Fueling the Fire

Pathways from Oil to War

Jeff D. Colgan

What roles do oil and energy play in international conflict? In public debates, the issue often provokes significant controversy. Critics of the two U.S.-led wars against Iraq (in 1991 and 2003) charged that they traded "blood for oil," and that they formed a part of an American neo-imperialist agenda to control oil in the Middle East. The U.S. government, on the other hand, explicitly denied that the wars were about oil, especially in 2003. U.S. Secretary of Defense Donald Rumsfeld argued that the war "has nothing to do with oil, literally nothing to do with oil," a theme echoed by White House Press Secretary Ari Fleischer.[1]

Political scientists have had remarkably little to say on the issue. Realist analyses of the causes of war, even those that specifically highlight the ability of states to acquire or extract resources, tend to say very little about oil and energy.[2] Among the few scholars who do focus on the issue, there is little agreement. Some argue that "resource wars" are frequent and that oil plays a major causal role.[3] Others cast doubt on the importance of such wars, pointing to the lack of systematic evidence.[4] Policy analysts tend to focus narrowly on "en-

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1. Quoted in Doug Stokes, "Blood for Oil? Global Capital, Counter-insurgency, and the Dual Logic of American Energy Security," *Review of International Studies*, Vol. 33, No. 2 (April 2007), p. 245.
2. Stephen Van Evera, *Causes of War: Power and the Roots of Conflict* (Ithaca, N.Y.: Cornell University Press, 1999); and Jeffrey W. Taliaferro, "State Building for Future Wars: Neoclassical Realism and the Resource-Extractive State," *Security Studies*, Vol. 15, No. 3 (July/September 2006), pp. 464–495.
3. Michael T. Klare, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy* (New York: Metropolitan, 2008); Michael T. Klare, *Blood and Oil: The Dangers and Consequences of America's Growing Dependency on Imported Petroleum* (New York: Metropolitan, 2004); Thomas F. Homer-Dixon, *Environment, Scarcity, and Violence* (Princeton, N.J.: Princeton University Press, 1999); John W. Maxwell and Rafael Reuveny, "Resource Scarcity and Conflict in Developing Countries," *Journal of Peace Research*, Vol. 37, No. 3 (May 2000), pp. 301–322; Daniel Moran and James Avery Russell, *Energy Security and Global Politics: The Militarization of Resource Management* (New York: Routledge, 2009); and Stokes, "Blood for Oil?"
4. Nils Petter Gleditsch, "Armed Conflict and the Environment: A Critique of the Literature," *Journal of Peace Research*, Vol. 35, No. 3 (May 1998), pp. 381–400; David G. Victor, "What Resource Wars?" *National Interest*, November 12, 2007, http://nationalinterest.org/article/what-resource-wars-1851; Emily Meierding, "Oil in Interstate Conflict: One More Thing to Fight About," paper

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ergy security" as defined by reliable access to fuel supplies, while missing the broader relationships between energy and security.[5] Systematic analyses of these relationships are rare.[6]

The stakes in this debate are high. If scholars and policymakers do not understand whether and why oil leads to war and international conflict, they are unlikely to avoid such wars in the future or craft intelligent foreign policy. Policymakers cannot appropriately confront the trade-offs in designing grand strategy, allocating military resources, or shaping domestic energy policy without grasping both the proximate and root causes of modern conflicts. Yet the knowledge gap persists. Even years after the 2003 Iraq War, there is still no consensus on the degree to which oil played a role in that war.[7] The debate continues in part because oil does not have a single, simple effect, and no systematic framework has been available for understanding the multiple ways in which oil could play a causal role.

I argue that while the threat of "resource wars" over possession of oil reserves is often exaggerated, the sum total of the political effects generated by the oil industry make it a leading cause of war in the modern era. This assessment is backed by empirical evidence that suggests that oil is frequently a contributing cause of the onset or conduct of modern international conflict. Simply put, oil is too important to be neglected in the study of international security. Yet this does not mean that the world is overrun with resource wars. In

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presented at the International Studies Association annual meeting, San Francisco, California, April 6, 2013; and Indra de Soysa, Erik Gartzke, and Tove Lie, "Oil, Blood, and Strategy," unpublished manuscript, 2011.

5. John M. Deutch and James R. Schlesinger, *National Security Consequences of U.S. Oil Dependency* (New York: Council on Foreign Relations, 2006); and Keith Crane et al., *Imported Oil and U.S. National Security* (Santa Monica, Calif.: RAND, 2009). For critiques of a narrow approach, see Andreas Goldthau and Jan Martin Witte, "From Energy Security to Global Energy Governance," *Journal of Energy Security*, March 2010, http://www.ensec.org/index.php?option=com_content&view=article&id=234:from-energy-security-to-global-energy-governance&catid=103:energysecurity issuecontent&Itemid=358; Benjamin K. Sovacool, *The Routledge Handbook of Energy Security* (London: Routledge, 2011); and Ann Florini and Navroz K. Dubash, "Introduction to the Special Issue: Governing Energy in a Fragmented World," *Global Policy*, Vol. 2, Suppl. S1 (September 2011), pp. 1–5.

6. Some exceptions are John Duffield, *Over a Barrel: The Costs of U.S. Foreign Oil Dependence* (Stanford, Calif.: Stanford Law Books, 2007); Eugene Gholz and Daryl G. Press, "Protecting 'The Prize': Oil and the U.S. National Interest," *Security Studies*, Vol. 19, No. 3 (July/September 2010), pp. 453–485; Llewelyn Hughes and Phillip Y. Lipscy, "The Politics of Energy," *Annual Review of Political Science*, Vol. 16, No. 1 (2013), pp. 449–469; Charles L. Glaser, "How Oil Influences U.S. National Security: Reframing Energy Security," *International Security*, Vol. 38, No. 2 (Fall 2013), pp. 112–146; and Rosemary A. Kelanic, *Black Gold and Blackmail: The Politics of International Oil Coercion*, Ph.D. dissertation, University of Chicago, 2012.

7. Stokes, "Blood for Oil?"; Robert Kagan, *The Return of History and the End of Dreams* (New York: Random House, 2008); and Frank P. Harvey, *Explaining the Iraq War: Counterfactual Theory, Logic, and Evidence* (New York: Cambridge University Press, 2011).

the debates about the wars against Iraq in 1991 and again in 2003, both sides focused excessively on the extent to which the war was fought over possession of Iraq's (or Kuwait's) oil reserves, rather than seeking a broader understanding of how oil shaped the causal preconditions for war.

To further that understanding, this article has three goals. First, I offer a framework for identifying and understanding the multiple causal mechanisms through which oil affects international security. My aim is to identify the mechanisms that are the basic building blocks of theory; an additional step, beyond the scope of this article, is needed to create testable hypotheses that stipulate the conditions under which each mechanism becomes activated. Second, I probe the plausibility of the causal mechanisms by offering empirical examples of each one and a systematic assessment of how the mechanisms played a role in interstate wars from 1973 to 2007. I do not aim to provide comprehensive testing or detailed case studies, but enough evidence to justify more extensive research. Third, I argue that the oil-security relationship needs to be reinterpreted and viewed far more broadly than it traditionally is. The idea of resources wars typically captures the lion's share of the attention, but it is only one of many plausible causal connections.

I specify three broad pathways leading from oil to international conflict, each of which encapsulates a number of specific causal mechanisms. The first pathway, "ownership and market structure," includes causal mechanisms in which actors seek to alter the structure of the global oil industry to suit their interests. The second pathway, "producer politics," captures the means by which oil income alters the incentives of actors inside oil-producing states in ways that lead to violent conflict across borders. The third pathway focuses on "consumer access concerns," in which states try to manage the uncertainties and demands of their economic and military requirements for oil. These multiple pathways reflect the complexity of the issue and the wide reach of oil politics for both consumers and producers. All three pathways can lead to conflict among major powers as well as with minor powers, illustrating the importance of thinking about energy security in ways that go beyond traditional concerns of oil supply.

Strikingly, I find that between one-quarter and one-half of interstate wars since the beginning of the modern oil age in 1973 are connected to one or more of these oil-related causal mechanisms. No other commodity has this kind of impact on international security. Arguably no other single economic factor, with the exception of territorial acquisition, plays as significant a role in international conflict as oil does. I hasten to add that not all of these wars are caused by oil, nor is oil the only causal factor in any of them. Nonetheless, the

oil industry has shaped the course of many wars in important ways. Shipping lanes, pipelines, oil-funded insurgencies, and scarcity concerns in consumer states are all potential sources of international conflict. Oil can cause or exacerbate conflict even in locations quite remote from its production source.

I examine the causal mechanisms in light of a series of transitions under way in global energy markets, of which three are crucial. The first is the shift in patterns of global oil production away from traditional suppliers in the Middle East and toward (1) unconventional oil reserves in North America and (2) new suppliers of conventional oil, especially in Africa. By one estimate, as many as sixteen developing countries will become oil exporters in the near future, potentially creating a new swath of international security concerns.[8] Second, the age of low oil prices in the 1990s and early 2000s has given way to a new period of higher and more volatile prices, which alters the magnitude of the consequences one can expect from oil-conflict linkages. Third, the relative decline of U.S. hegemony and the rise of China and other developing states have attendant consequences for the provision of public goods such as security of shipping lanes and pipelines. I explore the significance of these transitions for the causal pathways articulated in this article, illustrating the sometimes surprising strategic consequences.

This study concentrates on the role of oil rather than on other energy sources, because oil is the natural starting point for any analysis of energy and international affairs.[9] The magnitude of its impact is greater than that of any other resource, in part because oil is by far the most valuable commodity traded on global markets (as measured by the total value of exports and imports). Unlike natural gas, coal, or uranium, oil is also a strategic resource without easy substitutes, especially in the transportation sector. Further, the market for oil is truly global, in that supplies from one region can be shifted to another relatively easily, which is not necessarily true of other fuels, especially natural gas. These differences between oil and other energy sources create potential sources of heterogeneity in the analysis. Thus, while it is possible that other energy sources play important roles in international affairs, some of which may be akin to the roles played by oil, I focus solely on oil in this article.

8. Michael L. Ross, *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations* (Princeton, N.J.: Princeton University Press, 2012), p. 10.

9. For an analysis of the geopolitics of natural gas, see Amy Myers Jaffe and Meghan L. O'Sullivan, "The Geopolitics of Natural Gas" (Cambridge, Mass.: Geopolitics of Energy Project, Belfer Center for Science and International Affairs, Harvard Kennedy School, July 2012); William Hogan, "Energy," *National Strategy Forum Review*, Vol. 17, No. 3 (Summer 2008), pp. 24–27; and David Victor, Amy Myers Jaffe, and Mark Hayes, *Natural Gas and Geopolitics: From 1970 to 2040* (New York: Cambridge University Press, 2006).

