The Regionalization of the World Economy

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Comment

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Charles Engel and John Rogers have written a stimulating paper, one that is apropos of the topics in this conference. Some of the papers we have discussed thus far have focused on trade flows and the predictive ability of gravity models. As several people have remarked, the standard neoclassical equilibrium does not predict gravity trade patterns. Indeed, in a neoclassical world of perfect competition and complete integration, bilateral trade patterns are not defined. In such a world, there are always perfect substitutes available for any good (since every producer is by definition "small"). Thus, volumes of trade do not tell us much; moreover, no observed pattern of trade can rule out perfect integration and competition in traded goods markets.

In this context, it is nice to have Engel and Rogers's paper, which focuses on prices rather than volumes. Under the hypothesis that complete integration and perfect competition prevail, bilateral trade volumes may not be defined, but relative prices are—the law of one price should hold. With this as a well-defined null hypothesis, Engel and Rogers ask whether gravity-type factors are important for deviations from the law of one price. Thus, we have tests of a well-specified null against a well-specified alternative hypothesis. This cannot be said of the gravity models, which try to explain trade flows.

In spite of this clear advantage to examining prices, there is, unfortunately, also a dark side to these data. Engel and Rogers use final consumption prices in their regressions. This has real disadvantages if one wants to understand the composition of trade and the integration of traded goods markets. All traded goods contain nontraded components by the time they are consumed—distribution and delivery services, advertising services, name-brand value, and so forth. These components differ markedly, even when the underlying "good" is exactly the same. Thus, it is not clear that one should interpret all deviations from the law of one price as a deviation from the law of one price.

As an example of this, I checked the price of a pint of Vermont-state pure maple syrup on my drive up to this conference in Woodstock, Vermont. The price of syrup at a tourist store was more than 40 percent higher than an identical pint at a large grocery store. This differential persists, in spite of the lack of a border or real distance between the stores. The differential might represent a rent to the tourist store; it might represent the tourist store's less efficient distribution system; or it might represent the value and cost of the service of providing a collection of Vermont gifts to the tourist. If it is the first, then a deviation from the law of one price has legitimately occurred, but if it is some combination of the latter two, then the pints of syrup are different goods when sold in the different stores. No strict comparison of price is, in that case, totally appropriate.

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With this as a caveat, I applaud the emphasis on distribution systems in the theoretical portion of Engel and Rogers paper. They have traded intermediate products being sold by a monopolistic "distributor." Two products sold in the same country (or in two countries within a "region") have the same distribution system. As a result, their price can differ only if the underlying traded good differs.

I have no doubt that differences in distribution systems are an important aspect of deviations from the law of one price. Unfortunately, Engel and Rogers have no means to identify the component of the deviation attributable to the distribution system, as opposed to, say, sticky prices. Thus, while their theory section is interesting and somewhat original, it does little to inform the tests that follow.

These tests demonstrate that the volatility of deviations from the law of one price is sensitive to the volatility of exchange rates, as well as, to a lesser extent, distance and regional grouping. When Engel and Rogers use as the dependent variable the "relative-relative price," they get similar answers. This relative-relative price is the ratio of a particular good relative to the CPI compared to the same ratio for another country. The idea of using this price is that the nominal exchange rate never enters in its computation, so that if sticky prices are driving the results, there should be little correlation of nominal exchange rate volatility with the volatility of relative-relative prices.

In fact, Engel and Rogers note that there is still a strong positive association between the volatility of relative-relative prices and that of nominal exchange rates. However, I wonder about this association. It is noteworthy that, in the regression estimates, the magnitudes of the coefficients are very different, yet the measured standard errors for each are small. This is unlikely to be an unbiased representation of what is going on. It suggests that the true standard errors are larger, thereby understating the importance of sticky prices in the results.

Two other points. First, it seems that the results, which rely on volatilities measured from monthly price changes, pick up mostly high frequency fluctuations. An alternative approach would measure the volatility of levels of relative prices (perhaps even around the theoretical mean dictated by the law of one price). This would provide lower-frequency information on the relationship between relative price volatility and exchange rate volatility.

Second, the ambiguous results on trade barriers do not seem surprising to me. Ceteris paribus, trade restrictions may enlarge deviations from the law of one price. In practice, however, trade policy is endogenous, and may respond to misaligned exchange rates. Thus, it is possible that highly restrictive trade policies will tend to kick in during periods when there are large misalignments, thereby tending to diminish deviations from the law of one price.

Overall, I found this paper an interesting and useful extension of work that both Engel and Rogers have pursued. This work is beginning to get at the difficult question of what explains intercountry price differentials. In this paper Engel and Rogers show that region and gravity have only a modest effect on

prices in comparison to exchange rate volatility. This tells us that the lack of integration is not really spatial, and that, if anything, it depends strongly on exchange rate arrangements that explain nominal exchange rate volatility.