

Ratio Working Paper No. 302

Anti-Migration as a Threat to Internationalization?

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Date of this version: December 2017

Preliminary and incomplete; do not cite without the permission of the authors.

Abstract: Do anti-migration sentiments threaten internationalization? One major argument of the pro-Brexit campaign in the UK was that Brexit would allow greater control over immigration. The most recent US presidential election also focused on the issue of immigration. Anti-migration sentiments could constitute a threat to internationalization considering that migrants can help lower costs associated with internationalization. Despite the vast literature on the migration-trade nexus and its important implications for policy, however, there are very few examples where governments and policymakers have highlighted the role of migration for trade and other aspects of internationalization. One explanation could be the lack of an accessible and comprehensive survey of the available theory and evidence on the nexus between migration and internationalization. This article intends to bridge this gap. We review and discuss over 100 published papers on the subject, from the pioneering country-level studies to the nascent firm-level studies that exploit employer-employee data. To our knowledge, this is the first paper to provide a wide-ranging review of both the different strands of theory related to the relationship between migration and internationalization, as well as early and new empirical results on this nexus. We find substantial support in the literature of an internationalization facilitating influence of migration. The evidence can be found in various settings, from individual small countries to groups of large countries, in both developed and less developed economies, and for regions and firms. Although the evidence suggests that migration can help to increase confidence and facilitate the flow of information between countries, which reduces the costs of—and improves the prospects for—internationalization, we also find substantial gaps and inconsistencies in the previous literature. More research is therefore needed. The theory is still incomplete and does not provide a coherent framework for explaining the interlinkages between migration and internationalization. Furthermore, a large part of the empirical literature has been based on aggregate data, which has stood in the way of robust evidence on the direction of causation and the main mechanisms at play. The nascent firm-level approach has the potential to bridge several of the existing knowledge gaps, but the research is still in its initial stages. Our aim is that this article will encourage future research, which will fill in the missing pieces. In addition, we hope the article can help policymakers formulate better policies for the promotion of internationalization.

JEL classification: D20, D80, F14, F16, F22, F23, J61

Keywords: Migration, networks, information, trade, foreign direct investment

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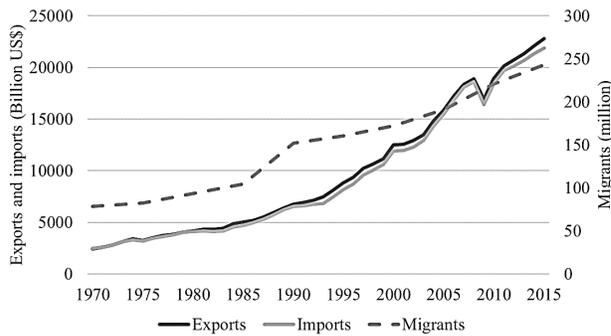
The authors are grateful for comments and suggestions from participants at the annual conference of the Swedish Network for European Studies in Economics and Business.

1. Introduction

How is migration related with international trade? This has been a prominent question in international economics for a long time. While trade and migration is viewed as substitutes in neoclassical economics, more recent research has suggested that there is a positive interconnection between cross-border migration and trade as well as other forms of internationalization (e.g., foreign investment and offshoring). Considering the intensified policy debate over the economic effects of migration and trade, respectively, the issue of how migration and trade are related becomes even more important.

International migration and internationalization constitute two of the modern economy's megaforces. The flow of both migrants and global commerce has increased substantially over time. Because of new transportation technology, strides in trade liberalization, and the rise of global value chains, international trade has reached record levels. Migration has also increased substantially, driven by various factors. Social, political, cultural and economic circumstances have all played a major role (e.g., Massey et al., 1993; Hatton and Williamson, 2003; Gallardo-Sejas, 2006; Belot and Ederveen, 2012). Furthermore, the decision to migrate can be based on both voluntary and involuntary factors. The former category of 'pull factors' primarily concern the desire to improve living standards, for instance through higher real wages. The latter category, 'push factors,' oftentimes entails circumstances of a social and political nature in the source country, such as armed conflicts or persecution by authoritarian states.

Figure 1. Developments in International Trade and International Migrants, 1970-2015



Notes: Trade values are calculated in constant 2010 US\$. Exports and imports include both trade in goods and services.

Sources: Trade (World Bank national accounts data, and OECD National Accounts data); Migration (UN Population Division, Trends in Total Migrant Stock, 2012 Revision).

Global exports of goods and services more than tripled between 1990 and 2015, going from \$6.7 trillion in 1990 to \$22.8 trillion in 2015. Although governments and policymakers have been less willing to liberalize migration policy, the number of migrants has continued to increase. Today, close to 250 million people—or 3.5 percent of the world population—live in countries other than their country of birth (UN, 2017).

Despite technological advancement, globalization and liberalization, internationalization still involves considerable costs. In order to do business with other countries, firms need to acquire skills for international commerce and they need to acquire substantial specific information about the relevant foreign markets. Firms also need to be able to gain ‘deep’ access to distant markets, for instance in the form of admission to distribution networks, and to establish trust with important market actors as well as consumers.

In their seminal papers, Gould (1994) and Head and Ries (1998) emphasized that migrants in general have a good knowledge of the business culture, politics, religion and language of their former home countries. Rauch and Trindade (2002) emphasized how migrants’ networks put them in a particularly good position to stimulate trade with their countries of origin. Moreover, they can show the way for other individuals and firms that want to engage in trade with the former home countries. This applies in particular to markets in countries with weak institutions, where information demanded by foreign trading companies may be in short supply.

