevertheless, thorough analysis finds that Iran's current ability to reduce Saudi exports is limited.⁵²

The key remaining paths to a cutoff of Saudi oil involve internal conflict. The possibilities include a civil war that disrupts production of oil for an extended period or a radical regime that decides to greatly reduce Saudi production.⁵³ In light of recent political upheaval across the region, which few foresaw,⁵⁴ experts acknowledge that predicting Saudi stability with any confidence is difficult. Even before the Arab Spring, assessments of the stability of the Saudi regime diverged.⁵⁵ Nevertheless, recent reassessments that explore the factors that appear to sustain stability in Arab states—including the professionalism of the military, the ethnic composition of the regime and the military, state wealth, state control of the economy, and the quality of governance—suggest that continued Saudi stability is likely.⁵⁶ Based on an assessment of Saudi leaders, society, and economics, Thomas Lippman concludes that “[f]or better or worse, the outside world can assume that the House of Saud will stand—provided that oil revenue continues to flow into its coffers.”⁵⁷

If Saudi Arabia were to descend into a full-scale civil war, U.S. intervention to restore the flow of oil would require large forces that would likely have to remain in the country for a long time. Recent experience in Iraq and Afghani-

52. Joshua R. Itzkowitz Shifrinson and Miranda Priebe, “A Crude Threat: The Limits of an Iranian Missile Campaign against Saudi Arabian Oil,” *International Security*, Vol. 36, No. 1 (Summer 2011), pp. 167–201. Shifrinson and Priebe do find, however, that future improvements in the accuracy of Iran's missiles could significantly increase this capability.

53. Another possibility is a terrorist attack that severely damages the Saudi oil complex. The complex, however, is reported to be very well protected against terrorist attacks. See Anthony H. Cordesman and Nawaf Obaid, *National Security in Saudi Arabia: Threats, Responses, and Challenges* (Westport, Conn.: Praeger Security International, 2005); and Nawaf Obaid, “Saudi Oil Supplies Are Safe and Secure,” *CNN Opinion*, April 7, 2011, <http://www.cnn.com/2011/OPINION/04/07/obaid.saudi.energy/index.html>. In any event, U.S. forces would not be valuable for preventing a terrorist attack, and therefore this scenario does not qualify as posing a risk to U.S. security.

54. For qualifications, however, see Marc Lynch, *The Arab Uprising: The Unfinished Revolutions of the New Middle East* (New York: PublicAffairs, 2012), pp. 4–5.

55. For an overview of internal and external threats, see Yetiv, *Crude Awakening*, chap. 2. For divergent assessments, see David, *Catastrophic Consequences*, pp. 30–31; and Thomas Hegghammer, “Islamist Violence and Regime Stability in Saudi Arabia,” *International Affairs*, Vol. 84, No. 4 (2008), p. 715. Other relatively optimistic assessments include J. Robinson West, “Saudi Arabia, Iraq, and the Gulf,” in Kalicki and Goldwyn, *Energy and Security*, pp. 197–218.

56. Gregory Gause, “Why Middle East Studies Missed the Arab Spring,” *Foreign Affairs*, Vol. 90, No. 4 (July/August 2011), pp. 81–90; and Anthony H. Cordesman, “Understanding Saudi Stability and Instability: A Very Different Nation” (Washington, D.C.: Center for Strategic and International Studies, February 26, 2011), <http://www.csis.org/publication/understanding-saudi-stability-and-instability-very-different-nation>.

57. Thomas Lippman, *Saudi Arabia on the Edge: The Uncertain Future of an American Ally* (Washington, D.C.: Potomac, 2012), p. 36 and chaps. 2, 8.

stan leaves little doubt about the scale and difficulty of these types of interventions.⁵⁸ The need to protect critical oil infrastructure would further complicate the challenges, and the inability to fully protect it would reduce the benefits.⁵⁹ Given its military, economic, and political costs, the United States might decide that intervention to protect U.S. prosperity was not warranted. If it did intervene, the security costs—in blood and treasure—would be large.

National Security Implications of Other States' Oil Requirements

Although the potential dangers of energy dependence are usually envisioned as flowing from a state's own dependence, U.S. national security could be damaged (or possibly increased) by other states' oil dependence. This is particularly true when other major powers with which the United States has potential conflicts, such as China, are large oil importers. Building on the logic presented in the mechanisms section, this section explores four ways that China's increased oil consumption and imports influence U.S. security. The first, unlike the others, sees potential security benefits in China's vulnerable access to imported oil.

M1 AND M2: VULNERABLE ACCESS AND U.S. ABILITY TO COERCE AND FIGHT

Chinese oil imports are vulnerable to disruption by the U.S. Navy. This vulnerability reduces Chinese security, if these imports are necessary for fighting a war with the United States, for keeping China's economy running effectively during a war, or both. While a potential danger for China, the vulnerability of Chinese oil imports could increase U.S. security by enhancing the U.S. ability to convince China not to instigate a major crisis or to launch a war, and to coerce China to terminate a war on more favorable terms.

China began importing oil in the early 1990s, and its imports have grown significantly since then. Chinese oil consumption doubled from 1995 to 2005 and is expected to double again by 2020.⁶⁰ During this period, Chinese domestic production is expected to remain roughly flat, at around 4.5 million barrels per day;

58. For a brief discussion of these requirements, see Gholz and Press, "Protecting 'The Prize,'" pp. 481–482.

59. McNaugher, *Arms and Oil*, pp. 188–191.

60. For overviews of China's energy situation, see Andrew B. Kennedy, "China's Petroleum Precipitation: Challenges and Opportunities in Beijing's Search for Energy Security," in Jane Golley and Liang Song, eds., *Rising China: Global Challenges and Opportunities* (Canberra, Australia: ANU E Press, 2011); and James Mulvenon, "Dilemmas and Imperatives of Beijing's Strategic Energy Dependence," in Gabriel B. Collins et al., eds., *China's Energy Strategy: The Impact on Beijing's Maritime Policies* (Annapolis: Naval Institute Press, 2008).

