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The Effect of Bilateral Labor Agreements on Trade

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Abstract The period following the end of World War II is marked by increased international cooperation aimed, among other things, at promoting economic integration. As part of these efforts, national governments adopted policies to remove/reduce barriers to the exchange of goods and services as well as the movement of capital and labor. Although the impact of international trade and investment treaties on trade has been extensively documented, little to no attention has been paid to the potential impact of bilateral labor agreements (BLAs) on commerce flows. This study uses a novel dataset of BLAs within a gravity framework and finds that, over 5 years following signature, BLAs have a positive and significant effect on aggregate exports and exports of differentiated goods (i.e., chemicals and miscellaneous manufactured goods).

Keywords: bilateral labor agreements; gravity equation; migration; trade

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I. Introduction

The positive effect of migration on trade within and between countries has been well documented. For example, Felbermayr & Toubal (2012) examined all OECD countries (excluding Iceland) in 2000 and estimated a positive, immigration-induced, trade-creation effect on both exports and imports. Combes & Lafourcade (2005) showed that business and social networks have a positive impact on trade between French regions. Wagner et al. (2002) exploited cross-provincial variation in international trade and migration and found that migrant networks have a positive effect on Canada's exports and imports.[1)] Meanwhile, Rauch & Trindade (2002) associated increased trade with ethnic Chinese networks. Trade was found to be larger between

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countries with high shares of ethnic Chinese populations and the effects are stronger for differentiated products. Gould (1994) also found that migrant networks facilitate exports/imports from/into the United States to/from the immigrant's host nation. The positive effect is once again concentrated on differentiated goods. In the context of a gravity setup and for a 10% increase in the cumulative flows of immigrants, Head & Ries (1998) discovered a 1% and 3% increase in Canadian exports and imports to and from the immigrants' origin country. Chin et al. (1996) discussed the role of Korean immigrants in facilitating the importation of wigs, another differentiated product, from South Korea and Hong Kong into the United States. Similarly, Min (1990) identified a significant post-1970 increase in South Korean imports of differentiated goods (e.g., wigs, handbags, and clothing) that is associated with the large influx of Koreans into the United States between 1970 and 1988.

Migrants promote trade through various mechanisms, including connections and superior knowledge about home market access and opportunities (Head & Ries, 1998; Wagner et al., 2002), trust, ethnicity, and ease of communication (Melitz & Toubal, 2014; Rauch, 1999). Further, Rauch (1999) emphasized the relative importance of language and cultural gaps (specifically, those gaps bridged by migrant networks) for trade in differentiated products. Given that bilateral labor agreements (BLAs) facilitate work-related migration (e.g., temporary labor mobility) into the host country (Chilton & Posner, 2018; Peters, 2019; Saez et al., 2013), we view BLAs as shaping trade flows in three ways. First, BLAs may enable labor migration, which, just like migration in general, can facilitate trade through the formation of immigrant-based trade networks. Such networks promote international trade by reducing the transaction costs associated with it.[2] Second, BLAs are likely to create certainty about cross-border labor migration, which reduces the fixed cost of recruiting foreign workers and may hasten the formation of migrant-based trade networks. Third, adopting BLAs may result in subsequent trade concessions (Sykes, 2013) or further economic integration (Chilton & Posner, 2018), thereby promoting trade between signatory countries.

Although the relationship between migration and trade has been extensively scrutinized, quantifying the impact of BLAs on global trade flows remains understudied. Building on the theoretical work of Combes & Lafourcade (2005), Felbermayr et al. (2015), Gould (1994), and

1) The average migrant increases imports and exports from and to his or her home country by $944 and $312, respectively.

2) Anecdotal evidence suggests that bilateral labor agreements (BLAs) can encourage cross-border labor migration. For example, Saez et al. (2013) found that 14,626 Colombians and 6,630 Ecuadorians have entered Spain under the terms of the Spain-Colombia and Spain-Ecuador BLAs, which went into effect in 2001. However, evidence from the Philippines is mixed. Agunias (2008) found that BLAs contribute to higher emigrant flows from the Philippines, but also noted that the migration-inducing effect of BLAs is due in part to institutions designed to facilitate such out-migration. Conversely, Chilton & Woda (2021) found no evidence linking the signing of BLAs with increased work-related emigration or remittances. O'Steen (2021) also stated no evidence of a BLA-induced effect on Filipino out-migration.

Head & Ries (1998) we estimate the effect of joint, exporter-importer membership in BLAs within a differenced gravity framework like that of Baier et al. (2014). In this way, we contribute to the substantial literature on migration and trade by uncovering economically and statistically significant effects on exports that occur when BLAs are adopted. We also contribute to the broad literature on international treaties, which, according to Chilton & Woda (2021), pays little attention to BLAs and their implications. To the best of our knowledge, this is the first multi-country/multi-year analysis of the trade-facilitating effects of BLAs; this is the main contribution of this study.

Our baseline estimates show that BLAs have a positive impact on aggregate (i.e., 9.5%) and sector-level exports (5.5% to 12%) over the 5 years since they were signed. The effects are more pronounced in the beverage and tobacco sector (10.5%) as well as chemicals (12%) and miscellaneous manufactured goods (9.5%), both of which have high levels of product differentiation. These sectoral effects are consistent with a large body of literature that found migration and migrant-based trade networks to have a positive effect on trade in differentiated products (Casella & Rauch, 2002; Chin et al., 1996; Dunlevy & Hutchinson, 1999; Felbermayr et al., 2015; Felbermayr & Toubal, 2012; Gould, 1994; Head & Ries, 1998; Rauch, 1999, 2001; Rauch & Trindade, 2002). We also recover short- and long-run effects (over 10 years since the signature). Although the effects involving aggregate and beverage and tobacco exports remain confined to the short run, those characterizing the exports of chemicals and miscellaneous manufactured goods appear to materialize in the long run.

We exploit the heterogeneous nature of BLAs that designate signatories into host and source countries to isolate the various channels through which BLAs promote exports. The findings highlight the absence of a BLAs-induced "demand" channel for all sectors except chemicals and miscellaneous manufactured goods. The "demand" channel posits that immigrants can act as a demand-pull when consuming the good or by making the characteristics of the goods known to natives. The estimates produced by this exercise also support the existence of "supply" and "return" channels through which BLAs facilitate exports. The "supply" channel entails the formation of trade networks with migrants' home countries, followed by the promotion of exports. The "return" channel is concerned with former migrants who, upon their return, may help establish trade networks, thereby promoting exports to their former host country.[3] These findings are also consistent with the studies that were introduced previously.

Lastly, we present evidence in favor of BLAs complementing shallow economic integration agreements, a result that can be explained by a potential reduction in trade policy uncertainty (if BLAs act as signals of future economic integration; Chilton & Posner, 2018) and/or the granting of trade concessions (if signatories extend more favorable trading terms to each other in exchange of taking upon source or host roles when adopting BLAs; Sykes, 2013).

3) A more detailed discussion is presented in Section 2.2.

The impact of BLAs on trade should be carefully considered in light of Chilton & Posner (2018), who emphasized that country pairs with larger migrant stocks may sign BLAs to manage such stocks. In other words, the migration-inducing potential of BLAs should not always be regarded as causal; it is also possible that pairs with significant migration are more likely to sign BLAs. To address this issue, we rely on *i*) a dataset of BLAs explicitly aimed at inducing work-related migration (rather than managing existing migration as complementary tools for unilateral migration policies) and *ii*) a first-differenced gravity specification that addresses the issue of self-selection into BLAs.

The remainder of the paper is structured as follows. Section 2 delves into the inner workings of BLAs and identifies a variety of channels through which BLAs influence trade. Section 3 proposes a first-differenced gravity setup to address the issues associated with the non-random selection into BLAs, unavailability of undocumented immigration, and limited availability of legal migration. The section also highlights the baseline results and a battery of robustness tests. Section 4 disaggregates BLAs by host exporters and host importers and scrutinizes the potential complementarity between BLAs and economic integration agreements (EIAs) in promoting trade, whereas Section 5 concludes.

II. BLAs and Exports

A. Bilateral labor agreements

BLAs are intended to manage international migration flows for work-related purposes between a sending/source and a receiving/host country by establishing additional rules and conditions under which workers from the source can provide temporary labor services in the host (Chilton & Posner, 2018; Peters, 2019; Saez et al., 2013) and may be binding or not (Lindroos-Kopolo et al., 2008). Another reason for which countries adopt BLAs follows the idea that the wealthy North requires relatively cheap labor from the poorer South (Chilton & Posner, 2018). Simultaneously, both the hosting North and the sourcing South are concerned with establishing ground rules that govern this process. For example, the South advocates for provisions that protect its laborers in the North, whereas the North is more likely to advocate for provisions that govern one-way, South-to-North migration and its associated externalities (Sykes, 2013). Interestingly, the North may ask the South for trade concessions (Chilton & Posner, 2018; Sykes, 2013) in return for receiving its migrant workers, who, in turn, generate remittances for the sourcing South. However, if host countries use BLAs to attract workers (with specific or general skills) while the source country carries out the screening process partly or entirely (Peters, 2019), the opposite may be true (i.e., the North offering trade concessions to the South). Finally, some BLAs aim to manage existing migration by including provisions for both incoming migrants and existing legal or undocumented immigrants.[4)]

In sum, BLAs tend to facilitate migration along the lines outlined by the labor recruitment theory rather than the push-pull theory. In summary, labor recruitment theory holds that migration patterns are shaped by the conditions imposed by recruiting firms and/or the provisions contained in BLAs. Meanwhile, the push-pull theory contends that migration is driven by factors that incentivize migration from source to host (e.g., violence or lack of opportunity in source and security and a larger pool of jobs remunerated with larger wages in host).[5)]

Although typical BLAs involve establishing rules that govern work-related migration and/or strengthening existing social and economic ties between source and host countries, such agreements lack uniformity and exhibit significant heterogeneity in their terms, provisions, and scope. For example, BLAs differ in how fundamental human rights of temporary migrant workers are protected. Only a few European and Latin American treaties (e.g., Italy with Moldova and Albania, and Spain with Ecuador and Poland) are formally acknowledging of such rights (Chilton & Posner, 2018). Other agreements, particularly those involving European Union countries as hosts, include provisions to promote the economic development of the source country. Such agreements also include expanded opportunities for cross-border labor mobility, remittance facilitation, skill training, and work reintegration programs for migrant returnees (Wickramasekara, 2015). In other words, BLAs may accomplish an array of goals, and consequently, the various channels through which they facilitate migration and, in turn, trade may be difficult to isolate.

Some BLAs are quite detailed and include provisions on a wide range of issues associated with work-related migration. For example, the 1969 Netherlands-Morocco BLA contains 27 articles and establishes rules that govern not only the recruitment, placement, and general working conditions of Moroccan workers, but also their rights, benefits, pay, and vacation leave, which are the same as those of Dutch workers. After 2 years of service, Moroccan workers have the right to be joined by their immediate family (spouse and children). However, the 1992 Germany-Romania BLA is less complex. The treaty is only 9 articles long and is intended to facilitate the temporary employment of 500 young adults (from each country) seeking to improve their vocational and linguistic skills, all while local employment laws apply (Chilton & Posner, 2018).

According to Peters (2019) and Chilton & Posner (2018), the adoption of BLAs can be divided into three periods (i.e., 1945-1973, 1974-1989, and 1990-2014).[6)] The first wave of

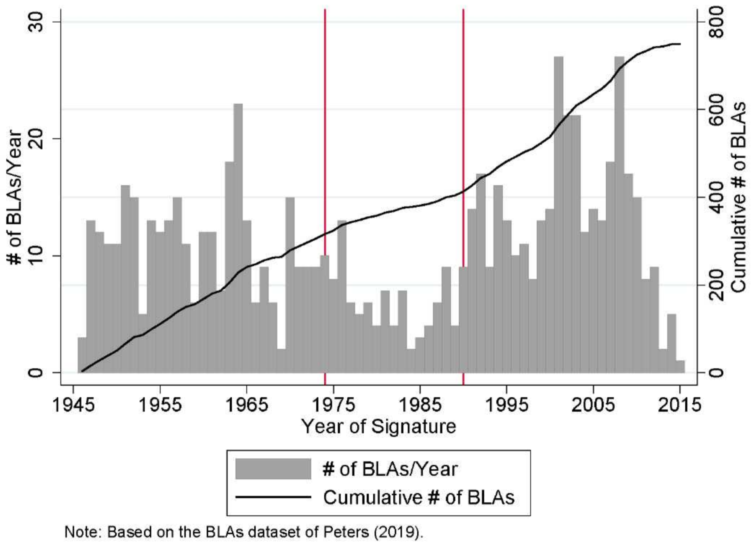
4) For example, Chilton & Posner (2018) noted that the 1998 agreement between Argentina and Bolivia includes provisions for legal residence for both incoming and undocumented immigrants from the other country who want to legalize their status.

5) Refer to O'Steen (2021) for a more elaborate discussion.

6) Peters (2019) identifies over 700 BLAs that aimed exclusively at promoting migration for work-related purposes. Chilton et al. (2017) also identify BLAs of this type, albeit not as many.

BLA adoption was primarily driven by the European reconstruction process following World War II, and based on Peters' (2019) dataset, 306 BLAs were signed between 1945 and 1973. The second wave is distinguished by a shift in the geographical pattern of BLA adoption (away from the newly rebuilt European continent and toward Latin America, Africa, Asia, and the Middle East), and a lower number of signed agreements (only 98 BLAs were signed between 1974 and 1989). The last period is underlined by a rapid and global adoption of BLAs, with 346 agreements signed between 1990 and 2015. An overview of these dynamics is displayed in Figure 1.

Figure 1. Bilateral labor agreements over time



B. Theoretical background

BLAs can be unidirectional (i.e., encouraging migration from country *m* to country *x* (*or vice versa*) or bidirectional (i.e., simultaneously encouraging migration from *x* to *m* and *m* to *x*). We expect exports from *x* to *m* to grow when BLAs encourage migration from *x* to *m* because immigrants may act as a demand-pull; either by consuming the good themselves (Felbermayr & Toubal, 2012; Gould, 1994) or by making the characteristics of the goods known to natives (Felbermayr et al., 2015) (i.e., "demand" channel). According to Head & Ries (1998), this channel should be more important for differentiated goods than for homogeneous goods. Their argument is simple and rests on the idea that homogeneous goods are similar irrespective of whether they are produced domestically, in the host country, or abroad, in the source country. Conversely, the "ideal" variety of a differentiated good may not be produced in the host country (i.e., *m*) and must be imported from the source (i.e., *x*). If BLAs encourage migration from *m* to *x*, the opposite (i.e., an increase in exports from *m* to *x*) is expected to hold.

Immigrants may also establish trade networks with their home countries by bridging informational and cultural gaps and lowering international transaction costs (e.g., contract enforcement, establishing trust, and identifying trade opportunities) to facilitate exports from *x* to *m* (i.e., "supply" channel) (Casella & Rauch, 2002; Chin et al., 1996; Cohen et al., 2017; Dunlevy & Hutchinson, 1999; Felbermayr & Toubal, 2012; Gould, 1994; Head & Ries, 1998; Parsons & Vezina, 2018; Rauch, 1999, 2001; Rauch & Trindade, 2002; Wagner et al., 2002). Given that BLAs enable temporary migration, former migrants may contribute to the establishment of trade networks within *x*, thereby promoting exports from *x* to *m* or even *m* to *x* upon their return from *m* (i.e., "return" channel). Using the repatriation of Yugoslavian refugees from Germany as an example, Bahar et al. (2021) documented export elasticities to return migration that range from 0.08 to 0.24. These elasticities apply to the Yugoslavian exports to the rest of the world, excluding Germany. However, when those exports are redefined to include exports to Germany, the recovered elasticities are larger, highlighting the existence of a "return" channel through which return migration reduces transaction costs. Collectively, the "supply" and "return" channels are referred to as the "transaction-cost" migration channel throughout. According to Felbermayr et al. (2015), the additional information required for trading is likely to be greater in the case of differentiated goods versus homogeneous goods. Hence, the effect of BLA-induced migration should be positive and greater in sectors with a high degree of product differentiation.

Following the literature on investment and trade under policy uncertainty, we argue that the adoption of BLAs also results in migration policy certainty.[7),8)] This development may incentivize the formation or expansion of immigrant-based trade networks that cater to migrants' preferences for home goods (i.e., "migration policy certainty" channel). The concept of policy certainty becomes especially important when considering that migrants tend to follow the "beaten path," as they tend to cluster in areas where their compatriots have already settled (i.e., ethnic

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7) To emphasize the importance of labor migration policy certainty in the formation of migrant-based trade networks, consider the following. First, labor migration is governed by unilateral policies that establish yearly immigrant quotas (e.g., for unskilled or highly skilled laborers) and rules that immigrant workers must follow to obtain legitimate employment (e.g., obtaining a permanent or temporary work permit/visa). Second, consider the approach commonly used by host-based employers seeking workers from the source country. In this case, the prospective employer hires a host-based recruiting agency, which then collaborates with a similar agency in the source. Following the criteria provided by its host-based counterpart, the source-based agency recruits on behalf of the prospective employer. However, the changing nature of labor migration policies creates uncertainty, which may raise the costs of recruiting source-based labor by increasing the fixed costs of setting up such recruiting networks in the same way that trade policy uncertainty raises the fixed costs of investing to gain access to a foreign market. Furthermore, just as trade agreements reduce trade policy uncertainty, BLAs are expected to reduce labor migration policy uncertainty.