The studies by Gould (1994), Head and Ries (1998) and others ignited the research on the migration-trade nexus. A substantial number of studies has emerged since then. The research has investigated migrants’ capacity to facilitate trade and other forms of international business activities. While most studies have focused on how migrants affect international trade flows at the aggregate level, recently some studies have appeared that instead utilize matched employer-employee data.

The cost of international trade and other types of internationalization matters. As ‘natural trade barriers,’ which are made up of geographic factors, have diminished in importance—together with the reduction in conventional trade barriers, such as tariffs and quotas—the role of information, networks and trust in international trade has increased in importance. Subsequently, the issue of whether migration can act as potential instrument for facilitating internationalization has become more important.

The possibly enhanced role of migration in the context of internationalization has significant policy implications. In recent years, the world has experienced a rise in the number of voluntary as well as involuntary migrants. Both immigration in the form of foreign guest workers and refugees was at the center stage of the 2016 UK referendum on membership in the European Union, which resulted in the decision of the UK to exit the EU. The most recent US presidential election also focused on the issue of immigration. In these circumstances, as has been the case traditionally, discussions over immigration have largely been about labor market implications and public finances. However, as trade was a highly-debated topic both in the UK referendum on EU membership, as well as in the US presidential election, both voters and policymakers would have benefited from information on the nexus between migration and internationalization.

Despite the vast literature on the migration-trade nexus and its important implications for policy, there are very few examples where governments and policymakers have highlighted the role of migration for trade and other aspects of internationalization. To our knowledge, there is only one country—Sweden—in which policymakers explicitly have designed and implemented policy measures to utilize the role of migration in promoting internationalization (Hatzigeorgiou and Lodefalk 2014a). In addition to migration being a sensitive subject, one explanation for this could be the lack of an accessible and comprehensive survey of the available theory and evidence on the role of migration for internationalization.

This paper aims to fill this gap. We review, summarize and discuss over 100 published papers on the subject, from the pioneering country-level studies to the nascent firm-level studies that

exploit employer-employee data. To our knowledge, this is the first paper to provide a wide-ranging review of both the different strands of theory related to the nexus between migration and internationalization, as well as early and new empirical findings on migration and various forms of firm internationalization.

To obtain a comprehensive overview of previous literature, we constructed a database. Studies used in the database were selected based on their choice of method and relevance to the subject. The database was assembled by gathering information regarding the studies in a joined spreadsheet, in which we categorized the studies according to their year of publication, level of analysis, estimation method and results.

We organize the paper in the following way. Section 2 reviews and discusses the theory, starting with the neoclassical framework of trade and then move on to the heterogeneous firm models as well as the role of social networks in internationalization. Section 3 brings the hypotheses to the data. We construct an exhaustive database of the previous studies on the relationship between migration and internationalization, upon which we analyze the evidence with an emphasis on micro-oriented and quasi-experimental contributions. Section 4 provides recommendations for future research and discuss policy implications.

2. Theory

2.1 Traditional Views of the Migration-Internationalization Relationship

The traditional view in economics has been that the cross-border movement of goods and the movement of factors of production are substitutes. In a policy context, this has been translated into positions arguing for trade liberalization as a means of limiting immigration (Gaston and Nelson 2013; Layard 1992; Aroca and Maloney 2005).¹ This logic was used in support of the North American Free Trade Agreement between the US, Canada and Mexico (Uchitelle, 2007). Similarly, policymakers in the EU have hoped that liberalizing trade would decrease migration pressures from new and oftentimes poorer member states (Geddes and Money, 2011).

In the neoclassical framework, using the Heckscher-Ohlin model, trade between countries is driven by different relative endowments in capital and labor. This determines the domestic wage level of specific countries. Moving from autarky to trade equalizes factor prices across countries and raises welfare, under some simplifying assumptions.² Higher wages in capital-abundant countries cause workers in labor-abundant countries to migrate. As a result, the labor supply in high-income countries expands and lowers wages in the receiving country. The opposite happens in the source country. As wages and commodity prices equalize across countries with different endowments in labor and capital, incentives for trade decrease (e.g., Mundell, 1957; Massey et al., 1993). Thus, migration and trade are seen as substitutes.

However, this basic neoclassical conclusion of substitutability between migration and trade does not hold up when some of the underlying assumptions of the model are relaxed, for instance, by allowing for non-identical technologies across countries. Then, even in a conventional factor proportions context, migration and trade can be complements (e.g., Markusen 1983; Schiff, 1994). Some trade-theoretical studies demonstrate how the link between migration and trade can be characterized either by substitutability or complementarity,

¹ For a discussion, see, e.g. Carbaugh (2007) and for an empirical analysis, see, e.g. Río and Thorwarth (2009).

² Besides the standard assumptions of the Heckscher-Ohlin $2 \times 2 \times 2$ model, we must assume incomplete specialization and that factor intensity cannot be reversed.

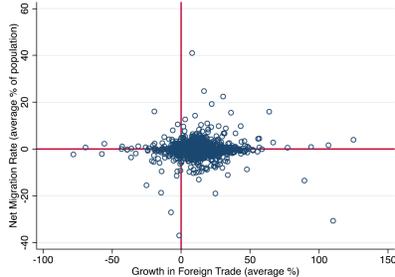
even in the same theoretical framework, depending on factors such as the skill level of migrants (Panagariya, 1992) and in which sector of the host country's economy migrants are employed (Neary, 1995). Other bases for complementarity include, for example, increasing returns to scale and imperfect competition.