The same rationale applies *a fortiori* to non-energy natural resources. As I show below, oil's role is sufficiently complex and important to justify this attention.

The article proceeds as follows. The first section provides an overview of the three causal pathways. The second section describes each of the mechanisms in some detail, providing empirical examples and considering how the mechanisms might operate in light of the major geopolitical transitions under way. The third section systematically considers the extent to which these mechanisms have been present in recent interstate wars, including the U.S. military interventions in Iraq and Afghanistan. The conclusion summarizes the argument and briefly considers its policy implications.

Overview of the Causal Pathways

Table 1 summarizes three causal pathways from oil to international conflict: ownership and market structure, producer politics, and consumer access concerns. The three pathways are designed to be collectively comprehensive while minimizing the overlap between them. The first pathway bears directly on the question of who is a consumer and who is a producer, and the terms of the relationship between them. The other two pathways are associated with each type of state's interests. Each pathway encompasses a number of specific mechanisms. The mechanisms are loosely ordered within each pathway, with oil being most to least central to the potential conflict.

Table 1 offers the first comprehensive inventory of causal pathways and mechanisms linking oil to international armed conflict.[10] Naturally, future research could identify new causal mechanisms. Nonetheless, this catalog of causal pathways and mechanisms is meant to help guide the thinking of scholars and policymakers about the impact of oil politics on the probability and nature of international conflict.

Some broad considerations are necessary before delving into the details of each mechanism. From the perspective of any individual state, most of the eight causal mechanisms identified in table 1 exist in three forms. Consider an American perspective. First, a causal chain operates in a direct form, with the United States as the subject: for example, U.S. actions in the South China Sea could raise Chinese perceptions of threat, leading to elevated tensions and potential conflict. Second, a causal chain operates in a reverse form, in which a rival's activities provoke the United States: for example, Chinese actions raise

10. Charles Glaser offers a very useful analysis of the causal role of oil in various threats to U.S. national interests. See Glaser, "How Oil Influences U.S. National Security."

Table 1. Causal Pathways from Oil to International Conflict

Label	Causal Mechanism	Example
	Ownership and Market Structure	
Resource Wars	Oil reserves (or perceived oil reserves) raise the payoff to territorial conquest.	Iraq-Kuwait, 1990; Chaco War; Japan, 1941
Risk of Market Domination	Conquest of (or threat) to key territories in oil market creates a risk for another state, often an importer, causing the state(s) to intervene.	U.S.-Iraq, 1991
Oil Industry Grievance	Presence of foreign workers in a petrostate creates grievances for state or nonstate actors.	Al-Qaida; Iran hostage crisis
	Producer Politics	
Petro-aggression	Oil reduces the domestic accountability of petrostate leaders, lowering the risks of instigating wars.	Iraq-Iran; Libya-Chad-Egypt
Petro-insurgency	Oil income provides finances for foreign nonstate actors to wage war.	Iran-Hezbollah; Saudis in Afghanistan
Externalization of Civil Wars in Petrostates	Oil creates conditions for civil war, which then leads to foreign intervention, externalization, or spillover.	Libya-NATO; Angola-Cuba; Sudan-Chad
	Consumer Access Concerns	
Transit Route	States' efforts to secure transit routes for oil create a security dilemma that produces or exacerbates conflict.	Sudan; South China Sea; Strait of Hormuz
Obstacle to Multilateralism	Importers' efforts to curry favor with petrostate prevent multilateral cooperation on security issues.	U.S.-China friction over Iran, Sudan

U.S. perceptions of threat, leading to elevated tensions and potential conflict. Third, a causal chain operates in an indirect form, in which an ally's actions (or actions taken against an ally) drag the United States into conflict following a classic pattern of chain-ganging: for example, Japanese or Taiwanese actions to secure shipping lanes in the South China Sea raise Chinese threat perceptions, ultimately leading to conflict with the United States and its allies.[11] Of course, this triplicate form of the causal chain is not feasible for all eight causal chains

11. On the phenomenon of chain-ganging, see Thomas J. Christensen and Jack Snyder, "Chain Gangs and Passed Bucks: Predicting Alliance Patterns in Multipolarity," *International Organization*, Vol. 44, No. 2 (Spring 1990), pp. 137–168.

(for example, only an oil-producer can experience petro-aggression). Still, the key point is that one must consider not only the causal mechanisms that might lead a given state into conflict, but also the causal chains that might affect its allies and rivals.

Table 1 excludes at least two additional ways in which oil might have a causal impact on interstate conflict. First, it omits indirect causal chains, such as the role of oil in causing climate change, which in turn could cause armed conflict.[12] Second, this article does not consider the role of oil in shaping the tactical operations of war, even though it clearly can play a significant role. For instance, German U-boats sought to deprive Britain of shipments of oil and other vital supplies in World War II, and fuel shortages constrained German military tactics at Stalingrad and El Alamein.[13] Oil can also play a role as a military technology: in the Battle of Britain, the Royal Air Force had access to higher-octane fuel than its German opponents, allowing its planes to achieve higher speed and mobility.[14] Many of these topics are worthy of additional study, but such research lies beyond the scope of this article.[15]

Causal Pathways in Operation

Each of the eight causal mechanisms identified in table 1 can now be explored in detail.

FIRST PATHWAY: OWNERSHIP AND MARKET STRUCTURE

Broadly, the first pathway through which oil can cause international conflict is by acting as an incentive to various actors to alter the structure of the global oil industry to suit their interests. There are three mechanisms by which actors might do this: engaging in resource wars, fighting over potential market domination, and responding to grievances associated with the structure of the oil industry.

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12. Joshua W. Busby, "Who Cares About the Weather? Climate Change and U.S. National Security," *Security Studies*, Vol. 17, No. 3 (July 2008), pp. 468–504; Geoffrey D. Dabelko et al., eds. *Backdraft: The Conflict Potential of Climate Change Adaptation and Mitigation*, Environmental Change and Security Program Report (Washington, D.C.: Woodrow Wilson International Center for Scholars, 2013); and Jaroslav Tir and Douglas M. Stinnett, "Weathering Climate Change: Can Institutions Mitigate International Water Conflict?" *Journal of Peace Research*, Vol. 49, No. 1 (January 2012), pp. 211–225.
13. Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Free Press, 2008).
14. Ibid.
15. I focus primarily on how oil affects states' major strategic choices, such as the initiation of war or key decisions about its conduct (e.g., which territories to occupy or whether and how to initiate an embargo).

MECHANISM #1: RESOURCE WARS. The first mechanism is the most obvious and widely discussed causal link between oil and international conflict: resource wars. Oil is a highly valuable, lootable commodity, meaning it can be exploited relatively easily and profitably by a new owner. The presence or perception of oil reserves therefore creates a significant incentive for conquest of the associated territory. The opportunity to capture oil reserves is unlikely to be the only reason for war, but a conflict can be classified a resource war when oil offers a significant incentive for territorial conquest.

One example of a resource war is the Iraqi invasion of Kuwait in 1990. Saddam Hussein likely had multiple motivations for invading Kuwait, not least of which was a desire to eliminate the massive debt he owed the Kuwaitis as a result of the Iran-Iraq War. Still, the opportunity to seize control of Kuwait's oil fields and extend Iraq's influence over the Organization of the Petroleum Exporting Countries (OPEC) was a powerful incentive for an invasion. Other examples include the Japanese invasion of Indonesia in World War II, the British invasion of Mesopotamia at the end of World War I, and possibly the Iran-Iraq War, when Iraq invaded Iran's oil-rich territory.

Note that it is perceived oil reserves that matter for resource wars, not actual oil reserves. The magnitude of underground reserves is inherently uncertain, and resource wars can occur even when no oil exists.[16] This is what happened in the 1932–35 Chaco War, when Bolivia and Paraguay fought over territory that was believed to have oil reserves, but which subsequent exploration showed to be basically devoid of petroleum.[17] Yet the actual reserves were less important than the perceived reserves, because it was the latter that raised the stakes of the conflict and the potential payoff to victory. More recently, a low-level conflict is ongoing in the Caspian Sea region, in which the littoral states dispute the zones of control in part because valuable oil and gas deposits are believed to exist. In the course of this dispute, Iranian armed forces have fired on foreign ships conducting exploration activities in the Caspian.

"Scarcity wars" might be considered an important subset of resource wars.

16. Modern technology has improved the accuracy of oil reserves estimates, but this does not erase uncertainty about them. In part, uncertainty remains because modern technology is useless if politics do not allow for it be employed, if sovereignty is contested, and/or if secrecy is important to powerful actors. There are several areas of the world where there is considerable uncertainty about oil reserves (e.g., the Caspian Sea, the South China Seas, and the disputed Senkaku/Diaoyu Islands between Japan and China). Moreover, industry analysts are highly dubious of the oil reserve estimates of several OPEC members, because they suddenly and dramatically increased during the 1980s and then have held constant ever since—in sharp contrast to the rest of the world, where better information is available and estimates of oil reserves fluctuate considerably.
17. Waltraud Q. Morales, *A Brief History of Bolivia* (New York: Facts on File, 2003).

Unlike resource wars, which can be motivated by greed, scarcity wars are necessarily driven by intense, immediate oil shortages. Japan's actions in World War II qualify it as a scarcity conflict.[18] Moreover, while access to resources probably played only a small role in Germany's initial decision to instigate World War II, scarcity concerns certainly drove some of its strategy and military campaigns, particularly Germany's drive toward the oil-rich Caucasus region.[19]

Despite these examples, scholars and analysts question the idea that resource wars are common.[20] Many states produce oil without suffering international invasions, and many international interventions occur for reasons that have nothing to do with oil. Systematic evidence on resource wars is lacking.[21] Moreover, Eugene Gholz and Daryl Press argue that, at least since 1973, the market provides a reliable mechanism for obtaining oil, and thus countries do not need to own oil to ensure access to supply.[22]

Yet resource wars do occur in at least some circumstances; two incentives contribute to states' entry into such wars. One incentive is profit. Iraq's invasion of Kuwait to seize its oil fields is an example of a war fueled by this incentive, though again I emphasize that it was not the only reason for the war. The second incentive is to secure access to oil supplies during times of political or military conflict. This latter incentive is responsible for scarcity wars. Although Gholz and Press show that the market is more resilient to oil shocks than most people understand, it is still the case that a state can perceive major threats to its oil supply. Faced with such a threat (real or exaggerated), the state could feel compelled to take costly actions, even launch a war, to secure access to oil. Japan's response to the U.S. oil embargo of 1941 is the clearest example, contributing to its motivation for a military invasion of Southeast Asia.

