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Political oil import diversification by financial and commercial traders [☆]

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HIGHLIGHTS

- American firms diversify their oil imports politically.
- Financial and commercial traders diversify their oil imports politically immediately.
- Other oil companies reduce their oil imports with a significant time lag.
- Policymakers need to understand the nature of political risk.

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ABSTRACT

International politics affects the oil trade. But do financial and commercial traders who participate in spot oil trading also respond to changes in international politics? We construct a firm-level dataset for all U.S. oil-importing companies over 1986–2008 to examine how these firms respond to increases in “political distance” between the U.S. and her trading partners, measured by divergence in their UN General Assembly voting patterns. Consistent with previous macro evidence, we first show that individual firms diversify their oil imports politically, even after controlling for unobserved firm heterogeneity. However, the political pattern of oil imports is not entirely driven by the concerns of hold-up risks, which exist when oil transactions via term contracts are associated with backward vertical FDI that is subject to expropriation. In particular, our results indicate that even financial and commercial traders significantly reduce their oil imports from U.S. political enemies. Interestingly, while these traders diversify their oil imports politically immediately after changes in international politics, other oil companies reduce their oil imports with a significant time lag. Our findings suggest that in designing regulations to avoid harmful repercussions on commodity and financial assets, policymakers need to understand the nature of political risk.

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1. Introduction

There is more trade internationally in crude oil than in any other commodity. Liberalization of energy markets, in conjunction with an increase in trading of energy derivatives and other related financial investor activities, has been further encouraging investors to use energy commodity assets as a hedge against increasing portfolio risks. Despite the increasing interaction between energy and finance because of the low correlation between returns

to energy products and stock returns, little is known about the political risk of energy commodity trading, such as the risk of harmful repercussions on commodity and financial assets due to political events. For example, in addition to the risk of oil price fluctuation, what about the risk of oil supply interruption? Much has been written about the determinants of oil prices (e.g., [Hamilton, 2009](#)). However, little is known about the nature of the risk of oil supply interruption. In particular, is the political risk of supply interruption always country-specific, as assumed by essentially all experts of energy security? What if the political risk of energy trading is country-pair-specific, so that investors from different countries should develop their own trade diversification strategy?

In this paper, we construct a firm-level dataset for all U.S. oil-importing companies over 1986–2008 to examine what kinds of

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firms are more responsive to changes in political relationships between the U.S. and her trading partners, measured by divergence in their UN General Assembly voting patterns. Our presumption is that a divergence in voting patterns reflects misalignment in political interests between pair of states, and hence an increase in “political distance.” Using this measure of political relationships, we examine how changes in international politics affect the oil import decisions of financial and commercial traders compared with other oil companies.

Since Churchill's days, energy policymakers have believed that diversification of oil import sources is the key to “energy security”. The idea of energy security can be traced back to the time when Winston Churchill changed coal to oil as the power source for the Royal Navy prior to the First World War. According to Churchill, “Safety and certainty in oil lie in variety and variety alone.” Since the United States has become a net oil importer, the addiction to oil and the fear of oil weapon have been widely thought to shape US foreign policy, although some policy experts argue that the energy policy and foreign policy in the United States have never been properly integrated.

Today, the International Energy Agency (IEA) defines energy security as the uninterrupted availability of energy sources at an affordable price. In other words, energy security has two components: uninterrupted availability and affordable price. However, many contemporary economists maintain that the world oil market is “one great pool” (i.e., there is a thick market in international oil trade), because crude oil is fungible (Adelman, 1984). If oil is completely fungible, oil moves to the nearest market to minimize transportation cost, and cost minimization prevents the market from distinguishing sources from friendly and hostile regimes. As such, only oil price fluctuation imposes a threat to energy security, which contradicts Churchill's notion that “Safety and certainty in oil lie in variety and variety alone.”

