



Oil and Conflict: Fatal Attraction? A Correlational Examination of Oil Resources and Armed Conflict

James E. McGinley

Introduction

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
- President Carter, State of the Union Address, 1980

The capability for global resource competition to serve as a driver for conflict has established the need to more fully examine the relationship between energy resources and conflict. In particular, oil resources have emerged as a potential driver for both internal and external conflict. For example, ongoing conflict over the control and distribution of oil wealth in Nigeria and associated attacks on oil infrastructure have periodically driven world oil prices to record highs.^[1] Further, there is a general concern that such volatility could erode worldwide trust in oil markets and encourage external military and interventionist strategies.^[2]

The potential interaction between oil resources and conflict creates a need for research to more specifically examine their relationship. On one hand, global conflict in the form of both interstate and intrastate conflict has declined dramatically from Cold War peak levels.^[3] On the other hand, as a natural resource, oil resources are fundamentally finite. Concerns over oil driven conflict have led some observers to propose that conflict may become persistent in oil producing countries.^[4] If concerns regarding oil's ability to serve as a systemic driver to conflict are true, it might be assumed that conflict should rise, not fall, as resource horizons are realized. This exploratory study attempts to examine this apparent discrepancy.

The focus of this brief study was to empirically examine the relationship between oil resources and conflict. This research examined the ability of oil resources to attract conflict and the ability of oil resource deficits to encourage participation in external conflict. The research intent was to develop a fuller understanding of the association between the presence or absence of oil resources and conflict. At stake is the ability to incorporate resource horizons as a conflict risk factor and to more fully inform the development of conflict prevention strategies.

Method

An exploratory correlational study was conducted to examine the relationship between oil resources, armed conflict and stability. The propositions that abundant oil resources may attract

conflict and that oil resource deficits may compel participation in armed conflict abroad were both explored. Since instability may be a precursor to conflict, the relationship between oil resources and state stability was also examined. This research was cross-sectional; values were calculated solely for year 2007 data.

Oil resources. To account for oil as a potential driver for conflict estimates of world proved oil reserve were drawn from data published by the U.S. Energy Information Administration.[5] It was postulated that as energy resources become more scarce countries which possess the remaining resources may become likely candidates for conflict. In this sense, countries with oil resources may attract conflict. Secondly, it was postulated that countries with more limited resource horizons may be under pressure to intervene in the affairs of countries still in possession of remaining resources. Thus, countries with limited oil resources may be compelled to seek them abroad, perhaps through armed conflict. It was the intent of this research to explore the ability of both abundant and scarce oil resources to either attract or compel armed conflict.

Hosted conflict. Hosted conflict refers to the degree to which countries have armed conflict within their borders. Casualty rates were used as a proxy for conflict intensity. Two data sets were considered together to assign intensity values, the Armed Conflicts Report[6] and the Center for Systemic Peace's report on Major Episodes of Political Violence.[7] Consistent with the United Nations standard, the Armed Conflicts Report defines conflict as a political conflict in which at least 1000 people have been killed.[8] Accordingly, it does not include figures on conflicts generating less than 1000 casualties. This conditional reporting was supplemented by using the report on Major Episodes of Political Violence, which includes a fuller range of casualty figures. The following numerical values were assigned to casualty ranges: 0 – 0 casualties/no reported conflict; 1 – 1 to 1000 casualties; 2 – 1000 to 10,000 casualties; 3 – 10,000 to 100,000 casualties; and, 4 – over 100,000 casualties.

Conflict participation. While data on current, armed conflict is generally available, less available is data on the participation of nations in interstate military deployments and foreign armed conflicts. Information on United Nations deployments is available but the vast number of nations that participate at some level in these deployments, as many as 119 in 2007, and their peacekeeping intent make this less useful as a dimension of conflict.[9] Participation in armed conflicts beyond own nation borders was assessed through literature review and examination of documents such as the Center for Systemic Peace's Report on Major Episodes of Political Violence and the Armed Conflicts Report. A value of 1 through 4 was assigned based on the intensity of the conflict in a manner similar to this study's assessment of hosted conflict as a variable. So, an assigned value of 4 represented participation in an external conflict with over 100,000 casualties. The difference being, that in this case the value was assigned to the country participating in external armed conflict rather than the country hosting the conflict.