Overall, the existing literature has yet to identify testable hypotheses about when and under what conditions resource wars occur. In addition, Nils Petter Gleditsch is correct that systematic empirical evidence about the frequency of such conflicts is lacking.[23] Recent research has begun to address this gap. For instance, I find that petrostates are the targets of (i.e., defenders in) about 30 percent more militarized interstate disputes than non-petrostates on aver-

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18. James William Morley, *The Fateful Choice: Japan's Negotiations with the United States* (New York: Columbia University Press, 1980).
19. Joel Hayward, "Hitler's Quest for Oil: The Impact of Economic Considerations on Military Strategy, 1941–42," *Journal of Strategic Studies*, Vol. 18, No. 4 (December 1995), pp. 94–135.
20. Gleditsch, "Armed Conflict and the Environment"; Victor, "What Resource Wars?"; Meierding, "Oil in Interstate Conflict"; and de Soysa, Gartzke, and Lie, "Oil, Blood, and Strategy."
21. Gleditsch, "Armed Conflict and the Environment."
22. Gholz and Press, "Protecting 'The Prize.'"
23. Gleditsch, "Armed Conflict and the Environment."

age, though that aggregate result may be driven by other factors such as the "bad neighborhood" effect of the conflict-prone Middle East.[24] Much work needs to be done to identify the extent to which resource wars are at the root of the elevated aggregate conflict rate of petrostates, as opposed to other possible explanations for the phenomenon.

Are resource wars likely to occur in the future? In popular discourse, the notion of a scramble for scarce resources, particularly in Africa, has gained considerable currency in recent years.[25] Moreover, China's rapid economic rise and its undeniable thirst for oil and natural resources have led many observers to worry about the potential for a large-scale war between global powers over access to oil and other resources.[26] Skeptics have pointed out that such wars are rare, and at least some scholars think that wars over energy resources are less likely in the future.[27] Others add that the incidence of territorial conquest in general is growing rarer.[28] Yet Iraq's invasion of Kuwait was not so long ago by historical standards, and it seems hasty to conclude that resources would not help motivate such a war again. Even if land borders are becoming increasingly settled, disputes over undersea resources in the Caspian or South China Seas seem all too plausible. Analysts still have a lot to learn about the conditions under which resource wars occur. One condition, however, follows straightforwardly: the incentive for conquest rises as the relative value of oil rises. Given the significant increases in the price of oil observed in the last decade, there is fresh urgency in understanding these conflicts.

MECHANISM #2: RISK OF MARKET DOMINATION. The second mechanism linking oil to war operates through the risk of market domination. This mechanism is related to, but distinct from, the motivation behind classic resource

24. Jeff D. Colgan, "Oil and Revolutionary Governments: Fuel for International Conflict," *International Organization*, Vol. 64, No. 4 (October 2010), p. 665. In this previous article, I defined a petrostate as a state in which revenues from net oil exports constitute at least 10 percent of gross domestic product (GDP) in a given year. I use the term somewhat more loosely in the current article to mean any state with considerable oil production.

25. John Ghazvinian, *Untapped: The Scramble for Africa's Oil* (Orlando, Fla.: Houghton Mifflin Harcourt, 2008); and William F. Engdahl, *A Century of War: Anglo-American Oil Politics and the New World Order* (London: Pluto, 2004).

26. Evan Osnos, "The Coming Fight for Oil," *Chicago Tribune*, December 16, 2006; Klare, *Rising Powers, Shrinking Planet*; Stephen C. Pelletière, *America's Oil Wars* (Westport, Conn.: Praeger, 2004); and Abdulhay Yahya Zalloum, *Oil Crusades: America through Arab Eyes* (London: Pluto, 2007).

27. Clifford E. Singer, *Energy and International War: From Babylon to Baghdad and Beyond* (Hackensack, N.J.: World Scientific, 2008).

28. John Mueller, *Retreat from Doomsday: The Obsolescence of Major War* (New York: Basic Books, 1989); Mark W. Zacher, "The Territorial Integrity Norm: International Boundaries and the Use of Force," *International Organization*, Vol. 55, No. 2 (Spring 2001), pp. 215–250; and Joshua S. Goldstein, *Winning the War on War: The Decline of Armed Conflict Worldwide* (New York: Dutton Adult, 2011).

wars. In resource wars, actors fight for the oil itself; in a conflict about market domination, actors dispute the type of economic power that various players will hold in the postconflict oil market. A state that fears a broad economic threat to its well-being resulting from anticipated or actual changes in the oil market could go to war via this mechanism, even if the state is not trying to seize oil reserves for itself (which would make the conflict a resource war).

The fear of market domination by Iraq was arguably a major reason for the U.S.-led coalition's armed response in 1990–91 to Iraq's invasion of Kuwait.[29] (It was not the only reason for the war—defense of international order and the norm of sovereignty was another—but at a minimum, U.S. attention was highly focused on this particular conflict because of the significant threat to global oil markets. U.S. attention to other wars between developing countries, such as the massive war in the Congo later in the 1990s, was hardly equivalent.) The first U.S. objective was to defend Saudi Arabia from the threat of an Iraqi invasion, giving rise to Operation Desert Shield; the second objective was to wrest Kuwait from Iraq, leading to Operation Desert Storm. In both cases, the U.S.-led coalition sought to ensure that Iraq did not become a dominant player in global oil production. Had Iraq been able to do so, it might have exploited its market power to increase the price of oil, thereby enriching itself at the expense of oil importers.

Understanding this mechanism as distinct from a classic resource war is vital to explaining the U.S. presence in the Middle East and elsewhere. An international conflict can be a resource war without being a war of market domination (such as the Chaco War), or a war of market domination without being a resource war (such as the coalition response in 1991), or it can be both (such as the Iraqi invasion in 1990). Rebutting the popular fallacy that the United States invaded Iraq to seize its oil depends on recognition of the different causal mechanisms. U.S. actions in 1991 (and again in 2003) make it clear that the United States was not interested in seizing oil for profit: the U.S. government did not take ownership of any oil reserves as a consequence of the war, nor did American-owned oil companies (though these companies benefited indirectly). Instead, the U.S. and other governments were interested in, among other things, ensuring the continued functioning of a global market for oil.[30]

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29. Christian Alfonsi, *Circle in the Sand: Why We Went Back to Iraq* (New York: Doubleday, 2006); and Elaine Sciolino, *The Outlaw State: Saddam Hussein's Quest for Power and the Gulf Crisis* (New York: Wiley, 1991).

30. One might argue that this mechanism is similar to the consumer access concerns described later in this article. There is indeed some connection, but there is a conceptual distinction between wanting to secure oil access for a single country (i.e., one's own) and wanting to ensure the smooth

The U.S. fear of oil market domination underpins the Carter Doctrine, which in turn guides U.S. policy toward the Middle East. In his State of the Union address in 1980, President Jimmy Carter declared that the Middle East "is of great strategic importance: It contains more than two-thirds of the world's exportable oil. . . . Let our position be absolutely clear: An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force."[31] A few days after giving this speech, Carter authorized the creation of the military unit that eventually became Central Command (CENTCOM), the military unit tasked with defending U.S. interests in the Middle East.

How will conflicts driven by fear of market domination play out in the future? One of the key elements of this type of conflict is the presence of an actor or coalition willing to bear the costs of preventing an antagonist who, like Saddam in 1990, tries to dominate the market. Hegemonic stability theory argues that only a global hegemon is both willing and able to provide such public goods for the international community.[32] Institutionalists dispute this theory, arguing that international institutions can provide such goods even in the absence of a global hegemon, at least under some conditions.[33] The United States is currently the global military hegemon, but given its relative economic decline, it could lose its hegemonic status in the medium term. At that point, the relationships among the great powers, especially those that import oil, could assume huge importance in determining the probability and nature of market domination wars.[34] One scenario is that an aggressive state seeks to dominate the oil market (analogous to Iraq in 1990), but this time it is sponsored by one or more great powers, thereby producing a very different strategic setting. A second scenario is that a lack of collaboration among the major oil-importing states creates an opportunity for an aggressive state to dominate

functioning of the global oil market as a whole, such that it supports the global economy and world trade. Mechanism #2 focuses on the latter issue.

31. President Jimmy Carter, State of the Union Address, January 23, 1980, transcript, Miller Center, University of Virginia, http://millercenter.org/president/speeches/detail/3404.

32. Charles P. Kindleberger, *The World in Depression, 1929–1939* (Berkeley: University of California Press, 1986); and Michael C. Webb and Stephen D. Krasner, "Hegemonic Stability Theory: An Empirical Assessment," *Review of International Studies*, Vol. 15, No. 2 (April 1989), pp. 183–198.

33. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton, N.J.: Princeton University Press, 1984); and Duncan Snidal, "The Limits of Hegemonic Stability Theory," *International Organization*, Vol. 39, No. 4 (Autumn 1985), pp. 579–614.

34. Of course, if one state is attacking another to try to dominate the oil market, then the state under attack surely has an incentive to defend itself. As in the case of Iraq's invasion of Kuwait, however, the state under attack might be too weak to defend itself absent some action by the hegemon and its allies. See Gholz and Press, "Protecting 'The Prize,'" for an extended discussion.

the oil market even without the sponsorship of a great power. On the other hand, any future state that considers aggression to seize oil assets or to dominate the world oil market is likely to be discouraged by the history of failed resource wars and the demonstrated resolve of the United States to intervene.

MECHANISM #3: OIL INDUSTRY GRIEVANCE. The third mechanism linking oil to conflict is sparked by the presence of foreign workers or companies in a petrostate, which creates grievances for state or nonstate actors. Local actors in petrostates often resent the economic inequality and perceived exploitation associated with the oil industry. Such grievances can be the foundation for international conflict as well as domestic political unrest. Some jihadist networks, such as al-Qaida, feed on this and other grievances. Osama bin Laden once described the Saudi state as complicit in the "greatest theft in human history," because it kept oil prices too low.[35] Of course, al-Qaida has a range of grievances, and oil is not at the root of all of them. Yet oil contributes in a variety of ways. As Thomas Hegghammer notes, the U.S. presence in Saudi Arabia during and after the Iraqi occupation of Kuwait had "deep economic consequences because it facilitated the exploitation of the oil resources and enforced expensive arms deals on the Saudi state."[36] Bin Laden found it easy to rhetorically link the Saudi oil industry, the U.S. military presence in Saudi Arabia, and the grievances in Saudi society.[37] This rhetorical link gave him a powerful tool for recruiting and generating support for al-Qaida.