Chinese oil imports will grow rapidly and are predicted to make up about 75 percent of Chinese demand by 2035.⁶¹ The vast majority of this imported oil—more than 85 percent—will cross the Indian Ocean and pass through the Strait of Malacca. Although China is pursuing a number of pipeline projects to reduce dependence on its sea lines, pipelines will be unable to greatly reduce this dependence and will likely suffer their own vulnerabilities.⁶²

The problem that China faces is that the U.S. Navy dominates its sea lines of communication for transporting this oil. Chinese experts are well aware of the vulnerability of their maritime SLOCs and of the potential dangers this generates.⁶³ The following statement by a Chinese scholar succinctly captures the situation: “China cannot have control over development goals without corresponding control over the resources to fuel the economy. The simple fact is that China does not possess that control. . . . China is almost helpless to protect its overseas oil import routes. This is an Achilles heel to contemporary China, as it has forced China to entrust its fate (stable markets and access to resources) to others. Therefore, it is imperative that China, as a nation, pay attention to its maritime security and the means to defend its interests through sea power.”⁶⁴ The key danger facing China is almost certainly not during peacetime, but instead during a severe crisis or war.⁶⁵ Another Chinese scholar observes, “In the scenario of war across the Taiwan Straits, there is no guarantee that the United States would not enlist the assistance of its principal ally in northeast Asia (Japan) and other lesser allies (Singapore, the Philippines, and South Korea) to participate in another oil blockade against China.”⁶⁶

61. U.S. Energy Information Administration, “China,” updated September 2012, <http://www.eia.gov/countries/analysisbriefs/China/china.pdf>; and Jeffrey A. Bader, “Rising China and Rising Oil Demand: Real and Imagined Problems for the International System,” in Campbell and Price, *The Global Politics of Energy*, p. 98. For a broader discussion of China’s energy strategy, see Philip Andrews-Speed, Xuani Liao, and Roland Dannreuther, “The Strategic Implications of China’s Energy Needs,” Adelphi Paper 346 (London: International Institute for Strategic Studies, 2002).

62. Andrew S. Erikson and Gabriel B. Collins, “China’s Oil Security Pipe Dream: The Reality, and the Strategic Consequences, of Seaborne Imports,” *Naval War College Review*, Vol. 63, No. 2 (Spring 2010), pp. 89–112.

63. For a review of Chinese analyses reflecting a range of views, see Andrew Erikson and Lyle Goldstein, “Gunboats for China’s New ‘Grand Canals’: Probing the Intersection of Beijing’s Naval and Oil Policies,” *Naval War College Review*, Vol. 62, No. 2 (Spring 2009), pp. 43–76.

64. Zhang Wenmu, “Sea Power and China’s Strategic Choices,” *China Security*, Vol. 2, No. 2 (Summer 2006), pp. 19–20.

65. Andrew Kennedy argues that the United States is unlikely to attempt to blockade China because the two countries’ economic interdependence makes this too costly. See Kennedy, “China’s Petroleum Predicament,” p. 129. In a crisis or war, however, these economic considerations would become far less important. Kennedy also questions the feasibility of a blockade, given the difficulty of determining the destination of tankers.

66. Zha Daojong, “Energy Interdependence,” *China Security*, Vol. 2, No. 2 (Summer 2006), p. 8.

Whether China actually faces a significant military or economic vulnerability (and, in turn, whether the United States possesses a coercive capability) depends not only on the potential disruption of oil imports, but also on a host of other factors, including the length and intensity of a war, China's strategic reserves and refinery capabilities, and its national energy intensity.⁶⁷ There is little available analysis of these issues.⁶⁸ In addition to the types of statements quoted above, one clear indication that China views oil disruptions as a significant threat is its large investment in a strategic petroleum reserve, which began in 2001 and is accelerating.⁶⁹ Whether China is motivated by the possibility of coercive U.S. disruptions or by other disruptions to the global oil supply is less clear.

Although U.S. security might be increased by the deterrent and compelling opportunities provided by China's oil vulnerability, there is also a significant downside to this potential advantage. China will be more insecure as a result and will pursue means to restore its security; the security dilemma implications are explored in the following section, and raise questions about whether the United States should compete to preserve its military advantages.

M3: CHINA-U.S. COMPETITION OVER ASIAN SLOCS

Oil dependence might be most dangerous for the United States if it brings the country into conflict with another major power. An underappreciated path along which this could occur is an oil-driven security dilemma between China and the United States. U.S. oil supplies are not vulnerable to interruption by China, but, as described above, China's imports are vulnerable to the U.S. Navy. Consequently, both China and the United States face this type of security dilemma, with the onus for the "next move"—which has arguably already begun—lying with China. This military competition and the associated political signals have the potential to generate a variety of peacetime and crisis dan-

67. Robert S. Ross, "China's Naval Nationalism: Sources, Prospects, and the U.S. Response," *International Security*, Vol. 34, No. 2 (Fall 2009), pp. 68–69, challenges the claim that China's oil imports create a national security requirement for protecting its sea-lanes, arguing that imported oil accounts for less than 10 percent of China's total energy usage. Other sources of energy, however, cannot be quickly or easily substituted for oil. See Michael Glosny and Phillip P. Saunders, "Correspondence: Debating China's Naval Nationalism," *International Security*, Vol. 35, No. 2 (Fall 2010), p. 163.