Political stability. Because instability may make countries more vulnerable to conflict, stability was examined as a research variable. The research intent was to examine to possibility that political stability may relate to oil resources and may serve as an indicator of resource driven

conflict. The Political Stability and Absence of Violence/Terrorism index from the World Bank's Worldwide Governance Indicators (WGI) project was used as a measure of political stability. This index measures "perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism."^[10]

Results

This study was divided into four research phases. Correlational analysis was conducted to explore the relationship between oil resources, armed conflict, and stability for (1) countries hosting armed conflict, (2) countries participating in external armed conflict, (3) top oil resource owning countries, and (4) top oil importing countries. Overall, in no case was a statistically significant correlation found between the possession of oil resources and either active, armed conflict or political stability. However, a statistically significant negative correlation was found between political stability and hosting armed conflict, while a statistically significant positive correlation was found between political stability and participating in external armed conflict.

Phase 1 of this study explored the relationship between conflict and oil resources by examining the relationship between the intensity of hosted armed conflict, proved oil resources owned and the degree of political stability within countries hosting conflict. Results indicated that the intensity of hosted conflict was not significantly related to proved oil resources. This result indicates that oil resources, considered by themselves, are not a significant factor in active, armed conflict. However, the intensity of hosted conflict was negatively related to political stability. This result adds validity to the generally accepted proposition that unstable nations are vulnerable to conflict. See Table 1.

Table 1: Correlations for countries hosting conflict

	1	2	3
1. Conflict intensity - participating	1		
2. Proved oil reserves	-.19	1	
3. Political stability	-.81*	-.35	1
Mean	3.53	13.71	.11
SD	.99	35.91	.93
* $p < .05$, ** $p < .01$, two-tailed			

Phase 2 of this study explored the relationship between conflict and oil resources by examining the relationship between the intensity of conflicts in which a country was a participant, possession of proved oil reserves and political stability. A list of 15 countries participating in external conflicts was derived from the Armed Conflicts Report 2008.

The research intent of this phase was to explore the relationship between participation in external conflicts and own-country resource horizons. Results indicated that participation in external conflict was not significantly related to proved oil resources. Surprisingly, results also indicated that participating in external conflict was positively related to political stability. See Table 2.

Table 2: Correlations for countries participating in external conflict

	1	2	3
1. Conflict intensity - hosted	1		
2. Proved oil reserves	-.27	1	
3. Political stability	-.38*	.21	1
Mean	2.93	18.56	-.162
SD	.92	53.80	.66
* $p < .05$, ** $p < .01$, two-tailed			

Phase 3 of this study examined countries owning the largest percentages of world oil reserves and explored the relationship between hosted conflict, external conflict in which the country was a participant, the amount of proved oil reserves owned and political stability. The top 17 reserve-owning countries were examined and accounted for countries owning approximately 12 billion barrels of oil or more.

Results indicate that the possession of abundant oil resources, considered by itself, is not related to either hosting or participating in conflict. However, once again it was found that the intensity of hosted conflict was negatively related to political stability. See Table 3.

Phase 4 of this study examined top oil importing countries and explored the relationship between hosted conflict, external conflict in which they were a participant, possession of proved oil reserves, and political stability.

Consistent with previous results, findings indicate that oil resource deficits, considered by themselves, are not a significant factor in either hosting or participating in armed conflict. Again it was found that the intensity of hosted conflict was negatively related to political stability. See Table 4.

Table 3: Correlations for top oil reserve-owning countries

	1	2	3	4
1. Conflict intensity - hosted	1			
2. Conflict intensity - participating	-.27	1		
3. Proved oil reserves	.16	0.01	1	
4. Political stability	-.70**	.18	-.23	1
Mean	.76	.71	67.00	-.41
SD	1.35	1.57	64.89	1.07
* $p < .05$, ** $p < .01$, two-tailed				

Table 4: Correlations for top oil importing countries

	1	2	3	4
1. Conflict intensity - hosted	1			
2. Conflict intensity - participating	-.40	1		
3. Proved oil reserves	-.06	.17	1	
4. Political stability	-.84**	.38	-.17	1
Mean	.47	1.60	3.57	.25
SD	.99	2.02	8.48	.73
* $p < .05$, ** $p < .01$, two-tailed				

Since research results did not indicate that either an abundance or a lack of oil resources were related to armed conflict as expected, a final correlation was assessed. To examine whether oil resources might be related to conflict in a more general manner variables for both hosting conflict and participating in conflict were combined into a single conflict variable.