A second example of oil-related grievance is the Iran hostage crisis of the early 1980s, in which Iranians held fifty-two Americans for 444 days. The anti-American antipathy that led to the hostage crisis stemmed in part from the American presence in Iran under the shah's rule. Americans were frequently paid better than Iranian coworkers in the oil industry, creating economic grievances.[38] Also, Americans who committed crimes in Iran were frequently unaccountable to Iranian courts, exacerbating tensions. As with the

35. Quoted in Mahmoud A. El-Gamal and Amy Myers Jaffe, *Oil, Dollars, and Debt Crises: The Global Curse of Black Gold* (New York: Cambridge University Press, 2010), p. 66.
36. Thomas Hegghammer, *Jihad in Saudi Arabia: Violence and Pan-Islamism since 1979* (New York: Cambridge University Press, 2010), p. 104.
37. For instance, in 1996 bin Laden argued, "The ordinary man knows that his country is the world's largest oil producer . . . our country has become an American colony. The Saudis know their real enemy is America." Quoted in Moran and Russell, *Energy Security and Global Politics*, p. 82. See also Bruce Lawrence, ed., *Messages to the World: The Statements of Osama Bin Laden*, annot. ed. (London: Verso, 2005); and Randall B. Hamud, *Osama Bin Laden: America's Enemy in His Own Words* (San Diego, Calif.: Nadeem, 2005).
38. Dilip Hiro, *Iran under the Ayatollahs* (London: Routledge and Kegan Paul, 1985); and Mohsen M. Milani, *The Making of Iran's Islamic Revolution: From Monarchy to Islamic Republic* (Boulder, Colo.: Westview, 1994).

al-Qaida example, the oil industry was certainly not the sole cause of grievances. Iranians were greatly angered by the United States' long-standing support of the shah, which was not solely based on Iran's oil industry. Still, the constellation of U.S. involvement, economic problems associated with the oil industry, and inept governance made it easy for belligerent actors to identify and amplify Iranian grievances.[39] Ultimately the hostage crisis led to a breakdown in U.S.-Iranian relations and a failed military operation by U.S. Special Forces to try to rescue the hostages.

The causes and consequences of grievances associated with the oil industry are poorly understood. Antipathy by locals toward foreign oil companies varies widely around the globe; in some cases, the companies are even welcomed, as in Venezuela prior to Hugo Chavez's presidency. Even when antipathy is intense, as in the Niger Delta, it does not always lead to international conflict, despite domestic strife. It would appear that additional conditions are required to internationalize the conflict, such as the presence of a transnational terrorist network (e.g., al-Qaida) or the backing of a revolutionary state leader (e.g., Ayatollah Ruhollah Khomeini).

The future of this type of conflict is equally uncertain. One key factor may be the transition currently under way toward new oil exporters, particularly in Africa.[40] The amount of oil income that flows into weakly institutionalized states is set to increase, potentially creating more grievances. A high and volatile price of oil could exacerbate the economic inequalities associated with the oil industry, especially as it motivates oil exploration in previously untouched areas. On the other hand, since the wave of nationalizations within the oil industry in the 1970s, the presence of foreigners in oil-producing countries has been scaled back, though not eliminated. Moreover, the international oil companies and oil-producing states have launched some initiatives to increase corporate social responsibility and reduce the hostility of affected populations.[41] It could be that the oil industry is becoming smarter over time to compensate for the increased risks.

SECOND PATHWAY: PRODUCER POLITICS

The second group of causal mechanisms is based on how oil income alters and distorts the incentives of actors inside oil-producing states in ways that lead

39. Hiro, *Iran under the Ayatollahs*; and Milani, *Iran's Islamic Revolution*.
40. Ross, *The Oil Curse*, p. 10.
41. Such initiatives include the Extractive Industries Transparency Initiative and the Voluntary Principles on Security and Human Rights.

to violent conflict. Like the first, this pathway includes three mechanisms: petro-aggression, petro-insurgency, and the externalization of civil wars in petrostates.

MECHANISM #4: PETRO-AGGRESSION. My research recently identified "petro-aggression," which can be considered the internationalization of the resource curse, as a mechanism from oil to war.[42] Petrostates have a higher rate of international conflict initiation than non-petrostates, and I argue that this high overall rate is driven by the subset of states led by revolutionary governments, such as Libya under Qaddafi or Iran under Khomeini. Oil income amplifies the well-known propensity of revolutionary governments for international conflict, leading this type of petrostate to be especially belligerent.[43] Oil affects the incentives for conflict in multiple ways, most importantly by reducing the leader's risk of domestic punishment for foreign policy adventurism. When combined with the aggressive preferences typical of revolutionary leaders, the domestic political autonomy provided by oil makes it more likely that the leader will instigate international conflict. Thus revolutionary petrostates are more aggressive than comparable non-petrostates, even though oil wealth in the absence of a revolutionary government tends to have little or no net impact given countervailing incentives (e.g., the opportunity costs of a potential interruption in oil exports during a conflict) and the relatively nonaggressive preferences of nonrevolutionary leaders.

Several examples of petro-aggression exist. Saddam Hussein seized power in Iraq by force, revolutionized his country's domestic politics, and then used his country's oil income to centralize power and build a powerful military apparatus. Under his leadership, Iraq invaded Iran in 1980 and Kuwait in 1990, but despite the war outcome in each case, Saddam managed to stay in power. Moreover, Iraq continued through the 1990s to engage in a number of militarized disputes with other states. In Libya, Muammar al-Qaddafi's revolutionary government aggressively engaged in four separate border wars with neighboring Chad, as well as a variety of militarized disputes with other countries such as Egypt, Tanzania, and the United States. In Iran, the revolutionary government under Khomeini did not initiate the Iran-Iraq War, but it did decide to continue the war for many years after Saddam Hussein repeatedly declared his desire to negotiate for peace in 1982. Further, Iran's continuing ag-

42. Jeff D. Colgan, *Petro-Aggression: When Oil Causes War* (New York: Cambridge University Press, 2013); and Colgan, "Oil and Revolutionary Governments."

43. Jeff D. Colgan, "Domestic Revolutionary Leaders and International Conflict," *World Politics*, Vol. 65, No. 4 (October 2013), pp. 656–690; and Jeff D. Colgan, "Measuring Revolution," *Conflict Management and Peace Science*, Vol. 29, No. 4 (September 2012), pp. 444–467. See also Stephen M. Walt, *Revolution and War* (Ithaca, N.Y.: Cornell University Press, 1996).

gressiveness after Khomeini's death can be partially attributed to the revolutionary hard-line members of its regime.[44]

Indra de Soysa, Erik Gartzke, and Tove Lie offer another explanation for petro-aggression, both complementary to and competing with my own.[45] They argue that powerful oil consumers have an incentive to provide military protection to petrostates, which creates a kind of moral hazard. According to this view, powerful states give petrostates greater discretion, which results in the more frequent incidence of radical and aggressive foreign policy among petrostates.

The petro-aggression causal mechanism is especially significant for three reasons. First, the logical consequence of the resource war narrative, which guides how most people think about oil in international affairs, is that petrostates are likely to be the target of an attack rather than act as the attacker. This mechanism provides an important corrective to that expectation by illustrating how and why petrostates are often aggressors. Petro-aggression is crucial for explaining the behavior of states such as Iran, Iraq, Libya, and Venezuela. Second, petro-aggression appears to be more common than resource wars: petrostates are statistically more likely to be attackers than defenders in militarized disputes.[46] And third, this mechanism highlights a subcategory of states that is highly significant for international peace and conflict: the petro-revolutionary state. Such states have a propensity for international conflict 250 percent higher than that of a typical state.[47]

The higher and more volatile oil prices observed since about 2000 could be important for petro-aggression in the future. If high oil prices continue, the resulting revenues could increase the political effects of the resource curse and the military capabilities of petrostates. Although it is doubtful that high oil prices will directly lead to conflict in the short term, the revenues associated with sustained high prices could expand the range of military options available to aggressive petrostates and destabilize a regional balance of power.

MECHANISM #5: PETRO-INSURGENCY. A second mechanism associated with producer politics is the way oil money facilitates financing and material support for foreign nonstate actors to wage war.[48] For instance, Iran supports Hezbollah and Hamas in their fight against Israel; it is believed to provide on

44. These and other examples are explored in-depth in Colgan, *Petro-Aggression*.
45. De Soysa, Gartzke, and Lie, "Oil, Blood, and Strategy."
46. Colgan, "Oil and Revolutionary Governments"; and de Soysa, Gartzke, and Lie, "Oil, Blood, and Strategy."
47. Colgan, *Petro-Aggression*.
48. Steven A. Yetiv, *The Petroleum Triangle: Oil, Globalization, and Terror* (Ithaca, N.Y.: Cornell University Press, 2011). For a general discussion of state sponsorship of terrorism, see Daniel Byman, *Deadly Connections: States That Sponsor Terrorism* (New York: Cambridge University Press, 2005).

the order of $200 million annually to Hezbollah.[49] Similarly, Saudi Arabia provided significant finances to the Palestine Liberation Organization and later Hamas. Moreover, the Saudis (and the United States) provided material support for the mujahideen in Afghanistan during the 1980s as they fought the Soviets. Venezuela also allegedly provides significant support to rebel groups in Colombia, including the Revolutionary Armed Forces of Colombia (FARC).

Of course, many non-petrostates also support foreign insurgent groups. Further, tracing money from oil sales directly to foreign insurgencies is difficult. Yet petrostates appear to support such insurgencies at a greater rate than non-petrostates, and it is highly likely that oil money is involved. In the 1980s, a country with a small population (Libya) provided significant support to more than thirty foreign insurgencies and terrorist groups worldwide.[50] Because oil income was by far the largest source of government revenue for Libya, it is likely that oil money was used to fund such groups. Still, terrorism is relatively cheap, and it would be a mistake to think that driving the price of oil down would be sufficient to shut off the flow of money from petrostates to terrorist groups.[51] Only a severe, prolonged drop in a state's oil income is likely to reduce its support for such groups.