68. For preliminary analysis, see Rosemary Kelanic, "Fuel Requirements in Modern Conventional Conflicts," Working Paper (draft), Council on Foreign Relations, January 2013.

69. China plans to have close to 200 million barrels in its strategic reserve by the end of 2013, and approximately 500 million barrels by 2020. See Tim Daiss, "China's Strategic Petroleum Reserves Become an Oil Game Changer," *Energy Tribune*, August 28, 2012, <http://www.energytribune.com/11819/chinas-strategic-petroleum-reserves-become-an-oil-game-changer>.

gers.⁷⁰ The United States does not face other important cases in which this security dilemma mechanism plays a role; indeed, it does not have sufficiently strained political relations with any other oil-importing major power that feels the kind of import vulnerability that could fuel military competition.

China has been modernizing its navy for a couple of decades, but remains far from having the ability to challenge U.S. control of the SLOCs from the Persian Gulf to the Strait of Malacca, and the forces it could build in the medium term (ten to fifteen years) would still leave this mission well beyond its reach.⁷¹ The near-term focus and top priorities for China's naval modernization have been improving its ability to blockade Taiwan, and to deny and deter U.S. intervention in a Taiwan conflict. Beyond these top priorities, acquiring the ability to protect its SLOCs to the Persian Gulf is among the key rationales for China's naval modernization.⁷² Apparently, however, China's leaders are still deciding whether to devote massive resources to this mission.⁷³ Some analysts are concerned that China could start to challenge U.S. dominance in the Indian Ocean by developing a string of land-based capabilities from which it could both launch attacks and base naval forces; China has started to develop the type of base structure required for these capabilities.⁷⁴ In addition, China could try to weaken U.S. naval dominance by deploying sea-based assets that threaten, but do not match, U.S. forces—for example, a large attack submarine force—but eventually it would likely deploy aircraft carriers. Well before China's navy can reach effectively into the Indian Ocean, however, its efforts to protect Taiwan and its territorial claims in the East China and South China Seas will pose a threat to U.S. allies, including Japan.

The early stages of this security dilemma-driven competition are already

70. On this security dilemma specifically, see Avery Goldstein, "Parsing China's Rise: International Circumstances and National Attributes," in Robert S. Ross and Zhu Feng, eds., *China's Ascent: Power, Security, and the Future of International Politics* (Ithaca, N.Y.: Cornell University Press, 2008), pp. 82–83. On how political relations influence the severity of the security dilemma, see Charles L. Glaser, *Rational Theory of International Politics: The Logic of Competition and Cooperation* (Princeton, N.J.: Princeton University Press, 2010).

71. See Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities: Background and Issues for Congress* (Washington, D.C.: Congressional Research Service, March 23, 2012).

72. For recent Chinese statements on the growing importance of protecting its sea lines of communication, see Edward Wong, "Chinese Military Seeks to Extend Its Naval Power," *New York Times*, April 23, 2010.

73. Cortez A. Cooper, *The PLA Navy's 'New Historic Missions': Expanding Capabilities for a Re-emergent Maritime Power*, testimony presented before the U.S.-China Economic and Security Review Commission on June 11, 2009 (Arlington, Va.: RAND, 2009), p. 5; and Erickson and Goldstein, "Gunboats for China's New 'Grand Canals,'" pp. 59–63.

74. Robert D. Kaplan, "Center Stage for the Twenty-first Century: Power Plays in the Indian Ocean," *Foreign Affairs*, Vol. 88, No. 2 (March/April 2009), pp. 16–32.

playing out in growing concern over what the United States terms China's "antiaccess/area-denial" capabilities—forces designed to prevent the United States from operating close to China's shores that could provide China with the ability to protect oil traveling through the sea lines in the South China and East China Seas. The first aspect to note about this competition is that the two states want control of the same geographical space—China wants to reduce the U.S. ability to project power into the Western Pacific, especially near its coasts, and the United States wants to preserve its current capability; both cannot succeed. The United States views its power projection capabilities as strategically defensive—designed to meet its alliance and SLOC commitments—although they are operationally offensive. To ensure its access to oil, China needs to defeat these U.S. capabilities, and plans to achieve this objective with a mix of offensive and defensive operational capabilities. This is how a security dilemma over lines of communication plays out. As one recent study observes, "It will be impossible to separate China's desire to achieve sea control over the SLOCs from a threat to open navigation."⁷⁵

Second, a brief overview of China's plans and possible U.S. reactions makes clearer still the incompatibility of these opposing military strategies.⁷⁶ The purpose of China's antiaccess/area-denial strategy include slowing the deployment of U.S. forces into the region, preventing the United States (and possibly its allies) from operating effectively from regional bases, and pressuring U.S. forces—especially aircraft carriers—to operate beyond their effective range. To achieve these purposes, China could rely on, and in many cases is acquiring the capability for, seizing the initiative and launching preemptive attacks; attacking allied and U.S. airfields—eventually as far away as Guam; and threatening U.S. aircraft carriers with combined attacks by antiship cruise missiles, submarines, strike aircraft, and eventually ballistic missiles.

In response to China's development of these capabilities and their projected improvement over the next couple of decades, the United States is developing a strategy termed "AirSea Battle." Although AirSea Battle is still taking shape, the concepts that have been proposed as central components of the U.S. reaction (which we need to remember is in response to China's reaction to U.S. capabilities) consist of a variety of threatening capabilities. These include of-

75. Patrick M. Cronin and Robert D. Kaplan, "Cooperation from Strength: U.S. Strategy and the South China Sea," in Cronin, ed., *Cooperation from Strength: The United States, China, and the South China Sea* (Washington, D.C.: Center for a New American Security, 2012), p. 12.

