## The non-generalizability of The First Law of Petropolitics

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In 2006, Friedman wrote an influential and widely cited article in Foreign Policy magazine entitled "The First Law of Petropolitics." [1]. Within this article, Friedman made the following statement: "The First Law of Petropolitics posits the following: The price of oil and the pace of freedom always move in opposite directions in oil-rich petrolist states. According to the First Law of Petropolitics, the higher the average global crude oil price rises, the more free speech, free press, free and fair elections, an independent judiciary, the rule of law, and independent political parties are eroded ... Conversely, according to the First Law of Petropolitics, the lower the price of oil, the more petrolist countries are forced to move toward a political system and a society that is more transparent, more sensitive to opposition voices, and more focused on building the legal and educational structures that will maximize their people's ability, both men's and women's, to compete, start new companies, and attract investments from abroad. The lower the price of crude oil falls, the more petrolist leaders are sensitive to what outside forces think of them." Friedman further states that he would "define petrolist states as states that are both dependent on oil production for the bulk of their exports or gross domestic product and have weak state institutions or outright authoritarian governments. High on my list of petrolist states would be Azerbaijan, Angola, Chad, Egypt, Equatorial Guinea, Iran, Kazakhstan, Nigeria, Russia, Saudi Arabia, Sudan, Uzbekistan, and Venezuela."

In the current article, we will look at these states listed by Friedman, but also consider the following nations that are influential oil-producing and exporting countries: United Arab Emirates, Kuwait, Algeria, Libya, and Qatar. Friedman notes that "[l]et me stress again that I know that the correlations suggested by these graphs are not perfect and, no doubt, there are exceptions that readers will surely point out. But I do believe they illustrate a general trend that one can see reflected in the news every day: The rising price of oil clearly has a negative impact on the pace of freedom in many countries, and when you get enough countries with enough negative impacts, you start to poison global politics." This is a contradictory statement. One cannot posit a "Law" and then state that the correlations upon which the "Law" is based are "not perfect" and contain "exceptions." Intellectually rigorous "Laws" do not contain exceptions.

We begin our investigation into the generalizability of The First Law of Petropolitics by considering the following World Bank Worldwide Governance Indicators [2]: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption. The historical values of these individual governance indicators between 1996 and 2010 are plotted against the corresponding average annual global crude oil price [3] in both dollars of the day (Figure 1) and in 2010 constant dollars (Figure 2). Figures 3 (dollars of the day) and 4 (2010 dollars) show the corresponding annual percentile rankings for the governance indicator values of each country under consideration in comparison to all other countries. Press Freedom Indices [4] (Figure 5) for each country (lower values indicate a greater degree of press freedom) and their relative world rankings (Figure 6) between 2002 and 2010 as compared to the corresponding average annual global crude oil price are shown in both dollars of the day and in 2010 dollars.

In addition, we consider the Corruption Perceptions Indices [5] (Figure 7) for each country (higher values indicate a lower degree of perceived corruption) and their relative world rankings (Figure 8) between 1998 and 2010 as compared to the corresponding average annual global crude oil price in both dollars of the day and in 2010 dollars. Finally, we investigate the Democracy Indices [6] (Figure 9) for each country (higher values indicate a higher level of democracy) and their relative world rankings (Figure 10) between 2006 and 2010 as compared to the corresponding average annual global crude oil price in both dollars of the day and in 2010 dollars. Note that the democracy indices only date back to 2006 and were only produced in 2006, 2008, and 2010. Thus, only three data points are available for each country.