A number of subsequent theoretical studies have demonstrated that various other settings can also determine whether migration and trade are substitutes or complements (e.g., (Schiff 2006; Panagariya and Panagariya 1992; Kohli 2002; Hijzen and Wright 2010; Bowen and Wu 2013)). The outcome may for example depend on the level of trade protection, the characteristics of migrants and the sector in which migrants are employed, the elasticity of substitution between immigrants and intermediate inputs, as well as other factors. Rauch (1991) expanded on this analysis in a Heckscher-Ohlin model, which incorporated both patterns of migration and trade, noting that migrants possess social capital that lowers trade costs and thus spurs trade. More fundamentally, migration and trade may be complementary because at least trade in more advanced products simply requires that the delivery of goods are accompanied with persons ('migrants') to install, maintain or even operate the products.

Both international trade and migration have, as shown in Figure 1, increased in parallel over time. It is possible, however, that this simultaneous growth is the result of reduced barriers to both trade and migration, rather than a complementarity relationship between the two phenomena. A first attempt to resolve this issue is to examine cross-country comparisons (in the spirit of Felbermayr et al., 2012). If substitutability characterizes the relationship, the data would suggest that countries with increased trade would also have experienced substantial migration.

Figure 2 plots net migration rates of 214 countries in absolute values against 5-year averages of annual growth rates of the countries' total foreign trade. The figure does not demonstrate a clear negative relationship between countries' trade growth and net migration rates over time. Thus, these data fail to provide evidence in support of the substitutability between trade and migration.

Figure 2. Foreign Trade and Net Migration by Country



Notes: Foreign trade is the sum of total exports and imports of goods and services. Growth in foreign trade is calculated as five-year averages.
Source: World Bank (2013) and authors' calculations.

2.2 New Theory, Old Truths

New trade theory postulates a complementary relationship between migration and trade. These models, pioneered by Clerides et al. (1998), Bernard et al. (2003) and M. J. Melitz (2003), focus on firms, trade costs and intermediaries of trade.

In contrast to neoclassical models, new trade theory allows for heterogeneous firms, and they are imperfect competitors within their industries. The development of the modern trade models was encouraged by findings of large trade costs and heterogeneous trade behavior of firms, where only the best firms within an industry trade and still fewer dominate trade (e.g. (McCallum 1995; Bernard et al. 1995)).

In the new trade models, firms face fixed and/or variable trade costs, which only the most productive firms can afford. This, in turn, creates a threshold separating non-trading firms from trading firms based on their productivity. Following this, a reduction in trade costs induces firm dynamics and reallocations such that the productivity of an industry rises.³ This effect and access to imported varieties of goods generate positive welfare effects in general equilibrium.

As trade costs and productivity are assumed to be exogenous, firms are predetermined in their trade behavior, which rules out within-firm productivity growth. These unrealistic features have subsequently been somewhat relaxed, for example, to incorporate a role for migrants in reducing trade costs. However, before progressing to these models, it is important to recognize conceptual advances on migrants and trade elsewhere, as well as intermediate steps. The advances are fundamental to the new literature on migration and firm internationalization.

In the 1970s, business case studies contributed to economic models of firm internationalization. Among those business-inspired models were the 'Uppsala Model' (Johanson and Vahlne 1977, 2009). In the Uppsala Model, firms must acquire information about a foreign market and establish foreign relations to internationalize. This process is costly, and costs rise not only with firms' geographic distance to the foreign market, but with 'psychic' distance as well. Therefore, firms gradually internationalize, entering into—and learning from—trade with nearby markets. Eventually, firms will trade with and invest in foreign and distant markets.

In the Uppsala Model, one way to overcome psychic distance is by using middlemen or draw on business partners with foreign links. Establishing networks is fundamental. Networks contribute to trust, which also encourage experiential learning and commitment to relations. Ultimately, uncertainty is reduced and business opportunities exploited.

The important role of trusted middlemen in the Uppsala Model is consistent with how distant trade was conducted historically. It was seldom the case that traders ventured abroad without assurance in the form of letters of introduction to expected business connections, or without the promise of safe conduct. Otherwise, there was a considerable risk of being robbed or even murdered. Many traders used traveling companions who knew the local customs and the languages spoken along the trading route. In the Muslim world, it was even a requirement for traders to be accompanied by such a traveling companion:

[a]ll travelers in the medieval Muslim world required a *rafiq*, or companion, usually another trader. The trader and the *rafiq* entrusted their personal security to each other. Few catastrophes *en route* were worse than the death of one's *rafiq* [...] (Bernstein, 2009)

Just as the *rafiqs* were instrumental to opening historical trade routes, Gould (1994) drew insights from case studies in sociology and geography to argue that immigrants play a similar

³ Bernard et al. (2007) present a model that also features trade gains from reallocations between sectors.

role in today's economy. He asserted that immigrants facilitate trade by providing links between their country of birth and their country of residence, and by expanding preferences in favor of products from their home country.

Conceptually, two mechanisms have been proposed for migrants' impact on trade: one that is assumed to directly raise bilateral imports (the *preference mechanism*), and another that raises bilateral trade in general with the home country (the *foreign market and contacts mechanism*). While the first mechanism is straightforward in that it increases demand for imported goods from immigrants' source countries, the second mechanism includes three ways through which immigrants can lower transaction costs by disseminating their specific human capital in the host country: (1) by improving communication between the host and home countries, for instance by increasing the number of people in the host country being bilingual; (2) by contributing knowledge about products and preferences in foreign markets, i.e., the immigrants' country of birth; and (3) by lowering the costs related to the drafting and enforcement of contracts, by infusing trust in trade relations through providing access to immigrants' contacts.