76. Roger Cliff et al., *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States* (Santa Monica, Calif.: RAND, 2007); and Andrew F. Krepinevich, *Why AirSea Battle?* (Washington, D.C.: Center for Budgetary and Strategic Assessment, 2010).

fensive missile defense—that is, “counterforce operations before [the missiles] are launched”; a systematic antisubmarine warfare campaign that would include early operations inside the First Island Chain; targeting of high-value targets deep in China’s interior; and interruption of China’s trade—“during a large-scale conventional conflict, China’s seaborne trade flows would be cut off, with an eye toward exerting major stress on the Chinese economy and, eventually, internal stress.”⁷⁷ It seems obvious that the capabilities the United States is pursuing to offset China’s efforts to protect its SLOCs will appear threatening to China. More broadly, if the United States decides, as a recent prominent report on the South China Sea recommends, that “cooperation can best be advanced from a position of strength,” a strategy that it terms “cooperative primacy,”⁷⁸ then intensifying U.S.-China competition is the likely outcome. A variety of factors suggest that the U.S. buildup will not force China to back down. China places high value on the interests at stake—including, importantly, its ability to increase confidence in its access to imported oil. Also, China has the advantage of competing near its own periphery, and increasingly has the resources to engage in this type of competition.

U.S. reactions to China’s military buildup include not only concerns about diminished U.S. military capabilities, but also growing worries about China’s motives. The result could be a negative political spiral in which military actions and reactions lead both the United States and China to conclude that the other is more likely to be a greedy, hostile state. For example, in congressional testimony, the U.S. admiral who heads Pacific Command noted that “China’s interest in a peaceful and stable environment that will support the country’s development goals is difficult to reconcile with the evolving military capabilities that appear designed to challenge U.S. freedom of action in the region or exercise aggression or coercion of its neighbors, including U.S. treaty allies and partners.”⁷⁹ A recent report from the Center for Budgetary and Strategic Assessments, characterizing the challenge facing the United States, explained that “[a] roll-back of the PLA’s [People’s Liberation Army’s] military power is not the objective here. Nor is containment of China proposed. Rather, we

77. Jan Van Tol et al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, D.C.: Center for Budgetary and Strategic Assessment, 2010), pp. 51–51. This report points out that the United States is not currently planning to acquire all of the forces required for these missions. For a variety of more defensive measures, see Cliff et al., *Entering the Dragon’s Lair*, pp. 95–109.

78. Cronin and Kaplan, “Cooperation from Strength,” p. 6.

79. Adm. Robert F. Willard, testimony before the Senate Armed Services Committee on U.S. Pacific Command Posture, March 24, 2010, <http://www.armed-services.senate.gov/statemnt/2010/03%20March/Willard%2003-26-10.pdf>.

advocate simply offsetting the PLA's unprovoked and unwarranted military buildup."⁸⁰

These statements go beyond what an unbiased observer should impute from China's actions. China's military buildup would likely be taken by a state that was seeking only to protect its security and prosperity. Assessments that overlook China's incentives therefore exaggerate the negative information provided by its actions. Interactions fueled not only by the underlying security dilemma, but also by this type of misperception, have the potential to be particularly dangerous.⁸¹

Especially in combination with other possible strains in U.S.-China relations, a shift toward more negative assessments of each country's motives risks increasing the probability of crisis and war, including conflicts not directly related to oil. Most obviously, China could see the United States posing a larger threat to its goal of unification with Taiwan, which could further harden China's policies, including its deployment of antiaccess capabilities for preventing U.S. intervention in a China-Taiwan conflict. At the same time, the United States could become more determined to protect Taiwan, among other reasons because the importance of preserving its credibility for defending allies would grow with its assessment of China's greed.⁸² Consequently, although China's vulnerable oil dependence helps to drive this security dilemma, the increased probability of conflict could be over issues not directly related to oil.

M4: OIL, ALLIANCE ENTRAPMENT, AND THE EAST CHINA/SOUTH CHINA SEAS

The combination of alliance commitments and the increased value of territory could draw the United States into a conflict between Japan and China in the East China Sea. In this case, energy's effect is indirect—energy is not the rationale for the U.S.-Japan alliance, but could contribute to the outbreak of war between China and Japan.⁸³ A similar set of factors could draw the United States into a conflict in the South China Sea, although arguably the risks are smaller.

80. Van Tol et al., *AirSea Battle*, p. x.

81. Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton University Press, 1976), pp. 67–76.

82. On this logic in the deterrence model, see Jervis, *Perception and Misperception in International Politics*, chap. 3; and Charles L. Glaser, "Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models," *World Politics*, Vol. 44, No. 4 (July 1992), pp. 497–538.

83. For an optimistic assessment that resource-war logic will not pull the United States and China into a direct conflict, see Jonathan Kirshner, "Consequences of China's Economic Rise for Sino-U.S. Relations: Rivalry, Political Conflict, and (Not) War," in Ross and Feng, *China's Ascent*, pp. 249–255.

China and Japan have an ongoing dispute over their maritime boundary in the East China Sea and, related, over the Senkaku/Diaoyu Islands. The East China Sea contains potentially large oil and gas reserves; estimates of their size vary substantially, with the low end around 100 million barrels and the high end around 100 billion barrels.⁸⁴ China's and Japan's divergent views on their maritime boundary, which reflect self-serving interpretations of ambiguities in the United Nations Convention on the Law of the Sea, significantly influence how much of the East China Sea falls under their control and, more specifically, which petroleum reserves each owns. One particular oil and gas field—Chunxiao—has been the focus of much controversy, among other reasons because China is drilling close to the line that Japan claims divides this field, and Japan worries that China's operations could siphon resources from its side of the divide.⁸⁵ The maritime boundary dispute is intertwined with the countries' dispute over the Senkaku/Diaoyu Islands. This dispute is important not only because there may be substantial amounts of oil near the islands, but also because Japan's territorial claim significantly influences the location of the line it believes divides the East China Sea and increases the size of its exclusive economic zone.

