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Regional trade agreements, integration and development

Abstract

Developing countries have become more active participants in regional trade agreements, which raise questions about how the benefits of integration are distributed. A key concern is whether countries at the low end of the income spectrum are able to capture development gains from integration. Historically, such impacts have been difficult to identify with precision. This paper contributes to the understanding of such issues by analysing the impact of regional integration on growth and within country inequality. The investigation develops two measures of regional integration using trade agreement participation as a proxy for preferential trade access. The analysis shows that regional integration leads to higher economic growth and lower within-country inequality in member countries. The direct development effects can be further enhanced by a second transmission channel whereby a country captures indirect benefits from any agreements to which its trading partners are party. The ability to capture gains from integration varies across developing country regional groups with developing Asia benefiting on par with the developed world.

Key words: Free trade agreements, regional integration, panel data, low-income countries, least developed countries



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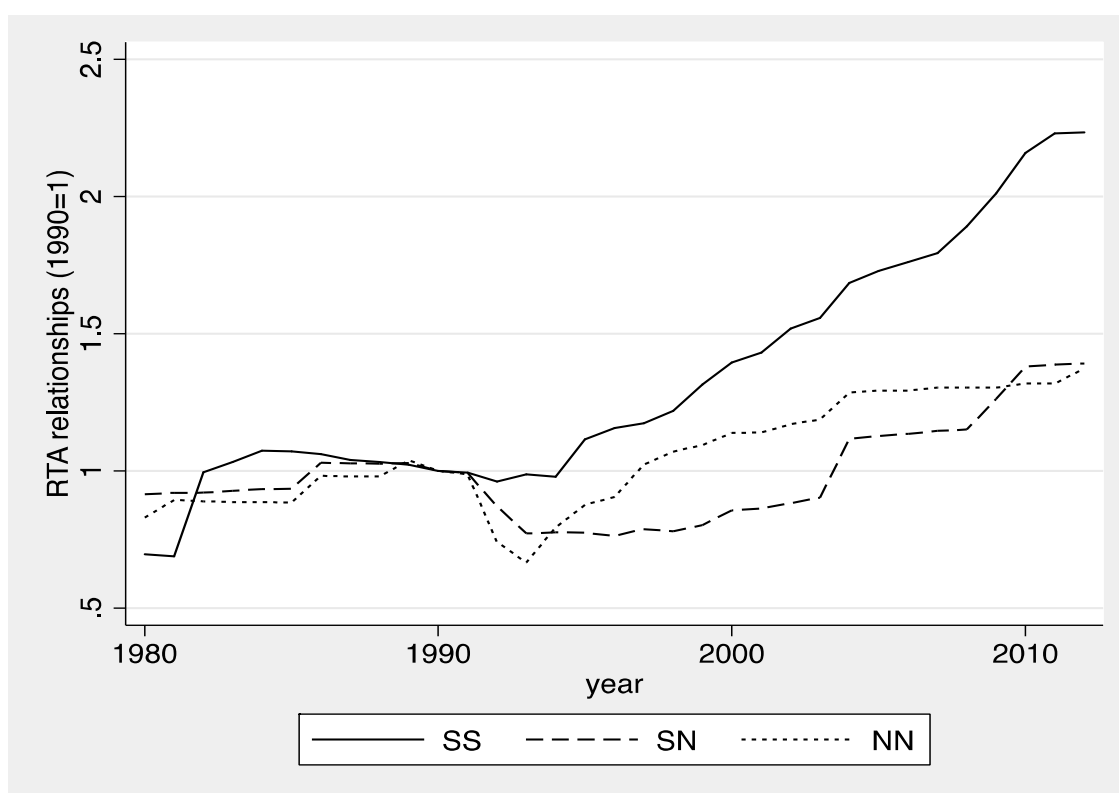
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1. Introduction

Regional trade agreements (RTAs) can be a useful tool in promoting growth.¹ RTAs structure trade in a way that can increase domestic productive capacity, promote upward harmonization of standards, improve institutions, introduce technical know-how into the domestic market and increase preferential access to desirable markets. These are outcomes that could benefit developing economies in general and particularly the least developed countries (LDCs) and other low-income countries. However, most studies of regional integration agreements show that, on average, low-income countries benefit less (see for example Ariyasajakorn et al., 2009; Feenstra, 1996).