The importance of trust for long-distant trade was emphasized by Greif (1993), who used historic records of how the Maghribi merchants and their overseas agents of the 11th century managed to create trustful trading relations despite long distances. This was accomplished through a reputation mechanism based on expectations, implicit contracts and specific mechanism for the transfer of information.

In other words, networks contribute to trust, which in turn build relationship that can reduce uncertainty and promote cross-country business opportunities. There is a greater chance of business being done if the parties involved—vendor and purchaser—belong to the same network. A network can act as a guarantor of confidence for its members and as a forum for the smooth dissemination of information. Information friction within networks, even across national borders, is quite simply less of a problem than outside them. As Saxenian (2002) concluded in a case-study of immigrants in California:

'Silicon Valley's new immigrant entrepreneurs are increasingly building professional and social networks that span national boundaries and facilitate flows of capital, skill, and technology. In so doing, they are creating transnational communities that provide the shared information, contacts, and trust that allow local producers to participate in an increasingly global economy.'

Migration have been supposed to primarily influence trade with those immigrant source countries that lack a sufficient degree of formalized procedures for contracting, which usually concern developing countries.⁴

According to (Gould), the less information there is in the host country before immigration takes place, the larger the impact of immigration on trade. This is modeled by assuming that transaction costs are concave in the immigrant stock. Furthermore, the migrant impact on trade is assumed to be positively related with immigrants' ability to transmit their information and the more they integrate in the new country. Factors that may affect the relationship are therefore

⁴ Blanes (2010) argued that an impact of immigrants on trade with countries that have different institutions but not on trade with others would indicate an absence of an ethnic network effect of immigrants through contacts. However, the ethnic network or trust effect would be likely to operate also in trade between similar and institutionally weak countries. For trade between similar and institutionally strong countries, personal relations are also likely to grease the wheels of international commerce, but not as much.

the existing stock of immigrants in the host country from the home country and the educational background of immigrants as well as their time since immigration.⁵

2.3 Towards a Modern View of Migration and Internationalization

The early studies on the trade facilitating role of migration considered the transmission of foreign market information and access to foreign contacts, but they lacked a clear idea of the meaning of proximity between immigrants and business in the host country. However, we would assume that diffusion improves the closer immigrants and business are to each other. Moreover, the early studies neither considered the historic importance of networks and trust nor the business literature on the role of psychic distance and uncertainty in internationalization.

Rauch (1996; 1999) made an important contribution to the understanding of the migration-trade relationship by providing a network and search perspective of trade in differentiated products. Although migrants were not explicitly included in Rauch's theoretical framework, it was influential for the subsequent literature in that it emphasized that networks may reduce search costs and improve matching in foreign trade.

In a network setting, buyers and sellers of a differentiated product need to search for, and mutually adapt to each other, since price poorly conveys enough information about such products, which are therefore not possible to trade as easily on 'anonymous' markets. That is, there is imperfect information in this trade about the foreign agent's product, its features as well as about the agent itself. The closer buyers and sellers are, the easier a reservation match is found. Likewise, speaking a common language and having access to networks in the other market will facilitate the search. Networks, in turn, are also positively influenced by proximity, having a common language and historical relations between the two countries.⁶

This new framework was consistent with the concept of economies of scope in search activities, which, for example, rationalizes the existence of trading intermediaries.⁷ The possibility of free riding on other's searches may motivate public trade promotion activities. Finally, the network perspective would seem to give personal relations a more prominent role in trade, such as ethnic networks and family ties.

Networks are commonly characterized as groups of agents that repeatedly exchange and who know each other well, directly or indirectly (Rauch 2001). Some networks may be international from the onset, while the ones typically considered in the migration and trade literature seem to be formed domestically. Cross-border movement of people—through migration or temporary movement—may then extend the networks internationally. A common nationality, ethnicity or religion may be a basis for continued interaction and intimacy.

The repeated game nature of a network assists the internationally spread out members in deterring opportunism that arise because of asymmetric information, thereby fostering or

⁵ The additional trade impact of well-educated immigrants may not materialize if their skills are downgraded, because of poor labor market integration (Aleksynska and Peri 2014).

⁶ In the formal partial equilibrium model of Rauch (1996), sellers search for buyers and at each time chooses between sticking with the current match or searching (without memory) again. Reducing the unit cost of search raises the profitability of a search and the reservation match.

⁷ Rauch and Watson (2004) develop a model where persons with foreign networks may either exploit them themselves or offer their services to others. Problems related to contracting and externalities, as well as the cost of maintaining networks abroad affect the choice between own exploitation or provision to others.

substituting for trust. Rauch (2001) argued that this feature of networks foster trade, but may become less important over time as institutions develop. Within a network, intimacy between agents can assist in the search and matching of agents, to create trade (or investment) in the presence of imperfect or asymmetric information. The network can improve access to information about foreign market demand and supply, distribution, marketing, or even potential partners in FDI. Overall, therefore, networks may substitute for migration to exploit wide differences in factor endowments across countries, increase trade and potentially raise welfare, as modeled in Rauch and Casella (2003).⁸

T. Chaney (2014) contributed to the modern view of the migration-trade nexus by developing a dynamic network model of trade, where unexplained heterogeneity in trade behavior is related to firms' foreign networks. In this model, firms need at least one contact in a foreign country to export there. Firms may search for contacts randomly or use existing networks. Once acquired, contacts abroad may allow the firm to remotely access contacts' networks in adjacent countries. Consequently, firms with many contacts have advantages in foreign trade.