8) For example, Handley & Limão (2015) show that trade policy uncertainty (TPU) reduces investment and entry into export markets. Handley & Limão (2017) proposed a general equilibrium model with heterogeneous firms in which increased TPU reduces exports by decreasing firms' incentive to invest in exporting to foreign markets. Graziano et al. (2021) show that the increased TPU caused by the United Kingdom's exit from the European Union is associated with lower exports and a lower likelihood of exporting.

enclaves). In this way, increased policy certainty reduces the cost of duplicating existing migration patterns and contributes to the expansion of existing migrant networks. Furthermore, if migration proceeds along pre-determined paths, the expansion of migrant networks may continue even if an additional BLA is *not* signed.

BLAs can also encourage trade via a "trade policy" channel. This argument is based on the notion that countries' engagement in BLAs may be intended to signal credibility and secure future political benefits such as a *i*) trade or investment agreement (Chilton & Posner, 2018) and *ii*) future trade concessions (Sykes, 2013). Based on *i*), pairs that sign BLAs in year t may sign an EIA in year t + n. As a result, such pairs may experience increased trade in year t + n and in the subsequent years. Reverting to the literature on investment under trade policy uncertainty, the signing of BLAs may have contemporaneous, positive effects on trade if BLAs signal future trade integration (i.e., through the future adoption of trade agreements), which encourages contemporaneous export-oriented investment (Carballo et al., 2018; Handley & Limão, 2015). Provided that exporters in shallowly (as opposed to deeply) integrated pairs face relatively high trade costs and are to experience a larger decline in trade costs by integrating further, the effect is expected to be more pronounced for the former set of pairs.

Concerning *ii*), Sykes (2013) discussed the idea that countries may earn trade concessions from source countries in exchange for acting as migrant hosts, thereby offering trade concessions in exchange for remittances. The inverse may also be true, as host countries may offer source countries trade concessions in exchange for conducting a partial or full screening or the entire recruitment process. Once again, the effect is expected to spread across pairs with shallow EIAs. The logic behind this argument is simple. Although pairs with shallow EIAs (e.g., NRPTAs, PTAs, and most FTAs) may grant each other additional trade concessions upon signing BLAs, the same may not be true for their deeply integrated counterparts (e.g., CUs, CMs, and EUs). On the one hand, the multilateral structure of deep EIAs would make bilateral trade concessions to third countries difficult because consensus among members is required. This is not the case for shallow EIAs, which are typically bilateral or unilateral in scope. On the other hand, the case for BLA-induced trade concessions between deeply integrated countries that sign BLAs is rather weak. After all, members of customs unions are already part of the free trade zone, whereas members of common markets and economic unions already experience the free movement of goods.

Since BLAs are facilitating the cross-border migration of a relatively small number of individuals (Saez et al., 2013), we hypothesize that the effect of BLAs is being propagated through the "transaction-cost," "migration policy certainty," and "trade policy" channels as opposed to the "demand" channel. As a result, sectors characterized by relatively high levels of product differentiation, trade policy uncertainty, and significant trade barriers may benefit from the adoption of BLAs. Simultaneously, one should not rule out the possibility of BLAs having a negative impact on trade. The reasoning for this prior is straightforward and stems from BLAs being used as migration-managing tools, as suggested by Chilton & Posner (2018). To this end, if migrant flows/stocks promote trade, BLAs that thwart the flow or reduce the stock of migrants may result in lower bilateral trade volumes. However, this should be less of an issue here because we investigate BLAs aimed specifically at promoting labor migration rather than managing current migration.

III. BLAs and First-Differenced Gravity

A. Identification and estimation

The empirical approach is founded on the theoretical insights from Combes & Lafourcade (2005), Felbermayr et al. (2015), Gould (1994), and Head & Ries (1998). Under the assumption that immigrants possess the knowledge, information, and connections that translate into lower transaction costs between the host and source countries, all four papers derive microeconomics-founded, reduced-form gravity models in which trade between an exporter, *x*, and importer, *m*, is a positive function of the number of immigrants from *x* to *m*.[9] We use a similar approach, but instead of analyzing migrant stocks, we examine the stock of BLAs signed between source and host countries. Hence, our identification method is based on the variation in signed BLA stocks across country pairs and time.

Furthermore, we rely on a "random-growth first-difference" (RGFD) specification to address the endogenous nature of BLAs, which becomes even more important in the presence of heterogeneous treatment effects (see Section 2). The resulting specification is similar to those in Baier et al. (2019, 2014) and Trefler (2004)[10] and is shown in (1), below.

$$\Delta_5 \ln X_{xmt} = \gamma \Delta_5 TA_{xmt} + \delta \Delta_5 BLA_{xmt} + \upsilon_{5,xt} + \upsilon_{5,mt} + \upsilon_{xm} + \psi_{5,xmt} \qquad (1)$$

Here, $\Delta_5 \ln X_{xmt}$ denotes the 5-year differences in the natural logarithm of exports from *x*

9) In addition to the "transaction-cost" channel, Combes & Lafourcade (2005) and Felbermayr et al. (2015) incorporated a preference "affinity" parameter to emphasize the "demand" channel through which immigrants facilitate exports from the source to the host country. The "affinity" for source country varieties appears to be a positive function of the number of immigrants present in the host country and a negative function of the trade costs that characterize the source-host pair.

10) Baier et al. (2014) showed no discernible differences between estimates produced using the RGFD approach and those produced using an approach that specifically accounts for the self-selection of country-pairs into EIAs, as well as firm heterogeneity such as Helpman et al. (2008). Referring to Baier et al. (2014), Baier et al. (2019, p. 3494) noted that biases induced by self-selection and firm heterogeneity are not completely eliminated using the RGFD approach, but they are "largely eliminated."

to m in year t while $\Delta_5 TA_{xmt}$ and $\Delta_5 BLA_{xmt}$ stand for the 5-year differences in economic integration and the stocks of signed BLAs.[11] The logic behind 5-year differencing is similar to that of Baier et al. (2014), who noted that exports are more likely to adjust to changes in trade policy over the course of 5 and 10 years as opposed to just one. Their argument rests with the language commonly found in EIAs, which specify the implementation of various provisions over 5- and 10-year periods. Although the BLAs under consideration are not necessarily characterized by such provisions, we argue that exports are more likely to adjust to the BLAs-induced formation/growth of migrant networks, the reduction in migration policy uncertainty, and the complementarity between BLAs and existing EIAs over the span of several (e.g., 5) as opposed to just one.

When compared to its levels counterpart, the estimation approach shown in (1) offers a number of advantages. First, including a pair-specific fixed effect (i.e., υ_{xm}) in a first-differences setting accounts for both fixed (e.g., common border, distance, common colonizer, common language) *and* time-varying trade determinants that evolve slowly over time (Baier et al., 2014; Trefler, 2004); including those latent factors that shape pairs' self-selection into BLAs. With this in mind, self-selection into BLAs based on expected gains, which originates in their heterogeneous nature and heterogeneous effects, becomes less of an issue. As a result, the estimated δ coefficients (i.e., $\hat{\delta}$s) are expected to capture the average treatment effect of signing BLAs.[12]

Second, the inclusion of υ_{xm} in (1) becomes even more important given the scarcity of data regarding official and undocumented migration for all pairs and years considered. Assuming that migration is slow-moving, estimating (1) should limit the scope of biases caused by not explicitly controlling for it. Equally important, the inclusion of υ_{xm} reduces the likelihood of violating the parallel trends assumption by accounting for latent, pair-specific, and time-varying trends.

Third, Baier et al. (2014) noted that unobserved drivers of EIAs adoption can change slowly, resulting in a serially-correlated error term, which, in turn, renders the levels, fixed effects approach less efficient, with the efficiency loss increasing with the number of years in the panel. Baier et al. (2014) proposed differencing the data as a solution. Given that slow-moving, latent factors (e.g., x's demand for m's workers) may influence country pairs' decision to adopt BLAs and considering the 57-year span of our sample, (1) becomes even more appealing.

11) Omitting null trade flows when using the *log* transformation and ordinary least squares (OLS) can be problematic. For more information, see Santos Silva & Tenreyro (2006, 2022). However, given that our sample contains few null export flows and that viewing missing exports as true zeros is an overly strong assumption, the *log* transformation and OLS estimation do not imply the omission of a meaningful number of flows. For more information, see Table A1. However, in Section 3.3, we present a set of results obtained by estimating (1) in levels using the Poisson pseudo-maximum likelihood (PPML) estimator.

12) If the unobserved, pair-specific, and time-varying factors that determine selection into BLAs are volatile and not accounted by υ_{xm}, the $\hat{\delta}$s capture the average treatment effect on the treated rather than the average treatment effect. Refer to Blundell & Costa Dias (2009) for a detailed discussion of the implications of self-selection in the case of heterogeneous treatment effects.

Fourth, because trade data is described by a unit-root process, the levels, fixed effects approach may highlight a significant relationship between BLA adoption and exports even when the two are unrelated. Because unit-root processes are integrated of order one, first-differencing circumvents this problem by making the newly obtained series only weakly dependent Wooldridge (2012, p. 396). More, first-differencing might lead to less biased estimates (compared to the levels, fixed effects approach) if the stock of BLAs is correlated with the error term (i.e., with the unobserved stocks/flows of migrants) (Wooldridge, 2012, p. 491).

Lastly, $\upsilon_{5,xt}$ and $\upsilon_{5,xt}$ take into account changes in time-varying exporter and importer-specific trade determinants (e.g., gross domestic product or industrial production, overall stock and flows of migrants to/from x and m, openness to migration, policies that encourage migration from all other countries, or multilateral resistance terms).[13)]

To estimate the contemporaneous and lagged effects of signing BLAs, we follow Baier et al. (2014) and modify specification (1) by adding the one-period lagged counterparts of the 5-year economic integration and BLAs stocks differentials (i.e., $l\Delta_5 TA_{xmt}$ and $l\Delta_5 BLA_{xmt}$). The specification obtained this way is shown below, in (2).

$$\Delta_5 \ln X_{xmt} = \gamma_1 \Delta_5 TA_{xmt} + \gamma_2 l\Delta_5 TA_{xmt} + \delta_1 \Delta_5 BLA_{xmt} + \delta_2 l\Delta_5 BLA_{xmt} + \mu_{5,xt} + \mu_{5,mt} + \mu_{xm} + \xi_{5,xmt} \quad (2)$$

In this case, the estimated γ_1 and δ_1 (i.e., $\hat{\gamma}_1$ and $\hat{\delta}_1$) capture the short-run effects (i.e., over a 5-year period since adoption) implied by the associated 5-year changes, whereas the γ_2 and δ_2 estimates (i.e., $\hat{\gamma}_2$ and $\hat{\delta}_2$) capture the long-run effects (i.e., 5 to 10 years after adoption). Recovery of both the short- and the long-run effects is important for at least two reasons. First, BLAs-driven trade networks may take time to mature and result in lower transaction costs. Second, as noted by Sykes (2013), countries participating in BLAs could bring about future trade concessions that are not captured by the economic integration control and that may materialize in the long run rather than the short run.

B. Data

There are two publicly available BLAs datasets. One is assembled by Chilton et al. (2017) and comprises 582 BLAs aimed at facilitating international labor migration, managing current migrant stocks and flows, and supplementing unilateral policies aimed at current and future migration.[14)] The other is compiled by Peters (2019) and includes 750 BLAs.[15)] In essence,

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13) Since the adoption of BLAs is a bilateral as opposed to a multilateral process, the inclusion of $\upsilon_{5,xt}$ and $\upsilon_{5,mt}$ does not address the endogenous nature of selecting into BLAs. This precisely the role of υ_{xm} in (1).

Peters (2019) builds upon and expands the dataset of Chilton et al. (2017) by revisiting much of the same sources. Unlike them, Peters (2019) retains only BLAs that are intended to promote international labor migration rather than those intended to manage migrant stocks/flows or to supplement unilateral policies aimed at managing such stocks/flows.[16] Both datasets span the years 1945 through 2015. Given the expanded coverage and design of the BLAs within, we primarily rely on Peters' (2019) dataset, but we supplement it when necessary with information from Chilton et al. (2017).[17] It is also worth noting that the BLAs included in both datasets do not represent the entire universe of BLAs that have been adopted.[18]

Membership in international agreements, including BLAs, usually entails three steps: signature, ratification, and entry into force. Signing an international agreement is merely a formality with no immediate consequences for the signatory parties or their decision to ratify it *ex post*. Ratification commits the country to the agreement, but its provisions are not binding until it enters into force. In light of this, the literature suggests that the ratification date be used as the official treatment date.[19] However, Peters' (2019) dataset does not include ratification dates for any of the 750 BLAs included, and only 15 agreements have years of entry into force. Given this constraint, and to keep as many BLAs as possible, we have decided to use the signature year as the treatment year. Section 3.5 includes three exercises that test the validity of this approach. Given that the vast majority of BLAs are new and pairs sign multiple agreements, the stock of new BLAs signed by country pairs is our variable of interest. Table A1 displays the summary statistics associated with the stock of BLAs obtained in this manner (i.e., *BLAs*). In more detail, the BLAs stock consists of one agreement for 75% of the pairs. Stocks of two and three BLAs account for 15% and 5% of the pairs, respectively. The remaining pairs (i.e., 5%) have more than three BLAs in stock.

Data on bilateral aggregate and sectoral exports (i.e., X) are sourced from the United Nations COMTRADE database for 207 exporters and importers. These are listed in Table A2. Given

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14) The dataset is available at https://www.law.uchicago.edu/bilateral-labor-agreements-dataset.

15) The data is at https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/9ADZUF. Peters (2019) provides information on 779 BLAs. Upon closer inspection, we found that the dataset includes 58 duplicate agreements. Removing the 29 redundant BLAs, leaves us with 750 unique agreements.

16) "All treaties specifically about the movement of migrant labor from one country to another are included." (Peters, 2019, p. 282) In Appendix B, the author adds "Treaties that address enforcement of migration regulations are excluded as they deal with existing flows rather than create new flows."

17) For example, Peters (2019) does not provide information on BLAs' ratification dates but Chilton et al. (2017) do, albeit on a limited basis.

18) For example, Chilton & Posner (2018) note that the adoption of BLAs may be publicized on a small scale or not at all because some countries choose not to report the adoption of BLAs in the first place. Peters (2019, p. 283) also noted that the BLAs in the dataset are "[...] likely an undercount, especially in more recent years, as many nations do not report these treaties to the UN (or other international organizations) or report them several years after they sign them."

19) See Aichele & Felbermayr (2015), Bratberg et al. (2005), Ederington et al. (2022), Ringquist & Kostadinova (2005), and Slechten & Verardi (2016) among many others. Using the date of entry into force might obscure *ex-ante* developments (i.e., between ratification and entry into force).

that the dataset on BLAs spans the years 1945 to 2015, we chose SITC Rev. 1 trade data, which provides the most comprehensive coverage (i.e., 1962 to 2018) at both aggregate and sectoral levels.[20] The NSF-Kellogg Institute Data Base on Economic Integration Agreements Project provides information on the degree of economic integration between the exporter and importer (i.e., *TA*) prior to 2017. *TA* is coded as 0 for no economic integration, 1 for the existence of a non-reciprocal preferential trade agreement (NRPTA), 2 for a preferential trade agreement (PTA), 3 for a free trade agreement (FTA), 4 for a customs union (CU), 5 for a common market (CM), and 6 for an economic union (EU). For the period after 2017, the EIAs dataset is supplemented with trade agreements data from the World Trade Organization.[21] Table A1 also includes the summary statistics regarding exports and economic integration.

Additional covariates are constructed for robustness checks purposes. These include absolute differences in Polity IV democracy scores (*diff. Polity IV*) and natural *log* of GDPs per capita (*diff. GDPpc*).[22] The differences in GDP per capita also take into account that BLAs are more likely to be signed by countries that differ significantly in terms of wealth (Chilton & Posner, 2018) and that income differences tend to facilitate South-North migration (Saez et al., 2013). Democracy scores are from the Polity IV Dataset, which is published by the Center for Systemic Peace. GDP and population data are from the Penn World Table (Feenstra et al., 2015). We supplement these with controls for joint ratification of the International Covenant on Civil and Political Rights (*ICCPR*) and the Rome Statute of the International Criminal Court (*RSICC*).[23] Data on membership in the ICCPR and the ratification of the RSICC is from the United Nations Treaty Collection. We also control for joint membership in the World Trade Organization (*WTO*), provided that its General Agreement on Trade in Services includes an instrument allowing for the temporary migration that is associated with trade in services (Saez et al., 2013; Sykes, 2013). We also control for joint membership in bilateral investment treaties (*BITs*), which may also include migration provisions.[24] Data on WTO membership comes from the organization's own website whereas the data on joint membership in BITs is from the United Nation's Commission on Trade and Development Investment Policy Hub.