What does the future hold? Since 1945, interstate warfare has become rarer as the norm of state sovereignty has taken root. By contrast, violent intrastate conflicts and transnational conflicts by nonstate actors have become more prominent. Revenues from oil (and other natural resources) are likely to continue to support such conflicts.[52] Addressing these security challenges is complicated because, from the states' perspective, two different kinds of strategic games are being played.[53] The first is a zero-sum game between opposing sponsors of conflicts, such as Iran's support of Hezbollah and Hamas against U.S. support of Israel. The second is a collaboration game among states with shared interests in reducing such conflicts, characterized by collective action

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49. Jeanne K. Giraldo and Harold A. Trinkunas, *Terrorism Financing and State Responses: A Comparative Perspective* (Stanford, Calif.: Stanford University Press, 2007); and Shaul Shay, *The Axis of Evil: Iran, Hizballah, and the Palestinian Terror* (Piscataway, N.J.: Transaction, 2005).
50. The precise number of groups that received Libyan aid is unknown. In 1989, the U.S. government estimated at least thirty groups had done so. See Dirk Vandewalle, *A History of Modern Libya* (New York: Cambridge University Press, 2006), p. 132. This estimate is consistent with other reports. See Mahmoud G. El-Warfally, *Imagery and Ideology in U.S. Policy toward Libya, 1969–1982* (Pittsburgh, Penn.: University of Pittsburgh Press, 1988).
51. Crane et al., *Imported Oil and U.S. National Security.*
52. Philippe Le Billon, *Fuelling War: Natural Resources and Armed Conflict* (Abington, U.K.: Routledge for the International Institute for Strategic Studies, 2005).
53. Idean Salehyan, *Rebels without Borders: Transnational Insurgencies in World Politics* (Ithaca, N.Y.: Cornell University Press, 2009).

problems. The latter game is pertinent for the loose coalition of states trying to address terrorist financing through international banking networks.

MECHANISM #6: EXTERNALIZATION OF CIVIL WARS IN PETROSTATES. One of the symptoms of the resource curse is that petrostates are prone to more frequent civil wars than non-petrostates.[54] This is important because civil wars can in turn lead to international conflict or military interventions. Because this article focuses on international conflict, the latter step (civil wars that go international) in the causal chain is a crucial element. Yet the first step (oil causing civil wars) must be understood to fully appreciate the causal chain.

Examples of civil wars in oil-producing states are not difficult to find: consider Algeria, Angola, Colombia, Iraq (Kurdistan), Libya, Nigeria, and Sudan, among others. There is some debate about precisely how oil creates the incentives for more frequent civil wars, but scholars have identified two basic mechanisms: grievances and funding ("greed").[55] Briefly, oil is believed to create or exacerbate grievances resulting from significant political and economic inequality, environmental hardships, and weak institutions that are often associated with petrostates. Oil also provides increased funding to rebels during a rebellion, obtained by various means, including "bunkering" (stealing oil from pipelines), exploitation, and hostage taking of industry employees.[56] Some scholars have found that other natural resources (e.g., diamonds and timber) might similarly increase intrastate violence,[57] but others argue that the evidence connecting oil to civil war is considerably more robust, and of a larger magnitude, than the link to any other natural resource.[58] Even if oil is not unique in this regard, it appears to have an especially large role in causing the onset of civil wars.

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54. James D. Fearon and David D. Laitin, "Ethnicity, Insurgency, and Civil War," *American Political Science Review*, Vol. 97, No. 1 (February 2003), pp. 75–90; Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil War," *Oxford Economic Papers*, Vol. 56, No. 4 (October 2004), pp. 563–595; Paul Collier and Anke Hoeffler, "On Economic Causes of Civil War," *Oxford Economic Papers*, Vol. 50, No. 4 (October 1998), p. 563 ; Michael L. Ross, "A Closer Look at Oil, Diamonds, and Civil War," *Annual Review of Political Science*, Vol. 9 (2006), pp. 265–300; and Michael L. Ross, "Booty Futures," unpublished manuscript, University of California, Los Angeles, 2005.

55. Ross, *The Oil Curse*.

56. Some research, such as Collier and Hoeffler's original 1998 work, also suggests that oil increases the size of the "prize" of victory, because rebels could get rich by obtaining access to the state's oil revenues. See Collier and Hoeffler, "On Economic Causes of Civil War."

57. Richard Snyder and Ravi Bhavnani, "Diamonds, Blood, and Taxes: A Revenue-Centered Framework for Explaining Political Order," *Journal of Conflict Resolution*, Vol. 49, No. 4 (August 2005), pp. 563–597; and Päivi Lujala, "The Spoils of Nature: Armed Civil Conflict and Rebel Access to Natural Resources," *Journal of Peace Research*, Vol. 47, No. 1 (January 2010), pp. 15–28.

58. Ross, "Oil, Diamonds, and Civil War"; Ross, *The Oil Curse*; and Håvard Hegre and Nicholas Sambanis, "Sensitivity Analysis of Empirical Results on Civil War Onset," *Journal of Conflict Resolution*, Vol. 50, No. 4 (August 2006), pp. 508–535.

Such conflicts can be a source of international instability and military intervention, in addition to the domestic violence they create. Scholars have recently identified processes by which civil wars become internationalized, including intervention (e.g., a foreign state sends its own military to participate in the conflict), externalization (e.g., a state experiencing civil war directs military force outward to retaliate against others for supporting rebels or to conduct cross-border counterinsurgency operations), and spillover (e.g., a neighboring state militarizes its borders to prevent the entry of refugees or transnational rebels).[59] In sum, oil creates conditions for civil war, which can lead to international conflict.

Libya in 2011 is an example of foreign intervention in a petrostate's civil war. As pro-Qaddafi forces marched on Benghazi, the United Nations Security Council authorized military operations to defend civilians, at the request of the Arab League and other parties. Sudan is an example of externalization, in which the Sudanese military struck out against Chad for its support of some parties in the ethnic conflict in Darfur. Both sides of the civil war in Angola (discussed in detail later) were financed by natural resources (one by oil, the other by diamonds), and that war drew in foreign armies. The struggle between the Colombian government and the FARC rebels was complicated by alleged Venezuelan and Ecuadoran support of the FARC, which swiftly escalated to an international military crisis in 2008 when Colombia raided a FARC camp on Ecuadoran territory. Other examples abound.

One intriguing question is whether oil acts in not one but two ways in this mechanism. There is substantial evidence that oil creates conditions for more frequent civil wars.[60] What is less certain is whether oil also makes the internationalization of such civil wars more likely. It is plausible that foreign powers might seek to intervene in a civil war to secure relationships and access to oil, as European countries appear to have done in Libya in 2011. Michael Ross provides evidence that rebels in other conflicts have even sold future rights to oil access to secure support and weapons during a civil war.[61] Foreign powers may also be more anxious to bring a civil war in a petrostate to an end (or at least to control the violence) than they would be in a non-petrostate, so as to

59. Kristian Skrede Gleditsch, Idean Salehyan, and Kenneth Schultz, "Fighting at Home, Fighting Abroad: How Civil Wars Lead to International Disputes," *Journal of Conflict Resolution*, Vol. 52, No. 4 (August 2008), pp. 479–506; Salehyan, *Rebels without Borders*; and Kenneth A. Schultz, "The Enforcement Problem in Coercive Bargaining: Interstate Conflict over Rebel Support in Civil Wars," *International Organization*, Vol. 64, No. 2 (April 2010), pp. 281–312.
60. Fearon and Laitin, "Ethnicity, Insurgency, and Civil War"; Collier and Hoeffler, "Greed and Grievance in Civil War"; and Collier and Hoeffler, "On Economic Causes of Civil War."
61. Ross, "Booty Futures."

ensure stability and supply for the oil market. Doug Stokes argues that the U.S. government's desire to protect oil pipelines and supply routes was an incentive for its participation in counterinsurgency operations in diverse places including Colombia and Nigeria.[62]

THIRD PATHWAY: CONSUMER ACCESS CONCERNS

The third group of causal mechanisms is associated with the ways in which oil-importing states try to manage the uncertainties of their economic and military requirements for oil. This pathway includes two specific mechanisms: conflicts over transit routes, and oil as an obstacle to multilateralism.

MECHANISM #7: TRANSIT ROUTES. For oil-importing countries, one contentious mechanism linking oil to war is associated with pipelines and shipping lanes. States' efforts to secure transit routes for oil could create a spiraling security dilemma that produces or exacerbates international conflict. Even though the market generally provides reliable oil supplies,[63] there is no guarantee that it would continue to operate in the same way during a time of significant political or military conflict that threatened commercial shipping. Faced with a perceived threat, real or exaggerated, an oil-importing state could feel compelled to take action to secure its shipping lanes or pipelines.

One contemporary example of this mechanism is the Strait of Malacca and the South China Sea. The United Sates Navy currently controls the shipping lanes in this area, and China feels threatened by the possibility that its access to oil imports through those shipping lanes could be denied. Consequently, as it grows stronger militarily, China might want to challenge the United States for control of those shipping lanes. In addition, there are already political tensions stemming from the efforts by China and other states to exert sovereignty over territory within or near the shipping lanes. Such tensions could escalate into armed conflict under the wrong set of circumstances, particularly if sparked by an outside issue such as Taiwanese sovereignty claims or an effort to exploit the natural resources near the Spratly or Paracel Islands by one of the other states in Southeast Asia.[64]

A second hot spot is the Strait of Hormuz between Iran and the Arabian Peninsula, through which almost a quarter of the world's oil supply flows on a daily basis. Analysts differ on the degree of risk associated with a closure of the strait, but all agree that a sustained closure would cause massive damage

62. Stokes, "Blood for Oil?"
63. Gholz and Press, "Protecting 'The Prize.'"
64. Glaser, "How Oil Influences U.S. National Security."

to the global economy.[65] Iran has repeatedly threatened to close the strait, which would almost certainly provoke a military response from the United States and perhaps other countries. In 2012 these tensions were heightened in the wake of new U.S. and European sanctions on Iran, which include a boycott of Iranian oil.

Although I categorize the transit route mechanism as primarily affecting oil-importing states, it also could apply to oil exporters. One historical example is the "Tanker War" between Iraq, Iran, and other states as part of the Iran-Iraq War. The shipping conflict eventually drew the U.S. military directly into the war. A second example is a recent conflict in Sudan. The transit route under dispute is the Greater Nile Oil Pipeline that connects the oil fields in South Sudan to the Red Sea. In 2011–12, Sudan and South Sudan went to the brink of war over the transit fees that Sudan requested in exchange for allowing the oil to pass over its territory.[66] Note that the dispute over the transit of oil is related to, but conceptually distinct from, another dispute between the two countries over ownership of the oil fields in the Abyei region. The Abyei oil fields straddle the international border and appear to have motivated armed conflict between the two countries in the past (through mechanism #1).