The research intent was to examine whether oil resources were related to a broader, more general propensity for conflict. This new variable was reassessed for both top oil resource owning countries and for top oil importing countries. Consistent with previous individual results the combined conflict variable was not significantly related to the possession of oil resources. See Table 5.

Table 5: Combined conflict correlations for top oil owning/importing countries

	1	2	3
1. Conflict intensity - hosted/participating	1	.11	-.37
2. Proved oil reserves	.15	1	-.23
3. Political stability	-.03	-.17	1
Mean: top oil owning/importing countries	1.47/2.07	67.00/3.57	-.41/.29
SD: top oil owning/importing countries	1.77/1.87	64.89/8.48	1.07/.73
* $p < .05$, ** $p < .01$, two-tailed			

Note: Results for top oil owning countries are listed above the diagonal. Results for top oil importing countries are shown on the bottom under the diagonal.

Discussion

The purpose of this exploratory study was to provide new insights into the potential for resource competition to serve as a driver for conflict by conducting an exploratory correlational study that examined the relationship between oil resources, armed conflict, and stability. The overall goal was to assess the proposition that abundant oil resources attract armed conflict and that oil resource deficits compel participation in external armed conflict. Overall, this study sought new perspectives on global security by examining the ability of oil resources to serve as a friction point and to act as systemic driver of conflict.

This study failed to confirm the propositions that abundant oil resources may attract armed conflict and that oil resource deficits may compel participation in armed conflict abroad. However, although a statistically significant correlation between oil resources and conflict intensity was not uncovered, it remains true that countries both with and without oil resources are victims and participants in armed conflict. For example, 4 of the 17 top oil producing countries hosted conflict in the year 2007 and a further 3 participated in armed conflict abroad. With regards to the top 15 oil importers, 3 hosted armed conflict and 6 more participated in armed conflict abroad. As an exploratory study, this study only examined active, armed conflict in the year 2007. It may be possible that oil resources are linked to conflict in ways not discernable by this study's methodology.

Some researchers have proposed that economic dependency upon a single resource commodity may put nations at risk. In some nations oil is such a commodity. In these cases it may be competition for control of wealth benefits and poor resource management that drive instability and exacerbate conflict risk. Based on comparative studies regarding conditions that foster stagnation and decline, it has been proposed that the milieu of vulnerability may include, among

other causes, a path of resource dependency, economic stagnation, nation state vulnerability and conflict risk.^[11] Other studies also point to the potential for oil resources to serve as a destabilizing influence, the so-called oil curse. In its 2008 report the Global Report on Conflict, Governance, and State Fragility reported that of the top net oil producing countries only 3 have fragility values near expected values given their level of income.^[12] Further, all other oil producing states had fragility scores far greater than would be expected for their level of income. Resource, instability and conflict factors may be interrelated through nuanced and complex influence mechanisms. A potential limitation of this study was its examination of oil resources as a factor only in active, armed conflict. Future research might consider oil resources as a contributor to other risk factors.

However, this study was able to confirm the relationship between stability and conflict. This study found that the intensity of hosted conflict was negatively related to political stability for countries hosting conflict; that is, as intensity of hosted conflict increased, political stability decreased. This relationship also held true for both top oil importing and top reserve owning countries. These results are consistent with indices that report on global stability metrics. Assessments such as the popular Failed States Index have established the relationship between stability and conflict. Further, work on global metrics may point to the possibility that a more generalized conflict syndrome may exist; that a collection of factors may operate concurrently to undermine state stability.^[13]

A surprise finding of this research was that although stability was significantly related to both hosting and participating in conflict it did so with opposite polarities. While stability was negatively related to hosting armed conflict, this research found it was positively related to participating in external armed conflict. This finding may make sense when one considers the capacity of a nation to project military power. Weakened and vulnerable states may have a reduced capacity to use military power externally. However, more stable and less vulnerable states may retain the ability to exert their influence abroad. This finding is interesting because it may hint at the presence of a conditional factor for participation in external conflict for resources; the contest may likely be limited to those countries in which instability has not yet manifested. Just where this potential stability threshold may lie and how it may shape the field of contestants in international conflict is a potential subject for future research.