Despite the relatively low benefits for LDCs, every country in the LDC category is a member of at least one RTA. The agreements range from partial scope agreements to economic integration agreements targeting political union. Most RTAs involving LDCs are South–South agreements (figure 1), which are generally poorly implemented and not known to be particularly beneficial for the industrialization of partner countries. There is also an increasing, albeit small, number of agreements in which LDCs are part of North–South agreements (for example the European Union–Caribbean Forum (CARIFORUM) Economic Partnership Agreement). The expected impact of LDC participation in North–South agreements is larger, but few studies have sought to quantify the impact.

Figure 1. Regional trade agreements by trading partner type (1990–2015)



Source: Authors' calculations based on IMF data and Bergstrand (2015).

Note: SS represents South–South; SN, South–North; and NN, North–North RTA relationships.

The paper's motivation is rooted in the Sustainable Development Goals. The Goals clearly recognize the role of trade as a potential development tool. In particular, they highlight the role inequality plays in holding States

¹ Regional trade agreements are defined as any agreement involving tariffs lower than most-favoured nation rates.

back (Goal 10 concerns reduced inequalities) and the potential role trade can play in addressing this (Goal 2 targets zero hunger and Goal 8 targets decent work and growth). In 2016, RTAs were the de facto way to access the global trade regime. As a result, a clear understanding of whether RTAs promote developmental outcomes such as reducing inequality is paramount.

This paper explores the question of how trade agreements affect inequality using two levels of analysis. The first is at the national level. A sovereign State can join an existing RTA or create a new one with its trading partners. The introduction of new trade relationships will affect between-household inequality in member States mostly through the impacts on the labour markets and wage earnings, akin to the general links between trade and poverty, although the direction is unclear.

The second level is regional. Not all neighbouring States have RTA relationships. Yet where an RTA exists, even non-member States are impacted by changes in trade flows. That is, there are potential impacts for a country that is not in a formal RTA but trades extensively with countries that are highly exposed to regional agreement with other countries. This feature is incorporated into the analysis by estimating the effects of RTAs enacted by trading partners of a country with third parties. To differentiate this from the direct benefits of being a party to an RTA, this indirect measure is referred to as external exposure to regionalization.

The literature on the impact of RTAs on non-member countries has focused largely on trade outcomes (see for example Winters and Chang, 2002) and growth rates (Hur and Park, 2012). Trade, on average, improves a country's growth and such an impact is expected to be higher in less developed countries. However, trade has multidirectional impacts on inequality and development.

This level is particularly critical for LDCs, which would have the most to gain if RTAs narrowed regional gaps in inequality. Yet, while LDCs often receive the most preferential treatment, their vulnerability to shocks makes the benefits from openness (both direct and indirect) less evident. While RTAs can lead to convergence, some show that the poor countries in a region are more likely to diverge (see for example Venables, 1999).

This paper attempts to capture both growth and development effects by considering whether lower levels of within-country inequality can be attributed to RTAs, controlling for the impact on low-income countries and other regional groups.

Two new measures of regional integration are introduced. The first measure is based on bilateral trade between RTA members and captures the ability of a country to have a self-determined regional trade policy. The second relates to the situation when a country is engaged in the regional networks of other countries. The results show that both a country's own regionalization and its exposure to the regionalization of others positively contribute to economic growth globally. However, the results vary according to developing country clusters, with some areas such as sub-Saharan Africa having experienced relatively lower growth as a result of internal regionalization and exposure to regionalization.