Given that BLAs can be adopted by North-South/South-North pairs (Chilton & Posner, 2018),

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20) Other revisions imply further trimming of the BLAs dataset. SITC Rev. 2 starts in 1976, SITC Rev. 3 in 1988, and SITC Rev. 4 in 2007. The Harmonized System data is also reported starting in 1988.

21) Data on regional and preferential trade agreements can be accessed at rtais.wto.org/UI/ExportAllRTAList.aspx and ptadb.wto.org/ptaList.aspx, respectively.

22) Simple differences are already captured by the inclusion of $\upsilon_{5,xt}$ and $\upsilon_{5,mt}$.

23) The ratification of the *ICCPR* and the *RSICC* by a country is positively, albeit weakly, correlated with the Polity IV democracy score. The simple correlation coefficients are 0.35 and 0.36, respectively.

24) For example, paragraph three, letter (b) in Article 81 of the 2007 BIT between the European Union and Montenegro notes "on the field of legal migration, on admission rules and rights and status of the person admitted. In relation to migration, the Parties agree to the fair treatment of nationals of other countries who reside legally on their territories and to promote an integration policy aiming at making their rights and obligations comparable to those of their citizens."

we account for absolute differences in capital-to-labor and arable land-to-labor ratios, as well as human capital (i.e., *diff. K/L*, *diff. A/L*, and *diff. HC*). The data on capital stock and employment are from the Penn World Table, while the data on arable land come from the World Bank's World Development Indicators. Human capital indices are also from the Penn World Table. North-South pairs may be characterized by pollution leakage, which involves increased exports of pollution-intensive goods (e.g., chemicals) from countries with lax environmental rules to those with stricter ones. For example, Ederington et al. (2022) found evidence of leakage for countries that ratify international environmental agreements (IEAs) aimed at combating climate change and acid rain. Aichele & Felbermayr (2015) also noted that ratifiers of the Kyoto Protocol to the United Nations Framework Convention on Climate Change import more CO_2-intensive goods than countries that did not. Similarly, Kellenberg (2012) observed that waste imports increase with differences in environmental policy stringency. Considering this, we account for absolute differences in the stock of ratified air-pollution and waste IEAs (i.e., *diff. Air IEAs* and *diff. Waste IEAs*). International Environmental Agreements Database Project (Mitchell, 2022) is used to create exporter and importer stocks of air-pollution and waste IEAs.

Bilateral data on stocks and flows of migrants is scarce, especially in the context of the country and time dimensions of our dataset. We were able to retrieve such data albeit only at 5- and 10-year intervals. The World Bank's Bilateral Migration Database contains pair-specific, migration stocks reported at 10-year intervals from 1960 to 2000 (Özden, 2011).[25] The United Nations' Department of Economic and Social Affairs (2019) published data on migrant stocks by origin and country of destination at 5-year intervals starting in 1990. The most recent release covers the years 1990 to 2019. Another limitation of data regarding migrant stocks and migration in general is the use of country-specific methodologies in data collection, as well as the extent to which the migration phenomenon is monitored, recorded, and reported. Aside from these limitations, we follow the migration/trade literature and use migrant stock shares in total population as opposed to the absolute sizes of such stocks.[26] Data on migrant flows is from Fitzgerald et al. (2014) and Abel (2018) but the two datasets differ both in terms of country and time coverage as well as how the flows are compiled. For example, the dataset from Fitzgerald et al. (2014) involves yearly migration flows between 1946 and 2007 for 185 source and 37 receiving countries. The flows were compiled from various sources, and missing flows were interpolated when necessary. However, Abel (2018) estimated bilateral migrant flows from stocks at 5- and 10-year intervals using data on births, deaths, and population

25) To avoid data loss when estimating (1) in Section 3.4.1, migrant stocks for 1965, 1975, 1985, and 1995 are interpolated as averages of the previous and following years (e.g., 1960 and 1970 for 1965). To keep the migrant stocks for 1960, the migrant stocks for 1960 are merged with the export data as 1962 migrant stocks.

26) See Combes & Lafourcade (2005), Felbermayr & Toubal (2012), and Rauch & Trindade (2002) among others.

sizes. The data is available for 204 sending and receiving countries between 1960 and 2010.

C. Baseline results

The first set of results obtained by estimating (1) involves aggregate exports (i.e., the sum of industry-level flows) and is shown in the first column of Table 1. Three aspects are worth noting at this point. First, $\hat{\delta}$ measures the average effect of the 5-year change in the stock of BLAs on aggregate exports over the 5-year period since signature. Since this 5-year change is close to unity, $\hat{\delta}$ captures the approximate effect of signing one BLA on aggregate exports (i.e., a 10% increase).[27] The effect of signing just one BLA is 9.5%.[28] Second, the effect is significant both quantitatively and qualitatively.[29] Third, because countries are observed both as importers and exporters, the effect implied by $\hat{\delta}$ encompasses the "demand," "transaction cost," "migration policy certainty," and "trade policy" channels discussed in Section 2.2.

As noted in Yotov et al. (2018) and Felbermayr et al. (2015), the aggregate structural gravity model is "separable" and also holds at the sectoral level, which implies that the gravity equation can be estimated on a sector-by-sector basis using the same techniques as in the case of the aggregate model. Hence, the second set of results is obtained by estimating (1) on a sector-by-sector basis and presented in columns 2—9 of Table 1. From here, it appears that signing BLAs has a positive effect on exports across all sectors considered. However, the results are statistically significant only for six of them. Irrespective of sector, the sample averages for the BLAs stock differentials hover around 1 (i.e., 1.05 - 1.06). As a result, the interpretation of $\hat{\delta}$s at the sectoral level is similar to that at the aggregate level.

The BLAs' effects on food, live animals, beverages, and tobacco exports (i.e., 6% and 10.5% over 5 years since signature) are consistent with the findings of Dunlevy & Hutchinson (1999), who estimate a positive, migration-induced effect on various foodstuffs (e.g., brandy, butter, cheese, malt liquor, mineral water, and wine).[30] The economically and statistically significant

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27) The sample average for the 5-year change in the stock of BLAs (i.e., $\overline{\Delta_5 BLAsStock}$) is 1.05. In fact, the 5-year change in the stock of BLAs (i.e., $\Delta_5 BLAsStock$) is 1 throughout most of the distribution; only at the 99th percentile does it turn 2. Since $\hat{\delta}$ captures the average effect of $\Delta_5 BLAsStock$, the implied effect on aggregate exports is calculated as $\left(e^{\hat{\delta}\times\overline{\Delta_5 BLAsStock}}-1\right)\times 100\%$, $\left(e^{0.090\times 1.05}-1\right)\times 100\%$, or 9.9%. Given that, on average, countries have signed no BLAs, this approximates the effect of signing the first BLA. A similar interpretation befits the sector-level results.

28) This calculated as, $\left(e^{0.090\times 1}-1\right)\times 100\%$ or 9.42%.

29) To place the effect of signing BLAs into perspective, consider that the sample average for the 5-year changes in the level of economic integration (i.e., $\overline{\Delta_5 TA}$) is 1.86. As a result, the γ estimate (i.e., $\hat{\gamma}$) captures the approximate average effect of a two-stage increase in the level of economic integration and the effect implied by $\overline{\Delta_5 TA}$ situates in the vicinity of $\left(e^{\hat{\gamma}\times 2}-1\right)\times 100\%$ or 6.5%. Given that the average pair is not economically integrated, $\hat{\gamma}$ captures the average effect of adopting a NRPTA and then a PTA or a PTA alone over a 5-year period.

30) It is worth pointing out that their results pertain to imports into the United States between 1870 and 1910.

effects of BLAs on chemical and miscellaneous manufactured goods exports (i.e., 12% and 9.5%) are consistent with Casella & Rauch (2002), Chin et al. (1996), Dunlevy & Hutchinson (1999), Felbermayr et al. (2015), Felbermayr & Toubal (2012), Gould (1994), Head & Ries (1998), Min (1990), Rauch (1999, 2001), and Rauch & Trindade (2002), all of whom underline that the migrant-driven network effects on trade tends to be larger for differentiated products (i.e., with relatively low import demand elasticities). Indeed, based on data from Broda et al. (2017), our calculations show that import demand elasticities for chemicals and miscellaneous manufactured goods are low (6.15) to medium (8.52).[31] Simultaneously, increased trade in differentiated products (e.g., variety-based trade) may be driven by the adoption of BLAs if such agreements complement existing EIAs or are associated with reduced migration policy uncertainty. A similar argument can be made for manufactured goods. The possible complementarity between BLAs and existing EIAs may also explain why BLAs are found to facilitate transport equipment exports, despite the fact that this sector has relatively high import demand elasticity (i.e., 15.65). Estimating (1) using 3-year differences rather than 5-year differences supports a similar set of conclusions.[32]

All coefficients associated with the economic integration differential are positive, indicating that exports are higher for pairs with higher levels of economic integration.[33] Not surprisingly, the degree of economic integration and the stock of signed BLAs are positively correlated. However, the correlation is weak (i.e., the coefficient is 0.22), and the baseline results in Table 1 are free of collinearity-induced biases.[34]

We also used the Poisson pseudo-maximum-likelihood (PPML) estimator to estimate a levels version of (1) with null and positive exports as the dependent variable, as suggested by Santos Silva & Tenreyro (2006, 2022). Table 2 summarizes the findings. In comparison to Table 2, the baseline estimates of the BLAs' effect on exports are all positive and, for the most part, larger and statistically significant; however, the same cannot be said for the coefficients attached to the economic integration control. When comparing these coefficients in Tables 1 and 2, at least four aspects should be considered. First, the estimates in Table 2 include effects on exports over a 1-year rather than a 5-year period, which can explain the lower $\hat{\delta}$s. Second, discrepancies

31) Detailed summary statistics reveal that the minimum import demand elasticity is 6.03, the 25th percentile is 6.78, the 50th percentile is 8.75, the 75th percentile is 13.05, and maximum is 16.30. The data describes 73 countries and is available at http://www.columbia.edu/~dew35/TradeElasticities/TradeElasticities.html.

32) The results are reported in Table A3.

33) Including 6 binary indicators for each of the 6 economic integration levels (i.e., NRPTAs, PTAs, FTAs, CUs, CMs, EUs) does not affect the $\hat{\delta}s$. Given the small number of pairs with higher levels of economic integration Baier et al. (2014) bundle CUs, CMs, and EUs. We follow suit and the results remain unchanged. To save space, the results obtained this way are relegated to Tables A4 and A5 in the Appendix.

34) Indeed, estimating (1) without the BLAs stock and then without the economic integration measure, does not generate $\hat{\gamma}$s and $\hat{\delta}s$ that are significantly different from those in Table 1. The $\hat{\gamma}$s and $\hat{\delta}$s obtained this way are shown in Panels A and B of Table A6.

also arise from differences in what the $\hat{\delta}$s and $\hat{\gamma}$s capture.[35] Third, as discussed in Section 3.1, estimating (1) enables us to control for latent, pair-specific, and time-varying determinants of BLAs' adoption and exports. Estimating a *levels* version of (1) omits such determinants and, most likely, generates biased estimates. Considering this, the discrepancy between the two sets of coefficients shown in Tables 1 and 2, may be the result of biases involving the later set. Fourth, barring that one specification involves differenced data while the other relies on data in levels, differences in coefficients can also arise form differences involving the OLS and PPML estimators.[36]

Two words of caution are in order at this point. First, the heterogeneous effects of BLAs on exports coupled with the staggered signing of BLAs may lead to biased estimates of the actual average signing effect (Athey & Imbens, 2016; Borusyak et al., 2017; de Chaisemartin & D'Haultfœuille, 2020; Goodman-Bacon, 2021; Imai & Kim, 2021; Sun & Abraham, 2021).[37] There are solutions for this issue but, none of them are applicable in our context. For example, one can attempt to recover the effects by cohorts of BLAs as suggested by Callaway & Sant'Anna (2021). However, it is not clear how such cohorts should be formed or how BLAs should be bundled given that we are interested in their overall effects on exports. One could also focus on a specific country or groups of countries but, once again, an objective argument that justifies such groupings is rather hard to make. Even if such cohorts are somehow determined, the recovery of unbiased $\hat{\delta}$s would require pre-treatment and post-treatment periods during which such cohorts sign no BLAs; an exercise that is akin to the long difference-in-difference approach of Aichele & Felbermayr (2015). Unfortunately, such periods around signature dates are difficult

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35) The sample averages for the 5-year changes in economic integration (i.e., $\overline{\Delta_5 TA}$) hover around 2 (i.e., 1.86 - 2.04), irrespective of the sample considered (aggregate- or sector-level). This way, the $\hat{\gamma}$s recovered via the OLS/RGFD capture the approximate average effect of a two-level increase in *TA* over a 5-year period. Since, on average, countries are not economically integrated (i.e., *TA*=0), $\hat{\gamma}$s capture the average effect of adopting a NRPTA and, then, a PTA or just that of adopting a PTA over a 5-year period. However, the $\hat{\gamma}$s recovered via PPML/levels capture the average effect of a one-level increase in *TA* over a 1-year period; or the average effect of adopting a NRPTA over a 1-year period. The sample averages for the 5-year change in the stock of BLAs (i.e., $\overline{\Delta_5 BLAsStock}$) hover around 1 (i.e., 1.05 - 1.06), irrespective of the sample considered (aggregate- or sector-level). Hence, the coefficients recovered via OLS/RGFD and PPML/levels still capture the approximate average 5 years and 1 year, respectively.

36) For example, compared to the OLS estimator, the PPML estimator places a larger weight on larger export flows (Head & Mayer, 2014). This way, even if one estimates a levels specification via OLS and PPML, the results are likely to differ depending on the composition of aggregate and sectoral samples (i.e., proportion of large export flows).

37) Briefly, the reasons for which biased $\hat{\delta}$s may be recovered revolve around two main ideas. First, $\hat{\delta}$s represent weighted averages of the BLA's induced effects across adopting pairs and time. Second, the already treated pairs are included as part of the control group even though they are treated. Considering this and based on Goodman-Bacon (2021), *i)* the effects specific to those pairs that sign BLAs around 1985 (i.e., the middle of the 1962 - 2018 period considered here) receive larger weights and, as a result, the estimated effects may be biased towards those implied by the treaties signed around 1985 and *ii)* if treatment effects vary over time, some effects might receive negative weights thereby biasing the $\hat{\delta}$s downward.

Table 1. *BLAs Stock and Exports: Baseline Estimates*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc. Manufactured Goods
$\triangle_5$TA	0.032***	0.046***	0.022	0.007	0.011	0.048**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.016)	(0.011)	(0.018)	(0.018)	(0.012)	(0.012)	(0.013)	(0.013)
$\triangle_5$BLAs Stock	0.090***	0.058*	0.100***	0.047	0.044	0.062	0.112***	0.052*	0.079**	0.091**
	(0.028)	(0.034)	(0.037)	(0.042)	(0.064)	(0.044)	(0.034)	(0.029)	(0.038)	(0.035)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.157	0.174	0.143	0.144	0.147	0.167	0.190	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table 2. *BLAs Stock and (Positive and Null) Exports: PPML Estimates*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc. Manufactured Goods
TA	0.031	0.128***	0.089***	0.024	0.014	0.139***	0.012	0.047*	-0.001	-0.035
	(0.021)	(0.031)	(0.035)	(0.021)	(0.027)	(0.039)	(0.011)	(0.028)	(0.018)	(0.041)
BLAs Stock	0.030	-0.024	0.040	0.055	0.024	-0.070	0.063***	0.060*	-0.021	-0.034
	(0.024)	(0.038)	(0.048)	(0.047)	(0.065)	(0.063)	(0.021)	(0.032)	(0.027)	(0.059)
Obs.	729,740	488,258	301,872	426,951	251,647	196,047	458,199	537,602	517,163	534,588
Pseudo R-Squared	0.991	0.976	0.963	0.977	0.965	0.948	0.990	0.985	0.992	0.991

Note. Estimates are produced using the *ppmlhdfe* STATA routine (Correia et al., 2020). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the volume of aggregate and sectoral exports.

to establish for all 446 pairs that adopt BLAs given that some countries sign BLAs throughout most of the sample period (i.e., 1962 - 2015).[38] Second, recall that the universe of considered BLAs is not complete and, as a result, the $\hat{\delta}$s may be biased.[39]

D. Accounting for migration

1. Latent migration

It is difficult to obtain accurate data on documented migration for all countries and years in our sample. In the context of undocumented migration, this task becomes impossible. However, omitting migration (documented or undocumented) when estimating (1) will bias the $\hat{\delta}$s under two conditions: *i*) the BLAs are used to manage migration, and *ii*) migration across pairs that sign BLAs is characterized by high volatility and thus is not fully accounted for by the pair fixed effect (e.g., υ_{xm}).