International oil embargos are related to, but distinct from, the transit route mechanism. A threat to a shipping lane or a pipeline is a disruption of oil en route; an embargo is an intentional disruption by the seller of the oil. International oil embargoes are rare and can be ineffective, but occasionally they have a major impact. If faced with such a threat, states could decide to take costly steps to avoid an embargo, including war. One example is the U.S. oil embargo of Japan in 1941, discussed earlier. Another example is the 1973 Arab oil embargo against the United States, which disrupted the U.S. relationship with the Arab world, and even led U.S. policymakers to (briefly) weigh the costs and benefits of invading Saudi Arabia.[67] Ever since, U.S. policymakers have been fearful of another such disruption: thus every president since Richard Nixon has vowed to end U.S. oil idependence. Still, Gholz and Press show that the

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65. Caitlin Talmadge, "Closing Time: Assessing the Iranian Threat to the Strait of Hormuz," *International Security*, Vol. 33, No. 1 (Summer 2008), pp. 82–117; and Gholz and Press, "Protecting 'The Prize.'" See also Miranda Priebe and Joshua R. Itzkowitz Shifrinson, "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.

66. Nicholas Bariyo, "Sudan, South Sudan Trade Accusations ahead of Oil Talks," *Wall Street Journal Online*, March 21, 2012, http://online.wsj.com/article/SB10001424052702304636404577295191796184580.html.

67. Rachel Bronson, *Thicker than Oil: America's Uneasy Partnership with Saudi Arabia* (New York: Oxford University Press, 2006).

actual threat posed by an oil embargo is often exaggerated.[68] Embargoes are typically ineffective because, at least since about 1974, global oil supplies are fungible: a buyer who faces refusal from one seller can always turn to another. Also, oil importers have created strategic reserves and a set of institutions to try to mitigate the consequences of supply disruptions.

Sea piracy is another phenomenon related to the transit route mechanism, but it plays an even smaller role in international security. Piracy is a relatively minor irritant to the shipping industry. In recent years, oil tankers have become targets, especially off the coast of Somalia and in the Gulf of Guinea. Protecting shipping lanes from piracy has therefore risen in salience and drawn calls for multilateral cooperation. Still, to date piracy has not formed a significant threat to international security.

The future of conflict stemming from oil transit route disruption, or the threat of such disruption, depends largely on the structure and nature of the global political order. As with mechanism #2 (risk of market domination), the security of pipelines and shipping lanes is a global public good that in recent decades the United States largely has provided. Whether and how this public good continues to be provided depends significantly on how the global political order changes with the rise of China and possibly other states.

MECHANISM #8: OBSTACLE TO MULTILATERALISM. The global political order is involved still more directly in the final mechanism linking oil and security. Oil importers are often thought to curry favor with petrostates in an effort to secure access to oil and create commercial opportunities for national companies.[69] Such diplomatic efforts could prevent multilateral cooperation on security issues, such as nuclear nonproliferation, the restriction of small arms trade or the use of land mines, or humanitarian intervention in a troubled state. The absence of such multilateral cooperation could thus extend, deepen, or obstruct the prevention of international conflict.[70]

Two prominent examples of this mechanism can be observed in China's relationships with Iran and Sudan. China has long been protective of the national

68. Gholz and Press, "Protecting 'The Prize.'"
69. Given that the global market for oil is fungible, it is debatable whether such behavior by oil-importing states is rational. Still, states could have at least two reasons for engaging in it. In peacetime, positive political relationships might help the oil importer (or its companies) obtain preferential commercial terms or access. In times of conflict, a long-standing friendly relationship might prove useful in ensuring that the exporter continues to supply oil. See Blake Clayton and Michael Levi, "The Surprising Sources of Oil's Influence," *Survival*, Vol. 54, No. 6 (December 2012/January 2013), pp. 107–122.
70. Note that multilateralism can also lead to conflict (e.g., military interventions by international coalitions), so in some cases, oil might actually lower the probability of conflict.

sovereignty norm, but it shows greater flexibility in some cases than in others. China has been one of the chief opponents of imposing tougher multilateral sanctions on Iran as an incentive to give up its suspected nuclear weapons development program. While China has allowed some UN Security Council–sponsored sanctions starting in 2006, it has frequently sought to weaken the resolutions prior to the vote. It is plausible that one reason China generally opposes tougher sanctions is that it does not want to compromise its energy interests in Iran, from which China imports a considerable portion of its oil and natural gas. China also acted at times to shield Omar Bashir's government in Sudan from international pressures to resolve the humanitarian crisis in the Darfur region and its conflicts with South Sudan. Again, it is plausible that China's efforts were motivated in part by Sudan's role as an important supplier of oil.

Although this mechanism does reflect a potential threat to international security, it is important to recognize that the causal chain is relatively long, and it may be difficult to establish whether and how much the oil sector plays a causal role. For instance, Iran's oil may give it leverage to develop a nuclear weapons program, but such a program is not in itself an international conflict. Still, Iran's development of nuclear weapons is an issue that changes and intensifies regional security concerns.[71] Thus an Iranian nuclear weapon could affect both the probability and conduct of future conflicts.

Mechanisms in Practice: Wars since 1973

The preceding discussion identifies a variety of potential causal mechanisms linking oil to war. Two questions that arise immediately from such an analysis are: How important are these mechanisms overall, and which are most important relative to each other? One way to gain perspective on these questions is to consider the way that oil has affected recent interstate wars.

The key question in this type of assessment is how to judge whether a causal mechanism is relevant in a given event. The standard I use is based on a counterfactual world in which I imagine the oil industry did not exist in the relevant state/region, and ask whether the course of the war plausibly would

71. Michael Horowitz, "The Spread of Nuclear Weapons and International Conflict: Does Experience Matter?" *Journal of Conflict Resolution*, Vol. 53, No. 2 (April 2009), pp. 234–257; Todd S. Sechser and Matthew Fuhrmann, "Crisis Bargaining and Nuclear Blackmail," *International Organization*, Vol. 67, No. 1 (January 2013), pp. 173–195; and Målfrid Braut-Hegghammer, "Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks," *International Security*, Vol. 36, No. 1 (Summer 2011), pp. 101–132.

have been significantly different.[72] Note that this standard does not require the absence of war if there had been no oil. All that is required is that the probability of the war's onset would have been lower or that the conduct of the war would have been significantly different in the counterfactual world in which oil and oil money were not present.

In the discussion that follows, I follow James Fearon's advice to render the counterfactual as explicit as possible.[73] Where needed, I specify the state or region in which the oil industry would disappear in the counterfactual world. I also distinguish between direct and indirect effects in conducting the counterfactual analysis. Direct effects are ones in which the presence of oil or oil income during the war (or at its outbreak) significantly affects the preferences and decisions by the key actors. Indirect effects are ones in which either the presence of oil or oil income was important in the past, or the role of oil was relatively minor for the key actors' decisions.

Geographic location does not determine the causal effect of oil on international conflict. There are some wars that I do not consider oil related, even though they involve petrostates, such as the Azeri-Armenian war or the Cenepa Valley war between Ecuador and Peru. Arguably this judgment is too conservative, as it is possible that the oil industry in Azerbaijan and Ecuador provided each state with income to purchase weapons, which might have increased the probability of conflict. I would argue, however, that this does not pass the counterfactual test described earlier: these wars would probably have occurred even if the state's oil industry had not existed.[74] On the other hand, combat does not need to occur within a petrostate for the oil industry to have had a causal effect on a war.

Table 2 shows that nine of the twenty-one interstate wars identified by the Correlates of War (COW) project over the period 1973–2007 are directly or indirectly connected to one or more of the oil-related mechanisms. I choose this period because the modern age of oil began with the Arab oil crisis in 1973 and the end date, 2007, is based on COW data availability. The vast increase in the

72. James D. Fearon, "Counterfactuals and Hypothesis Testing in Political Science," *World Politics*, Vol. 43, No. 2 (January 1991), pp. 169–195; Philip E. Tetlock and Aaron Belkin, eds., *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives* (Princeton, N.J.: Princeton University Press, 1996); and Gary Goertz and Jack S. Levy, *Explaining War and Peace: Case Studies and Necessary Condition Counterfactuals* (New York: Routledge, 2007).
73. Fearon, "Counterfactuals and Hypothesis Testing in Political Science."
74. The Cenepa Valley is part of a larger territory disputed by Ecuador and Peru that includes some oil fields. One might argue that the oil created an incentive for resource war, but this seems unlikely. The dispute can be traced back to the nineteenth century and predated the discovery of oil by many decades. Moreover, in 1995 there were no significant oil operations in the Cenepa Valley itself, which was thick jungle. Decisionmakers do not seem to have been motivated by the acquisition or protection of oil fields.

Table 2. Oil Mechanisms in Practice in Interstate Wars, 1973–2007

Name of War	Mechanism Number	Comment
		Direct Effect on Probability of War Onset
War over Angola, 1975–76	6	Oil and diamond sales finance a civil war; the civil war becomes externalized, involving Cubans, Soviets, and South Africans.
Iran-Iraq War, 1980–88	1,4,7 (5, 6)	Aggression by Iraq, then Iran, is less likely without oil-funded revolutionary autocracies; Tanker War threatens consumer access to oil, drawing the United States into war; Iran's oil fields are first target of Iraq's attack; Kurdish insurgents in each state are supported by the other.
War over the Aouzou Strip, 1986–87	4, 5	War is an outgrowth of Qaddafi's interference in Chad's civil wars; Libyan role is petro-aggression: oil reduces domestic accountability in Libya, facilitating Qaddafi's military adventurism.
Gulf War, 1990–91	1, 2, 4	Kuwait's oil fields are part of the incentive for war; risk of market domination contributes to U.S.-led counterattack; Hussein's adventurism is example of petro-aggression.
		Direct Effect on Conduct of War
Yom Kippur War, 1973	7 (4, 5)	Arab oil embargo punishes the United States and others for support of Israel; oil money from Saudis gives Egypt a war chest and funds Palestine Liberation Organization activities; Libyan forces are petro-aggressive once war is declared.
Uganda-Tanzania, 1978–79	4	Petro-aggression: oil reduces domestic accountability in Libya, facilitating Qaddafi's adventurism, which puts Libyan forces on the front lines against Tanzanians.
		Indirect Effects
War over Lebanon, 1982	(5)	War leads to the creation of Hezbollah, financed by Iran and others; high uncertainty about group's funding, but money probably derived from oil industry.
NATO-Afghanistan, 2001	(3)	War motivated by al-Qaida's September 2011 attacks; al-Qaida partly motivated by grievances explicitly linked to Americans in Saudi Arabia protecting the oil industry. Al-Qaida probably also funded by oil money.
Invasion of Iraq, 2003	(4, 7)	Oil is not a proximate cause of war, but historically it motivated U.S. presence in the Middle East. Motivations for war included U.S. desire to remove Saddam Hussein, who had a history of petro-aggression, and U.S. fears that Hussein would destabilize region, threatening consumer access to oil.