In addition, growth results in positive distributional outcomes in the developing country clusters that are involved in more regionalization, compared with the rest of the world. For example, in developing Asia, a 10 per cent increase in internal regionalization resulted in a nearly 3 per cent reduction in income inequality. This suggests that location in a region that is characterized by noodle bowl regional trade policy activities observes a lesser increase in inequality.² The paper also addresses the impact of various types of regionalization on inequality through its impact on gender.

Liberalization increases trade by lowering the tariffs that distort markets. Going one step further, trade has been shown to increase growth (see for example Frankel and Romer, 1999). However, the evidence about how openness impacts development-relevant indicators is less conclusive. This has been recognized at the multilateral level, and policymakers have introduced policy guidelines aimed at making trade more inclusive for all participants. One of the most prominent examples is the European Commission's Sustainability Impact Assessment that was first developed for the World Trade Organization (WTO) Doha Development Agenda

² Baldwins (2006), referred to the well-known puzzle of overlapping RTAs described by Bhagwati (1991) as 'spaghetti bowl', 'noodle bowl', to describe the proliferation of trade agreements in Asia.

negotiations. It promotes corporate social responsibility, which has been shown to translate into more socially sustainable trade (Vidal-Leon, 2013).

The literature shows a number of transmission channels for welfare gains from trade. The lessons from the trade literature are great, especially the contribution of various elements to changes in income. However, Arokolakis, Costinot and Rodriguez-Clare (2013) suggest that the welfare gains from trade may vary by input, that is, imports of intermediate inputs and supply networks, yet overall can be estimated by looking at standard trade statistics.

The literature that explores the impact of liberalization on household inequality has tended to show mixed impacts in developing countries. Over time, even as globalization has progressed, inequality has increased by many measures (Harrison et al., 2010). Goldberg and Pavcnik (2007) show that inequality increases since gains from trade are directed mainly to skilled workers. Both Chang et al. (2009) and Dollar and Kraay (2004) show that increasing openness leads to faster growth and less absolute poverty in poor countries, but with ambiguous impacts on household inequality.

Other studies focus on demand forces to explain cross-country differences in income or welfare as a result of trade, showing a strong positive relationship between prices and the country's income per capita (see for example Feenstra and Romalis, 2014). Fajgelbaum et al. (2011) suggest that income inequality within a country matters for trade patterns and the pricing of traded goods.

Of course, RTAs are not purely about liberalization (see for example Grossman, 2016), and lower average tariff rates are only one element. They are also characterized by limitations on policy space, preferential market access to partner countries and behavioural changes to firms in impacted sectors. Thus, while this paper is related to the literature on welfare impacts of liberalization, the effects shown are related but not parallel. The paper aims to contribute evidence on the potential of trade to benefit all populations, at a time when the gains from trade are being questioned on a global scale.

Section 2 presents the empirical approach to measuring the impact of regional integration on development and describes the data. Section 3 presents the results of the empirical estimations. Section 4 concludes.

2. Channels linking trade integration and development

2.1 Impacts and channels of regional trade agreements on trade

Regional integration has long been a tool in trade promotion; increased trade flows and evolving commercial links within RTAs have been forged within and between regions in the last two decades. In developing countries, trade agreements help determine national trade policy and thus potentially could amplify the impact of trade on development. RTAs have the potential to promote higher standards in terms of labour, environment, transparency and other progressive reforms and non-economic policy objectives. Even if such benefits are realized, there are concerns about policy sovereignty and the balance between commitments and flexibility.³

There is a large body of literature on the impact of RTAs and preferential trade agreements, particularly on trade patterns. However, the empirical evidence is not conclusive; see for example, Estevadeordal et al. (2008) for a related discussion. There are many micro-level characteristics that are simultaneously impacted under the political and commercial effects of an RTA. Many of these are affected by the underlying reasons for the implementation of an RTA (for example commitment, foreign aid and integration) and are therefore endogenous. However, the aggregate trade impact is generally independent of the motivation for an RTA.