Although the size of the bias is difficult to predict, three points can be made about its direction. First, if BLAs are positively correlated with latent documented and undocumented migration (i.e., the countries adopt BLAs to manage migration), the $\hat{\delta}$s will be biased upward, as BLAs partially capture the effect of latent migration on exports. Even if the assumption of slow-evolving migration patterns fails, this is less of an issue because the BLAs considered are not of the type used for migration management. Second, if BLAs are negatively correlated with both documented and undocumented migration, $\hat{\delta}$s will be biased downward only if such migration occurs in irregular bursts. Third, if BLAs are negatively correlated with undocumented migration (e.g., a potential host may not enter into a BLA with a source that cannot or will not address the issue of undocumented emigration), the $\hat{\delta}$s are biased downward. However, if these dynamics evolve slowly over time, the pair fixed effects included in specification (1) should mitigate this bias.

Taking this into account, we evaluate the robustness of the baseline results reported in Table 1. In doing so, we depart from the premise that differences in economic development promote

38) Hypothetically, we could conduct a series of event studies such as the one in Chilton & Woda (2021) for 290 pairs. However, because we do not recover all pair specific effects and is not obvious how to determine the weights that are to be attached onto each of these treaty-specific effects, it will be nearly impossible to work our way back to some kind of overall effects that are comparable to those implied by the baseline estimates in Table 1. Chilton & Woda (2021) conducted an event study in which they define 3-year, pre-, and post- treatment windows to investigate the effect of BLAs adopted by only one country, the Philippines, on migration.

39) For example, a BLAs undercount across pairs observed as signatories is likely to bias the estimated δs upward because the effects of latent BLAs are attributed to their observed counterparts. Missing BLAs for those pairs observed as non-signatories will also bias the $\hat{\delta}$s. In this case, the direction of the bias depends on the relative magnitude of exports between pairs observed as non-signatories and those observed as signatories. Specifically, if pairs observed as non-signatories exhibit exports that are larger, the $\hat{\delta}$s are biased downward. Similarly, the $\hat{\delta}$s are biased upward if the observed as non-signatory show exports that are lower.

migration for economic-opportunity reasons whereas differences in institutional quality, institutionalized constraints on executive use of power, and general democratic principles (e.g., rule of law, freedom of the press, or systems of checks and balances) may promote migration for political reasons. Hence, we augment (1) with $\Lambda_{5,xmt}$ assuming that (3) is more likely to hold and that the biases caused by unobserved migration are attenuated. Here, $\Lambda_{5,xmt}$ is a vector that includes 5-year differentials of absolute differences in Polity IV democracy scores (*diff. Polity IV*) and the natural *log* of GDPs per capita (*diff. GDPpc*), joint ratification of the ICCPR and the RSICC, as well as joint WTO and BITs membership.

$$Cov(\Delta_5 BLA_{xmt}, \psi_{5,xmt} | \Delta_5 TA_{xmt}, \Lambda_{5,xmt}, \upsilon_{xm}, \upsilon_{5,xt}, \upsilon_{5,mt}) = 0 \quad (3)$$

If BLAs are adopted by North-South/South-North pairs, it is possible that the $\hat{\delta}$s are simply picking up comparative advantage differences that are unaccounted by $\upsilon_{5,xt}$, $\upsilon_{5,xt}$, and υ_{xm}. As such, we control for absolute differences in capital-to-labor and arable land-to-labor ratios as well as human capital (i.e., *diff. K/L*, *diff. A/L*, and *diff. HC*) together with absolute differences in the stocks of ratified air-pollution and waste IEAs (i.e., *diff. Air IEAs* and *diff. Waste IEAs*).

This way, we have reproduced the results in Table 1 by restricting the sample to those country pairs with non-missing values for the 11 covariates noted above and re-estimating (1). We then have re-estimated (1) with the above covariates included. The estimates are reported in Panels A and B of Table 3, respectively. We find no discernible differences between the recovered $\hat{\delta}$s when we compare the two sets of coefficients. Moreover, the differences between the $\hat{\delta}$s displayed in Table 1 and those shown in Panel A of Table 3 simply reflect the sample restrictions mentioned above.

2. Migrant stocks and flows

The purpose of this section is to investigate whether accounting for migrant stocks and flows affects the $\hat{\delta}$s recovered by estimating (1) in any meaningful way. This exercise is required because, as discussed earlier, the inclusion of υ_{xm} (i.e., the pair fixed effect) in (1) can account for migration patterns as long as they evolve slowly over time.

Table 3. *BLAs Stock and Exports Robustness Checks: Migration Determinants*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.047***	0.049***	0.032*	0.012	0.022	0.055***	0.016	0.054***	0.026*	0.040***
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.021)	(0.011)	(0.011)	(0.014)	(0.015)
$\triangle_5$BLAs Stock	0.065**	0.036	0.082*	0.034	0.027	0.081*	0.109***	0.046	0.067*	0.091**
	(0.028)	(0.034)	(0.042)	(0.039)	(0.069)	(0.041)	(0.037)	(0.028)	(0.039)	(0.040)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.183	0.144	0.151	0.152	0.177	0.202	0.224	0.228
Panel B										
$\triangle_5$TA	0.045***	0.048***	0.031*	0.011	0.023	0.056***	0.017	0.053***	0.025*	0.040**
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.020)	(0.011)	(0.011)	(0.014)	(0.015)
$\triangle_5$BLAs Stock	0.061**	0.034	0.081*	0.032	0.028	0.080*	0.108***	0.045	0.065*	0.090**
	(0.028)	(0.033)	(0.042)	(0.039)	(0.068)	(0.041)	(0.037)	(0.028)	(0.038)	(0.040)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.184	0.144	0.151	0.152	0.177	0.202	0.224	0.229

Note. Sample restricted to non-missing values for *diff. GDPpc, diff. K/L, diff HC, diff. A/L, diff. Polity IV, diff. Air IEAs, diff. Waste IEAs, WTO, ICC, ICCPR, Stock of Enforced BITs* in Panel A. Estimates in Panel B are produced while accounting for *diff. GDPpc, diff. K/L, diff HC, diff. A/L, diff. Polity IV, diff. Air IEAs, diff. Waste IEAs, WTO, ICC, ICCPR, Stock of Enforced BITs*. To save space, the associated coefficients are omitted. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Panels A and B of Table 4 present the first set of results obtained by accounting for migrant stocks. The estimates in Panel A are obtained by restricting the sample to differentials of migrant stock shares with non-missing values, whereas the estimates in Panel B are obtained by controlling for such shares.[40] When the coefficients attached to the BLAs stock differentials within the two panels are compared on a column-by-column it is clear that accounting for the shares of migrant stocks does not alter the $\hat{\delta}$s. The second set of results is generated in a similar manner by using migrant flows from Fitzgerald et al. (2014). We report the results in Panels A and B of Table 5. Accounting for migration, this time using flows rather than stocks, has no qualitative nor quantitative effect on the implied effects of BLAs on exports. A similar story emerges from the third set of results, which are generated by using migrant flows from Abel (2018) and reported in Panels C and D of Table 5. Although the coefficients associated with the migrant flows and BLAs stock differentials in these last two panels differ significantly in both economic and statistical terms when compared to those in Panels A and B, care is advised when comparing them. Not only are the samples used to generate these coefficients different but the migrant flows characterizing the same country pair in each year are not the same given the various sources used to compile them; just as noted in Section 3.2. Nevertheless, a cautionary note is in order. Controlling for migrant stock shares and flows may have no effect on the $\hat{\delta}$s in the context of the smaller samples used to generate Tables 4 and 5, but it may make a notable difference in larger samples (e.g., the ones used to recover the $\hat{\delta}$s in Table 1). Unfortunately, in the absence of a more comprehensive data on migrant stocks, this hypothesis cannot be proven or disproven.

Because BLAs *may* be adopted as tools to manage migration, it is possible that the contemporaneous BLAs stock differential may pick up the effect of previous migration patterns. As a result, we repeat the analyses in Tables 4 and 5 and find that the $\hat{\delta}$s are robust to the inclusion of leads of the 5-year differenced migrant stock shares and flows as opposed to their contemporaneous counterparts.[41]

40) The *xm* migrant stock shares are calculated by dividing the stock of migrants from *x* to *m* by the population of *m* for each year. A similar reasoning is used to construct the *mx* migrant stock shares.

41) The results obtained this way are shown in Tables A7 and A8. By comparing Panels A and B of Table A7 and Panels A and B as well as C and D of Table A8 it is easy to observe that accounting for the lead migrant stock shares does not alter the $\hat{\delta}$s and the implied effects of signing BLAs on exports.

Table 4. *BLAs Stock, Exports, and Migrant Stocks*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.058***	0.088***	0.046*	0.020	0.023	0.118***	0.014	0.073***	0.069***	0.063*
	(0.007)	(0.016)	(0.021)	(0.015)	(0.044)	(0.028)	(0.022)	(0.017)	(0.019)	(0.028)
$\triangle_5$BLAs Stock	0.020	0.013	0.043	-0.007	0.020	0.218***	0.052	-0.038	0.031	0.055
	(0.042)	(0.081)	(0.052)	(0.043)	(0.104)	(0.064)	(0.073)	(0.032)	(0.062)	(0.055)
Obs.	51,792	40,424	27,913	37,066	22,860	19,071	39,056	43,431	41,112	42,643
Adj. R-Squared	0.144	0.109	0.119	0.081	0.056	0.062	0.155	0.190	0.193	0.220
Panel B										
$\triangle_5$TA	0.05***	0.088***	0.046*	0.020	0.022	0.118***	0.013	0.072***	0.068***	0.063*
	(0.007)	(0.015)	(0.022)	(0.015)	(0.045)	(0.028)	(0.022)	(0.017)	(0.019)	(0.028)
$\triangle_5$BLAs Stock	0.020	0.013	0.043	-0.006	0.020	0.216***	0.051	-0.038	0.028	0.054
	(0.042)	(0.081)	(0.052)	(0.042)	(0.103)	(0.065)	(0.073)	(0.032)	(0.061)	(0.054)
$\triangle_5$*log. xm* Mig. Stock Share	0.010	0.036*	-0.008	0.001	0.011	0.057**	0.012	0.001	0.046*	0.030
	(0.011)	(0.017)	(0.020)	(0.019)	(0.038)	(0.019)	(0.015)	(0.016)	(0.025)	(0.017)
$\triangle_5$*log. mx* Mig. Stock Share	-0.003	-0.020*	-0.006	-0.004	0.033	-0.027	-0.000	0.015	0.016	-0.010
	(0.013)	(0.009)	(0.017)	(0.016)	(0.019)	(0.036)	(0.011)	(0.010)	(0.011)	(0.013)
Obs.	51,792	40,424	27,913	37,066	22,860	19,071	39,056	43,431	41,112	42,643
Adj. R-Squared	0.144	0.109	0.119	0.081	0.056	0.062	0.155	0.190	0.194	0.220

Note. Sample restricted to non-missing values for the logarithm of migrant stocks' shares in Panel A. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table 5. *BLAs Stock, Exports, and Migrant Flows*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.047**	0.084***	0.065**	0.022	0.045	0.038	-0.004	0.036*	0.009	0.018
	(0.017)	(0.021)	(0.030)	(0.040)	(0.064)	(0.056)	(0.025)	(0.019)	(0.030)	(0.020)
$\triangle_5$BLAs Stock	-0.012	0.031	0.014	0.056	-0.122	0.082	0.062	0.018	0.069	0.098
	(0.043)	(0.032)	(0.069)	(0.039)	(0.191)	(0.116)	(0.061)	(0.067)	(0.059)	(0.079)
Obs.	21,312	18,902	13,940	18,258	9,939	9,704	15,562	18,779	16,967	18,788
Adj. R-Squared	0.338	0.370	0.314	0.308	0.206	0.210	0.316	0.397	0.359	0.506
Panel B										
$\triangle$5TA	0.046**	0.084***	0.066**	0.022	0.044	0.038	-0.004	0.035*	0.009	0.017
	(0.017)	(0.021)	(0.030)	(0.040)	(0.064)	(0.056)	(0.025)	(0.019)	(0.030)	(0.020)
$\triangle_5$BLAs Stock	-0.016	0.029	0.016	0.057	-0.126	0.080	0.063	0.015	0.069	0.095
	(0.044)	(0.032)	(0.068)	(0.040)	(0.193)	(0.113)	(0.063)	(0.067)	(0.058)	(0.079)
$\triangle_5 log.\ xm$ Mig. Flows (F)	0.046***	0.028***	-0.025	-0.014	0.050	0.018	-0.016	0.041*	0.007	0.027
	(0.016)	(0.009)	(0.029)	(0.026)	(0.060)	(0.045)	(0.032)	(0.021)	(0.029)	(0.023)
Obs.	21,312	18,902	13,940	18,258	9,939	9,704	15,562	18,779	16,967	18,788
Adj. R-Squared	0.338	0.370	0.314	0.308	0.206	0.210	0.316	0.397	0.359	0.506
Panel C										
$\triangle_5$TA	0.056**	0.085**	0.063**	0.004	-0.033	0.088	0.031	0.055*	0.058**	0.038
	(0.017)	(0.026)	(0.023)	(0.024)	(0.036)	(0.047)	(0.021)	(0.025)	(0.024)	(0.032)
$\triangle_5$BLAs Stock	0.045	0.043	0.115*	0.021	0.111	0.218**	0.068	0.009	0.026	0.065
	(0.036)	(0.082)	(0.060)	(0.038)	(0.145)	(0.092)	(0.076)	(0.039)	(0.069)	(0.062)
Obs.	44,814	32,786	20,045	29,874	16,006	13,246	29,835	35,052	31,919	34,254
Adj. R-Squared	0.080	0.075	0.075	0.049	0.018	0.019	0.095	0.149	0.128	0.172

Table 5. *Continued*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel D										
$\triangle_5$TA	0.056**	0.085**	0.063**	0.004	-0.033	0.088	0.031	0.055*	0.058**	0.038
	(0.017)	(0.026)	(0.023)	(0.024)	(0.036)	(0.047)	(0.021)	(0.025)	(0.024)	(0.032)
$\triangle_5$BLAs Stock	0.045	0.042	0.116*	0.021	0.111	0.217**	0.069	0.009	0.025	0.065
	(0.036)	(0.082)	(0.060)	(0.038)	(0.145)	(0.092)	(0.076)	(0.039)	(0.069)	(0.062)
$\triangle_5 log.\ xm$	0.002	0.008	-0.012	-0.001	-0.004	0.007	-0.001	0.004	0.003	-0.001
Mig. Flows (A)	(0.005)	(0.008)	(0.009)	(0.009)	(0.014)	(0.013)	(0.007)	(0.007)	(0.008)	(0.009)
Obs.	44,814	32,786	20,045	29,874	16,006	13,246	29,835	35,052	31,919	34,254
Adj. R-Squared	0.079	0.075	0.075	0.049	0.018	0.019	0.095	0.149	0.128	0.172

Note. Sample restricted to non-missing values for the 5-year differential in the natural logarithm of migrant flows in Panels A and C. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

E. Signature and ratification dates and amending BLAs

The ratification date is typically used as the official treatment date, as noted in Section 3.2. Unfortunately, Peters' (2019) dataset lacks ratification dates for the BLAs within. Given this limitation, and to retain as many BLAs as possible, we have used the signature year as the treatment year to generate the baseline results in Section 3.3. Since it is customary to use the ratification year as the treatment date, we propose three exercises to test the validity of our baseline results.

First, we consult the Chilton et al. (2017) dataset to identify the 62 BLAs that include both the signature and ratification dates. The number of years between the signature and ratification dates is then recovered. Given that this number can range from 0 to 4, we impute the ratification year for the BLAs in Peters' (2019) dataset by adding a random number of years between 0 and 4 to the signature year. Since the signature and ratification years are the same for 34 out of the 62 BLAs, we allow for the signature and imputed ratification years to coincide in only 54.84% of the cases. More, given that 16, 10, 1, and 1 of the 62 BLAs involve ratification-signature time differences of 1, 2, 3, and 4 years, the ratification-signature lags are restricted to 1, 2, 3, and 4 years in 25.81%, 16.13%, 1.61%, and 1.61% of the cases.

Panel A of Table 6 displays the results obtained as a result of this exercise. When the $\hat{\delta}$ in the first column is compared to its counterpart in Table 1, the results paint a similar picture - the ratification of BLAs exhibit a positive effect on aggregate exports. This is not at all surprising given that the ratification and the signature years coincide for 54.84% of the BLAs with unknown ratification dates. However, the coefficient recovered when using the random ratification date is lower, which may suggest that post-signature effects are transitory. A similar story emerges when comparing the $\hat{\delta}$s recovered using sectoral exports in columns 2-10.

Second, we repeat the preceding exercise by deploying a more rigid method of imputing the ratification year. Specifically, we use the 62 BLAs to recover the average signature-ratification time gap rounded to the nearest year (i.e., 1 year) and impute the ratification year as the signature year plus this very time gap. We then re-estimate (1) for both aggregate and sectoral exports. The results recovered this way are reported in Panel B of Table 6 and are nearly identical to those shown in Table 1. Signing or ratifying an additional BLA increases aggregate exports by 9.5% and sectoral exports by 5.5% to 11.5%. Just as before, the effects remain statistically and economically significant.