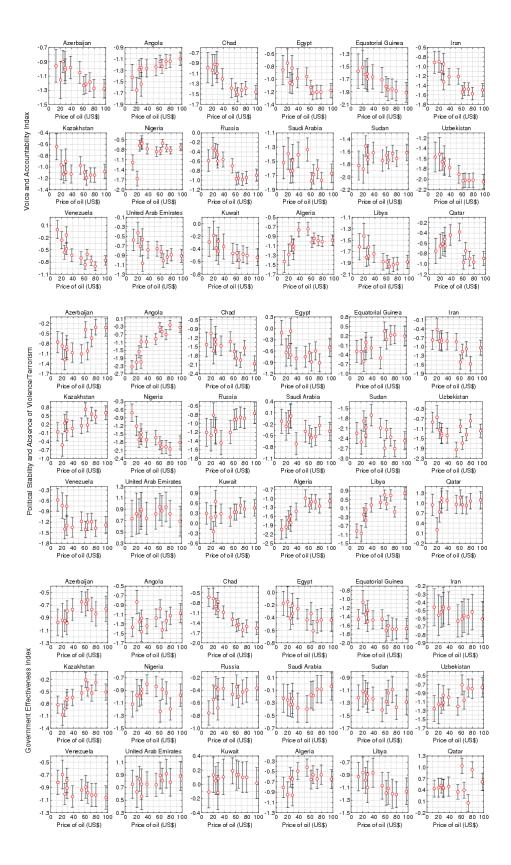
Overall, there are no generally consistent governance

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patterns related to the price of oil using the data available to support any claims for a "First Law of Petropolitics." Other work supports our conclusions [7, 8]. We see substantial variance in the presence or absence of a governance trend for the various country/indicator combinations, as well as significant variation in the direction and/or magnitudes of any trends if they are present. Any proposed "Laws" must have high quality, be without exceptions, and provide rigorous predictability. Friedman's "First Law of Petropolitics" fails all of these tests.

## References

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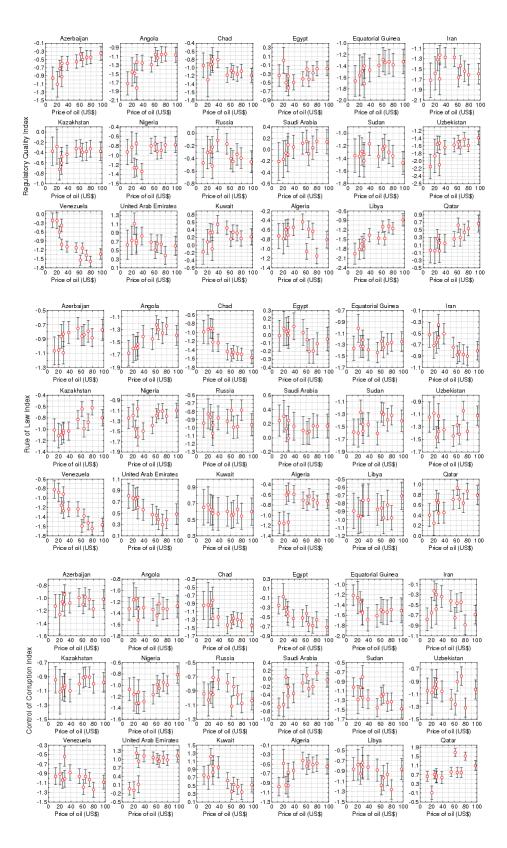
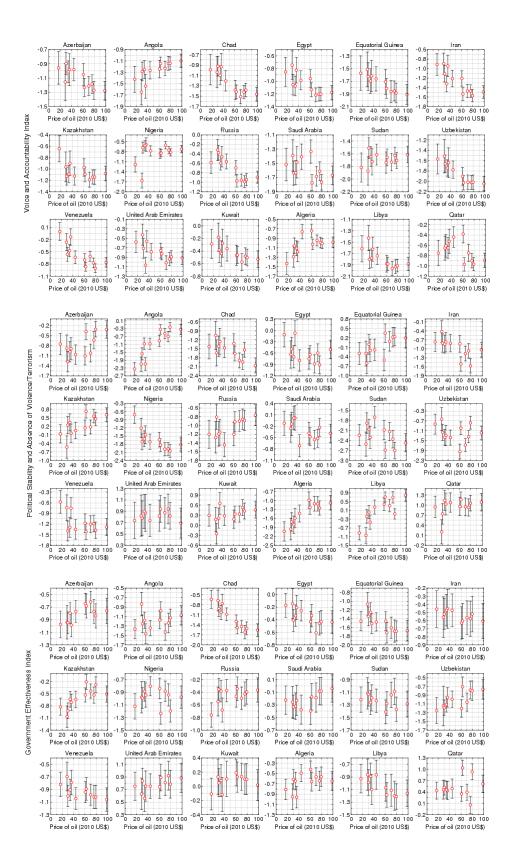