Networks may divert trade from 'good' agents in favor of links with the 'wrong' agents (Lewer and Van den Berg 2009; Casella and Rauch 1998; Rauch and Casella 2003). Consequently, this may damage other agents, the host and home countries, as well as third countries. For example, an immigrant network may create trade with or divert trade to foreign countries with relative factor endowments that are more like the host country than some other foreign country, to the detriment of the host country and possibly the world. A similar mismatch may occur at the firm level to the detriment of the firms that are excluded from immigrant networks, with potential negative effects on allocative efficiency in the host country.⁹

2.4 Heterogeneous Firms

Recently, theoretical contributions have emerged that consider migrants within heterogeneous firm models of trade. In this vein, Tai (2009) incorporated the impact of immigrants on trade in Thomas Chaney (2008)'s firm model of trade with monopolistic competition, multiple sectors and fixed and variable costs of trade. The additional parameter included in this model was bilateral preferences between countries, which enter into the utility function drawing on Combes et al. (2005). Preferences may affect imports as well as exports.

Conceptually, (Tai) expects immigrants' bias in demand for home country products—what White (2007b) called the transplanted home bias—to be transmitted to others in the host country, so as to further increase aggregate imports (the *preference effect*). The fact that (Tai) envisions transmission to the surrounding community opens up for considering a wide trade impact of preferences, since immigrant communities generally constitute a small share of the population. Moreover, it is implicitly assumed that preferences may be transmitted from the host to the home country.¹⁰ Besides cultural transmission of preferences, immigrants are also

⁸ However, in some settings, agents without access to the network would be worse off because they have to search randomly via the anonymous market, and, thereby, they are less likely to experience a good match with a foreign buyer (Casella and Rauch 1998, 2002).

⁹ Research on distributional impacts within and between industries of foreign networks is largely absent but would seem worthwhile. Another caveat is that migration may spur new production at home or in the host country that replaces existing trade (Mundra 2005; Dunlevy and Hutchinson 1999; Hiller 2014).

¹⁰ Such transmission is akin to the absorption of preferences that Good (2013) discusses, where he also argues that migrants need to keep their links to networks at home alive for absorption to take place.

assumed to reduce fixed trade costs related to information and opportunism (the *network effect*).¹¹

Finally, Tai (2009) decomposed the impact of immigrants on aggregate bilateral trade into their effects on trade through preferences and fixed costs. Importantly, the market structure of industries can influence these mechanisms, as characterized by the constant elasticity of substitution in demand of an industry.¹² In the model, the effect of immigrants on preferences is assumed to be negatively related to the elasticity of substitution, whereas the effect of preferences on trade is assumed to be positively related to the same elasticity. The overall outcome is that the more homogeneous products are, the weaker the impact of immigrants on preferences will be, which in turn implies that the impact of preferences on trade will be greater.¹³ Concerning fixed trade costs, their negative impact on trade increases with the elasticity of substitution. Meanwhile, the role of the elasticity for immigrants' negative impact on fixed trade costs is theoretically unclear.

Bastos and Silva (2012) introduced migration into a heterogeneous firm trade model, but with a slightly different focus: how *emigration* could contribute to idiosyncratic firm-specific shocks in export demand. In the model, firms from a particular country are provided with better access to networks in a foreign country through the presence of emigrants (from the firm's home country) in that country. Emigrants are assumed to facilitate market entry for firms from their source country. In this setting, networks raise both the likelihood of starting to export and the revenues from export. Moreover, networks in a foreign country provided through emigration are assumed to lower the economy-wide fixed cost of exporting, which raises export propensity for all firms *vis-à-vis* the foreign country. (Bastos and Silva) did not address, however, how emigration could increase foreign demand by providing firms with better access to distant markets.

Hatzigeorgiou and Lodefalk (2013) modified and reinterpreted the model of (Bastos and Silva) to analyze the role of immigrant employees for firm trade, while controlling for transplanted home bias of immigrant stocks in the host country. The firm-level analysis was motivated by referring to immigrant employees and entrepreneurs as natural trade facilitators. These immigrants are presumed to more easily absorb and diffuse information about firm capabilities and related home country market opportunities than most other immigrants from the host country.

In this heterogeneous firms context, proximity between migrants and firms is further expected to facilitate the exchange of trade-related information (Herander and Saavedra 2005).¹⁴ Hatzigeorgiou and Lodefalk (2013) assume that immigrant employees increase demand in their home country for the employer's product through the provision of information and through the infusion of trust in the relation. Concerning the general prevalence of immigrants in the host

11 White and Tadesse (2008) envisions that migrants can create and intensify trade by reducing opportunism through the creation of bridges across cultural distances – in terms of norms and values – between countries. Meanwhile, Rauch (2001) explains the mechanism by referring to the moral bonds of and risk of exclusion from a network. Arguably, this explanation hinges on the network being sustained through new migrants or continued interaction. All in all, it is therefore possible that migrants reduce both fixed and variable trade costs related to opportunism.

12 Another early contribution that considers market structure is Koenig (2009).

13 In an earlier contribution, Head and Ries (1998) expect the preference effect to be stronger for differentiated goods.

14 Knowledge is more easily transferred, the closer and more intense interaction is between agents (Granovetter 1973).

country, they are expected not only to affect imports of the host country but also exports through the provision of information, but to a lower degree than immigrant employees. In this model, immigrants' export promoting capability is derived from three mechanisms: (1) immigrants' reduction of the costs of export entry;¹⁵ (2) immigrants' transplanted home bias makes firms in the host country more familiar with the foreign market, which in turn promotes export, and (3) firms in the host country introduce modified or new products to cater for immigrants' demand, which subsequently are exported to immigrants' source countries.¹⁶

The first mechanism proposed by (Hatzigeorgiou and Lodefalk) is conceptually inferred to the immigrant employees' ability to relay more and reliable information about the foreign market, provide communication skills in a foreign language, and to limit opportunism and infuse trust in foreign business relations. Immigrant employees could in this way reduce uncertainty in both *entry* into and continued *presence* in foreign trade for the firm. By improving information and reducing asymmetries in information, immigrant employees are expected to reduce not only fixed but also variable trade costs to promote the propensity and intensity in exports.¹⁷ The third mechanism would also seem to be sustained if immigrants transmit their preferences to the rest of the population of the host country, as proposed by Tai (2009).