Table 6. *Stock of Ratified BLAs and Exports*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.032***	0.046***	0.022	0.007	0.012	0.047**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.016)	(0.011)	(0.018)	(0.018)	(0.012)	(0.012)	(0.013)	(0.013)
$\triangle_5$BLAs Stock	0.067**	0.059*	0.063*	0.046	-0.005	0.059*	0.096***	0.049*	0.059	0.093**
	(0.027)	(0.035)	(0.034)	(0.040)	(0.068)	(0.034)	(0.032)	(0.029)	(0.041)	(0.039)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.158	0.174	0.143	0.144	0.147	0.166	0.190	0.200	0.207
Panel B										
$\triangle_5$TA	0.032***	0.046***	0.022	0.007	0.011	0.047**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.016)	(0.011)	(0.018)	(0.018)	(0.012)	(0.012)	(0.013)	(0.013)
$\triangle_5$BLAs Stock	0.091***	0.060*	0.100**	0.047	0.027	0.062	0.109***	0.053*	0.075*	0.091**
	(0.028)	(0.035)	(0.039)	(0.042)	(0.063)	(0.044)	(0.033)	(0.029)	(0.038)	(0.035)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.158	0.174	0.143	0.144	0.147	0.166	0.190	0.200	0.207

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Third, because ratification and enforcement years typically follow the signature year, the effects of signing BLAs may occur with a lag. As a result, recovering the short- and long-run effects of BLAs' adoption on trade should account for the delayed effects implied by using the signature year as the treatment date. The results of estimating (2) using aggregate and sectoral exports are shown in Table 7, and the effects implied by the $\hat{\delta}_1$ coefficients reported in the first column are similar to those shown in Table 1. In particular, the effect of signing an additional BLA on aggregate exports is 10% over a period of 5 years. However, $\hat{\delta}_1 + \hat{\delta}_2$ implies that adopting an additional BLA has no effect on aggregate exports 5 to 10 years after the signature. This point is highlighted further by comparing the $\hat{\delta}_1$ with reported in the bottom panel; as the implied effects over the 5 and 10 years since signature are nearly identical. Turning to the sectoral estimates in columns 2—10, it is clear that the short-run effects suggested by the $\hat{\delta}_1$s for the beverages and tobacco, chemicals, and machinery and transport equipment sectors are similar to those implied by their counterparts in Table 1 (i.e., 13.5%, 12.5%, and 9%, respectively). A similar argument can be made about the crude materials except fuels as well as animal and vegetable oils, fats, and waxes for which the implied short-run effects, although positive, remain statistically insignificant.

The short-run effects on the exports of food and live animals, chemicals, manufactured, and miscellaneous manufactured goods all but disappear. The coefficients are still positive but are notably lower and statistically insignificant. For example, the implied short-run effect on miscellaneous manufactured goods exports is now 4.5% as opposed to the baseline 9.5%. However, for the two manufactured goods sectors, the effects over 10 years since signature (6% and 10.5%) are larger than their short-run counterparts, irrespective of whether we are stacking them against the short-run effects implied by the $\hat{\delta}$ coefficients reported in Table 1 or by the $\hat{\delta}_1$ coefficients in Table 7. The short- and long-run dynamics befitting these sectors (i.e., lower effects over 5 years since signature and positive and significant effects over 10 years since signature) may imply that the BLAs' effects on the exports of such goods manifest themselves over an intermediary time horizon (e.g., 3 to 7 years since signature). A similar argument can be made about the chemicals sector. Finally, the larger effects over 10 years since BLAs adoption on the exports of chemicals and manufactured goods are consistent with the idea that migrant-based trade networks take time to form and grow or with future trade concessions that may be granted when signing BLAs.

As illustrated in Figure 2, Peters' (2019) dataset also includes BLAs that amend a prior BLA; 127 out of the 750 BLAs are structured in this manner. Omitting these agreements, may bias the $\hat{\delta}$ coefficients as these may pick up effects that are attributable to the amending BLAs. We, therefore, account for amending BLAs and report the results in Table 8. In doing so we find that accounting for BLAs that amend existing treaties does not bring about changes in

Table 7. *BLAs Stock and Exports in the Short and Long Run*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils and Fats	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$TA	0.026***	0.024*	0.011	0.004	0.028	0.006	-0.003	0.037***	0.005	0.012
	(0.009)	(0.014)	(0.013)	(0.014)	(0.018)	(0.019)	(0.014)	(0.012)	(0.011)	(0.010)
l$\triangle_5$TA	0.008	0.028**	0.017	0.003	-0.021	0.056***	0.024*	0.023*	0.011	0.032***
	(0.010)	(0.012)	(0.015)	(0.015)	(0.021)	(0.021)	(0.013)	(0.012)	(0.011)	(0.010)
$\triangle_5$BLAs Stock	0.094***	0.023	0.127**	0.028	0.111	0.038	0.091*	0.034	0.088**	0.043
	(0.034)	(0.049)	(0.057)	(0.043)	(0.074)	(0.069)	(0.046)	(0.037)	(0.037)	(0.032)
l$\triangle_5$BLA stock	-0.002	0.037	-0.032	0.032	-0.077	0.027	0.028	0.026	-0.007	0.057
	(0.031)	(0.052)	(0.052)	(0.037)	(0.081)	(0.051)	(0.041)	(0.037)	(0.046)	(0.043)
Obs.	539,255	347,201	205,535	296,574	165,591	128,916	335,819	393,886	376,632	389,308
Adj. R-Squared	0.169	0.158	0.174	0.143	0.144	0.147	0.166	0.190	0.200	0.207
$\hat{\delta}_1$	0.094***	0.023	0.127**	0.028	0.111	0.038	0.091*	0.034	0.088**	0.043
	(0.034)	(0.049)	(0.057)	(0.043)	(0.074)	(0.069)	(0.046)	(0.037)	(0.037)	(0.032)
$\hat{\delta}_1 + \hat{\delta}_2$	0.091***	0.060	0.095**	0.061	0.034	0.065	0.119***	0.060*	0.080*	0.101**
	(0.031)	(0.037)	(0.040)	(0.045)	(0.074)	(0.045)	(0.036)	(0.031)	(0.045)	(0.040)

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

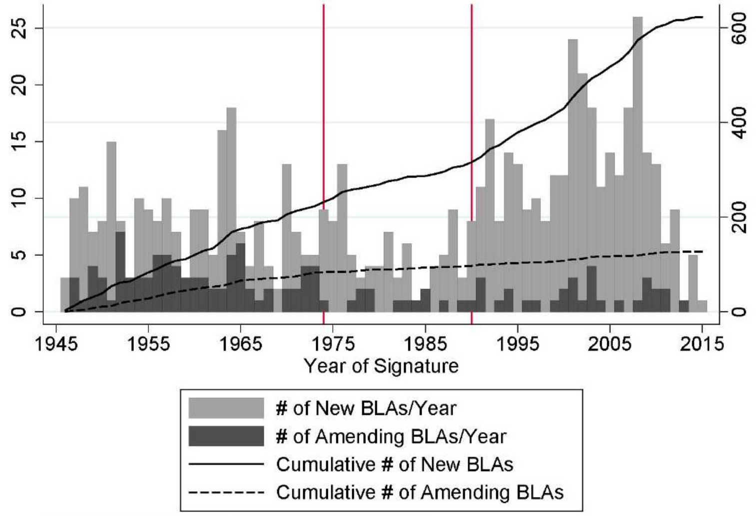
Table 8. *BLAs Stocks (New and Amending) and Exports*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$TA	0.032***	0.046***	0.022	0.007	0.011	0.047**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.016)	(0.011)	(0.018)	(0.018)	(0.012)	(0.012)	(0.013)	(0.013)
$\triangle_5$BLAs Stock	0.090***	0.057*	0.100**	0.046	0.041	0.061	0.111***	0.053*	0.079**	0.090**
	(0.028)	(0.034)	(0.037)	(0.042)	(0.064)	(0.044)	(0.034)	(0.028)	(0.038)	(0.034)
$\triangle_5$BLAs Stock (Amd.)	0.001	0.124	-0.016	0.124	0.417	0.132	0.076	-0.070	0.108	0.032
	(0.084)	(0.117)	(0.095)	(0.091)	(0.263)	(0.098)	(0.062)	(0.119)	(0.091)	(0.128)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.157	0.174	0.143	0.144	0.147	0.167	0.190	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

the recovered $\hat{\delta}$s. Although all but one of the coefficients attached to the stock of amending BLAs are positive, none of them appear to have a statistically significant effect on exports. This suggests that exports are shaped by signing new rather than amending BLAs.

Figure 2. New and amending bilateral labor agreements over time



Note: Based on the BLAs dataset from Peters (2019).

IV. BLAs and Exports: A Closer Look

A. Host and source countries

To shed more light on the effect of BLAs on exports, we conducted a brief exercise aimed at recovering the effect of signing BLAs on migrant stocks. The main message of this exercise is that any migration-driven effects of signing BLAs on exports depend on how the BLAs are structured — BLAs that designate the importer as host appear to increase migrant stocks (from x into m) much more than those agreements that designate the exporter as host or those for which the host country is not established. To avoid digression and maintain focus onto the BLAs' effects on exports, we relegate the discussion and the results to Section B of the Appendix. Based on these findings, we hypothesize that the migration-induced effects of BLAs on exports are captured mainly by the stock of BLAs (or the very first BLA) that designate the exporter and importer as hosts (i.e., denoted as xh and mh).[42] Such effects may also be captured by those BLAs with unknown hosts (i.e., $?h$) but, based on the results in Table B2,

42) Recall that we observe countries twice, once as exporters and once as importers.

they may be smaller.

The results obtained by dissecting the stock of BLAs across host exporters and importers are shown in Table 9. The results in Panel A involve the stock of BLAs whereas those in Panel B are about whether the pair has ever signed a BLA. To a large extent, both sets of results support the aforementioned hypotheses. Focusing on the first column of Panel A, BLAs that designate the exporter and importer as hosts imply larger effects on aggregate exports over a 5-year period since signature (i.e., 16% and 12%).[43] Both coefficients are statistically and economically significant. As expected, BLAs with unknown hosts also appear to facilitate aggregate exports (an increase of 3.5%), but the implied effect is lower and statistically insignificant.

The stock of BLAs is disaggregated on a sector-by-sector basis and the results are shown in columns 2—10 of Table 9. The coefficients associated with the *xh* and *mh* BLAs stocks are positive but turn out to be statistically significant only in the case of crude materials, chemicals, manufactured goods, and miscellaneous manufactured goods. The implied effects are also economically significant, ranging between 11% and 22%. Again, the coefficients involving BLAs with unknown hosts, as well as their implied effects are lower. There are exceptions (e.g., the machinery and transport equipment sector) and it is not immediately clear why some of these coefficients are negative. However, none of the negative coefficients are statistically significant. Support for the above hypotheses also emerges from looking into whether country pairs have ever adopted BLAs. The results, which are shown in Panel B, run much along the same lines as those in Panel A (i.e., positive coefficients on all *xh* and *mh* BLAs, lower coefficients attached to *?h* BLAs, and none of the negative coefficients being statistically significant). However, looking into BLAs' first adoption tends to bring about larger coefficients and larger implied effects when compared to their counterparts in Panel A, irrespective of whether the exporter or importer are designated as hosts (i.e., *xh*, *mh*).[44] Regarding those BLAs with unknown hosts (i.e., *?h*), only the coefficients involving the beverages and tobacco, chemicals, and machinery and transport equipment sectors are larger. These magnitude differences emphasize the diminishing effect of signing BLAs on exports (i.e., the implied effects of signing the first BLA is larger than that of subsequent ones). This finding supports the idea that migrant networks expand even in the absence of adopting additional BLAs.

The results in Table 9 also demonstrate the absence of a BLAs-induced "demand" channel (Felbermayr et al., 2015; Felbermayr & Toubal, 2012; Gould, 1994) for all sectors except the chemicals and miscellaneous manufactured goods sectors. Considering that these two sectors

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43) The sample averages for the 5-year changes in the stocks of *xh*, *mh*, and *?h* BLAs remain close to unity (i.e., 1.07, 1.06, and 1.01 respectively). As discussed in Section 3.3, the coefficients showed in the first column of Panel A still capture the approximate average effect of signing a BLA on exports over the 5-year period since signature. The same argument can be made on a sector-by-sector basis.

44) The few exceptions involve the animal and vegetable oils, fats, and waxes as well as the beverages and tobacco sectors, where only coefficients attached to the mh BLAs are larger.

Table 9. *BLAs by Host Country and Exports*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.032***	0.046***	0.022	0.007	0.011	0.047**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.016)	(0.011)	(0.018)	(0.018)	(0.011)	(0.012)	(0.013)	(0.013)
$\triangle_5$BLAs Stock (xh)	0.150**	0.081	0.082	0.174**	0.064	0.129	0.060	0.116***	0.078	0.104*
	(0.063)	(0.050)	(0.069)	(0.087)	(0.097)	(0.083)	(0.042)	(0.039)	(0.059)	(0.060)
$\triangle_5$BLAs Stock (mh)	0.113**	0.093	0.112	0.035	0.117	0.007	0.181***	0.015	0.049	0.201***
	(0.047)	(0.063)	(0.076)	(0.051)	(0.141)	(0.059)	(0.060)	(0.056)	(0.083)	(0.070)
$\triangle_5$BLAs Stock (?h)	0.033	0.020	0.104*	-0.035	-0.005	0.036	0.110*	0.031	0.097*	0.014
	(0.032)	(0.054)	(0.057)	(0.059)	(0.090)	(0.079)	(0.055)	(0.040)	(0.052)	(0.040)
Obs.	546,237	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.168	0.157	0.174	0.143	0.144	0.147	0.167	0.190	0.200	0.208
Panel B										
$\triangle_5$TA	0.032***	0.046***	0.023	0.007	0.011	0.048**	0.016	0.054***	0.013	0.036***
	(0.009)	(0.013)	(0.017)	(0.011)	(0.018)	(0.018)	(0.011)	(0.012)	(0.013)	(0.013)
$\triangle_5$Ever BLA (xh)	0.191**	0.149*	0.050	0.219**	0.128	0.082	0.072	0.192***	0.099	0.203***
	(0.081)	(0.084)	(0.086)	(0.089)	(0.117)	(0.113)	(0.051)	(0.046)	(0.084)	(0.070)
$\triangle_5$Ever BLA (mh)	0.185***	0.187***	0.156	0.105	0.189	0.058	0.212*	0.030	0.086	0.226***
	(0.060)	(0.060)	(0.093)	(0.069)	(0.209)	(0.191)	(0.107)	(0.058)	(0.104)	(0.065)
$\triangle_5$Ever BLA (?h)	0.037	0.018	0.121*	-0.036	-0.022	0.005	0.132**	0.034	0.103*	0.016
	(0.035)	(0.054)	(0.066)	(0.065)	(0.108)	(0.082)	(0.060)	(0.041)	(0.056)	(0.044)
Obs.	546,237	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.168	0.157	0.174	0.143	0.144	0.147	0.167	0.191	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

encompass differentiated products, this finding is in line with the findings of Chin et al. (1996), Felbermayr et al. (2015); Felbermayr & Toubal (2012), Gould (1994), Head & Ries (1998), Min (1990), Rauch (1999); Rauch & Trindade (2002); all of whom emphasize the positive effect of migration and migrant-based networks on trade in differentiated products. If BLAs designate the importer as the host (i.e., *mh* BLAs), thereby encouraging migration from *x* to *m*, exports from *x* to *m* should grow due to increased demand and shifting preferences in *m*. Furthermore, the estimates in Panel B support the existence of a "demand" channel for food and live animals. The absence of a "demand" channel for the remaining sectors can also be explained by the literature strand mentioned previously—a lower importance of migration and migrant networks for more commodity-like goods (e.g., crude materials, mineral fuels, and oils, fats, and waxes).

The effects described above are significant and the "demand" channel alone is unlikely to fully explain them. Although we cannot identify them separately, the "supply" and "return" effects described in Section 2.2 are well supported by the coefficients attached to the 5-year changes in the stocks of *mh* and *xh* BLAs in Table 9. For example, if the BLAs that designate *m* as the host country result in emigration from *x* to *m*, migrants may facilitate the formation of trade networks with their home countries thereby promoting exports from *x* to *m* (i.e., "supply" channel) (Casella & Rauch, 2002; Chin et al., 1996; Dunlevy & Hutchinson, 1999; Felbermayr & Toubal, 2012; Gould, 1994; Head & Ries, 1998; Rauch, 1999, 2001; Rauch & Trindade, 2002; Wagner et al., 2002). If such BLAs facilitate temporary migration, it is also possible that, upon their return from *m*, former migrants may contribute to the establishment *x*-based trade networks, thereby promoting exports from *x* to *m* (i.e., "return" channel). *xh* BLAs that encourage *m*-to-*x* migration may also facilitate exports from *x* to *m* along the "supply" and "return" channels (i.e., either through the formation of migrant networks in *x*, *m*-based networks upon their return, or both).