Energy has played a central role in fueling controversy in the East China Sea. Neither Japan nor China focused much attention on its claims to the Senkaku/Diaoyu Islands until a 1968 UN survey found there could be significant amounts of petroleum near them.⁸⁶ The related dispute over the maritime border is long-standing, but did not become the focus of intense political disputes and military interactions until Japan reacted to China's growing oil and gas exploration in areas that Japan maintains are contested.⁸⁷ In 2008

84. Reinhard Drifte, "From 'Sea of Confrontation' to 'Sea of Peace, Cooperation, and Friendship?' Japan Facing China in the East China Sea," *Japan Aktuell*, Vol. 2 (2008), pp. 32–34; Mark J. Valencia, "The East China Sea Dispute: Context, Claims, Issues, and Possible Solutions," *Asian Perspective*, Vol. 31, No. 1 (2007), p. 128; and Energy Information Administration, "East China Sea" (Washington, D.C.: U.S. Energy Department, updated September 25, 2012) <http://www.eia.gov/countries/regions-topics.cfm?fips=ÉCS>.

85. Richard C. Bush, *The Perils of Proximity: China-Japan Security Relations* (Washington, D.C.: Brookings Institution Press, 2010), pp. 67, 75–81.

86. *Ibid.*, p. 71; Drifte, "From 'Sea of Confrontation' to 'Sea of Peace, Cooperation and Friendship?'" p. 29–30; and Erica Strecker Downs and Phillip C. Saunders, "Legitimacy and the Limits of Nationalism," *International Security*, Vol. 23, No. 3 (Winter 1998/99), p. 126.

87. Drifte, "From 'Sea of Confrontation' to 'Sea of Peace, Cooperation and Friendship?'" pp. 31–38. While energy has been important in bringing these controversies to a head, Japan and China have other interests at stake, which make resolving the disagreement still more difficult. For example, both countries believe that the islands have strategic value. See Bush, *The Perils of Proximity*, p. 65.

China and Japan reached an agreement on joint development of East China Sea petroleum resources, but since then have failed to work out specific issues required for its implementation.⁸⁸

Over the past couple of decades, low-level confrontations between China and Japan have resulted over both the island and maritime border disputes, with some increase in their frequency in recent years. Although the stakes do not appear to justify the risk of a large war, experts have long believed that these disputes are the most likely flash point between Japan and China and warn about the possibility of conflict.⁸⁹ The intensity of confrontation has increase since 2010, following the collision of Chinese and Japanese boats in the vicinity of the Senkaku/Diaoyu Islands, and especially since Japan nationalized three of the islets in the fall of 2012. Hostile interactions have escalated, leading the *Economist* to write in early 2013 that “China and Japan are sliding towards war.”⁹⁰

A conflict in the East China Sea could draw in the United States. Although the U.S. government does not take a position on these competing sovereignty claims, the U.S.-Japan security treaty commits it to Japan’s defense if conflict breaks out over these islands, because they are under Japanese administration and are therefore covered by the treaty. The United States reiterated this position in the fall of 2010, as controversy over the Senkaku/Diaoyu Islands increased.⁹¹ Consequently, the credibility of the U.S. commitment to Japan is now tightly linked to U.S. responses if fighting begins, which increases the probability of U.S. intervention.

The potential for conflict in the South China Sea parallels the East China Sea in a number of respects. China and its neighbors, including Vietnam and the Philippines, are involved in territorial and maritime disputes over the Spratly and Paracel Islands, and the surrounding waters. These disputes have led to military clashes.⁹² The importance the countries place on these claims grew substantially as the potential value of their oil and gas reserves increased.⁹³ The countries believe that the South China Sea contains large amounts of oil

88. Drifte, “From ‘Sea of Confrontation’ to ‘Sea of Peace, Cooperation, and Friendship?’”

89. Bush, *The Perils of Proximity*, pp. 64, 75, 81.

90. “Dangerous Shoals: The Senkaku/Diaoyu Islands,” *Economist*, January 19, 2013, pp. 12–14.

91. Mark Lander, “U.S. Works to Ease China-Japan Conflict,” *New York Times*, October 30, 2010.

92. Joshua P. Rowan, “The U.S.-Japan Alliance, ASEAN, and the South China Sea,” *Asian Survey*, Vol. 45, No. 3 (May/June 2005), pp. 419–429; and M. Taylor Fravel, “China’s Strategy in the South China Sea,” *Contemporary Southeast Asia*, Vol. 33, No. 3 (December 2011), pp. 292–319.

93. M. Taylor Fravel, “Power Shifts and Escalation: Explaining China’s Use of Force in Territorial Disputes,” *International Security*, Vol. 32, No. 3 (Winter 2007/08), pp. 74–76.

and gas, although estimates vary substantially; China's estimates of potential reserves are the largest, exceeding 100 billion barrels.⁹⁴ China is widely viewed as pursuing a more assertive policy in the South China Sea, although there is debate among experts over the extent to which this is actually the case.⁹⁵ Moreover, as in the East China Sea, disputes have flared recently in the South China Sea, especially between China and the Philippines.⁹⁶ The United States has a defense treaty and growing military ties with the Philippines; although there is some ambiguity in the extent of its commitment, the United States might well get drawn into a conflict between these countries. It could also get drawn into a conflict between China and Vietnam, although this is judged less likely, because the U.S. commitment is more limited and China-Vietnam relations are better than those between China and the Philippines.⁹⁷