Conclusion

Overall, this exploratory study highlighted the need for continued research to assess the capability of oil resources to act as a systemic driver for conflict. Results indicate that in today's global environment oil resources, considered alone, may be insufficient as an indicator of energy's contribution to active, armed conflict. The consideration of energy as an armed conflict risk factor may require a more nuanced examination. While this study's correlational analysis was able to confirm stability as a risk factor for hosted conflict, it also provided insight into the potential role of stability to serve as a dimension by which to assess conflict participation. This finding may usefully augment the breadth of research that currently focuses on individual nation

state vulnerabilities by encouraging the assessment of a fuller range of factors that drive or shape external participation in conflict abroad. These insights may be useful to armed conflict prevention strategists seeking to understand the full range of conditions, both internal and external, that shape conflict risk factors.

About the Author

James E. McGinley, Ph.D. is an Assistant Professor at Northcentral University where he teaches Homeland Security courses in its School of Business and Technology Management. He also works at the Marine Corps Intelligence Activity where he tracks emergent threat technology.

References

1. Julie Ziegler and Alexander Kwiatkowski, "Shell Nigeria's Bonny Crude Output Cut After Attack," *Bloomberg* (April 21, 2008), <http://www.bloomberg.com/apps/news?pid=20601116&refer=Africa&sid=a9zYWNwIe4Rk>.
2. James A. Russell, "The Militarization of Energy Security," *Strategic Insights* 7, no. 3 (2008), <http://www.ccc.nps.navy.mil/si/2008/Jul/russellJul08.asp>.
3. Center for Systemic Peace, "Global Conflict Trends," (July 1, 2009), <http://www.systemicpeace.org/conflict.htm>.
4. Michael L. Ross, "Blood Barrels: Why Oil Wealth Fuels Conflict," *Foreign Affairs* 87, no. 3 (2008): 2-8.
5. Energy Information Administration, "World Proved Reserves of Oil and Natural Gas, Most Recent Estimates," (March 3, 2009), <http://www.eia.doe.gov/emeu/international/reserves.html>.
6. Project Ploughshares, "Armed Conflicts Report 2008," (September, 2008), <http://www.ploughshares.ca/libraries/ACRText/ACR-TitlePageRev.htm>.
7. Center for Systemic Peace, "Major Episodes of Political Violence 1946 – 2008," (May 18, 2009), <http://www.systemicpeace.org/warlist.htm>.
8. Project Ploughshares, "Definition of armed conflict," <http://www.ploughshares.ca/libraries/ACRText/ACR-TitlePageRev.htm>.
9. United Nations, "Contributors to United Nations peacekeeping operations: Monthly summary of contributions," (2007), http://www.un.org/Depts/dpko/dpko/contributors/2007/dec07_1.pdf.
10. Daniel Kaufmann, Aart Kraay, A. and Massimo Mastruzzi, "Governance Matters VII: Aggregate and Individual Governance Indicators 1996-2007," (June, 2008), <http://info.worldbank.org/governance/wgi/pdf/GovernanceMattersVII.pdf>.

11. Paul Collier, *The Bottom Billion* (New York: Oxford, 2007).
12. Monty G. Marshall and Benjamin R. Cole, "Global Report on Conflict, Governance, and State Fragility," *Foreign Policy Bulletin*, (Winter, 2008): 3-21, <http://www.systemicpeace.org/Global%20Report%202008.pdf>.
13. J. Joseph Hewitt, Jonathan Wilkenfeld, and Ted Robert Gurr, *Peace and Conflict 2008* (London: Paradigm, 2008).