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Impacts of integration of Brazil with the European Union through a general equilibrium model

Impactos da integração do brasil com a união europeia através de um modelo de equilíbrio geral

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Abstract

This study analyses the bilateral trade between Brazil and the European Union (EU) in the period 2002–2012, examining the trade opportunities based on a full integration process. It employs a computable general equilibrium model from the Global Trade Analysis Project (GTAP), aiming at identifying the sectors that would benefit most from the agreement, according to their technological intensity. The results show that Brazil benefits most from the agreement in terms of welfare and would also increase the country's exports of primary products. However, it would cause a decrease in production and exports of products with higher technological intensity, increasing the country's imports from the EU, in line with their comparative advantages.

JEL classification: F15; F14; C68

Keywords: Economic integration; Brazil; European Union; GTAP

Resumo

Este estudo investiga a evolução do comércio bilateral Brasil-União Europeia (UE) no período 2002–2012 e identifica oportunidades de comércio a partir de simulações de integração econômica do Brasil com o referido bloco. É utilizado o modelo de equilíbrio geral computável *Global Trade Analysis Project* (GTAP), a fim de mensurar os resultados da integração Brasil-UE, buscando identificar os setores mais beneficiados de acordo com sua intensidade tecnológica. Os resultados apontam que, apesar do Brasil ser o maior beneficiado em termos de ganhos de bem estar, a criação do bloco aprofundaria a recente tendência de aumento

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das exportações de produtos primários. No entanto, haveria uma queda da produção e da exportação do país de produtos de maior intensidade tecnológica, com o respectivo aumento das importações do bloco europeu, seguindo as suas vantagens comparativas.

Palavras-chave: Integração econômica; Brasil; União Europeia; GTAP

1. Introduction

The European Union (EU) is an important trade partner of Brazil, representing 22.5% of Brazilian total trade in 2012, according to MDIC (2014b). However, since 2014 Brazil no longer benefit from the EU's generalized scheme of preferences (GSP), loosing preferential tariff treatment granted to developing countries exports, as it was classified as an upper middle income country. As Brazil resumed talks on a possible EU–Mercosur agreement in 2013,[1] opening the possibility of individual negotiations among Mercosur members, the formation of a preferential trade agreement could reverse the loss of this GSP preferential treatment with the European block.

This paper investigates the evolution of the Brazil-EU bilateral trade in the period 2002–2012 and identifies trading opportunities resulting from a trade agreement of Brazil with the EU. The paper employs a computable general equilibrium model, using the 8th version of the standard Global Trade Analysis Project (GTAP)[2] database, based on perfect competition and constant returns to scale. The simulation measures the impacts of the agreement on welfare, trade and production on both regions and the rest of the word. With initial equilibrium in 2007, the original 57 aggregated sectors were classified according to the technological intensity to perform the simulation in which the import tariffs between Brazil and the EU were removed.

The period covered by this study, 2000–2012, justifies itself by a greater role of the so-called emerging economies, including Brazil, in the world economic scenario. Such role has been boosted mainly, by higher economic growth of these economies in the period. Alongside, the decade was marked by a strong recovery in commodity prices, the main component of Brazil's export, accounting, in 2012, according to MDIC (2014b), by approximately 45% of total exports.

The paper is organized as follows: The second section presents an analysis of the evolution of Brazil's trade with the EU for 2000–2012, with emphasis on technological intensity of bilateral trade. The third section presents the computable general equilibrium model, as well as empirical studies that deal with the theme of this research. In the fourth section the methodology adopted is exposed and the results are analyzed. Finally, the last section concludes.

2. Brazil–EU trade

The European Union (EU) origin dates back to 1957, when the creation of the European Economic Community (EEC), by the Treaty of Rome, established the free trade of goods, services and labor between country members.[3] In 1994, with 15 country members, the block became known as the EU. The European block, currently with 28 nations, is Brazil's second largest trading partner. In 2012, 61.3 per cent of EU trade was intra-block, according to MDIC (2014b), and the main EU partners outside the block were the United States of America (USA), accounting for 6.2% of EU trade volume, and China with 3.2%.

Table 1 shows that in the period 2000–2012, trade between Brazil and the EU has more than tripled, moving from, approximately, USD 30 billion in 2000 to nearly USD 97 billion in 2012.

According to Carvalho (2009), Brazil is the EU's main economic partner in Latin America. However, Hoffmann (2012) points out the fact that Brazil is responsible for less than 1% of total European exports and imports, suggesting that there is still great potential in commercial relationships by Brazil. The EU exports largely, capital goods and services in exchange for Brazilian commodities. While Brazil is a major supplier of raw materials and food, European

[1] Negotiations began in 1995 between the Southern Common Market (Mercosur) and the EU for the formation of a free trade zone between them.
[2] Hertel (1997).
[3] There were agreements between the previous partners to this block, especially the Treaty of Coal and Steel, in 1952.