

## **OIL PRICES, GEOGRAPHY AND ENDOGENOUS REGIONALISM: TOO MUCH ADO ABOUT (ALMOST) NOTHING**

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### **NON-TECHNICAL SUMMARY**

Some observers have noted that one effect of oil shocks is to reverse globalization by reallocating flows in favor of more regionalism. Although the idea is appealing it has never been tested.

In this paper we examine the hypothesis that oil prices affect differently transportation costs across partners, leading to more regionalism. By distorting relative prices of goods, an increase in oil values provokes a reallocation of resources across countries and thus has implications for national and global welfare. More intuitively, if one believes that an increase in oil prices makes more distant partners less competitive, then one would expect oil prices to favor regionalism, thus acting as a resistance force against long distance trade. Oil price increases might then act on welfare as regional trade agreements (RTAs) would do. They would divert trade flows from more efficient (or low cost) partners to less efficient partners, resulting in a welfare loss for the importing country. For close exporters however, oil price increases would then be welfare creating. Nevertheless, there are two main differences between oil effects and RTAs effects. First, oil shocks would favor regionalism in an endogenous manner through market forces, while RTAs are government type interventions. The second difference is a corollary of the first one: oil price increases act as a tax on consumers' revenue, although without any compensation *via* government revenues.

The regionalism effect of oil prices has also implications for health and the environment. Although greenhouse gas emissions would be lowered globally because of less volumes shipped over long distances, the relocation of production should increase, in turn, local air pollution.

We consider a general transport cost function whereby the cost of shipping a good implies variable but also fixed costs and then take it to the test. This simple although realistic assumption makes the impact of oil shocks depend on the extent to which transport is governed by variable costs relative to fixed ones.

We then discuss how oil prices in this more general form can be affecting the geography of trade. It turns out that more distant economies suffer more from an increase in oil prices than

closer trading partners. That is because oil prices affect variable costs, which share in total costs increases with longer distance.

In a second step, we embody this new technology function of transport into a gravity equation and discuss how oil prices affect trade flows through changes in transportation charges.

In order to estimate empirically the oil impact on trade geography, we use Robert Feenstra's US bilateral imports and freight charges data at the SITC4 product level (over 1000 products). Alternatively, in order to account for transport modes in our equations, we use the same type of data by mode of transport kindly provided by David Hummels. The two series are available for the period 1974-2001. We first find that the elasticity of transport costs to oil prices to be around 0.1, where an observed country is at a median distance from the US. However, it is around 0.103 for long distance exporters (more than 10,000 kilometers) and around 0.088 for closer ones (less than 3,000 kilometers). Oil price changes lower then close countries' relative transport costs at the expense of distant partners. This has implications for trade flows. After estimating an elasticity of export to US market shares to freight rates to be around 1.12, we estimate an elasticity of relative market shares to oil prices to be around 0,013 for close to the US countries and -0,004 for faraway ones. We then simulate the contribution of last years dramatic changes in oil prices to market share changes into the US market. We find that the recent oil shock has had a maigre contribution: it marginally narrowed the observed decrease in Canada and Mexico's shares and had a small if not almost insignificant negative contribution on India and China's relative growth shares. Besides, we also look at the extensive margins by trying to estimate and then simulate the impact of the shock on the relative probability to export. Here too, we find that Canada and Mexico increase their relative propensity to export following the shock compared to India and China's likelihood of exports. But these changes are very small with respect to the huge increase in oil prices observed during the last shock.

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