Figure 1: Historical values of World Bank Worldwide Governance Indicators for various oil-rich petrolist states plotted against the corresponding global crude oil price in dollars of the day. Error bars are standard errors on each indicator value. Lower values indicate weaker governance performance.



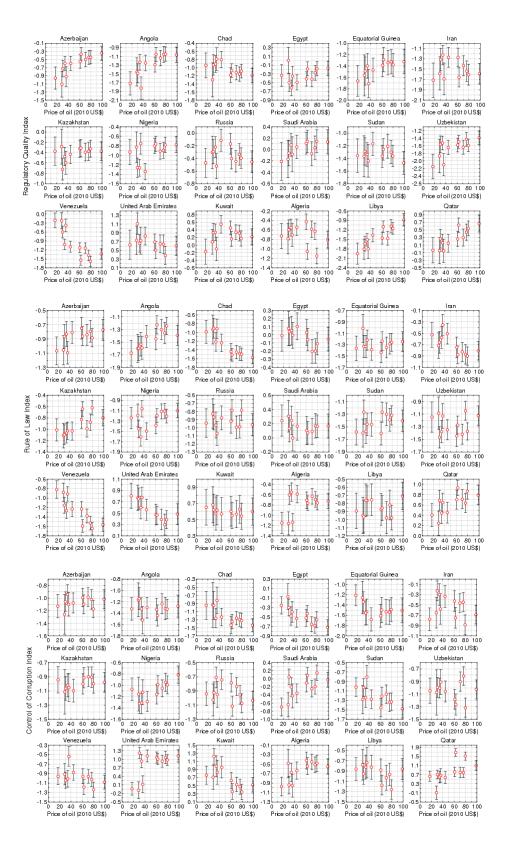
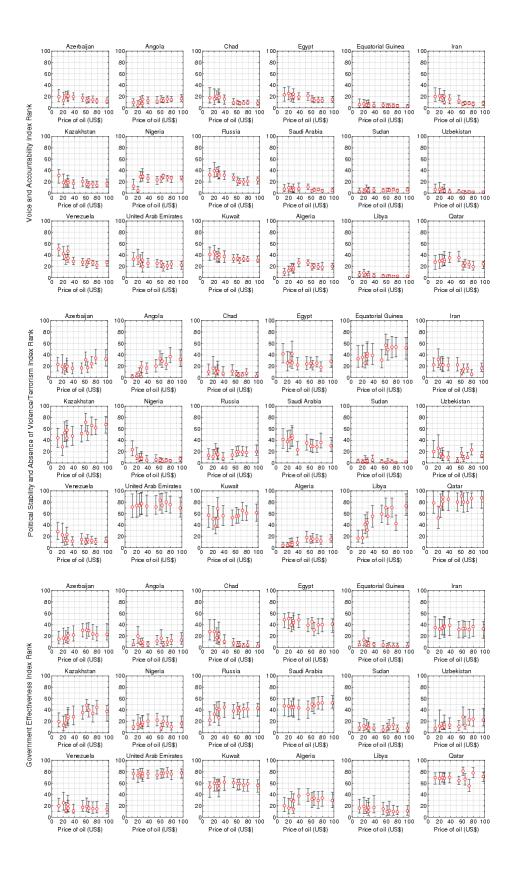


Figure 2: Historical values of World Bank Worldwide Governance Indicators for various oil-rich petrolist states plotted against the corresponding global crude oil price in 2010 dollars. Error bars are standard errors on each indicator value. Lower values indicate weaker governance performance.



