

Cursed Resources?  
Political Conditions and Oil Market Outcomes

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Development levels vary considerably across countries, and explaining why these differences exist is one of the central questions in economics. Scholars have long hypothesized that political institutions play an important role and that more democratic regimes foster long-term economic growth. Recent empirical papers have made progress identifying a causal impact of institutions on cross-country differences in macroeconomic outcomes. Still, there has been comparatively little work unpacking the mechanisms by which specific institutions affect economic outcomes. In other words, precisely how do democracies promote better economic outcomes?

This paper focuses on the influence of political institutions on one particular industry: crude oil production. We document a pronounced negative effect of good political conditions on volatility in oil production, and this result is robust to using several different measures of political conditions. We also address the potential endogeneity of political structure, as suggested by the literature on the “resource curse.” We estimate two-stage least-squares regressions where we instrument for recent political institutions using institutions before oil was commercialized. We find that the negative relationship persists in these specifications. We also evaluate whether other macroeconomic differences across countries affect oil market outcomes, including financial openness and legal formalism. None of these factors has a significant effect on volatility once we control for institutions.

It is important to acknowledge that a country’s oil production may not necessarily be inefficient if it is volatile. To allow for this, we also construct volatility measures that control for

market factors which *should* drive changes in a country's oil output, such as world GDP, and our results are robust to using these alternative measures.

Ideally, in addition to examining volatility, we would also like to measure the level of oil output controlling for the natural resources available to the country, as this is analogous to studies that examine the relationship between political institutions and overall economic development. With this goal in mind, we also examine the link between political institutions and a country's average production as a share of its proven reserves. We find that countries with better political institutions produce a higher share, although we devote less attention to these results since the data on reserves are self-reported in some cases and could be systematically biased. Finally, we show that political institutions lead to volatility in the number of active wells, suggesting that the volatility is less likely to be driven by physical characteristics of a country's oil fields.

Oil production provides a particularly convenient lens to view the possible microeconomic foundations for macroeconomic outcomes as oil is a commodity sold on a world market. This means that production decisions within a country should be driven by world demand and not local macroeconomic conditions. Was this not the case, our results would be less interesting as they could simply reflect the effect of political institutions on overall macroeconomic activity. Since oil demand is worldwide, however, we can be confident that our results reflect supply-side factors and not demand-driven output volatility.

Another reason that oil is well-suited to this analysis is that the unit of output (a barrel of oil) is of essentially homogenous quality and is consistently measured across countries. Finally, rich data are available on oil production and its determinants, such as reserves and the number of wells.

By documenting that political institutions affect outcomes in a particular industry, our results provide insight on how institutions affect aggregate economic output. For example, they suggest that while political institutions may work by influencing structural factors, such as by promoting a well-developed commercial sector or less reliance on agriculture, these cannot be the

only mechanisms at play as institutions have effects within an industry. Although our results cannot address this hypothesis directly, they are consistent with the idea that well-functioning political institutions support efficient investment in crude oil production and prevent wars, domestic conflicts and nationalization episodes, which can severely limit a country's oil production capabilities. We support this interpretation with a detailed analysis of nearly 150 episodes when countries' oil output fell significantly. This analysis strongly supports the conclusion that poor political institutions undermine production, and provide insight on the mechanisms leading to the production declines.

Our results also provide insight on world oil markets. Like many energy markets, oil markets are characterized by extremely inelastic short-run supply and demand, meaning that even small fluctuations in either can lead to large swings in price. While much has been written about how systematic shifts in oil demand or supply affect prices, less is understood about the underlying determinants of short-run changes in supply.

Our results imply that political institutions in the countries endowed with oil reserves affect the volatility, and perhaps the level, of its production. To the extent countries with poor political conditions will have less stable production of other natural resources, our results suggest a useful metric for comparing different energy sources. As U.S. policymakers attempt to drive shifts to new, alternative energy technologies, it is useful to be able to make these comparisons.

To explore the implications of our results for world oil markets, we construct annual, worldwide statistics that summarize the political institutions of oil-producing regimes. Generally, our indexes depict a reduction in the political conditions of oil producing countries between 1965 and 1978, followed by an increase that peaks sometime in the late 1990s or early 2000s, depending on which index is considered. In recent years most of the indexes show a modest decline starting around 2003.