NOTE: Parentheses () indicate indirect effects.

value of oil, both as a share of the world's total economy and as a source of massive revenues to a significant number of oil-producing states, dates from roughly 1973.[75] Oil clearly had some effects on wars before the 1970s (e.g., the Mesopotamia campaign in World War I, the Chaco War, and World War II), but these were rarer. A full list of the twenty-one wars in this period, which includes those that are not coded as oil related, is available.[76]

The key point is not the exact number of oil-related wars but their overall frequency. I briefly provide the rationale for each case below. Even if one believes that there are errors in a few cases, it would remain true that at least one-quarter of all interstate wars from 1973 to 2007 can plausibly be linked to the global oil industry. Moreover, no other natural resource or commodity could credibly make a similar claim. Few if any of these wars could be traced to coal, diamonds, or other minerals.[77] Although analysts are correct to worry about conflicts arising from diamonds or other resources in some areas of the world, these do not carry the same significance for international security as oil does.

CONSIDERATION OF OIL-RELATED WARS, 1973–2007

Consider each of the cases in table 2 in turn. The Angolan War is an example of a civil war in which other states directly intervened. The two principal combatants of the civil war were the Popular Movement for the Liberation of Angola (MPLA), which controlled Angola's oil industry, and National Union for the Total Independence of Angola (UNITA), which controlled the country's diamonds. The Soviet Union and Cuba supported MPLA, and South Africa (with U.S. support) fought alongside UNITA. A separatist group called the Front for the Liberation of the Enclave of Cabinda (FLEC) fought for the independence of oil-rich Cabinda from the rest of Angola. The oil industry had multiple effects: it generated critical funding for the MPLA; it created grievances for FLEC and other separatist groups; and it may have generated incentives for South Africa and others to intervene, in the hopes of gaining preferential commercial terms for Angola's oil in the event of a UNITA victory. Certainly

75. Prior to that time, most of the revenues associated with oil were concentrated in private international oil companies, and oil-producing states received relatively little of the profits. See Yergin, *The Prize*.

76. The list is available upon request to the author.

77. I conducted a preliminary assessment of the role of coal, natural gas, and diamonds in the twenty-one interstate wars since 1973, and concluded that each one had a significant impact on at most two wars. Admittedly, this assessment was not done with the same thoroughness as the one I performed for oil. Still, the results are sufficient to at least shift the burden of proof to those who would dispute oil's primacy. Even Thomas Homer-Dixon, an advocate of the role of other resources on conflict, comes to a similar conclusion in *Environment, Scarcity, and Violence*.

there were other causes of and influences on the war, not least the Cold War rivalry between the two superpowers. Still, the answer to the key counterfactual question—would the conflict have been different if Angola had no oil?—is probably yes. That judgment rests in part on the large body of statistical work that shows that oil-producing states are at a higher risk of civil wars.[78] Although some kind of power struggle was probably inevitable in the wake of decolonization, that struggle might have been settled peacefully or at least with less bloodshed if Angola had not had oil (as occurred in many non-oil-rich African states).

The key counterfactual question for the Iran-Iraq War is similar: Would the conflict have been different if Iran and Iraq had no oil? Oil appears to have played multiple roles in this case. First, it altered the domestic politics within each country, allowing a revolutionary leader to consolidate power and reduce political accountability for foreign policy risks, thus generating the conditions for petro-aggression. Both sides were petro-aggressive: Iraq actually initiated the war, but Iran both provoked and prolonged it.[79] Thus petro-aggression raised the probability of the war's onset. Second, disrupting oil sales was a strategic objective for both sides during the war. This led to the Tanker War, in which each side tried to sink oil tankers that carried shipments of the other side's oil. In turn, the Tanker War drew into the conflict the U.S. Navy, which carried out direct military strikes against various Iranian targets.[80] Third, Iran's oil fields were the first target of Iraq's attack. Even if Iran's oil fields were not an incentive for the initiation of war, once war began Iraq chose to attack and try to seize the oil-rich province of Khuzestan. The opportunity for resource conquest thus affected at least the conduct of the war. Fourth, the oil industry affected the Kurdish insurgency that was active in each state. Oil created grievances and funding for Kurdish rebels; in addition, oil income in each state allowed it to materially support the other state's rebels. In sum, although the Iran-Iraq War was not principally a war fought for ownership of oil fields, it was deeply affected by the oil industry in each state.

The war over the Aouzou Strip that separates Libya and Chad (the "Toyota War") was an outgrowth of Qaddafi's interference in Chad's overlapping civil wars over a period of almost two decades.[81] The counterfactual question is: If

78. Ross, *The Oil Curse*; Fearon and Laitin, "Ethnicity, Insurgency, and Civil War"; and Collier and Hoeffler, "On Economic Causes of Civil War."
79. Colgan, *Petro-Aggression*; and Shahram Chubin and Charles Tripp, *Iran and Iraq at War* (London: I.B. Tauris, 1988).
80. Chubin and Tripp, *Iran and Iraq at War*.
81. Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948–1991* (Lincoln: University of

Libya had no oil, would the probability of conflict have been the same? Again, petro-aggression plays an important role. Qaddafi came to power in 1969 and led a revolutionary government in Libya that depended almost entirely on oil revenues. Oil allowed him to consolidate power, pursue a risky and aggressive foreign policy, and overrule domestic dissent about his military adventurism. Oil money allowed Qaddafi to materially support multiple sides of Chad's civil war, creating the conditions that led to Chad's attack on the Aouzou. Moreover, when the situation turned against him, Qaddafi chose to go to war instead of simply quitting Chad, leading to thousands of casualties and the loss of military equipment worth an estimated $1.5 billion.[82] Although the conflict could have happened even in the absence of Libya's oil industry, its probability would have been substantially lower.

Oil influenced the Gulf War of 1990–91 in several ways. One counterfactual question is: If Kuwait had no oil, would the probability of conflict have been the same? As argued earlier, it seems plausible that the war would have been less likely—acquisition of Kuwait's oil fields made conquest more attractive. A more intriguing counterfactual question is: If Iraq had no oil, would it still have attacked? This question is harder to assess with certainty, but again, petro-aggression played a role: the combination of oil income and an ambitious, risk-tolerant, revolutionary leader made Iraq an aggressive state, as it had already demonstrated in its war with Iran. It is possible that the war was as much about Iraqi oil as it was about Kuwaiti oil. Finally, the U.S.-led intervention against Iraq was also conditioned by concerns about present and future threats to global oil markets, as discussed earlier.

Thus oil plausibly had a direct effect on the probability of four wars since 1973. The next two wars to consider are the Arab-Israeli Yom Kippur War of 1973 and the Uganda-Tanzania War of 1978–79. In neither case did oil significantly affect the probability of the war's onset, yet oil does seem to have had a significant effect on the conduct (and costs) of both wars. Prior to the 1973 war, Saudi King Faisal promised Egyptian President Anwar el-Sadat that "if Egypt required it, Saudi Arabia would use oil as a weapon against Israel's supporters."[83] Oil was crucial: the Arab states would not have enacted an embargo if their chief export had been cotton towels. The embargo caused significant economic harm to the United States and other oil importers, with

Nebraska Press, 2002); and Geoffrey Leslie Simons, *Libya and the West: From Independence to Lockerbie* (London: I.B. Tauris, 2003).
82. Simons, *Libya and the West*.
83. Bronson, *Thicker than Oil*, p. 115.

effects lasting even after the end of the war itself.[84] Thus, although the embargo had little if any impact on whether Egypt won or lost the war, it did impose additional war costs on Israel's supporters. Saudi oil money also affected the preconditions of the war. In the early 1970s, Saudi Arabia gave Egypt massive subsidies so that it could purchase new weapons and military equipment.[85] Thus if Saudi Arabia and the other Arab states involved in the 1973 War had no oil, their strategic choices would have been different (i.e., no embargo), and they would have had less ability to inflict damages on Israel and its supporters.[86]

The Uganda-Tanzania War began when rebel forces tried to topple the Ugandan dictator Idi Amin. Amin's forces chased the rebels into Tanzanian territory, which prompted the Tanzanians to declare war against Uganda. Qaddafi then sent Libyan military forces to aid Uganda, including T-54 and T-55 tanks, artillery, and an air force including MiG-21 fighter jets. With Ugandan forces retreating rapidly, Libyan forces swiftly found themselves on the front lines. The Libyan forces significantly altered the course of the war: their firepower shifted the balance of power, and Libyan casualties represented perhaps 20 percent of the total casualties.[87] Libya's actions can again be attributed, in part, to Qaddafi's petro-aggression.

In the remaining three wars in table 2, the oil industry had a more indirect effect. Of the nine wars represented in the table, oil probably played the smallest role in the Lebanon War of 1982, which led to the creation of the militant group Hezbollah. Hezbollah was directly inspired by Khomeini and the Iranian Revolution.[88] In July 1982, Iran sent a division of its Revolutionary Guards (the Pasdaran) to Lebanon to train and support Hezbollah, and it continues to provide Hezbollah significant ongoing assistance. Iran's support cannot be definitively linked to its oil industry. Still, it is difficult to believe that oil money has nothing to do with Iran's capacity to fund Hezbollah. If Iran had not had oil money in 1982, the support that it could have offered to Hezbollah probably would have been smaller, especially given that it was already fight-

84. Yergin, *The Prize*.
85. Bronson, *Thicker than Oil*, p. 114.
86. There are two additional ways in which oil plausibly made a (relatively small) difference in 1973: first, petrostates funded the activities of the Palestine Liberation Organization (PLO) since at least 1967, which helped maintain the Palestinian cause on the Arab policy agenda; second, Libya enthusiastically joined the war against Israel, which might be considered petro-aggression.
87. Pollack, *Arabs at War*; and Robert Edgerton, *Africa's Armies: From Honor to Infamy* (Boulder, Colo.: Westview, 2002).
88. Augustus Richard Norton, *Hezbollah: A Short History* (Princeton, N.J.: Princeton University Press, 2009).

ing a war against Iraq. Hezbollah played a significant role in the Lebanon War and continued a guerrilla campaign even after the Israeli withdrawal in 1985.[89] Absent Iranian oil, the Lebanese insurgency might not have been as well armed or organized, and thus might have inflicted fewer casualties. This would not necessarily have made the war shorter or less deadly (as Israeli forces might have stayed in Lebanon longer, absent Hezbollah), but it would have changed the course of the war by altering the local balance of power.