This paper does not distinguish between types of trade agreements. While there are different and distinct regional and income-based patterns of integration, the analysis explores impacts rather than drivers and, therefore, extrapolates from the typology. Some trade arrangements are non-reciprocal (for example,

³ See Bagwell and Staiger (2001) for a related discussion about national policies in the context of international economic institutions.

Everything but Arms or the African Growth and Opportunities Act). These agreements most often function as a foreign aid tool and may not have strong trade impacts. There are also differences in the content of agreements – RTAs in Asia tend to forego dispute settlement, while United States of America-based agreements tend to include rules on intellectual property that go beyond what is required by WTO. The scope of RTAs also differs. While RTAs notified under Article XXIV of WTO must ultimately cover substantially all trade, partial scope and South–South agreements do not have this requirement and may cover only a very limited selection of goods and services.

From the earliest iterations of the RTA literature (Viner, 1956) it has been acknowledged that in addition to direct impacts on RTA members, RTAs also have impacts on countries that have existing trading relationships with new RTA members. This has developed into discussions on whether the proliferation of RTAs promote freer global trade (see for example Summers, 1991; Maggi, 2014) or disrupt the natural process of global liberalization (Bhagwati 1991; 1993; 1995).

Thus, within-RTA and outside-RTA effects, referred to in this paper as internal regionalization and exposure to regionalization, must be differentiated. A key contribution of the paper is the construction of two indices of regionalization, measuring trade between countries and trade with partners that are connected under different agreements to other countries. Internal regionalization (Reg1) is determined within a country, as a result of domestic policies. Exposure to regionalization (Reg2) gauges the weighted regionalization of the trading partners, or the third market effect. Both measures are aggregates built on RTA activity either by the member country or by its trading partners. Aggregation of the information allows for the measurement of the effect of general engagement in globalization policies, without concerns about the nature or involvement of such engagement.

2.1.1 Internal regionalization

RTAs drive international trade and promote stronger ties between countries. They do this through the elimination or reduction of barriers to trade such as import tariffs, export duties and quantitative restrictions. Trade liberalization benefits both members and non-members through preferential market access and internal commitments to lower domestic barriers to trade. Thus, an RTA may amplify the development impact of trade by increasing trade flows and access to goods and services, improving institutional and policy environments and improving distributional outcomes.

Regionalization refers to trade between several countries, connected under different agreements to other countries. This bilateral trade linkage, internal regionalization (Reg1), is measured as follows:

$$Reg1_i = \frac{trade_{ij} * RTA_{ij}}{\sum_j trade_{ij}} \quad (1.1)$$

where the regionalization of a country i in relation to bilateral trade with partner country j (Reg1), is measured as trade covered under any type of RTA as a percentage of total trade, and RTA is a preferential trade agreement of any type. Reg1 is bounded (0 and 1). If a country does not participate in RTAs of any type, the measure equals 0. The closer the value is to unity, the larger the share of a country's total trade that is conducted under various RTAs. The measure Reg1 is directly influenced by the number of members of an RTA and the volume and value of trade among them. Thus, this is defined as an endogenous variable in growth regressions.

2.1.2 External exposure to regionalization

The previous studies have focused on direct impacts of regionalization through trade creation and diversion. However, from a development perspective, the potential for neighbourhood spillovers introduces an additional development channel. This can be thought of as indirect RTA participation. That is, there are potential benefits from exposure to integrated markets, even if a country is excluded from a formal RTA.

In this case, the development channel is the possibility of opening up a large export market for country k (alternative destinations), particularly in the presence of strong intermediate trade linkages through supply chains to the country j that signs an RTA. In addition to the prospects for market diversification, a measure of indirect participation effect potentially captures the impact in regional and global markets of larger players, such as China. There are also potential costs arising from a country's exposure to the regionalization of its trading partners, particularly in terms of growth and distributional effects.