M6: CHINA'S RELUCTANCE TO SANCTION IRAN

A country's oil dependence could reduce its willingness to adopt policies that would increase U.S. security, if those policies would damage the country's energy interests.⁹⁸ The clearest example may be the disagreement between the United States and China over sanctions targeted at stopping Iran's nuclear weapons program.⁹⁹

China has invested in large energy deals with Iran and now relies heavily on Iran for oil, which may be reducing its willingness to support sanctions. The United States favors harsh sanctions to convince Iran to shut down programs that will enable it to build nuclear weapons. China has consistently required that UN sanctions against Iran be significantly less severe than favored by the United States and its European allies. In addition, China has criticized unilateral U.S. sanctions that go beyond the UN sanctions. Energy interests are not China's only reason for opposing severe sanctions—others include the pri-

94. U.S. Energy Information Administration, "Analysis Brief: South China Sea," February 7, 2013, <http://www.eia.gov/countries/regions-topics.cfm?fips=SCS>.

95. For a range of views, see Cronin, *Cooperation from Strength*; and Lyle Goldstein, "Chinese Naval Strategy in the South China Sea: An Abundance of Noise and Smoke, but Little Fire," *Contemporary Southeast Asia*, Vol. 33, No. 3 (December 2011), pp. 337–343.

96. "U.S.: China's New Military Garrison Risks Escalation of Tensions in South China Sea," Associated Press, August 3, 2012.

97. Bonnie S. Glaser, "Armed Clash in the South China Sea" (New York: Council on Foreign Relations, April 2012), pp. 1–3.

98. Of course, imported oil is not unique in its ability to influence states; for example, Russia long resisted U.S. pressure to impose harsher sanctions on Iran, a stance sometimes attributed to Russia's economic interests in building Iran's Bushehr nuclear power plant.

99. On Chinese oil consumption and sanctions, see Eugene Gholz and Daryl G. Press, "Energy Alarmism: The Myths That Make Americans Worry about Oil," Policy Analysis No. 589 (Washington, D.C.: CATO Institute, April 2007), pp. 10–11.

ority it places on respecting states' sovereignty and possibly the lower priority that China places on nonproliferation, reflecting its lack of global power projection capabilities.¹⁰⁰ Nevertheless, energy interests appear to be a key factor.¹⁰¹ A significant and growing fraction of China's imported oil comes from Iran,¹⁰² and Chinese oil companies have demonstrated a continuing interest in investing in its oil and natural gas industries. China worries that support for sanctions would reduce its access to Iran's energy resources,¹⁰³ and therefore has worked to moderate their severity.

Why then, given its concern about Iran's reaction, does China not entirely oppose sanctions? A number of factors push China toward supporting them, including the increasing importance it places on stability in the Middle East, which could be jeopardized by nuclear proliferation, and the importance of preserving good relations with the United States, with which it shares much larger economic stakes.¹⁰⁴ The result of these countervailing factors has been China's seemingly reluctant support for even relatively modest sanctions.

The security cost to the United States of China's limited support for sanctions depends on two further debates that I merely flag here. First, there is an ongoing debate about the effectiveness of economic sanctions:¹⁰⁵ if sanctions are generally ineffective, or if they tend to be ineffective when the stakes for the state being coerced are very high, as is the case with Iran, then the limits that China's has imposed on UN sanctions are less costly, because even more severe sanctions would have been unlikely to succeed. Second, there is the debate over the danger posed by nuclear proliferation:¹⁰⁶ if proliferation in gen-

100. On the former, see Dingli Shen, "Iran's Nuclear Ambitions Test China's Wisdom," *Washington Quarterly*, Vol. 29, No. 2 (Spring 2006), pp. 58–59; on the logic of the latter, see Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, N.Y.: Cornell University Press, 2010).

101. Erica Downs and Suzanne Maloney, "Getting China to Sanction Iran," *Foreign Affairs*, Vol. 90, No. 2 (March/April 2011), pp. 15–21.

102. China imported more than 10 percent of its oil from Iran in 2011, making it the country's third largest source of imported oil. See U.S. Energy Information Administration, "China."

103. Ahmed Hashim, "China's Evolving Relationship with Iran," in Collins et al., *China's Energy Strategy*, pp. 178–180; and Shen, "Iran's Nuclear Ambitions Test China's Wisdom."

104. Erica S. Downs argues, in addition, that the costs of damaging relations with Iran may be smaller than is generally believed because, although China has signed large energy investment deals with Iran, it has not yet invested large resources. See Downs, "Beijing's Tehran Temptation," *Foreign Policy*, July 30, 2009, http://www.foreignpolicy.com/articles/2009/07/30/chinas_tehran_temptation.

105. See, for example, Robert A. Pape, "Why Economic Sanctions Do Not Work," *International Security*, Vol. 22, No. 2 (Autumn 1997), pp. 90–136; Daniel W. Drezner, "The Hidden Hand of Economic Coercion," *International Organization*, Vol. 57, No. 3 (Summer 2003), pp. 643–659; and Risa A. Brooks, "Sanctions and Regime Type: What Works, and When?" *Security Studies*, Vol. 11, No. 4 (Summer 2002), pp. 1–50.

106. See, for example, Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A De-*

eral is not dangerous, or if proliferation to Iran in particular is not very dangerous, then China's obstructionism poses smaller security costs to the United States.

Conclusion

Although concern about energy security has increased over the past couple of decades and most attention has focused on the Persian Gulf, the probability of oil-related conflict involving the United State has increased more in Northeast Asia than in the Gulf. Arguably, geopolitical changes—including the end of the Soviet Union, followed by the weakening and then elimination of Saddam Hussein's Iraq—have reduced the probability of a major regional war and, most importantly, an invasion of Saudi Arabia. Moreover, the Saudi regime appears stable, despite the political turmoil that has swept the region. In addition, the U.S. need to intervene in all but the most severe oil interruptions has been reduced by the development of its strategic petroleum reserve and by its increased energy efficiency.¹⁰⁷ The key countervailing factor is that a future nuclear Iran might be more willing to use force to close the Strait of Hormuz, and there are plausible scenarios in which the crisis triggered by the closure escalates to conventional, and possibly nuclear, conflict with the United States.