While the theoretical literature on migration and trade rarely distinguishes between trade in goods and services, Hatzigeorgiou and Lodefalk (2014a) focus on the role of foreign networks—through immigration—for firm export of services.¹⁸ They argue that both formal and informal trade barriers are aggravated in trade of services. Formally, they set out to incorporate insights from social network theory into a heterogeneous firm trade model of Cristea (2011), which includes industry-specific informational frictions. In their model, firms may prepare for exports by investing in market-specific and costly links to foreign networks, for example, through the hiring of immigrants. The investment enables the firms to attach a special appeal to its products in the eyes of the foreign consumers.

The authors assume that this is realized through improved access to information and contacts that reduce uncertainty in exports. The higher the informational frictions of the sector, the larger an investment the firm make. However, the downside with the firm's investment in foreign networks is that other firms in the vicinity of the firm may free ride to gain better,

15 Koenig (2009) models immigrants' impact as increasing the probability to export through their negative effect on fixed export costs.

16 These indirect impacts of immigrants are somewhat akin to what Good (2013) coins the revealed preferences effect of immigrants, whereby migrants indirectly – through their market transactions – reveal to agents in their host country information about preferences in demand of the home country and thus indirectly can promote exports to their home country.

17 There are several reasons why variable costs can be lowered through migrants' assistance. Absence of opportunistic behavior and presence of trustful relations do arguably need continuous attendance through the maintenance of networks, perhaps even by the continuous entrance of new migrants, as discussed by (Gaston and Nelson 2013). Such maintenance is likely to require face-to-face contacts, although modern means of communication may be a complement Hatzigeorgiou and Lodefalk (2014a). As for the information channel, it may also be important with a continuous flow through migrants and their networks to track changes in foreign demand and supply, especially for trade in advanced or fashionable items, as well as in regulations.

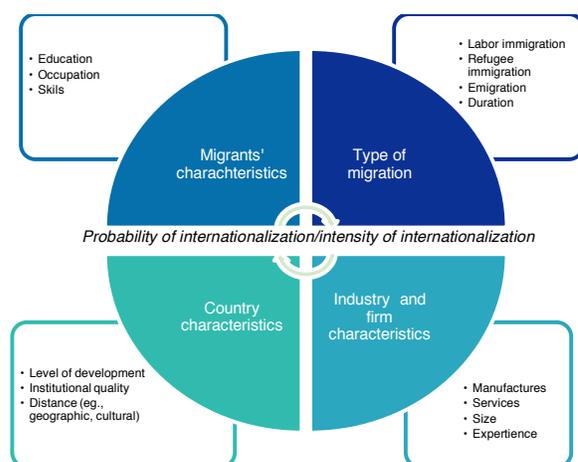
18 The only other studies we are aware of on the nexus between migration and general trade in services are the unpublished manuscript of Foster-McGregor and Pindyuk (2013) and the one of Bowen and Wu (2013), the latter which does not feature the effect of migration on trade costs. In addition, there are a few studies on migration and tourism services, such as, domestically for Spain (de la Mata 2011) and externally for New Zealand (Law et al. 2013).

though not as good, access to the foreign market. This feature discourages own investment.¹⁹ Conditional on certain parameter values, what emerges mimics typical social networks, which are clustered and yet agents are only a few referrals away from other clusters. Like in Carayol and Roux (2009), the small worlds may thus arise through some agents' endogenous investment in weak ties to distant clusters.

2.5 The Different Dimensions of the Migration-Internationalization Nexus

There are conceptual and infrequently theoretical contributions on factors that affect the degree to which migrants may influence trade. In Figure 3, we summarize these possible conjectures.²⁰

Figure 3. Factors that Could Influence the Relationship between Migration and Internationalization



Starting with migrants themselves, many studies view immigrants as a homogenous group without varying capabilities for facilitating trade. Some studies, however, presume that some migrants are more able than others in promoting trade. This ability is often related to the educational attainment of the migrant, e.g., Gould (1994). More recent studies have considered the occupation of migrants. For example, Aleksynska and Peri (2014) argued that occupation is a suitable proxy for the trade promoting potential of migrants, whereas education may not be easily transferred across borders and migrants may not be matched to work in line with their education.²¹ They expected migrants in the top-tier class of occupations, such as managers, to

¹⁹ Based on the model, investment by other firms is expected to reduce a firm's own investment, and therefore indirectly its own export of services, while others' investment directly promotes the firm's exports.

²⁰ The included studies have been screened for prior assumptions, conjectures and hypotheses. If a study analyzes a dimension but does not state a prior, the study is not counted.

²¹ Moreover, the level of education might not be homogeneously correlated with the level of the occupation across firms, e.g., managers of smaller firms may not have a post-secondary degree, whereas that is common in large firms (Martín-Montaner et al. 2014).

have the strongest effect on trade, those in sales-related occupations to have an intermediate effect and others to have the weakest effect.

Similar expectations were incorporated in the studies by Mundra (2012) and Blanes (2010). However, Blanes (2010) argued that the differential impact is related to the extent of networks that migrants in different occupations have.