The measure of indirect participation (Reg2) gauges the weighted regionalization of trading partners. That is, the focus of Reg2 is third-country effects, not the bilateral trade partner of country i but the trade partners of country j . The index of exposure to regionalization (Reg2) is defined as follows:

$$Reg2_i = \sum_j \left(\frac{trade_{ij}}{\sum_j trade_{ij}} * Reg1_{j,-i} \right) \quad (1.2)$$

where $\frac{trade_{ij}}{\sum_j trade_{ij}}$ is the share of trade ij in the total trade of country i ; and $Reg1_{j,-i}$ is the same as Reg1 for country j , calculated without taking into account the trade between country pair ij .

If the trade between country pair ij constitutes 50 per cent of the trade of i and 70 per cent of the trade of j is performed under some form of regional trade agreements with countries other than i , then Reg2 for ij is $0.5 \times 0.7 = 0.35$. Similar to Reg1, Reg2 is bounded between 0 and 1. If country i is isolated from secondary regional integration, then $Reg2 = 0$. The more a country is connected to countries that are integrated regionally, the higher the value of the measure. Thus, this value is highest for countries located in bowls of regionalization. It should be noted that Reg2 is not a measure of trade diversion of an RTA. In its calculation, the exposure to regionalization of country i 's own RTA partners is not excluded - with the exception of country i itself.

Reg1 is a measure of domestic policy, as it is a decision made explicitly by each country involved. However, in the current economy, RTAs are rarely concluded between two countries that have no other RTAs. Reg2 captures this effect. Reg2 is effectively an indicator of the development spillovers country i captures from its location in an area of higher intensity regionalization.

2.2 Estimating the effect of regional integration on development

This paper seeks to empirically quantify the growth and distributional impacts of regional integration. Particularly, it examines whether growth and inequality fare differently in low-income countries and the least developed countries, as well as in other developing country clusters.

The following growth equation is estimated:

$$\begin{aligned} GrowthGDPpc_{it} = & \beta_0 + \beta_1 Reg1_{it} + \beta_2 AreaDummy \times Reg1_{it} + \beta_3 \ln(gdppc_{it-1}) + \\ & + \beta_5 \ln(Educ_{it}) + \beta_5 \ln(lagHHineq_{it}) + \beta_6 \ln Invest_{it} + \beta_7 \ln(GovExp_{it}) + \beta_8 \ln(M2_{it}) + \\ & + FE_i + FE_t + \varepsilon_{it} \end{aligned} \quad (2.1)$$

Following Iradian (2005), the specification on the inequality effects of growth and trade is augmented to analyse the impact of regionalization:

$$\begin{aligned} \ln(HHineq_{it}) = & \beta_1 Reg1_{it} + \beta_2 AreaDummy \times Reg1_{it} + \beta_3 \ln(gdppc_{it}) + \\ & + \beta_4 \ln^2(gdppc_{it}) + \beta_5 \ln(Educ_{it}) + \beta_6 \ln(lagHHineq_{it}) + \beta_7 \ln(GovExp_{it}) + \beta_8 \ln(FinOpen_{it}) + \\ & + FE_i + FE_t + \varepsilon_{it} \end{aligned} \quad (2.2)$$

where *AreaDummy* represents either a region or a set of regional dummies. If $\beta_1 < 0$, it implies that the impact of participation in RTAs or regionalization reduces growth or inequality, on average. If $\beta_2 < 0$, then a developing country region is experiencing the inequality and/or growth decreasing impact of higher regionalization. An analogous regression is estimated for secondary exposure to regionalization (Reg2). The standard controls from the literature included in the analysis are as follows: level of human capital as measured by enrolment of school-age children, robust to Barro-Lee measure (*Educ*); government consumption as share of Gross Domestic Product (GDP) (*GovExp*); financial openness (*FinOpen*); share of investment in GDP (*invest*); M2 as a share of GDP (*M2*); inequality as measured by the Gini coefficient (*HHineq*); growth of GDP per capita (*Growth*); and GDP per capita of the previous period (*LagGDPpc*). All measures are in logarithms (*ln*) to represent the elasticities between parameters.