The positive and statistically significant coefficients for BLAs with unknown hosts (i.e., for beverages and tobacco, chemicals, and machinery and transport equipment sectors) are consistent with the preceding conclusions. Although we cannot prove it, the idea that migration policy certainty (i.e., the "migration policy certainty" channel) can facilitate trade is also supported by these results. These findings also support the hypothesis that countries may earn trade concessions in return to taking upon the role of hosts (Sykes, 2013). To verify that $\hat{\delta}$s are not picking up the effects of latent migration and trade determinants that are not captured by the fixed effects, we have replicated Table 9 while including the covariates discussed in Sections 3.2 and 3.4.1. The coefficients attached to both the BLAs stock and the binary indicator of whether the pairs have ever adopted a BLA are robust to the inclusion of these determinants.[45]

45) The results are reported in Tables A9 and A10. As before, the estimates in Table A9 are obtained by restricting the sample to observations with non-missing 5-year differentials of absolute differences in GDP per capita,

B. The trade policy channel

In Section 2.2, we have argued that BLAs may promote exports through a "trade policy" channel given that countries' engagement in BLAs is about signaling credibility and securing future political benefits such as a *i*) trade or investment agreement (Chilton & Posner, 2018) or *ii*) trade concessions (Sykes, 2013).

Considering this, we expect that the "trade policy" channel is more important for shallowly (as opposed to deeply) integrated pairs for two reasons.[46] First, economic integration reduces uncertainty through policy commitments that reduce the risk of losing access to foreign market s.[47] Simultaneously, further economic integration is expected to result in a larger decline in trade costs and a stronger incentive for market-access investment across more shallowly integrated pairs. Second, while pairs that adopted shallow EIAs may be able to grant each other additional trade concessions upon signing BLAs, this may not be the case for their deeply integrated counterparts. As noted earlier, the multilateral structure of deep EIAs would make bilateral trade concessions to third countries rather difficult because consensus among members is required. At the same time, the case for BLAs-induced trade concessions between deeply integrated countries that sign BLAs is weak because members of customs unions are already part of the free trade area, and members of common markets and economic unions already enjoy free movement of goods.

Given the desirable characteristics of (1), we expand on it to evaluate the hypotheses outlined above.[48] The results obtained by estimating the resulting specification (i.e., (4)) are shown

capital/labor, human capital, agricultural land/labor, democracy scores, stock of ratified air and waste IEAs, as well as 5-year differentials of joint WTO, ICC, ICCPR, and BITs membership. The estimates in Table A10 are produced while accounting for such covariates but the associated coefficients are not reported to save space. The complete table is available upon request.

46) Baier et al. (2014), among others, view non-reciprocal preferential trade agreements (NRPTAs), preferential trade agreements (PTAs), and free trade agreements (FTAs) as shallow EIAs. Customs unions (CUs), common markets (CMs), and economic unions (EUs) are categorized as deep EIAs.

47) See Carballo et al. (2018) and Handley & Limão (2015) for detailed discussions about the TPU-reduction potential of trade agreements.

48) The resulting specification is shown in (4), below.

$$\begin{aligned} \Delta_5 \ln X_{xmt} = {} & \gamma_s \Delta_5 sTA_{xmt} + \gamma_d \Delta_5 dTA_{xmt} + \\ & \delta_3 \Delta_5 BLA_{xmt} + \delta_s \Delta_5 BLA_{xmt} \times sTA_{xmt} + \delta_d \Delta_5 BLA_{xmt} \times dTA_{xmt} + \\ & \Gamma_{xmt} + \nu_{5,xt} + \nu_{5,mt} + \nu_{xm} + \phi_{5,xmt} \\ \Gamma_{xmt} = {} & \Delta_5 sTA_{xmt} \times BLA_{xm,t-5} + \Delta_5 dTA_{xmt} \times BLA_{xm,t-5} \end{aligned} \tag{4}$$

Here, sTA and dTA are binary indicators that denote the presence of shallow and deep EIAs. The two terms in Γ_{xmt} represent interactions between the 5-year sTA and dTA differentials with the 5-year leads of BLAs stocks. These terms are of no interest to us, but their inclusion is warranted given that they are the generated by taking the 5-year differences while interacting BLAs stocks with the two economic integration indicators. $\upsilon_{5,xt}$, $\upsilon_{5,mt}$, and υ_{xm} stand for the exporter-year, importer-year, and pair fixed effects. As in (1), the inclusion of υ_{xm} attenuates the biases that arise from self-selection into BLAs and account for pair-specific, time-varying trends in Table 10, and provide some evidence in favor of BLAs complementing shallow EIAs in promoting exports. Looking at the first column in the bottom panel, it is clear that signing an additional BLA while being shallowly integrated increases aggregate exports by approximately 9.5% over the 5 years since signature. The effect is comparable to that implied by the estimates in Table 1. Furthermore, the effects on the exports of beverage and tobacco, manufactured goods, and miscellaneous manufactured goods are also statistically significant and larger than those suggested by the coefficients in Table 1 (i.e., 19.5%, 14.5%, and 14%), which further support the hypotheses stated above.

It is unclear why the exports of mineral fuels and those of animal and vegetable oils, fats, and waxes see the greatest increase or the only, albeit insignificant, decrease when shallowly integrated pairs adopt BLAs. This could be due to the small number of observations in the samples related to these sectors. Recall that, in any given year and sector we should observe a country twice, once as an exporter and once as an importer. However, due to missing exports, we may observe some countries only once, either as exporters or importers. If those countries happen to be net exporters and importers of mineral fuels or exhibit relatively small volumes of trade in oils, fats, and waxes these results become less puzzling.[49] The effects involving deeply integrated, BLAs signatories lend further support to the hypotheses introduced above; aside from beverages and tobacco, no other sector appears to see a statistically significant increase in exports as a result of adopting a BLA while signatories are deeply integrated.

In Table 11, we report the coefficients generated by estimating a specification similar to (4) while distinguishing between distinct types of shallow EIAs (i.e., NRPTAs, PTAs, and FTAs). This set of results yields two new insights; both of which lend further support to the hypotheses outlined at the beginning of the section and in Section 2.2 (i.e., BLAs functioning as complements of shallow EIAs). First, in the 5 years since signature, BLAs appear to facilitate trade for those pairs that had an FTA in force at the time of signature. The only exceptions are the animal and vegetable oils, fats, and waxes and the chemicals sectors. Second, BLAs signed while a NRPTA is in force, bring about large increases in the exports of chemicals and miscellaneous manufactured goods (i.e., 33.5% and 18.5% over the 5 years since signature). These effects are significant. However, two aspects are worth considering when delving into these results. On the one hand, NRPTAs are typically signed by North-South country pairs under the Generalized System of Preferences, with the North granting market access to the South but not the other way around. As a result, these estimates only apply to South-to-North

that evolve slowly over time. The inclusion of $\upsilon_{5,xt}$ and $\upsilon_{5,mt}$ accounts multilateral resistances and other latent, fixed and time-varying exporter and importer factors that shape trade and the adoption of BLAs.

49) Indeed, in the sample involving exports of mineral fuels, 11 of the 15 countries that appear only as exporters see (crude or refined) petroleum oils as ranking among their top 5, most-exported non-agricultural products. Concomitantly, Australia and United States, both of which are large importers of crude petroleum oils find themselves among the 11 countries that appear only as importers.

Table 10. *BLAs Stock and Shallow/Deep Economic Integration Agreements*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$Shallow EIAs	0.063**	0.053*	-0.020	0.028	-0.008	-0.012	0.013	0.122***	0.044	0.122***
	(0.026)	(0.030)	(0.037)	(0.036)	(0.053)	(0.051)	(0.032)	(0.033)	(0.037)	(0.038)
$\triangle_5$Deep EIAs	0.145**	0.436***	0.220**	0.074	-0.078	0.294**	0.087	0.139*	0.049	0.061
	(0.057)	(0.086)	(0.104)	(0.079)	(0.144)	(0.117)	(0.067)	(0.075)	(0.074)	(0.071)
$\triangle_5$BLAs Stock	0.093**	0.067	0.054	0.035	-0.107	0.048	0.160***	0.025	0.073*	0.073*
	(0.036)	(0.047)	(0.042)	(0.047)	(0.088)	(0.054)	(0.059)	(0.031)	(0.041)	(0.042)
$\triangle_5$BLAs Stock	-0.002	-0.037	0.125	0.041	0.289***	-0.062	-0.121	0.111*	0.036	0.058
× Shallow EIAs	(0.054)	(0.052)	(0.095)	(0.056)	(0.094)	(0.057)	(0.077)	(0.056)	(0.075)	(0.049)
$\triangle_5$BLAs Stock	-0.154**	-0.126	0.143	-0.084	0.348	0.107	-0.157*	-0.137	-0.207*	-0.130
× Deep EIAs	(0.066)	(0.084)	(0.129)	(0.129)	(0.211)	(0.164)	(0.092)	(0.101)	(0.113)	(0.081)
Obs.	460,529	294,955	171,602	251,930	136,813	107,329	282,729	335,739	315,842	328,616
Adj. R-Squared	0.181	0.166	0.191	0.158	0.159	0.160	0.182	0.207	0.211	0.224
$\hat{\delta}_3 + \hat{\delta}_s$	0.091**	0.031	0.179**	0.075	0.182**	-0.014	0.039	0.136***	0.109*	0.131***
	(0.044)	(0.042)	(0.076)	(0.048)	(0.080)	(0.047)	(0.046)	(0.043)	(0.062)	(0.041)
$\hat{\delta}_3 + \hat{\delta}_d$	-0.061	-0.059	0.197*	-0.049	0.240	0.155	0.002	-0.112	-0.134	-0.057
	(0.065)	(0.078)	(0.113)	(0.116)	(0.195)	(0.156)	(0.062)	(0.098)	(0.108)	(0.069)

Note. The interactions involving the 5-year EIAs differentials, and the 5-year leads of BLAs stocks are included but not reported to save space. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table 11. *BLAs Stock and Shallow Economic Integration Agreements*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Δ_5NRPTAs	0.051 (0.035)	0.054 (0.041)	-0.041 (0.060)	0.065 (0.054)	0.051 (0.077)	-0.130 (0.086)	0.014 (0.049)	0.111** (0.051)	0.055 (0.049)	0.138** (0.056)
Δ_5PTAs	0.042 (0.034)	0.039 (0.042)	-0.091 (0.061)	-0.004 (0.041)	-0.063 (0.076)	0.029 (0.086)	0.015 (0.046)	0.104** (0.043)	-0.046 (0.052)	0.098** (0.041)
Δ_5FTAs	0.090*** (0.031)	0.062 (0.038)	0.039 (0.045)	0.018 (0.042)	-0.000 (0.069)	0.031 (0.066)	0.009 (0.041)	0.144*** (0.037)	0.110** (0.048)	0.131*** (0.048)
Δ_5CUCMEUs	0.163*** (0.058)	0.441*** (0.089)	0.258** (0.106)	0.066 (0.079)	-0.073 (0.146)	0.323*** (0.118)	0.085 (0.063)	0.154** (0.072)	0.097 (0.076)	0.067 (0.070)
Δ_5BLAs Stock	0.095** (0.036)	0.067 (0.047)	0.055 (0.043)	0.035 (0.047)	-0.108 (0.088)	0.048 (0.055)	0.160*** (0.060)	0.026 (0.031)	0.073* (0.041)	0.072* (0.042)
Δ_5BLAs Stock × NR PTA	-0.095 (0.080)	-0.215 (0.151)	0.033 (0.099)	-0.022 (0.120)	0.122 (0.216)	0.026 (0.206)	0.130 (0.173)	0.155 (0.129)	-0.091 (0.155)	0.096 (0.079)
Δ_5BLAs Stock × PTA	-0.128 (0.103)	0.018 (0.067)	0.166 (0.234)	-0.191 (0.119)	0.330 (0.391)	-0.213 (0.257)	-0.203 (0.130)	-0.031 (0.146)	-0.040 (0.140)	-0.118 (0.136)
Δ_5BLAs Stock × FTA	0.050 (0.060)	0.022 (0.055)	0.160 (0.110)	0.109* (0.062)	0.322*** (0.107)	-0.046 (0.080)	-0.189** (0.076)	0.121*** (0.044)	0.093 (0.078)	0.090* (0.053)
Δ_5BLAs Stock × CUCMEU	-0.147** (0.066)	-0.131 (0.084)	0.137 (0.128)	-0.077 (0.130)	0.348 (0.217)	0.104 (0.166)	-0.153 (0.093)	-0.133 (0.101)	-0.195* (0.113)	-0.129 (0.082)
Obs.	460,529	294,955	171,602	251,930	136,813	107,329	282,729	335,739	315,842	328,616
Adj. R-Squared	0.181	0.166	0.191	0.158	0.159	0.160	0.182	0.207	0.212	0.224
$\hat{\delta}_3 + \hat{\delta}_{NRPTA}$	-0.000 (0.078)	-0.147 (0.158)	0.088 (0.105)	0.013 (0.123)	0.014 (0.244)	0.075 (0.203)	0.290* (0.165)	0.181 (0.117)	-0.017 (0.146)	0.169** (0.077)
$\hat{\delta}_3 + \hat{\delta}_{PTA}$	-0.033 (0.103)	0.085 (0.052)	0.220 (0.241)	-0.156 (0.105)	0.221 (0.379)	-0.164 (0.241)	-0.042 (0.106)	-0.005 (0.137)	0.034 (0.145)	-0.045 (0.139)
$\hat{\delta}_3 + \hat{\delta}_{FTA}$	0.144*** (0.046)	0.089* (0.045)	0.215** (0.084)	0.144*** (0.052)	0.214** (0.085)	0.002 (0.077)	-0.029 (0.040)	0.147*** (0.040)	0.166** (0.063)	0.162*** (0.044)
$\hat{\delta}_3 + \hat{\delta}_{CUCMEU}$	-0.052 (0.065)	-0.064 (0.078)	0.192* (0.114)	-0.042 (0.116)	0.239 (0.202)	0.152 (0.158)	0.007 (0.064)	-0.107 (0.099)	-0.121 (0.108)	-0.057 (0.070)

Note. The interactions involving the 5-year EIAs differentials, and the 5-year leads of BLAs stocks are included but not reported to save space. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports. δ_3, is the coefficient attached to $\Delta_5 BLAsStock$ whereas δ_{NRPTA}, δ_{PTA}, δ_{FTA}, and δ_{CUCMEU} are the coefficients attached to the interactions between $\Delta_5 BLAsStock$ and the binary indicators of whether a pair has a NRPTA, PTA, FTA, and CUCMEU in place, respectively.

exports, which are relatively small to begin with. On the other hand, this kind of agreement is subject to renewal and can be terminated unilaterally by the North. In other words, NRPTAs and the benefits they provide are as uncertain as the policy-making process itself (Handley & Limão, 2015). Considering this, the signing of BLAs could be interpreted as a signal of continuing cooperation that complements NRPTAs through reducing trade-policy uncertainty and incentivizing market-access investment.

V. Conclusion

Peters (2019) concluded with noting that BLAs contribute to the formation and growth of migrant-based trade networks, which have been shown to facilitate international trade by lowering various transaction costs. Despite the link between BLAs and migrant networks, a large-scale analysis of how and whether BLAs facilitate trade is yet to be conducted. This paper fills that void by presenting the first set of estimates of the effect of BLAs on trade. In this way, this study adds to the substantial literature on the impact of migration on trade. By investigating the relationship between BLAs and trade, this study also adds to the growing body of literature on international agreements and their potential effects on various economic outcomes. After all, both Chilton & Woda (2021) and Chilton & Posner (2018) emphasize the lack of attention paid to BLAs as a class of international treaties despite their recent proliferation.

This study reveals economically and statistically significant effects on aggregate and sectoral exports over a 5-year period following the signing of BLAs. In terms of sectoral exports, the estimated effects are more pronounced in the chemicals and miscellaneous manufactured goods sectors, both of which are characterized by large degrees of product differentiation. These effects are consistent with those described in a number of studies, which also find that migration has a positive effect on trade in differentiated products. Moreover, for these two sectors, the BLAs' trade-promotion effects appear to materialize in the longer run (over a period of 10 years since signature).

This analysis also sheds light on the various channels through which the adoption of BLAs promotes exports, although further refinement is required to isolate them. In this way, we find evidence that the trade-promotion effects of BLAs propagate along the "demand" and "transaction costs" channels in aggregate and for the chemicals and miscellaneous manufactured goods sectors. Finally, we present evidence in favor of BLAs complementing shallow EIAs.

This analysis is not without flaws. First, more complete data on bilateral stocks and flows of migrants would reduce our sole reliance on the RGFD specification to ensure that migration is accounted for. Second, the universe of BLAs used here is far from complete. This shortcoming, which involves both BLAs datasets currently available (Peters, 2019; Chilton et al. 2017), could bias the estimated effects of BLAs on trade, depending on the migration provisions included in the missing BLAs. Third, the heterogeneous effects of BLAs on exports along with the staggered signing of BLAs may lead to biased estimates of the actual average signing effect.

