Demand elasticities in international trade: are they really low?

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Abstract

At the intuitive level, trade economists generally believe that most developing and smaller developed countries do not have market power in the world market meaning that they face infinitely elastic demand for their goods. Yet, the estimates of import demand elasticities facing them rarely exceed 3. In this paper, we provide evidence supporting trade economists' intuition. Using highly disaggregated data on textiles and apparel and exploiting the fact that these products are subject to Multi-Fiber Arrangement quotas, we find the import demand elasticity facing Bangladesh to be 26. We also find high cross-price elasticity with respect to the competitor countries. © 2001 Published by Elsevier Science B.V.

To-date, econometric estimates of demand elasticities in international trade have defied the intuition of trade economists. The consensus is that most developing countries and smaller developed countries have virtually no market power in the world markets. The estimates of demand elasticities in international trade, on

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the other hand, have rarely exceeded 3. For instance, in the widely cited survey by Goldstein and Khan (1985), the estimates of the elasticity of demand, facing the exports of such small countries as Austria, Belgium and Denmark, are uniformly less than 1.6.

If we take these estimates seriously, the case for unilateral trade liberalization in small countries is seriously undermined. The estimates imply a considerable market power on the part of the countries and, beyond a point, make unilateral liberalization by them a welfare-reducing proposition. The estimates also raise doubts about exports serving as the engine of growth. For, even after we take into account the expansion of world demand due to growth in income, if price elasticities are as low as is suggested by the current estimates, a 20% per annum expansion of a country's exports is bound to worsen its terms of trade substantially. Likewise, the low elasticities cannot be reconciled with the rapid growth of East Asian exports that took place in recent decades at relatively stable terms of trade.

The sole author, who has seriously challenged the validity of the low elasticity estimates, is James Riedel. In an influential paper, published more than 10 years ago, Riedel (1988) tests and accepts the null hypothesis that Hong Kong is a small country. Riedel begins by rejecting the common assumption in the literature that the elasticity of supply of exports is infinite and, therefore, price can be treated as an exogenous variable. Instead, he treats both quantity and price as endogenous and, in the demand equation, estimates the price as a function of quantity. He finds that the change in the quantity does not have a statistically significant effect on the price. Thus, the small-country model is validated. Athukorala and Riedel (1991) confirm this result for the Republic of Korea.

The findings of Riedel (1988) and Athukorala and Riedel (1991) have led to a lively debate in the literature. Nguyen (1989), Muscatelli et al. (1992) and Muscatelli (1994) take issue with Riedel and defend the conventional, low elasticity estimates. While Riedel (1989) and Athukorala and Riedel (1994) stand their ground, a key weakness in the defense of the small-country assumption remains: their conclusion is based on statistically insignificant coefficients rather than an elasticity estimate that is large and statistically significant.

In this paper, we offer strong evidence supporting the position argued by Riedel (1988, 1989) and Athukorala and Riedel (1991, 1994). We estimate the US demand for the products imported from Bangladesh under the Multi-Fibre Arrangement (MFA) and find the own-price elasticity of demand to be consistently high and statistically significant. In the case we report in the paper, our estimate of the elasticity is 26. In other cases, it is even higher.

A key distinguishing feature of our estimates is their robustness. Authors estimating demand elasticities have had only limited success obtaining statistically significant coefficients. Using a Seemingly Unrelated Regression (SUR) model, we estimate a system of eight equations, one relating to each competitor of Bangladesh, with cross-equation restrictions. We estimate the model for some