Integration into the labor market could also influence the extent to which migration may influence trade.²² Few studies have explicitly explored this aspect. Nevertheless, Hatzigeorgiou and Lodefalk (2014a) and Hatzigeorgiou and Lodefalk (2014a) argued that migrants that are known to be more well integrated into the labor market—such as males and non-refugees—are likely to have a larger impact on trade.²³ Hatzigeorgiou and Lodefalk (2013) reasoned that migrants' influence on firm trade is correlated with their levels of employment.²⁴

Most studies assume that *immigrants* mainly affect trade with their country of origin, whereas only a few studies have explored the possible effect of *emigrants* on trade, such as Tadesse and White (2011). And few studies have investigated the role of particular ethnic networks, or even the role of domestic migration (G. J. Felbermayr et al. 2010; Rauch and Trindade 2002; Combes et al. 2005). As discussed by G. Felbermayr et al. (2014), a diaspora may not only benefit trade between the host and home country—a direct link—but it may also facilitate trade between host countries of the diaspora, i.e., an indirect link.²⁵

As for the length of stay in the host country, the priors are mixed. Some studies expect time in the new country to promote integration, and thereby enhance migrants' ability to disseminate information and spur trade. Others, for example (Herander and Saavedra 2005) and (Jansen and Piermartini 2009) discuss how links to networks abroad can deteriorate over time and that information about foreign markets diminishes with time spent away from the source country, which in turn could weaken immigrants' influence on trade.

22 On the extent to which migrants trade-related human capital is exploited, see, e.g., surveys discussed in Bryant et al. (2004) and Hatzigeorgiou and Lodefalk (2014a).

23 Besides labor market integration, other aspects are particular for refugees. On the one hand, refugees may facilitate trade less than non-refugees because of their strained relation to the country from which they have fled, weakening their special and up-to-date information. They may also limit interactions with the home country, e.g. to avoid negative consequences for themselves or their connections (Head and Ries 1998). Having spent considerable time in diaspora before entering the host country, would also weaken their ties to the home country (White and Tadesse 2010). On the other hand, refugees may be particularly able persons who might have been politically influential at home and who have managed to flee. Refugees may also be more eager to return than other immigrants, thereby strengthening their ties to the home country.

24 Other migrant characteristics that are expected to influence the impact on trade are, e.g., entrepreneurship (Faustino and Peixoto 2013; Ivanov 2008), and age, because age is assumed to be related to more information about the home country (Koenig 2009). As regards entrepreneurship, migrants may, on the one hand, be well suited, through knowledge about foreign technologies and innovations (Hatzigeorgiou and Lodefalk 2014b). By endeavoring to create a better future elsewhere, they have also revealed entrepreneurial ability. On the other hand, discrimination, difficulties in the transfer of skills, and minimum wages may push migrants into self-employment so as to create the jobs they do not get or the jobs that are not available. Moreover, Ivanov (2008) find that many self-employed immigrants are in non-tradable sectors.

25 G. J. Felbermayr et al. (2010) argue that this indirect impact is an advantageous measure of the trade facilitating role of migrants than the direct impact, because the home-bias in trade is assumed to operate between the host and home country but not between host countries.

More attention has been paid to characteristics of the foreign country where immigrants come from, or emigrants reside in.²⁶ In general, migrants are expected to promote trade more in regard to less developed countries, where institutions are weaker (e.g., (Dunlevy 2004; Bryant et al. 2004; Gould 1994; Herander and Saavedra 2005; Vézina 2012)). By the same token, migrants are presumed to enhance trade more with culturally distant countries (e.g., (White 2007b)).²⁷

Several studies have hypothesized that migrants are particularly important for firms' trade in differentiated and complex products (e.g., (Rauch and Trindade 2002; Peri and Requena-Silvente 2010)).²⁸ A few studies have further assumed that trade in intermediate products are more assisted by migrants (e.g., (Faustino and Peixoto 2013; Ivanov 2008)). Related to this is the study by Hatzigeorgiou et al. (2017), which draws on the papers of Grossman and Rossi-Hansberg (2008, 2012). The authors argued that information frictions and principal-agent problems are aggravated in offshoring of production, why migrants are expected to be particularly instrumental in facilitating such imports.²⁹

A final dimension of the migration-trade relationship emphasized by a few studies is the margins of trade. Do migrants primarily contribute to trade with a new country, with new products, or mainly through intensified trade with existing trade partners as well as already traded products?

Most studies analyze the relation between bilateral migration stocks and trade volumes, which is akin to the intensive country margin of trade if only established trade was regarded. However, a few studies have argued that migrants also facilitate trade with new foreign trade partners (e.g., (White and Tadesse 2008; Koenig 2009); Bastos and Silva (2012); Hatzigeorgiou and Lodefalk (2013); Hatzigeorgiou and Lodefalk (2014a)).

Moreover, it has been a common assumption that migrants reduce fixed cost of trade such that new trade is stimulated. Most recently, this has been taken to the product level. Migrants are expected to reduce fixed costs of starting to trade in a new product internationally, and variable costs of trading them. The former is expected to create new trade, while the expectations on the latter's impact on trade is more ambiguous (Hatzigeorgiou and Lodefalk 2014a, 2013; Hiller 2013).³⁰

26 In more than 35 studies are differential impacts across countries studied. At least in four of them is there a prior of stronger impacts for countries at a lower level of development.

27 Other aspects of psychic or institutional distance supposed to augment the positive impact on trade include, e.g., having a different religion, no colonial relations in the past, and different languages. A study from the international business literature also discuss that ethnic homogeneity and strong family ties in the home country contribute to the migrant-trade link (Duanmu and Guney 2013).