A series of extensions can shed even more light onto the BLAs' trade promotion effects. For example, BLAs exhibit significant heterogeneity in terms of their provisions (e.g., roles that signatories take upon, eligibility conditions for workers, rules about cooperation between signatories). Future research may explore this heterogeneity and its potential effect on trade. For example, more complex BLAs may bring about increased certainty over migration policy, which is more likely to contribute to the formation of migrant-driven trade networks and generate larger "supply" and "return" effects. Considering the extensive and intensive margins instead of aggregate and sectoral exports is yet another way to further scrutinize the BLAs' effects on trade. If, for instance, immigrants contribute to reducing the fixed costs of entry into foreign markets, as suggested by Peri & Requena (2009), the BLAs-induced effect on trade should unfold along the extensive margin as new products enter the market.

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Appendix A

Table A1. *Summary Statistics*

	Obs.	Mean	S.D.	Min	Max
Aggregate					
Exports (*X*)	732,703	389,377,354.92	4,305,702,675.41	0.00	428,962,414,592
ln Exports (*ln X*)	732,693	14.67	3.75	0.00	27
w/ null flows: 10; w/ missing flows: 1,697,891.					
Food and Live Animals					
Exports (*X*)	491,530	40,055,109.41	323,998,714.21	0.00	23,632,527,360
ln Exports (*ln X*)	491,522	13.57	3.23	0.00	24
w/ null flows: 8; w/ missing flows: 1,939,064.					
Beverages and Tobacco					
Exports (*X*)	305,192	9,187,545.78	68,609,947.70	0.00	5,452,201,472
ln Exports (*ln X*)	305,160	11.97	3.18	0.00	22
w/ null flows: 32; w/ missing flows: 2,125,402.					
Crude Materials (Inedible), Except Fuels					
Exports (*X*)	430,418	27,199,773.11	373,160,703.29	0.00	62,276,493,312
ln Exports (*ln X*)	430,398	12.70	3.37	0.00	25
w/ null flows: 20; w/ missing flows: 2,000,176.					
Mineral Fuels, Lubricants, and Related Materials					
Exports (*X*)	255,141	114,735,017.64	1,120,774,415.87	0.00	120,516,313,088
ln Exports (*ln X*)	255,125	12.96	3.95	0.00	26
w/ null flows: 16; w/ missing flows: 2,175,453.					
Animal and Vegetable Oils, Fats, and Waxes					
Exports (*X*)	199,252	8,065,806.73	69,970,826.08	0.00	5,558,558,720
ln Exports (*ln X*)	199,244	11.88	3.18	0.00	22
w/ null flows: 8; w/ missing flows: 2,231,342.					
Chemicals and Related Products					
Exports (*X*)	461,384	70,635,387.81	639,099,031.08	0.00	39,134,429,184
ln Exports (*ln X*)	461,367	13.28	3.54	0.00	24
w/ null flows: 17; w/ missing flows: 1,969,210.					
Manufactured Goods					
Exports (*X*)	540,861	77,947,459.70	674,221,391.99	0.00	53,228,433,408
ln Exports (*ln X*)	540,842	13.41	3.63	0.00	25
w/ null flows: 19; w/ missing flows: 1,889,733.					
Machinery and Transport Equipment					
Exports (*X*)	520,703	209,761,039.80	2,573,095,383.27	0.00	241,442,226,176
ln Exports (*ln X*)	520,694	13.64	3.79	0.00	26
w/ null flows: 9; w/ missing flows: 1,909,891.					

Table A1. *Continued*

	Obs.	Mean	S.D.	Min	Max
Miscellaneous Manufactured Goods					
Exports (*X*)	538,013	67,369,587.62	863,092,795.63	0.00	139,412,357,120
ln Exports (*ln X*)	537,983	12.59	3.62	0.00	26
w/ null flows: 30; w/ missing flows: 1,892,581.					
Econ. Integration (*TA*)	2,089,843	0.28	0.82	0.00	6
# of BLAs (*BLA*)	2,168,771	0.02	0.19	0.00	7

Note. Economic integration (TA) is measured on a 0-6 scale, with 0 denoting no integration whatsoever while 6 denotes joint participation within an economic and monetary union. For more details, please refer to Section 3.2.

Table A2. *Exporters and Importers*

A	B	C	D-F	G	H-J	K-L	M	N-O	P-R	S	T-U	V-Z
ABW	BDI	CAF	DDR	GAB	HKG	KAZ	MAC	NAM	PAK	SAU	TCA	VCT
AFG	BEN	CAN	DEU	GBR	HND	KEN	MAR	NCL	PAN	SDN	TCD	VEN
AGO	BFA	CHE	DJI	GEO	HRV	KGZ	MDA	NER	PER	SEN	TGO	VIR
AIA	BGD	CHL	DMA	GHA	HTI	KHM	MDG	NGA	PHL	SGP	THA	VNM
ALB	BGR	CHN	DNK	GIN	HUN	KIR	MDV	NIC	PLW	SLB	TJK	VUT
AND	BHR	CIV	DOM	GLP	IDN	KNA	MEX	NLD	PNG	SLE	TKM	WSM
ANT	BHS	CMR	DZA	GMB	IND	KOR	MKD	NOR	POL	SLV	TLS	YEM
ARE	BIH	COD	ECU	GNB	IRL	KWT	MLI	NPL	PRT	SOM	TON	YMD
ARG	BLR	COG	EGY	GRC	IRN	LAO	MLT	NZL	PRY	SPM	TTO	YUG
ARM	BLX	COK	ERI	GRD	IRQ	LBN	MMR	OMN	PSE	STP	TUN	ZAF
ATG	BLZ	COL	ESP	GRL	ISL	LBR	MNG		PYF	SUR	TUR	ZMB
AUS	BMU	COM	EST	GTM	ISR	LBY	MOZ		QAT	SVK	TUV	ZWE
AUT	BOL	CPV	ETH	GUF	ITA	LCA	MRT		REU	SVN	TZA	
AZE	BRA	CRI	FIN	GUY	JAM	LKA	MSR		ROU	SWE	UGA	
	BRB	CSK	FJI		JOR	LSO	MTQ		RUS	SWZ	UKR	
	BRN	CUB	FRA		JPN	LTU	MUS		RWA	SYC	URY	
	BTN	CYP	FRO			LVA	MWI			SYR	USA	
	BWA	CZE	FSM				MYS				UZB	
							MYT					

Note. All countries appear as both exporters and importers.

Table A3. *BLAs Stock and Exports Robustness Checks: 3-Year Differences*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_3$TA	0.015*	0.036***	0.017	0.004	0.009	0.040***	0.011	0.041***	0.005	0.018*
	(0.008)	(0.012)	(0.013)	(0.009)	(0.015)	(0.014)	(0.009)	(0.008)	(0.012)	(0.010)
$\triangle_3$BLAs Stock	0.065**	0.015	0.111***	0.014	0.040	0.071	0.086***	0.019	0.065**	0.064**
	(0.026)	(0.030)	(0.031)	(0.038)	(0.045)	(0.048)	(0.030)	(0.023)	(0.030)	(0.029)
Obs.	586,635	379,473	226,201	324,370	182,256	142,178	364,439	427,356	408,991	422,976
Adj. R-Squared	0.106	0.101	0.110	0.087	0.088	0.094	0.106	0.124	0.129	0.130

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 3-year difference in the natural logarithm of aggregate and sectoral exports.

Table A4. *BLAs Stock and Exports Robustness Checks: Disaggregated Economic Integration*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$BLAs Stock	0.090***	0.062*	0.102***	0.046	0.047	0.064	0.113***	0.051*	0.079**	0.089**
	(0.028)	(0.034)	(0.037)	(0.042)	(0.064)	(0.044)	(0.034)	(0.029)	(0.037)	(0.035)
$\triangle_5$NR PTA	-0.002	0.014	-0.053	0.044	-0.007	-0.110**	0.010	0.034	0.012	0.090*
	(0.037)	(0.040)	(0.052)	(0.040)	(0.082)	(0.053)	(0.045)	(0.047)	(0.038)	(0.047)
$\triangle_5$PTAs	0.025	0.007	-0.106*	-0.030	-0.085	0.097	-0.001	0.084**	-0.051	0.094**
	(0.034)	(0.042)	(0.055)	(0.039)	(0.069)	(0.065)	(0.043)	(0.042)	(0.043)	(0.039)
$\triangle_5$FTAs	0.098***	0.068*	0.034	0.031	0.034	0.054	0.038	0.180***	0.070	0.124***
	(0.029)	(0.037)	(0.044)	(0.036)	(0.056)	(0.054)	(0.039)	(0.036)	(0.042)	(0.045)
$\triangle_5$Customs Unions	0.331***	0.469***	0.269***	0.192***	0.101	0.282**	0.026	0.277***	0.201***	0.161**
	(0.054)	(0.081)	(0.080)	(0.067)	(0.116)	(0.127)	(0.071)	(0.060)	(0.071)	(0.074)
$\triangle_5$Common Markets	0.107*	0.542***	0.284*	0.024	0.008	0.579***	0.166***	0.186**	-0.011	0.098
	(0.059)	(0.102)	(0.147)	(0.074)	(0.160)	(0.142)	(0.060)	(0.082)	(0.077)	(0.085)

Table A4. *Continued*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats, and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$Economic Unions	0.141	0.677***	0.372**	-0.117	0.335	0.640***	0.291**	0.223**	-0.017	0.064
	(0.095)	(0.113)	(0.172)	(0.138)	(0.203)	(0.177)	(0.110)	(0.109)	(0.108)	(0.108)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.158	0.174	0.143	0.144	0.147	0.167	0.191	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A5. *BLAs Stock and Exports Robustness Checks: Disaggregated Economic Integration*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$BLAs Stock	0.089***	0.061*	0.102***	0.047	0.044	0.063	0.113***	0.051*	0.079**	0.090**
	(0.028)	(0.034)	(0.037)	(0.042)	(0.064)	(0.044)	(0.034)	(0.028)	(0.037)	(0.035)
$\triangle_5$NR PTA	0.001	0.015	-0.053	0.043	-0.003	-0.110**	0.010	0.035	0.013	0.091*
	(0.037)	(0.040)	(0.053)	(0.040)	(0.083)	(0.054)	(0.046)	(0.047)	(0.037)	(0.047)
$\triangle_5$PTAs	0.026	0.006	-0.106*	-0.029	-0.085	0.095	-0.002	0.084**	-0.050	0.095**
	(0.034)	(0.042)	(0.055)	(0.039)	(0.069)	(0.065)	(0.043)	(0.042)	(0.043)	(0.039)
$\triangle_5$FTAs	0.109***	0.064*	0.033	0.040	0.038	0.041	0.030	0.184***	0.080*	0.127***
	(0.029)	(0.037)	(0.042)	(0.037)	(0.056)	(0.053)	(0.039)	(0.035)	(0.043)	(0.045)
$\triangle_5$CUCMEUs	0.202***	0.507***	0.275**	0.099	0.043	0.422***	0.104*	0.224***	0.075	0.125*
	(0.052)	(0.083)	(0.107)	(0.063)	(0.129)	(0.103)	(0.056)	(0.066)	(0.071)	(0.072)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.158	0.174	0.143	0.144	0.147	0.167	0.191	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A6. *BLAs Stock and Exports Robustness Checks: Collinearity*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.032***	0.046***	0.023	0.007	0.012	0.048***	0.016	0.054***	0.014	0.037***
	(0.009)	(0.013)	(0.017)	(0.011)	(0.018)	(0.018)	(0.012)	(0.012)	(0.013)	(0.013)
Obs.	544,581	350,786	207,481	299,696	167,045	130,293	338,784	397,562	379,839	392,673
Adj. R-Squared	0.169	0.157	0.174	0.143	0.144	0.147	0.167	0.190	0.200	0.208
Panel B										
$\triangle_5$BLAs Stock	0.093***	0.062*	0.102**	0.047	0.045	0.064	0.113***	0.057*	0.081**	0.094**
	(0.029)	(0.034)	(0.038)	(0.042)	(0.064)	(0.045)	(0.034)	(0.029)	(0.038)	(0.035)
Obs.	544,699	350,874	207,540	299,754	167,073	130,326	338,861	397,657	379,916	392,761
Adj. R-Squared	0.169	0.157	0.174	0.143	0.144	0.147	0.167	0.190	0.200	0.208

Note. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter- importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A7. *BLAs Stock, Exports, and Leads of Migrant Stocks*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.049***	0.053***	0.015	0.024	-0.004	0.074**	0.031*	0.062**	0.032	0.067***
	(0.011)	(0.016)	(0.021)	(0.020)	(0.039)	(0.029)	(0.017)	(0.022)	(0.024)	(0.017)
$\triangle_5$BLAs Stock	0.069*	-0.001	0.136*	0.047	-0.070	-0.063*	0.061	0.044	0.141*	0.063
	(0.034)	(0.056)	(0.065)	(0.052)	(0.110)	(0.032)	(0.038)	(0.031)	(0.069)	(0.057)
Obs.	50,281	39,439	27,410	36,216	22,679	18,799	38,338	42,251	40,181	41,462
Adj. R-Squared	0.145	0.102	0.108	0.073	0.070	0.076	0.136	0.183	0.203	0.223
Panel B										
$\triangle_5$TA	0.049***	0.053***	0.015	0.024	-0.004	0.075**	0.031*	0.062**	0.032	0.067***
	(0.011)	(0.016)	(0.021)	(0.021)	(0.039)	(0.030)	(0.017)	(0.022)	(0.024)	(0.017)

Table A7. *Continued*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$BLAs Stock	0.068*	-0.002	0.135*	0.048	-0.072	-0.062	0.060	0.043	0.139*	0.062
	(0.034)	(0.056)	(0.065)	(0.053)	(0.109)	(0.039)	(0.038)	(0.031)	(0.067)	(0.057)
Lead $\triangle_5$ *log. xm*	0.032**	0.020***	0.049	-0.006	0.020	0.021	-0.003	0.010	0.050*	0.012
Mig. Stock Share	(0.012)	(0.006)	(0.030)	(0.027)	(0.038)	(0.041)	(0.011)	(0.022)	(0.023)	(0.014)
Lead $\triangle_5$ *log. mx*	-0.020	0.010	-0.020	-0.003	0.044	-0.060*	0.018	0.026**	-0.012	0.002
Mig. Stock Share	(0.013)	(0.016)	(0.015)	(0.023)	(0.033)	(0.028)	(0.011)	(0.010)	(0.014)	(0.010)
Obs.	50,281	39,439	27,410	36,216	22,679	18,799	38,338	42,251	40,181	41,462
Adj. R-Squared	0.145	0.102	0.108	0.073	0.070	0.076	0.136	0.183	0.203	0.223

Note. Sample restricted to non-missing values for the leads of the logarithm of migrant stocks' shares in Panel A. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A8. *BLAs Stock, Exports, and Leads of Migrant Flows*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.043*	0.078***	0.061**	0.009	0.050	0.027	-0.000	0.031	0.006	0.025
	(0.021)	(0.021)	(0.028)	(0.038)	(0.060)	(0.055)	(0.028)	(0.018)	(0.027)	(0.023)
$\triangle_5$BLAs Stock	-0.014	-0.017	0.058	0.036	-0.136	0.106	0.054	0.025	0.041	0.105
	(0.044)	(0.041)	(0.051)	(0.024)	(0.205)	(0.147)	(0.072)	(0.060)	(0.060)	(0.087)
Obs.	20,707	18,367	13,501	17,752	9,623	9,438	15,043	18,249	16,384	18,178
Adj. R-Squared	0.333	0.369	0.316	0.298	0.200	0.200	0.316	0.409	0.364	0.509
Panel B										
$\triangle_5$TA	0.043*	0.078***	0.061**	0.009	0.050	0.027	-0.000	0.030	0.005	0.025
	(0.021)	(0.021)	(0.028)	(0.038)	(0.060)	(0.054)	(0.028)	(0.018)	(0.027)	(0.023)