Development cluster dummies take several values, as LDC dummy, regional dummies (sub-Saharan Africa, dummy for Sub-Saharan Africa (SSA); developing for Asia (all non-high-income countries in the Asian region), dummy DevAs; for Latin America and the Caribbean, dummy LA) and income-related dummies according to World Bank classifications (low-income countries, dLIC; lower middle-income countries, dLMIC).

2.3 Data definition and sources

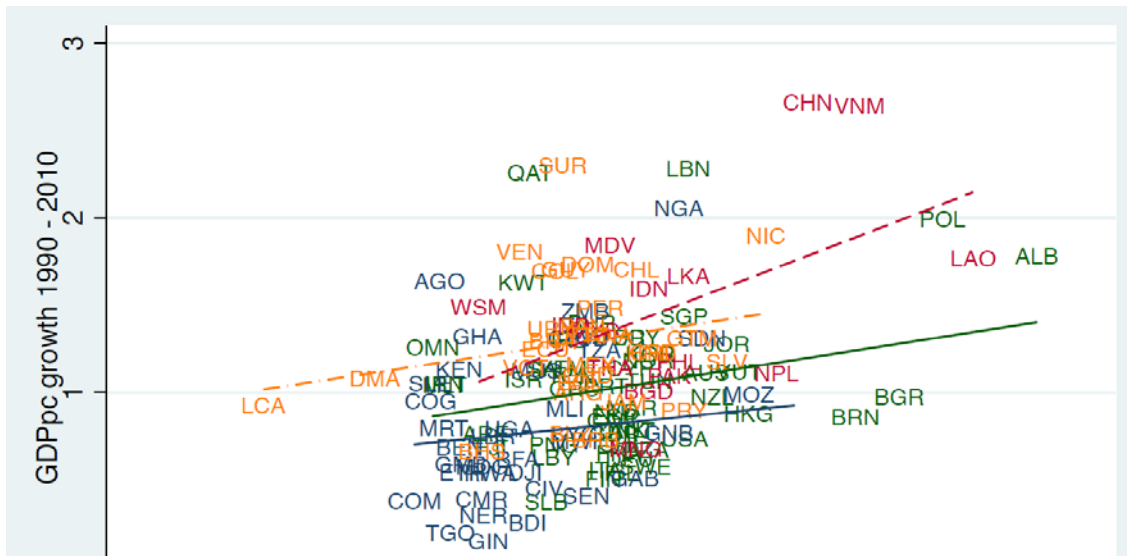
The sample covers over 100 countries (101–176, depending on specification and data availability) for the period 1990–2010 (5-year averages). RTA data is drawn from Bergstrand (2015), and the developing country clusters for the empirical analysis are sub-Saharan Africa, developing Asia, and Latin America and the Caribbean. The analysis also controls for income levels, namely LDCs and low and middle-income countries. Bilateral trade flows are from the IMF Direction of Trade Statistics. Other control variables described above are from the World Bank Worldwide Development Indicators database (WDI). The financial openness indicator is from the Chinn-Ito index (2014)⁴ and income inequality is from WDI and the United Nations World Institute for Development Economics Research (UNU-WIDER)'s World Income Inequality database (WIID). Based on the availability of data, the sample of countries varies by estimation. Complete data descriptions and sources are provided in the annex.

3. Empirical Results

3.1 Internal and external exposure to regionalization

The key premise of this paper is that, in the aggregate, participation in RTAs (Reg1) is associated with higher economic growth and lower inequality (figures 2 and 3). The impact is strongest in developing Asia and also evident in Latin America.

Figure 2. Regionalization 1 and Economic Growth



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