Our analysis finds evidence of positive, negative and not significant effects of TAs on both South-South and North-South trade relationships, on trade volumes and on the value per unit of manufacturing products exported, relative to trade with non-members. The magnitudes of our findings are similar to the estimates in the empirical literature on the effects of TAs on trade. Our findings on the heterogeneous of effects of TAs appear to indicate that TAs can have positive and negative effects on North-South and South-South bilateral trade relationships, and that declaring them as stumbling or building blocks of industrial development and growth is not straight forward.

**Potential Determinant Mechanisms of Heterogeneous Effects of TAs**

Some potential determinant mechanisms of the effects of TAs in the academic literature are related to the content of the TA, and the extent to which it removes trade barriers. TAs should have more potential for larger effects when they remove trade frictions imposed by other trade policies and regulations, domestic or foreign (Baier et al., 2019). Moreover, unilateral trade policies can create a terms-of-trade inefficiency externality when a government introduces a higher trade barrier, shifting the cost to foreign exporters (Bagwell & Staiger, 1999). Since foreign exporters bear the cost of the inefficiency, there is a tendency by governments to set barriers at a higher level than it would be politically efficient. TAs can act as a mechanism to remove or lower said inefficiencies, resulting in better trade and welfare outcomes, or in an observed higher effect of a TA relative to non-members in our case. Through trade diversion, there is a theoretical possibility that the proliferation of TAs can harm the terms of trade of non-TA-members and create significant inefficiencies in the world trading system (Anderson & Yotov, 2016), but empirical evidence so far finds that TAs negligibly harm non-members and global efficiency rises.

Another strand of the relevant literature emphasises the extensive margin of trade ex-ante the signature of a TA as an important determinant of its effects. In particular, that TAs have an important effect in the growth of the extensive margin of trade, which in turn is a significant factor in the overall growth of total trade (Kehoe & Ruhl, 2013). If a TA is signed between country members with low diversity of traded goods, it is expected that we will see a bigger effects of the TA in trade growth driven by the increase in the number of goods traded and in the volume of trade of the least-traded products (Kehoe et al., 2015). Interestingly, empirical research shows that the number of products exported ex-ante is positively related to the trade creation after a TA, but when heterogeneous effects of TAs within agreements and country-pairs is taken into consideration, the extensive margin of trade does account for differences in trade creation (Baier et al., 2019).

There is also evidence that different types of agreements, such as non-reciprocal preferential trade agreements (NRPTAs), preferential trade agreements (PTAs), free trade agreements (FTA), customs unions (CU), common markets (CMs) and economic unions (EUs), can have different levels and time horizons of trade effects (Baier et al., 2014; Magee, 2008). This can occur because different types of TAs can induce different unobservable effects that reduce trade costs, as we observe that modern TAs not only reduce tariffs, but also regulate all kinds of non-tariff issues in what is called “deep integration” (Anderson & Yotov, 2016). The deeper the integration, the more effective we expect TAs to be (Kohl, 2014). It has also been shown that the design of TAs matters, in terms of institutional design and legal enforceability, with more comprehensive agreements being better at stimulating positive trade outcomes (Kohl et al., 2013).

The differences in market power across member countries could also be important, as countries with less market power relative to other TA members over their terms of trade are expected to grant smaller concessions when they negotiate agreements. Agreements between countries with relatively similar market power over each other’s term of trade potentially have higher potential to eliminate inefficiencies and achieve higher effects (Baier et al., 2019).

Based on the academic arguments mentioned, can we expect that TAs will have more potential for effectively improve trade outcomes when the bilateral relationship is South-South vs North-South? It would appear that it depends highly on the terms of trade inefficiencies and the potential for increases in the extensive margin of trade ex-ante the agreement is in place, as well as in the design and depth of the agreement. These are considerations that should be taken on a bilateral basis, rather than in an aggregated matter. Moreover, as more South-South TAs are signed, and more of the share of global trade happens among South countries, the North-South distinction also starts to lose relevance. Evidence appears to show that the “South” is splitting into groups, with the “Emerging South” growing at an accelerated pace and even challenging the hegemony that developed economies that enjoyed since the Post-World War II period. It could be the case that the same power dynamics observed between developed and developing countries by the classical development literature also occur in South-South relationships, and that they become a threat for the development of the least-developed economies in the South (Dahi & Demir, 2017). It is clear that more research focused on South-South dynamics is needed in order to guide the policy decisions of different groups of countries.

It appears clear from the literature studied and from the empirical analysis carried out in this paper, that TAs have significant potential and that they can be an effective development policy tool for South countries based on their dynamic effects on the structure of production capacity, as long as a proper analysis of current capabilities and identification of related products and industries is carried out. South countries should strive to acquire new capabilities close-by in relatedness to the capabilities already in place and choose appropriate partner countries to do so. For more immediate concerns of trade creation and trade diversion, it should be taken into consideration low traded and non-traded products between potential partners to increase the chances of trade creation, as well as striving for deep integration in the design of the agreement as much as possible.

**Limitations**

Although the predictive power of the Gravity Model of Trade is well established in the relevant literature, and we have done our best to follow the best practices to avoid endogeneity when studying the effects of preferential agreements on international trade, it is important to note that out empirical analysis does not claim to achieve a causal inference on the effects of TAs. There could be other policies and forces driving the effects described in our estimates. Also, since the period studied comprehends the global financial crisis of 2007-2008, it is possible that running the same models for other periods of time could find different results. Our estimates could also be constrained by the quality of the data and reporting or measurement error in trade flows, particularly in South countries without robust institutional capacity and statistical infrastructure. By using relatively modern data we hope to mitigate this concern, but we acknowledge that the data of the first half of our period studied (1995-2005) might be less accurate than the later period (2005-2015). Still, this research provides useful insights, even if they are just illustrative, on the heterogeneous effects of TAs, and their development potential and use by developing countries.

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