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Economic growth and balance-of-payments constraint in Brazil: An analysis of the 1995–2013 period

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Abstract

The purpose of this work is to analyze the balance-of-payments-constrained growth in Brazil considering Thirwall's Law (1979). To this end, we estimate export and import demand functions using two econometric models: vector error correction and structural state space model for the period of 1995–2013. Our results suggest that the balance of payments is a constraint to the Brazilian economic growth, given: (i) the ratio between exports and imports income elasticities; (ii) the low sensitivity of exports to changes in the real exchange rate; and (iii) the evidence that exports are more sensitive to alterations in commodities prices than to changes in the real exchange rate.

JEL classifications: F43; F14

Keywords: Balance-of-payments-constrained growth; Exports; Emerging economies; Demand-led growth

Resumo

O objetivo principal deste trabalho é verificar se o balanço de pagamentos é uma limitação para o crescimento econômico brasileiro, no período que compreende os anos de 1995 até 2013, considerando o arcabouço teórico de Thirlwall (1979). Para o alcance desse objetivo, foram estimadas as funções demanda por importações e exportações através de dois modelos econométricos: vetorial de correção de erros e modelo estrutural em formato de estado de espaço para o período 1995–2013. Os resultados empíricos deste trabalho confirmam que o balanço de pagamentos é uma restrição ao crescimento econômico brasileiro, dado tanto pela razão entre as elasticidades-renda das exportações e importações, como também pela baixa sensibilidade das exportações ao câmbio real. Logo, o ajuste da balança comercial via alterações suaves da taxa de câmbio tem pouca eficácia para o caso brasileiro. Além disso, as exportações são mais sensíveis aos preços das commodities do que à taxa de câmbio real.

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1. Introduction

The concern about the extent to which external constraints to the balance of payments (BOP) may limit the long-term growth of economies in general, and of peripheral ones in particular, is a central theme in various theoretical traditions critical of *mainstream* Economics. Thus, for example, Structuralist and Keynesian models do not agree with the conventional view that the long-term economic performance depend essentially on supply side factors (Pasinetti, 1981, 1993; Thirlwall, 2013; Cimoli and Porcile, 2014). Additionally, they do not work with the same micro-fundamentals derived from the assumption that economic agents make their decisions in competitive conditions and through rational expectations.

Those alternative views have in common the emphasis they put on events on the demand-side, the importance they give to institutional factors, the significance of the inter-relationship between the monetary-credit side and the real side of economies, and the denial that macroeconomic outcomes are mere aggregate results of decisions taken at the microeconomic level. A special case in non-mainstream literature is Thirlwall (1979) and the subsequent developments it inspired (Thirlwall and Hussain, 1982; Moreno-Brid, 1998/1999, 2003; Barbosa-Filho, 2001; Araújo and Lima, 2007; Carvalho and Lima, 2009; Gouvea and Lima, 2010; Ferrari et al., 2013).

Thirlwall's Law (TL, from now on), in its original form, suggests that an economy cannot grow above the pace of global growth if the income elasticity of exports is lower than the income elasticity of imports. As himself recognizes (Thirlwall, 2011, 2013), this view originates from the seminal works of Harrod (1933), Prebisch (1949, 1982), Chenery and Bruno (1962) and Chenery and Macewan (1966). All these authors tackle an essential issue: what a country produces and exports, as well as how the rest of the world spends, are crucial issues to the long-term growth dynamics of an economy.

Taking those considerations into account, *our main goal* in this paper is to assess whether, in the case of the Brazilian economy, it can be observed a change in exports and imports elasticities that might have, precisely, led to a greater external constraint to its growth. We plan to do this by applying two complementary econometric approaches: the structural models in the format of State Space, also known as unobservable components model; and the vector error correction model (VEC), which is a variation of the vector autoregressive model (VAR). As far as we have knowledge, this combination of approaches has not been done to date, thus, it could be a contribution to this subject.

The *central hypothesis* of our study is that the ongoing process of regressive specialization[1] is potentially worsening Brazilian external constraint to growth, in the sense expressed by Thirlwall (1979). We suggest, following the previous literature in this subject, that the deindustrialization process (Palma, 2012), coupled with a greater dependence on natural resources exports, might lead to changes in elasticities for both imports and exports. Imports of manufactured goods, especially those with higher technological complexity, tend to become increasingly more sensitive to changes in national income; while exports of natural resources tend to become less sensitive to changes in world income. Consequently, the BOP under these conditions would suffer constraints as Brazil's lower exports income is coupled with a higher imports expenses.

In order to reach our *main objective* and to test our *central hypothesis*, we thought best to analyze two phases both ending in 2013: a more extensive one (1995–2013), that begins after the Real Plan, that is the stabilization policy, which we will call period 1 (P1 from now on); and a shorter one, period 2 (P2, 2001–2013), that starts with the effects of China entry into the World Trade Organization (WTO). The main results from those econometric models point out that, in fact, the external restrictions on growth for Brazil has increased, especially after 2001. This result is in conformity with Thirlwall's Law.

This paper continues as follows: Section 2 presents a short review of the literature on the matter; Section 3 describes the methodology and the results of our study; Section 4 presents our conclusions.

[1] By regressive specialization we refer to the reversal of the modernization trends experienced during the post war period, sometimes called developmentalism, which led to a productive and foreign trade structures characterized, among other things, by: (i) diversification – at sector and product levels; (ii) an increase in manufacturing sector's share in the total value added; (iii) an increase in manufacturing products' share in total merchandise exports; and (iv) a significant increase in productivity associated with those structural changes. Therefore, a regressive specialization should be expected when productivity is stagnated, manufacturing sector value added grows below the GDP average, and exports are increasingly natural resources-oriented. Further references on this matter can be found in Palma (2012), Nassif et al. (2013), Unctad (2014), Cimoli and Porcile (2014), Bichara et al. (2015) and Unido (2016).

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