First of all, it is important to recognize that the global oil market has changed a lot since Churchill's days. While the extremely high price-volatility is well-known in the modern oil market, the coexistence of spot market and term contracts in the oil trade has created a great deal of confusion in many public debates (Smith, 2009). For most of oil's history, market structure had been based on relatively rigid long-term contracts. However, oil's so-called golden era (1874–1974) when the real oil price was relatively stable within a range of \$10–20 per barrel (in 2007 dollars) had come to an end. Over the past several decades, the global oil industry has seen a transformation in the contractual structures used to purchase and sell crude oil. Modern spot markets have been developed since the early 1970s, and those were aimed at fine-tuning demand and supply that covered not more a few percent of international oil trade. In other words, spot and futures market are relatively new to the oil industry. Indeed, even today the majority of oil products are still sold under term contracts. Although spot and contract markets sell the same physical commodity, because of the many stipulations on the magnitude, price, and quality of the product delivered under long-term contractual arrangements, no arbitrage relation necessarily hold between spot and contract market magnitudes similar to those which hold between futures and spot market magnitudes. In the case of the US steam coal market, for example, Wolak (1996) find that there is a fairly large price premium on contract versus spot transactions. Our paper emphasizes that political risk becomes higher when there is an increase in international tension between two oil-trading partners. Such political risk is important in modern oil markets because state-owned monopoly companies control the oil sector in many oil-rich countries. An examination of the role of international politics in shaping the oil trade requires a good understanding of the contractual nature of global oil transactions.

Mityakov et al. (2013) (MTT, hereafter) provide the first

systematic macro-level analysis of the relationship between international politics and oil trade. In particular, MTT show that unlike many other traded goods, major-power countries with oil investment overseas diversify their oil imports significantly away from their political enemies. Moreover, the political effect on oil trade is concentrated among the subsample of nondemocratic countries with higher expropriation risk. The observed politics–trade relationship may be consistent with their *strategic commodity hypothesis*, which asserts that oil import is not driven solely by profit-maximizing motives because of the presence of strategic and security considerations imposed by governments.

MTT conjectured that oil imports could also be affected by political risk when oil trade is associated with backward vertical foreign direct investment (e.g., when the American oil company ExxonMobil invests in the heavy oil deposit in Venezuela and imports the Venezuelan oil that they produces back to the United States at the same time), which is subject to selective discrimination risks, such as tax renegotiation and expropriation. Oil production involves massive upfront investments in exploration, and geological knowledge is country- or even oilfield-specific. In the presence of sizeable appropriable quasi rent (Klein et al., 1978), it is common for bilateral oil trade to be subject to state influence with relationship-specific investment in exploration, pipelines, and refining capacity. Indeed, Kobrin (1984) and Hajzler (2012) show that foreign firms in mining and petroleum are more vulnerable to expropriation. A related reason why oil is only partially fungible is that oil has to be refined, and refineries are built to handle specific types of oil. For example, according to the EIA, “Venezuela's crude oil is heavy and sour by international standards, and hence a significant fraction of Venezuela's oil production must go to specialized domestic and international refineries” Under this *hold-up risk hypothesis*, only firms with oil investment overseas are expected to respond to international politics. In other words, to the extent that financial and commercial traders are not subject to any expropriation risk, one may expect changes in international politics has a smaller or even no effect on these profit-maximizing traders.

We find that financial and commercial traders also respond to changes in international politics. However, unlike other oil companies who reduce their oil imports with a significant time lag after deterioration in international relations, financial and commercial traders diversify their oil imports immediately after any political change. Moreover, although financial and commercial oil importers respond negatively to deterioration in international relationships in the short run, the total effect over time is insignificant.

Our results suggest that previous measures of oil import diversification based on country-specific risk are mis-specified, and that diversification index that is created to address energy security problem should be adjusted in a way that takes into consideration differences in international relationships that drive variations in political risk, which is country–pair-specific. Moreover, to the extent that hold-up risks impose political limits on oil trade, in designing energy security policies policymakers cannot ignore factors such as the organizational structure of the oil industry, foreign direct investment by multinational corporations, investment treaties, and the international legal framework.

The rest of the paper proceeds as follows: Section 2 reviews the empirical literature on the relationship between international politics and trade; Section 3 describes the data that are used to estimate the relationship between international politics and oil imports; Section 4 presents our initial evidence on the effects of international politics on oil imports from American firms; our main results focusing on financial and commercial traders are presented in Section 5; some policy implications are discussed in Section 6; and Section 7 concludes.

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