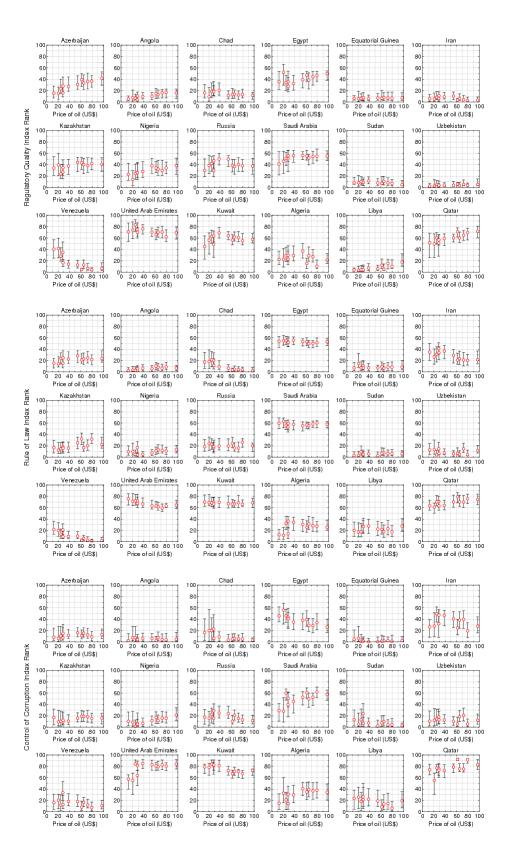
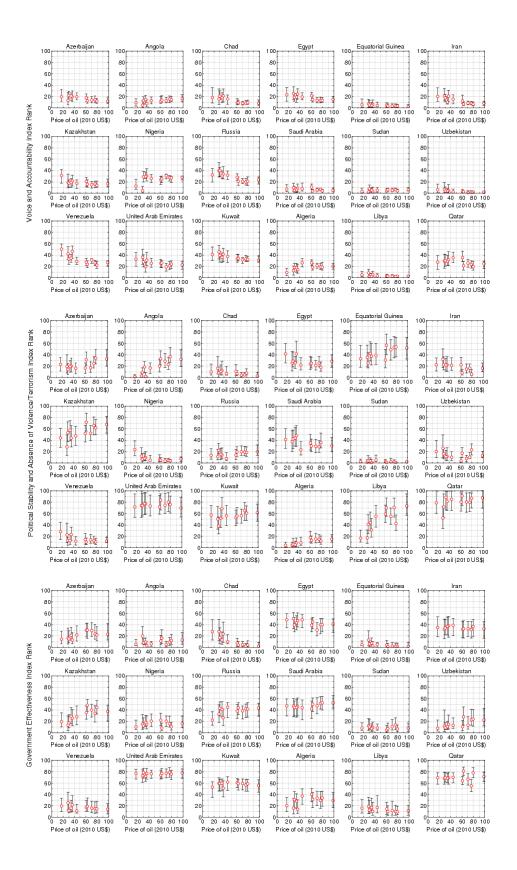


Figure 3: Historical values of World Bank Worldwide Governance Indicators percentile rankings for various oil-rich petrolist states plotted against the corresponding global crude oil price in dollars of the day. Error bars are standard errors on each indicator value. Lower values indicate weaker governance performance.