The U.S. invaded Afghanistan in December 2001 in response to the September 11 terrorist attacks. The key counterfactual question in this case is: If Saudi Arabia never had oil, would al-Qaida have carried out the attacks? The question is not easily answered. The first stage of the counterfactual is the role of oil in the creation of al-Qaida in the wake of the Afghan-Soviet war in the 1980s. If Saudi Arabia had no oil, there might have been fewer Arabs willing to travel to Afghanistan and less funding for them to do so. Consequently, there would have been a smaller pool of potential al-Qaida recruits.[90] Additionally, Osama bin Laden's family fortune, which he drew upon at least initially to fund al-Qaida, surely would have been much smaller in the absence of Saudi oil. Still, suppose that al-Qaida would have at least existed in a counterfactual world in which Saudi Arabia had no oil. To carry out the September 11 attacks, al-Qaida needed not just to exist, but to have significant operational capacity. In the 1990s, the oil industry helped provide recruits, because al-Qaida stoked social grievances by explicitly linking the jihadi movement to opposition to the Arab oil industry and its links to the United States.[91] The oil industry also probably provided funds, as many of al-Qaida's patrons likely acquired their wealth directly or indirectly from the oil industry. Thus, if Saudi Arabia had no oil, the September 11 attacks might never have happened, though admittedly this conclusion is not certain.

Finally, there is the 2003 Iraq War. The role of oil in this war is the subject of sharp debate. Some argue that America's oil dependence was a crucial underpinning of the war.[92] Others, including members of the George W. Bush administration, argue that the war had nothing to do with oil.[93] I argue that it was not a classic resource war, in the sense that the United States did not seize

89. Ibid.
90. Note that only a subset of the Muslim foreign fighters who fought in Afghanistan joined al-Qaida or any other terrorist group. See Thomas Hegghammer, "The Rise of Muslim Foreign Fighters: Islam and the Globalization of Jihad," *International Security*, Vol. 35, No. 3 (Winter 2010/2011), pp. 53–94.
91. Lawrence, *Messages to the World*; and Hamud, *Osama Bin Laden*.
92. See Stokes, "Blood for Oil?"; and Klare, *Rising Powers, Shrinking Planet*.
93. U.S. Secretary of Defense Donald Rumsfeld, quoted in John Esterbrook, "Rumsfeld: It Would

oil reserves for profit and control. The awarding of many of the postwar oil production contracts to non-American companies, including some from China and Russia, is compelling evidence against the simple war-for-oil hypothesis.

Nonetheless, oil probably did have an indirect effect on the 2003 Iraq War.[94] There are three counterfactual questions to explore. The first is: If Iraq's oil had magically dried up during the 1990s, would the 2003 war have happened? In this scenario, the United States would still be concerned about the threat posed by Iraq, especially in light of Saddam Hussein's past record of aggressive behavior. It is possible that Saddam would have been removed from power in the 1990s (e.g., in a domestic rebellion), though that possibility cannot be assessed with much confidence. Assuming he was still in power, a U.S.-led invasion in 2003 seems likely in this first scenario. The second scenario is: If Iraq had never discovered oil, would the 2003 war have happened? Here, the Iraqi leader's history of petro-aggressive behavior might not be relevant, because those wars would have been less likely to happen (or Saddam might have been overthrown after one of them). So a U.S.-led invasion in 2003 seems less likely in this counterfactual scenario, though still possible, especially if the U.S. felt that Iraq was a threat to its interests in the region. The third scenario is: If oil had never been discovered in the Persian Gulf, would the 2003 war have happened? This scenario alters the entire strategic context for the United States. Its interests in the Middle East would have been smaller, and the Carter Doctrine probably would not exist. The U.S. Navy's Fifth Fleet and CENTCOM might not exist, or would be very different. In addition, al-Qaida might not have existed and the September 11 attacks might never have happened, as discussed earlier. Thus the United States would be less likely to intervene in the Persian Gulf, just as it rarely makes major interventions in Africa. One might argue that the 2003 war would still have happened because of U.S. concern about Iraqi proliferation of weapons of mass destruction (WMD). Yet even assuming that the WMD concern was still present in this counterfactual, the United States has tolerated the proliferation of nuclear weapons elsewhere in the world, so it is far from certain that the 2003 war would have been fought on those grounds alone. The likelihood of the 2003 war is lowest in this third scenario.

Be a Short War," *CBS News*, August 2, 2009, http://www.cbsnews.com/stories/2002/11/15/world/main529569.shtml. See additional Bush administration quotes in Stokes, "Blood for Oil?" 94. For thoughtful treatments of the role of oil in the war, see Stokes, "Blood for Oil?"; and John S. Duffield, "Oil and the Iraq War: How the United States Could Have Expected to Benefit, and Might Still," *Middle East Review of International Affairs*, Vol. 9, No. 2 (June 2005), p. 109.

SUMMARY OF OIL IMPACT, 1973–2007

As the preceding discussion shows, oil has plausibly played a significant causal role in a sizable number of wars from 1973 to 2007. Again, the exact number of oil-related wars is not as important as are their overall frequency and substantive importance.

Of the eight mechanisms, petro-aggression occurred most frequently: at least four of the nine wars contain some element of petro-aggressive behavior.[95] Frequency does not necessarily imply importance, however: other mechanisms could have had a larger causal effect even if they occurred less often. Some mechanisms are clearly underrepresented given the nature of this list: for instance, the externalization of civil wars (mechanism #6) appears only twice, but it is probably a large factor in a number of important military conflicts that fall short of full-fledged interstate wars (e.g., the NATO-Libyan campaign of 2011; the U.S. and Venezuelan interventions in Colombia; the Turkish interventions against Iraqi Kurds; and externalized conflict in East Timor—in each case, rebels extracted revenues from the local oil industry). Mechanism #8 (obstacle to multilateralism) is the only mechanism unassociated with any interstate war during this period. It is, however, linked to two potential conflicts, one involving Iran (over its alleged nuclear program) and the other between Sudan and South Sudan (in which the United Nations has notably failed act over many years).

Conclusion

This article started with the observation that relatively little is known about the relationship between oil and international conflict: the few scholars paying serious attention to the issue are divided and even basic propositions are debated. The article has sought to advance that debate by providing a systematic and comprehensive account of the causal mechanisms linking oil and international security, and to show how they operate empirically. It identified eight mechanisms that form three major pathways. Causal mechanisms associated with ownership and market structure involve actors seeking to alter the structure of the global oil industry to suit their interests. Causal mechanisms stemming from producer politics capture the ways in which oil income distorts the incentives of actors inside oil-producing states in ways that lead to violent conflict. And causal mechanisms stemming from consumer access concerns

95. Arguably there is a fifth case of petro-aggression, namely Libya's role in the 1973 Yom Kippur War.

flow from the ways in which states try to manage the uncertainties of the national economic and military requirements for oil. Collectively, these multiple pathways illustrate the shallowness of focusing excessively on resource wars.

This article has focused on oil, but parallel concerns about other forms of energy and resources exist. The potential for resource wars over undersea natural gas resources are similar to those over oil reserves; indeed, oil and gas are often colocated (e.g., in the South China Sea, in the Caspian, and near the islands claimed by both China and Japan). The political dynamics of natural gas pipelines, however, differ from oil pipelines, in part because the market for natural gas is much more regional than the oil market. Thus the dynamics of the natural gas disputes between Russia and its European customers are not analogous to oil disputes. More broadly, this article should be considered a first step in scholars' understanding, and it could serve as a template for thinking about the diverse causal mechanisms linking other resources to international conflict. For instance, one can imagine conducting a similar thought exercise to identify the causal pathways linking water and conflict.[96] Such a list would likely be different from, though partially overlapping with, the list of pathways identified here.

The pathways discussed in this article have at least two major implications for policymakers. First, the links between energy and international war extend far beyond the much-discussed goal of energy security in the sense of reliable access to affordable fuel supplies. This is important in light of recent changes in the United States, as energy imports are projected to decline and North America (if one includes the Canadian tar sands) could even achieve energy independence in the sense of low or zero net imports in the next decade. Yet this would do little to reduce many of the oil-related threats to international security so long as the rest of the world remained dependent on global oil markets. The emergence of aggressive, revolutionary leaders in petrostates would continue to pose a threat to regional security. Petrostates would continue to be weakly institutionalized and thus subject to civil wars, creating the kind of security problems that demand responses by the international community, as Libya did in 2011. Petro-financed insurgent groups such as Hezbollah would still exist, as would risks to the shipping lanes and oil transit routes that supply important U.S. allies, such as Japan. In short, energy autarky is not the answer.

96. Ken Conca, "Decoupling Water and Violent Conflict," *Issues in Science and Technology*, Vol. 29, No. 1 (Fall 2012), pp. 39–48; and Paul R. Hensel, Sara McLaughlin Mitchell, and Thomas E. Sowers, "Conflict Management of Riparian Disputes," *Political Geography*, Vol. 25, No. 4 (May 2006), pp. 383–411.

Second, the importance of oil for international security will continue into the future. As mentioned earlier, as many as sixteen countries could become oil exporters in the near future, creating new international dynamics for peace and security.[97] Further, if oil prices remain high, the incentives for additional conflicts, especially resource wars, cannot be ignored. Resource wars seem most likely to occur in unpopulated territories or naval zones, as oil can be extracted from these areas without the need to manage a populated, potentially hostile territory. Thus policymakers should be most concerned about the disputed territories in the East China and South China Seas and the naval borders in the Caspian Sea. Moreover, there are already competing sovereignty claims to the territory in those regions and considerable uncertainty about the magnitude of the energy resources, creating conditions ripe for miscalculation and mutual suspicion.

For researchers, a series of important questions remains. First, what is the relationship between the breakdown of domestic political order and international conflict? Two causal mechanisms—petro-aggression and externalization of civil wars—bear directly on the nexus between domestic and international conflict, and several others relate indirectly. The research on this question is still developing, and much remains to be done.[98] Insights from that work are needed to deepen our knowledge of energy and security. Second, under what conditions do states instigate resource grabs? History shows that classic resource wars, though relatively rare, can have devastating consequences. Understanding the factors that motivate resource wars will grow in importance as the energy market experiences a series of transitions, leading to geopolitical concerns about resource scarcity. Finally, how will the transition away from U.S. global hegemony alter the security dynamics associated with energy, particularly in regard to the provision of public goods such as the protection of shipping lanes and enforcement of global competition in the oil market? These questions are hardly exhaustive of the possibilities for inquiry, but they highlight the fertile ground for present and future research.

97. Ross, *The Oil Curse*, p. 10.
98. Gleditsch, Salehyan, and Schultz, "Fighting at Home, Fighting Abroad"; Salehyan, *Rebels without Borders*; and Schultz, "The Enforcement Problem in Coercive Bargaining."