Table A8. *Continued*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
$\triangle_5$BLAs Stock	-0.017	-0.017	0.061	0.038	-0.134	0.105	0.054	0.024	0.040	0.104
	(0.045)	(0.041)	(0.053)	(0.023)	(0.209)	(0.146)	(0.073)	(0.060)	(0.060)	(0.087)
Lead $\triangle_5$ *log. xm* Mig. Flows (F)	0.048*	0.004	-0.049	-0.020	-0.021	0.007	-0.000	0.032	0.028	0.011
	(0.023)	(0.013)	(0.030)	(0.019)	(0.072)	(0.042)	(0.023)	(0.019)	(0.033)	(0.025)
Obs.	20,707	18,367	13,501	17,752	9,623	9,438	15,043	18,249	16,384	18,178
Adj. R-Squared	0.334	0.369	0.316	0.298	0.200	0.200	0.316	0.409	0.364	0.509
Panel C										
$\triangle_5$TA	0.060**	0.057**	0.040	0.001	-0.021	0.100**	0.038**	0.060**	0.040	0.051*
	(0.019)	(0.021)	(0.031)	(0.023)	(0.026)	(0.035)	(0.014)	(0.024)	(0.030)	(0.026)
$\triangle_5$BLAs Stock	0.083	0.043	0.143**	0.013	0.020	-0.068	0.112*	0.071*	0.096	0.085
	(0.048)	(0.055)	(0.048)	(0.064)	(0.130)	(0.100)	(0.055)	(0.036)	(0.068)	(0.059)
Obs.	41,951	30,991	19,127	28,113	15,513	12,695	28,281	32,937	30,340	32,056
Adj. R-Squared	0.089	0.069	0.087	0.042	0.021	0.004	0.091	0.131	0.148	0.182
Panel D										
$\triangle_5$TA	0.060**	0.057**	0.040	0.001	-0.021	0.100**	0.038**	0.060**	0.040	0.051*
	(0.019)	(0.021)	(0.031)	(0.023)	(0.026)	(0.035)	(0.014)	(0.024)	(0.030)	(0.026)
$\triangle_5$BLAs Stock	0.084	0.043	0.142**	0.015	0.022	-0.070	0.111*	0.072*	0.096	0.085
	(0.049)	(0.055)	(0.047)	(0.064)	(0.130)	(0.100)	(0.056)	(0.036)	(0.068)	(0.059)
Lead $\triangle_5$ *log. xm* Mig. Flows (A)	-0.011	0.001	0.006	-0.016*	-0.012*	0.017	0.009	-0.001	-0.007	-0.008
	(0.006)	(0.004)	(0.013)	(0.007)	(0.005)	(0.014)	(0.008)	(0.007)	(0.006)	(0.005)
Obs.	41,951	30,991	19,127	28,113	15,513	12,695	28,281	32,937	30,340	32,056
Adj. R-Squared	0.089	0.069	0.087	0.042	0.021	0.004	0.091	0.131	0.148	0.182

Note. Sample restricted to non-missing values for the leads of the 5-year differential in the natural logarithm of migrant flows in Panels A and C. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A9. *BLAs Stocks by Host Country and Exports: Robustness Check*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.047***	0.049***	0.032*	0.012	0.022	0.055***	0.016	0.054***	0.026*	0.040***
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.021)	(0.011)	(0.011)	(0.013)	(0.015)
$\triangle_5$BLAs Stock	0.098	0.036	0.061	0.136	0.042	0.102	0.047	0.090**	0.062	0.054
(*xh*)	(0.064)	(0.043)	(0.077)	(0.084)	(0.106)	(0.074)	(0.044)	(0.043)	(0.057)	(0.058)
$\triangle_5$BLAs Stock	0.083	0.035	0.119	0.028	0.125	0.083	0.193***	0.042	0.064	0.249***
(*mh*)	(0.053)	(0.059)	(0.090)	(0.045)	(0.140)	(0.057)	(0.055)	(0.058)	(0.092)	(0.075)
$\triangle_5$BLAs Stock	0.031	0.037	0.077	-0.031	-0.026	0.063	0.107*	0.020	0.072	0.022
(*?h*)	(0.032)	(0.056)	(0.060)	(0.060)	(0.093)	(0.079)	(0.057)	(0.038)	(0.052)	(0.037)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.183	0.144	0.151	0.152	0.177	0.202	0.224	0.229
Panel B										
$\triangle_5$TA	0.045***	0.048***	0.031*	0.011	0.022	0.056***	0.017	0.053***	0.025*	0.040**
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.020)	(0.011)	(0.011)	(0.014)	(0.015)
$\triangle_5$BLAs Stock	0.094	0.033	0.062	0.134	0.048	0.102	0.045	0.089**	0.059	0.053
(*xh*)	(0.063)	(0.042)	(0.077)	(0.084)	(0.105)	(0.074)	(0.045)	(0.042)	(0.056)	(0.057)
$\triangle_5$BLAs Stock	0.078	0.033	0.120	0.026	0.130	0.085	0.189***	0.042	0.059	0.251***
(*mh*)	(0.054)	(0.058)	(0.089)	(0.046)	(0.142)	(0.057)	(0.055)	(0.058)	(0.093)	(0.075)
$\triangle_5$BLAs Stock	0.028	0.035	0.073	-0.032	-0.031	0.062	0.109*	0.018	0.072	0.019
(*?h*)	(0.031)	(0.055)	(0.059)	(0.059)	(0.088)	(0.079)	(0.057)	(0.038)	(0.052)	(0.037)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.184	0.144	0.151	0.152	0.177	0.202	0.224	0.229

Note. Sample restricted to non-missing values for the logarithm of migrant stocks' shares in Panel A. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Table A10. *First BLAs by Host Country and Exports: Robustness Check*

SITC 1 Digit Sector:	Aggregate	Food and Live Animals	Beverages and Tobacco	Crude Materials (Inedible), Except Fuels	Mineral Fuels Lubricants and Related Materials	Animal and Vegetable Oils, Fats and Waxes	Chemicals	Manufactured Goods	Machinery and Transport Equipment	Misc.Manufactured Goods
Panel A										
$\triangle_5$TA	0.047***	0.049***	0.032*	0.012	0.022	0.055***	0.016	0.054***	0.026*	0.040***
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.021)	(0.011)	(0.011)	(0.014)	(0.015)
$\triangle_5$Ever BLA (*xh*)	0.122	0.099	0.002	0.180*	0.104	0.046	0.044	0.173***	0.067	0.136**
	(0.088)	(0.068)	(0.093)	(0.105)	(0.119)	(0.111)	(0.051)	(0.049)	(0.085)	(0.066)
$\triangle_5$Ever BLA (*mh*)	0.167**	0.121***	0.190*	0.119*	0.224	0.205	0.250**	0.064	0.117	0.293***
	(0.062)	(0.044)	(0.104)	(0.061)	(0.199)	(0.191)	(0.106)	(0.055)	(0.115)	(0.069)
$\triangle_5$Ever BLA (*?h*)	0.035	0.038	0.087	-0.033	-0.047	0.034	0.127*	0.021	0.074	0.026
	(0.035)	(0.055)	(0.070)	(0.065)	(0.112)	(0.083)	(0.064)	(0.039)	(0.055)	(0.043)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.183	0.144	0.151	0.152	0.177	0.202	0.224	0.229
Panel B										
$\triangle_5$TA	0.045***	0.048***	0.031*	0.011	0.022	0.056***	0.017	0.053***	0.025*	0.040**
	(0.009)	(0.015)	(0.019)	(0.011)	(0.021)	(0.020)	(0.011)	(0.011)	(0.014)	(0.015)
$\triangle_5$Ever BLA (*xh*)	0.117	0.094	0.006	0.177*	0.113	0.046	0.043	0.171***	0.064	0.134**
	(0.087)	(0.067)	(0.092)	(0.105)	(0.119)	(0.111)	(0.052)	(0.048)	(0.084)	(0.065)
$\triangle_5$Ever BLA (*mh*)	0.162**	0.118***	0.193*	0.116*	0.233	0.208	0.245**	0.064	0.113	0.295***
	(0.063)	(0.043)	(0.102)	(0.061)	(0.201)	(0.191)	(0.107)	(0.056)	(0.117)	(0.071)
$\triangle_5$Ever BLA (*?h*)	0.032	0.036	0.083	-0.032	-0.053	0.031	0.129**	0.019	0.075	0.023
	(0.034)	(0.054)	(0.069)	(0.065)	(0.108)	(0.082)	(0.064)	(0.039)	(0.055)	(0.042)
Obs.	357,138	249,437	152,306	230,071	126,676	103,343	241,117	277,625	260,315	269,368
Adj. R-Squared	0.181	0.164	0.184	0.144	0.151	0.152	0.177	0.202	0.224	0.229

Note. Sample restricted to non-missing values for the logarithm of migrant stocks' shares in Panel A. Estimates are produced using the *reghdfe* STATA routine (Correia, 2015). All specifications include importer-year, exporter-year, and exporter-importer fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, exporter, importer, exporter-year, importer-year, and exporter-importer levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable is the 5-year difference in the natural logarithm of aggregate and sectoral exports.

Appendix B

BLAs and Migrant Stocks

In a gravity-like setting, Chilton & Posner (2018) investigated whether BLAs increase migrant stocks and uncovered large and positive effects (i.e., 60% to 90%). The authors do note that such evidence is not causal and suggest that, while BLAs may contribute to larger migrant stocks, larger migrant socks may induce the adoption of BLAs.

We repeat their analysis, albeit in a different setting. Specifically, we deploy a RGFD estimator like that introduced in Section 3.1. The resulting specification is shown in (B1). Here, $\Delta_5 \ln M_{odt}$, denotes the 5-year differences in the stock of migrants from origin, o, to destination, d. $\Delta_5 TA_{odt}$ and $\Delta_5 BLA_{odt}$ denote the 5-year differences in the levels of economic integration and the stock of signed BLAs, respectively. Controlling for economic integration is not inconsequential as some economic integration agreements (e.g., the European Union) include migration provisions. The effects involved by whether the origin and the destination have ever signed a BLA will also be explored in this context.

$$\Delta_5 \ln M_{odt} = \gamma_3 \Delta_5 TA_{odt} + \delta_4 \Delta_5 BLA_{odt} + \eta_{5,ot} + \eta_{5,dt} + \eta_{od} + \zeta_{5,odt} \quad \text{(B1)}$$

To account for latent determinants of migration and BLAs adoption (e.g., GDPs per capita, unemployment rates, or quality of institutions, in origin and destination countries), (B1) includes a set of origin-destination, origin-year, and destination-year fixed effects. To the extent to which the adoption of BLAs is driven by latent and pair-year specific factors, which are not absorbed for the origin- and destination-year fixed effects, the pair fixed effect (i.e., η_{od}) in (B1) can account for such linkages as long as they evolve slowly over time. This way, the reverse causality issues that appear in the approach of Chilton & Posner (2018) are mitigated here.[50)]

The results of estimating (B1) are shown in Table B1. Focusing first on columns 1 and 7, it is easy to note that signing an additional BLA brings about an increase in migrant stocks of approximately 5.5% over a 5-year period since signature. Not surprisingly, given that we observe a country twice (i.e., once as a source and once as a host) the results in columns 1 and 7 are virtually identical. Turning to columns 4 and 10, two aspects are worth noting. First, having ever signed a BLA implies an increase in migrant stocks of approximately 8% over the period of 5 years since signature. Second, comparing the coefficients with those in columns 1 and 7, reveals that earlier BLAs bring about larger effects compared to the latter ones.

50) The specification of Chilton & Posner (2018) is in levels and includes year and pair fixed effects. The dependent variable is the current migrant stock while the variable of interest is whether the origin and destination have ever signed a BLA. The estimation is conducted using OLS.

In columns 2 and 5 as well as 8 and 11, the samples are restricted to such pairs with non-missing absolute differences in GDP per capita and capital/labor, human capital, and arable land/labor ratios, absolute differences in democracy scores, stocks of BITs, and stocks of IEAs aimed at air-pollution and waste, together with joint membership in the WTO, the ICC, and the ICCPR. The estimates in columns 3 and 6 as well as 9 and 12 are produced while including these covariates. Comparing the coefficients attached to the stock of BLAs and the binary indicator of whether the source and host have ever signed a BLA with those produced using the restricted samples, one can easily note their robustness. To save space, the coefficients associated with those covariates are not reported.

To gain additional insight into the BLAs' migration-inducing effects, we dissect the metrics introduced above (i.e., stocks of BLAs or whether a BLA was ever signed) based on whether the origin and destination countries are designated as sources (i.e., sending) or hosts (i.e., receiving). Peters' (2019) dataset contains this information for 395 (out of 750) BLAs. Where missing, we complement this information with that from Chilton et al. (2017). This way, we can identify 477 BLAs that establish countries in the pair as senders or receivers of migrant workers. The remaining 273 BLAs should be regarded with caution for two reasons. First, some BLAs do not necessarily designate countries into senders and receivers, or such information may be unavailable (e.g., the text of the agreement is missing). Second, it is also possible that BLAs may designate both countries into senders and receivers (Chilton et al. 2018).

The results obtained this way are shown in Table B2. As before, we distinguish between stocks of BLAs and first BLAs. Looking at columns 1 and 7, migrant stocks (from origin to destination) appear to increase, irrespective of whether the origin or the destination are designated as hosts. Nonetheless, the effects are statistically insignificant. The effect implied by the remaining BLAs (unknown hosts) are insignificant both economically and statistically. Moving to column 4, it becomes obvious that having ever signed a BLA, which designates the destination as the host country, increases the stock of migrants (from origin to the destination) by about 18% over 5 years. Although positive and situating in the vicinity of 9%, the coefficients in column 10 support a similar conclusion. The effects involving the origin country as a designated host are statistically insignificant. The effects produced by the remaining BLAs remain small and statistically insignificant. Accounting for various migration determinants does not change these results (i.e., coefficients in columns 3, 6, 9 and 12 are identical with those in columns 2, 5, 8, and 11, respectively).

Considering this, we conclude that the BLAs effect on trade may indeed propagate via a migration channel. Further, the increase in migrant stocks (from origin to destination) is driven by those BLAs that designate the destination as the host. Nonetheless, it is worth noting that, absent of more complete data on migrant stocks, we paint an incomplete picture of the potential magnitude of this channel.

Table B1. *BLAs and Migrant Stocks*

Specification:	"od" Migrant Stocks						"do" Migrant Stocks					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\triangle_5$ TA	0.013***	0.011***	0.011***	0.013***	0.011***	0.011***	0.013***	0.012***	0.012***	0.013***	0.013***	0.012***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)
$\triangle_5$ BLAs Stock	0.055**	0.052**	0.052**				0.056**	0.053**	0.052**			
	(0.023)	(0.024)	(0.024)				(0.023)	(0.024)	(0.024)			
$\triangle_5$ Ever BLA				0.081***	0.078***	0.077***				0.082***	0.079***	0.078***
				(0.027)	(0.029)	(0.029)				(0.027)	(0.029)	(0.029)
Obs.	147,416	82,969	82,969	147,416	82,969	82,969	147,384	82,933	82,933	147,384	82,933	82,933
Adj. R-Squared	0.256	0.286	0.286	0.256	0.286	0.286	0.259	0.286	0.286	0.259	0.286	0.286

Note. Sample restricted to non-missing values for *diff. GDPpc, diff. K/L, diff HC, diff. A/L, diff. Polity IV, diff. Air IEAs, diff. Waste IEAs, WTO, ICC, ICCPR, Stock of Enforced BITs* in columns (2), (5), (8), and (11). All specifications include origin-year, destination-year, and origin-destination fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, origin, destination, origin-year, destination-year, and origin-destination levels. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B2. *BLAs by Host Countries and Migrant Stocks*

Specification:	"od" Migrant Stocks						"do" Migrant Stocks					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\triangle_5$ TA	0.013*	0.011*	0.011*	0.013*	0.011*	0.011*	0.013*	0.012*	0.012*	0.013*	0.012*	0.012*
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
$\triangle_5$ BLA Stock (*oh*)	0.095	0.096	0.096				0.085	0.090	0.090			
	(0.061)	(0.068)	(0.071)				(0.054)	(0.065)	(0.068)			
$\triangle_5$ BLA Stock (*dh*)	0.082	0.089	0.088				0.095	0.096	0.097			
	(0.052)	(0.064)	(0.067)				(0.061)	(0.067)	(0.071)			
$\triangle_5$ BLA Stock (*?h*)	0.010	0.001	-0.000				0.011	0.001	0.001			
	(0.042)	(0.041)	(0.041)				(0.042)	(0.041)	(0.041)			
$\triangle_5$ Ever BLA (*oh*)				0.090	0.096	0.096				0.182**	0.202**	0.201**
				(0.063)	(0.071)	(0.076)				(0.078)	(0.085)	(0.084)
$\triangle_5$ Ever BLA (*dh*)				0.178**	0.200**	0.199**				0.090	0.097	0.097
				(0.075)	(0.083)	(0.083)				(0.063)	(0.070)	(0.076)
$\triangle_5$ Ever BLA (*?h*)				0.027	0.019	0.018				0.028	0.020	0.018
				(0.042)	(0.042)	(0.042)				(0.042)	(0.042)	(0.042)
Obs.	147,416	82,969	82,969	147,416	82,969	82,969	147,384	82,933	82,933	147,384	82,933	82,933
Adj. R-Squared	0.259	0.286	0.286	0.259	0.286	0.286	0.259	0.286	0.286	0.259	0.286	0.286

Note. Sample restricted to non-missing values for *diff. GDPpc, diff. K/L, diff HC, diff. A/L, diff. Polity IV, diff. Air IEAs, diff. Waste IEAs, WTO, ICC, ICCPR, Stock of Enforced BITs* in columns (2), (5), (8), and (11). All specifications include origin-year, destination-year, and origin-destination fixed effects. Standard errors are shown in parentheses and multi-way clustered at the year, origin, destination, origin-year, destination-year, and origin-destination levels. *** p<0.01, ** p<0.05, * p<0.1.