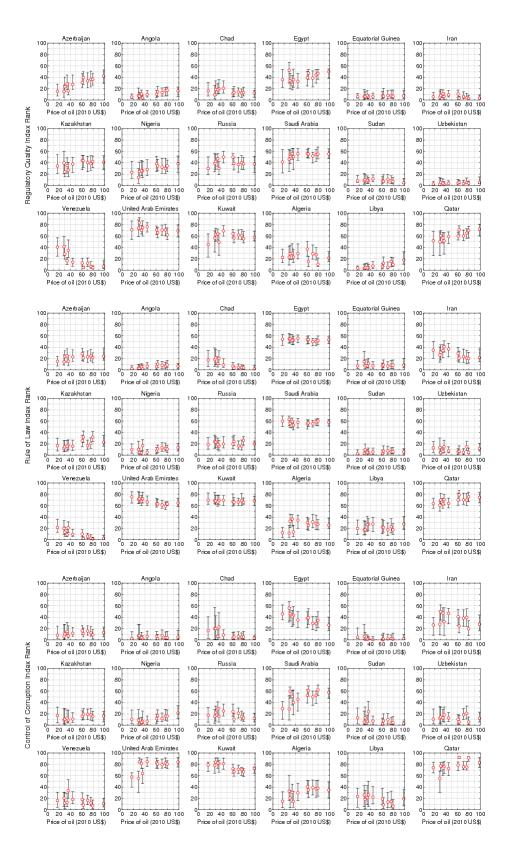


Figure 4: Historical values of World Bank Worldwide Governance Indicators percentile rankings for various oil-rich petrolist states plotted against the corresponding global crude oil price in 2010 dollars. Error bars are standard errors on each indicator rank. Lower values indicate weaker governance performance.

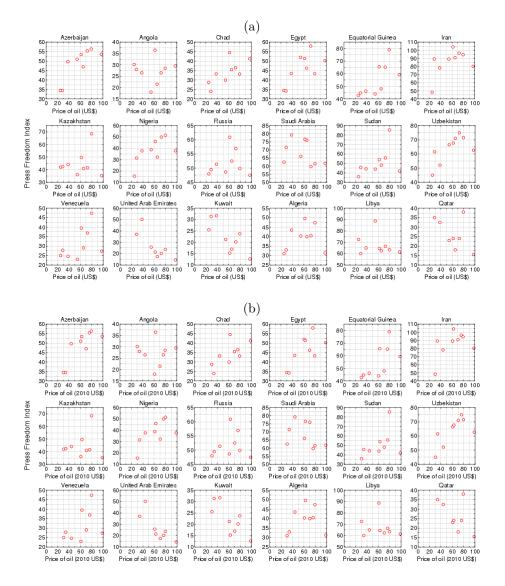


Figure 5: Historical values of Press Freedom Indices for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Higher values indicate weaker governance performance.

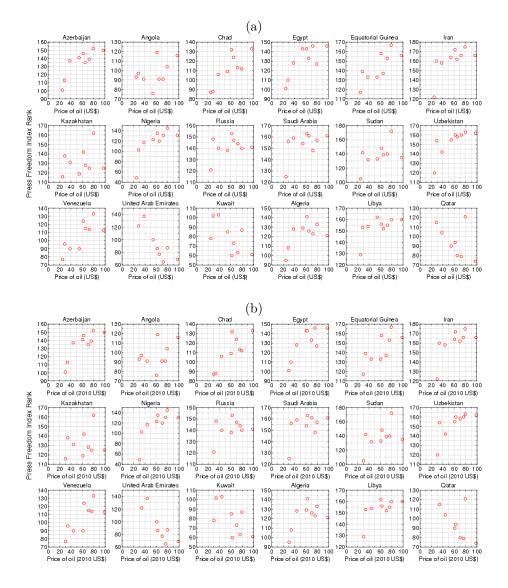


Figure 6: Historical values of Press Freedom Indices rankings for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Higher values indicate weaker governance performance.

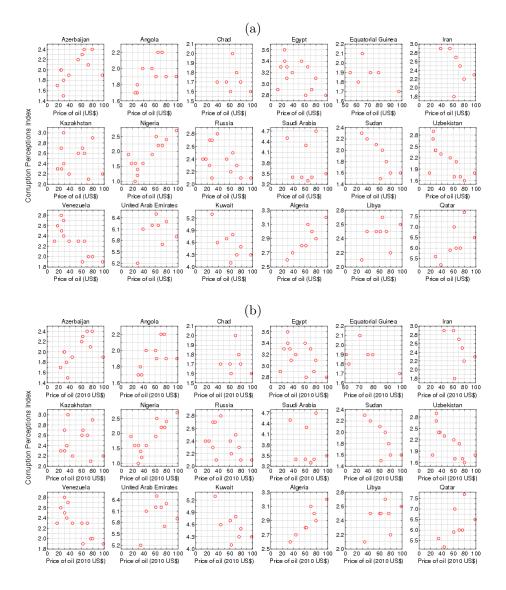


Figure 7: Historical values of Corruption Perceptions Indices for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Lower values indicate weaker governance performance.

