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Are regional trading arrangements trade creating? An application of extreme bounds analysis

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Abstract

In this study, we use extreme bounds analysis to test the robustness of the hypothesis that regional trading arrangements (RTAs) are trade creating. Extreme bounds analysis provides a more rigorous test of specification uncertainty than traditional econometric theory by incorporating prior information and using a systematic approach to testing the fragility of coefficient estimates. The results show that the trade creation effect of most RTAs is fragile. Using a least squares estimator where all weight is attached to the sampling distribution, eight or more of the twelve RTAs considered are found to be trade creating. When the relative weight in the estimation is shifted from the sampling to the prior distribution, the number of RTAs that are trade creating falls to six at the 95 percent likelihood ellipsoid. Moreover, when we specify that not all RTAs are trade creating, four RTAs increase trade at the 95 percent likelihood ellipsoid. At the extreme bounds, when all weight is attached to the prior distribution, none of the RTAs are found to be trade creating. As a result, we conclude that the pervasive trade creation effect found in the literature reflects not the information content of the data but rather the unacknowledged beliefs of the researchers.

Keywords: Regional trading arrangements; Trade creation; Trade diversion; Gravity model; Extreme bounds analysis

JEL classification: F10; F15; C11

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1. Introduction

One of the major international developments in recent years has been the growth of regional trading arrangements (RTAs). As of July 2000, the World Trade Organization (2000) reported that there were 172 out of 240 RTAs in force, with the remaining 68 RTAs defined as under negotiation. The 1990s, especially, has seen an unprecedented proliferation of regional agreements. Of the 194 agreements, in existence or notified, to the General Agreement on Trade and Tariffs (GATT) or the World Trade Organization (WTO) in 1999, 87 were notified since 1990 (World Bank, 2000). With more than one-third of the worlds trade now taking place within regional trading arrangements, the recent growth in RTAs will play a significant role in world trade developments. While there are political reasons why countries choose to participate in RTAs, the rise in regionalism can be attributed to the perception that it provides the benefits of free trade with fewer of the accompanying adjustment costs (Krugman, 1993).

The international trade literature recognizes the potential of regional trading arrangements to increase trade among its members. However, concerns about whether regionalism enhances the volume of trade within the bloc or simply diverts bilateral trade away from countries outside the bloc can be attributed back to Viner (1950) and Meade (1955) who first distinguished between trade creation and trade diversion. Specifically, trade creation occurs as low-cost member countries displace high-cost domestic producers. Trade diversion, on the other hand, occurs when members of a trading bloc reorient their trade away from low-cost, nonmember countries towards higher-cost, member countries. Viner and Meade both conclude that regional trading arrangements can either increase or decrease world welfare depending upon the relative magnitudes of the trade-creation and trade-diversion effects.

The dramatic rise in the number of regional trading arrangements has led to an increase in the number of studies investigating whether RTAs are trade creating or diverting. The majority of the researchers use the gravity model to test for the trade effects of RTAs.[1] Based upon Newton's Law of Gravitation, the gravity model equation predicts that the volume of trade between two economies should increase with their size (proxied by real GDP) and decrease with transaction costs (measured as bilateral distance).

By estimating various forms of the gravity model equation, a consensus has emerged among researchers that RTAs are trade creating. For example, early studies by Aitken (1973), Bergstrand (1985) and Thursby and Thursby (1987) shows that the European trade blocs increased trade during the 1960s and 1970s. Later work by Frankel and Wei (1993, 1995) and Frankel (1997) find evidence of trade creation in Asian and North American trading blocs from 1970 to 1992, while Soloaga and Winters (2001) find trade creation in Latin America during the 1990s. Recent papers by Rose (2000), Feenstra et al. (2001) and Frankel and Rose (2002) find that regional trading arrangements, in general, are trade

[1] Exceptions include Balassa (1974) who estimate income elasticities of demand for imports and Resnick and Truman (1973) and Winters (1984, 1985) who estimate systems of import demand equations.