It is much clearer that the probability of oil-driven conflict has increased in Northeast Asia. China's shift over the past two decades from oil exporter to substantial oil importer, combined with the vulnerability of its SLOCs, is creating an increasingly severe security dilemma, which is already beginning to fuel negative political and military spirals that reduce the security of both China and the United States. There is also the possibility that the growing value of oil and gas, combined with increases in China's military capabilities and in its need for secure access to these energy resources, could make China more willing to use force to resolve island disputes in the East China and South China Seas. This in turn increases the probability that the United States will get drawn into such a conflict via its alliance commitments and its concern over its credibility for protecting allies. The magnitude of these dangers is potentially large because the United States would be fighting a major power.

Policies designed to increase U.S. energy security have focused on the impli-

bate Renewed (New York: W.W. Norton, 2003); S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford, Calif.: Stanford University Press, 2007); Barry R. Posen, "A Nuclear-Armed Iran: A Difficult but Not Impossible Policy Problem" (New York: Century Foundation, 2006); and Waltz, "Why Iran Should Get the Bomb."
107. On some of these points, see Yetiv, *Crude Awakenings*.

cations of the disruption of Persian Gulf oil. The standard policy prescriptions include reducing U.S. oil consumption—most importantly, by increasing the efficiency of the transportation sector and taxing gasoline—and cushioning the U.S. economy from disruptions—most importantly, by maintaining and possibly expanding its strategic petroleum reserve. These policies will further reduce pressures for the United States to use force when faced with a severe disruption of the flow of global oil. For all but the most severe disruptions, however, these measures are better understood as investments in U.S. prosperity than in U.S. security. The impact on the U.S. economy of moderate cutoffs, for moderate periods, will not be large enough to warrant military intervention and therefore do not threaten U.S. security.¹⁰⁸

Options for dealing with other energy-driven national security dangers lie largely beyond the reach of the standard prescriptions. Here I touch on a few of the key potential dangers explored in this article. Unless the United States can afford not to respond to severe disruptions of Persian Gulf oil, it will need to be prepared to protect the flow of oil through the Strait of Hormuz. In anticipation of a nuclear Iran, the United States needs a deterrence strategy that would reduce any Iranian emboldenment that nuclear weapons might generate.¹⁰⁹ It will also need to be prepared to fight a limited conventional conflict with a nuclear Iran. Among other challenges, the United States will need to explore the full range of ways in which its conventional operations could generate pressure for Iran to escalate to nuclear use.

Recognizing that the United States incurs these security dangers to protect its economy raises a still broader question, which has potentially dramatic policy implications: Is continuing to rely on and invest in military capabilities the United States' best option for protecting its economy from oil disruptions? Answering this question requires comparing the probability and cost to the U.S. economy of a large disruption in the global supply of oil to both the cost of maintaining the necessary military capabilities and the costs of alternate means of protecting the U.S. economy. This is a complicated analysis that goes beyond the scope of this article. Nevertheless, a couple of basic numbers suggest that the question deserves careful study.

Although most economists believe that oil shocks have played an important role in many, or even all, of the recessions the United States has suffered since

108. Gholz and Press, "Protecting 'The Prize.'"

109. On this issue, see Colin H. Kahl, Raj Pattani, and Jacob Stokes, *If All Else Fails: The Challenges of Containing a Nuclear-Armed Iran* (Washington, D.C.: Center for a New American Security, May 2013).

the 1970s,¹¹⁰ estimates of the economic costs to the United States of a severe, sustained oil disruption span a wide range. Variation in estimates of the impact of a future sudden supply reduction on U.S. GDP reflect, among other things, the complexity of some previous oil shocks, which occurred during periods when macroeconomic policies or other shocks were also affecting U.S. inflation and GDP; the complexity of the U.S. economy, which makes tracing the impact of increased oil prices challenging; and reductions in U.S. energy intensity since the 1970s, which reduces the impact of future disruptions.¹¹¹

Drawing on these estimates, a recent study finds that a 10 percent reduction in the global supply of oil (which would amount to approximately 9 million barrels per day and is on the scale of a huge disruption of Persian Gulf oil) would result in a doubling of oil prices, which would, in turn, reduce U.S. GDP by between 1 and 5 percent.¹¹² Given the current U.S. GDP, the estimates translate into reductions of between \$150 and \$750 billion. A recent study that compares the 1970s' oil shocks to later shocks finds that the impact of such shocks has decreased, among other reasons because of reductions in U.S. energy intensity, and therefore suggests that the impact of a future major disruption would lie toward the lower end of this range.¹¹³ Future reductions in energy intensity promise to further reduce the impact.

In addition, few plausible sustained oil disruptions would be nearly so large or prolonged. Moreover, because the United States could use its strategic petroleum reserve, in coordination with other major oil-importing countries, to replace most or all of the lost oil, the costs should be much smaller. Existing oil reserves should be able to offset even a massive cutoff of oil for many months, thereby greatly moderating price increases and in turn reductions in U.S. GDP.

110. See James D. Hamilton, "Causes and Consequences of the Oil Shock of 2007–08," *Brookings Papers on Economic Activity*, Vol. 40, No. 1 (Spring 2009), pp. 215–283. This paper includes comments and discussion offered by a variety of experts.