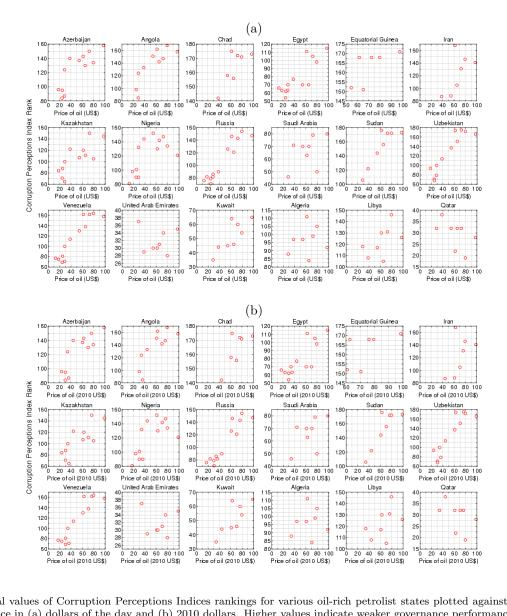


Figure 8: Historical values of Corruption Perceptions Indices rankings for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Higher values indicate weaker governance performance.

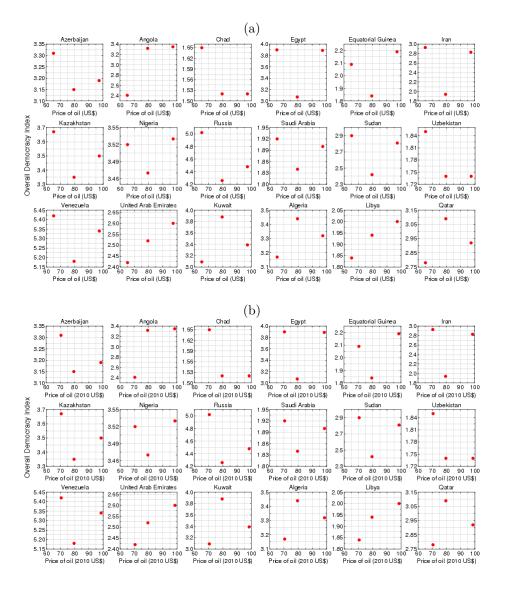


Figure 9: Historical values of Democracy Indices for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Lower values indicate weaker governance performance.

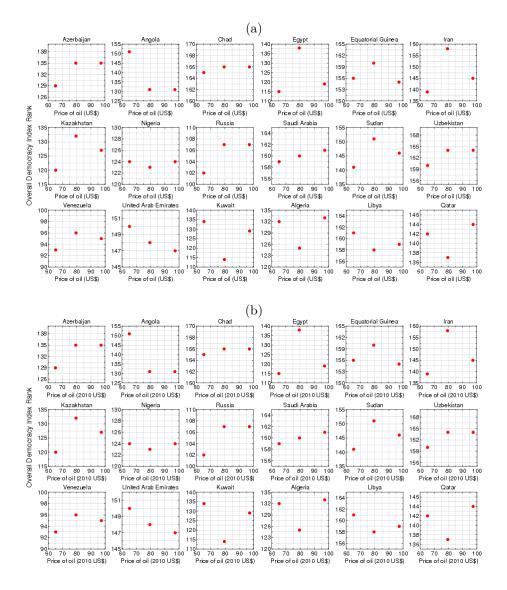


Figure 10: Historical values of Democracy Indices rankings for various oil-rich petrolist states plotted against the corresponding global crude oil price in (a) dollars of the day and (b) 2010 dollars. Higher values indicate weaker governance performance.