111. In addition to Hamilton, "Causes and Consequences of the Oil Shock of 2007–08," see Olivier J. Blanchard and Jordi Gali, "The Macroeconomic Effects of Oil Shocks: Why Are the 2000s So Different from the 1970s?" NBER Working Paper, No. 13368 (Cambridge, Mass.: National Bureau of Economic Research, September 2007); and Lutz Kilian, "Exogenous Oil Supply Shocks: How Big Are They and How Much Do They Matter for the U.S. Economy?" *Review of Economics and Statistics*, Vol. 90, No. 2 (May 2008), pp. 216–240. For analysis arguing that the conventional wisdom greatly exaggerates the economic costs of disruptions and that the costs of most disruptions would be too small to warrant U.S. military intervention, see Gholz and Press, "Protecting 'The Prize.'" Gholz and Press emphasize the market's ability to adapt to disruptions. Econometric studies include this adaptation in their estimates of the contribution of oil shocks to U.S. recessions.

112. Crane et al., *Imported Oil and U.S. National Security*, pp. 19–21. Previous key oil shocks have involved peak reductions in global supply of 6–9 percent and average reductions over the period of the shock of 1–4 percent; the associated price increases ranged from roughly 25 percent to 70 percent. See Hamilton, "Causes and Consequences of the Oil Shock of 2007–08," pp. 220–224.

113. Blanchard and Gali, "The Macroeconomic Effects of Oil Shocks."

Estimates of the probability of such a cutoff are highly subjective, but the scenarios that could generate costs in this range—which likely include only those involving large cutoffs of Saudi oil—suggest that the annual probability is low.

Estimates of the incremental annual cost to the U.S. defense budget for protecting the supply and transit of Persian Gulf oil range from around \$30 billion per year to more than \$80 billion per year.¹¹⁴ These costs appear to lie within the range of the expected cost (i.e., the probability multiplied by the cost) of a major oil disruption.

In short, while any firm conclusion would require a full study of these complex issues, an initial eyeballing of the numbers suggests that the possibility of radical changes in U.S. policy should be put on the table.¹¹⁵ A major shift in U.S. grand strategy—which would end the U.S. military commitment to preserving the flow of Persian Gulf oil, possibly combined with increased investment in energy efficiency and an enlarged strategic petroleum reserve—appears much more plausible than both the long-standing grand strategy debate and U.S. policy suggest.

Beyond the Persian Gulf, a number of complicated oil related issues involve China. Because SLOC protection requires both China and the United States to be able to control the same territory/space, there is likely not a military-technical solution to this security dilemma. Little opportunity exists for international cooperation to reduce these military pressures, which are created by the U.S. ability to interrupt the flow of oil. In contrast to cooperation that countries have pursued via the International Energy Association, which involves coordinating their reactions to oil disruptions, in this case the United States would be responsible for the disruption, making this type of cooperation irrelevant. Consequently, efforts to moderate the potential dangers will have to focus on other aspects of the security dilemma.

Most closely related to energy, policies that reduce China's sensitivity to oil disruptions would reduce pressures for the Chinese to acquire forces for protecting their SLOCs, thereby moderating the security dilemma and possibly increasing U.S. security as well as China's. I say "possibly" because even though the United States would benefit from China's increased security, it would simultaneously suffer a reduction in its ability to coerce China. The net effect would depend on China's motives and goals. If China is driven primarily by

114. Duffield, *Over a Barrel*, chap. 6; and Crane et al., *Imported Oil and U.S. National Security*, chap. 5.

115. For ongoing research that focuses on the Persian Gulf, see Charles L. Glaser and Rosemary Kelanic, eds., "Crude Calculus: Reexamining the Energy-Security Logics of America's Military Presence in the Persian Gulf," unpublished manuscript, 2013.

its desire for security, and relatively little by a desire to change the status quo in Northeast Asia, then its increased security will increase U.S. security more than reductions in U.S. coercive potential will reduce it. Probably the most effective option available to China for reducing its sensitivity to disruptions is continued expansion of its strategic petroleum reserve. This reserve should be able to provide China with protection against oil cutoffs during at least short and medium-length conflicts. Increasing efficiency in its transportation sector, which China has made a high priority, would also reduce the impact of supply disruptions, but would not nearly offset the increasing demand generated by China's economic growth.¹¹⁶

Beyond these energy-related possibilities, the key to moderating the security dilemma lies in the political dimension of the U.S.-China relationship. If the United States can pursue other military or foreign policies that reduce the threat it poses to China, thereby communicating its benign motives, the result can be improved political relations that in turn reduce the danger that China sees in the vulnerability of its SLOCs. The challenge, of course, is to identify policies that continue to adequately protect U.S. interests. Possibilities include limiting the scope and intensity of the United States' rebalancing strategy toward the Pacific, reducing the U.S. commitment to Taiwan, and restraining U.S. strategic nuclear policy as China modernizes its nuclear forces. Whether any of these policy shifts is warranted goes beyond the scope of this article. My point here is simply that the United States needs to analyze a wide range of options for dealing with the insecurity generated by China's growing energy consumption and its continuing SLOC vulnerability.

In closing, this article has shown that countries' reliance on oil has wide-ranging economic and national security implications. In large part, this scope reflects the critical role that oil continues to play in modern economies. In an era in which territory has become far less important for producing both wealth and security, territory that contains oil or controls access to it remains something of an exception. Understanding the potential for conflict involving the United States requires appreciating how oil interacts with already complex regional environments, whether in the Persian Gulf, the sea lines running to Northeast Asia, or the seas bordering China. Adding an energy lens provides a fuller understanding of the challenges the United States must navigate in each of these regions.

116. Ian Johnson and Keith Bradsher, "China's Rise Complicates Goal of Using Less Energy," *New York Times*, September 16, 2010.