28 Some studies argue that trade in differentiated and homogeneous products alike benefit from the contract enforcement channel whereas trade in the former products benefit more from the information channel than trade in the latter (Vézina 2012; G. J. Felbermayr et al. 2010; Rauch and Trindade 2002). However, the contract enforcement channel is arguably stronger for differentiated products since it is more difficult to negotiate, enter into, and ensure enforcement of contracts regarding complex products, something which is hinted at by the evidence in Vézina (2012). In addition, the information channel captures much beyond the specific product, e.g., business culture, why it may not be much stronger for differentiated products.

29 Rauch (2001) (s. 1177) refers to Saxenian 1999 who documents how ethnic networks have facilitated offshoring to India.

30 These features are commonly operationalized as the number of traded X-digit products and the average value per product.

The literature on migration and foreign direct investment (FDI) is much less developed than the one on migration and trade, and especially so regarding theory.³¹ Notably, there are no studies that incorporate a role for migrants in heterogeneous models of trade and FDI.

Theoretically, a neoclassical analysis would conclude that factor flows are substitutes, such that the relatively abundant factor of one country (labor of the South) would be inclined to move to the country with scarcity of that resource (the North), or that the relatively scarce factor (capital in the South) would be attracted from the other country (the North).³² Substitutability would also fit well together with the traditional view of the relation as regards vertical investment in the FDI literature. Firms invest abroad to exploit abundant supply elsewhere.³³ However, if firms instead want to supply the foreign market—for example to avoid import tariffs—and therefore make (horizontal) investment, that investment may need to be accompanied by personnel. This would imply that migration and investment are complements.³⁴

Considering that FDI is associated with even larger fixed costs, risks and uncertainty than trade—for example, the firm needs to establish itself physically abroad, hire personnel, handle foreign suppliers and authorities—migration may be instrumental to vertical FDI. This is along the lines of, *inter alia*, Rauch (2001).³⁵ Moreover, such barriers are likely to sustain the positive relation between migration and FDI as regards horizontal investment. Therefore, studies on migration and FDI have typically hypothesized that the relationship is a positive one, irrespective of the motive of the investment (e.g., (Lewer and Van den Berg 2009; Gao 2003)).³⁶ Most commonly, the underlying notion has been that immigrants promote investment in their country of origin through their knowledge of and contacts there (e.g., (Bhattacharya and Groznik 2008; Javorcik et al. 2011)).

Federici and Giannetti (2010) is one of the few contributions that has incorporated the positive external effects of migrants on FDI. In the dynamic two-country model, emigrants reveal information about their country of origin to investors of the host country. Information is conjectured to lower the risk and costs of investment. In addition to the return of capital abroad and labor efficiency, information is therefore a determinant of capital flows to the foreign country. Capital moves freely across borders, while migration is not.

Besides incorporating the information effect of migration of FDI, a novel feature of this model is that it allows for temporary emigration, which is balanced by return migration. Moreover, emigrants are modeled to absorb new skills while abroad, which they subsequently bring home.

31 We have found XX studies on migration and trade but only XX on migration and FDI.

32 Departing from the neoclassical framework may nevertheless result in complementarity, e.g., if labour is heterogeneous, there are technological differences, or migrants agglomerate and attract investors from the same country of origin (Buch et al. 2006).

33 Aroca and Maloney (2005) and Sanderson and Kentor (2008) discuss the effects of FDI on migration in a North-South context, while Tsai and Tsay (2008) model the relation in a South-South context to show how complementarity may arise due to asymmetric regulation of FDI and migration.

34 Business view migration as important to coordinate multinational operations, access scarce skills, and to sustain a common business culture in a multinational enterprise (Graneli and Lodefalk 2014).

35 Ethier and Horn (1990) discuss the additional managerial challenges of firms in setting up and in running operations abroad (the “interface effect”), and analytically study impacts on FDI patterns. Rauch and Trindade (2002) present a network model where firms overcome informal barriers to trade by venturing into formalized cooperation. Greenaway and Kneller (2007) discuss the segmentation of firms into exports or FDI according to their level of productivity, because of higher fixed costs in FDI than in exports.

36 Kugler and Rapoport (2007) expect contemporaneous substitutability but dynamic complementarity, while Javorcik et al. (2011) discuss the endogeneity of migration to FDI and potentially mixed effects of FDI on migration.

The process of capital and migrant flows reduces differences in labor efficiency and wages across countries, which reduces the incentives for migration. Eventually, the economy of the migrants' country of origin converges to its equilibrium path.

Concerning heterogeneity in the impact of migrants on FDI, the literature has hypothesized that migrants are particularly instrumental in relation to investment in more distant countries in terms of language, culture and institutions, and in regard to countries with weak institutions (e.g., (Gao 2003; Murat and Pistorisi 2009; Johanson and Vahlne 2009).³⁷ Another assumption has been that it is mainly skilled migrants that facilitate FDI (e.g., (Flisi and Murat 2011)). However, as Kugler and Rapoport (2007) noted, other migrants may at least provide firms with information about the quality of labor abroad such that uncertainty is reduced and FDI promoted. In a similar vein, Flisi and Murat (2011) expected that migrants' time in the host country to be positively correlated with influence in economic decision-making. Murat and Pistorisi (2009) argued that migrant networks may be particularly useful for small firms.³⁸

3. Evidence

Whether migration and trade are substitutes or complements is ambiguous in a theoretical framework. But, most theory-based studies give some support to the idea that migration drives trade, especially when simplifying assumptions of constant returns to scale, identical technologies, perfect competition, and non-existent trade costs are relaxed. Still, empirical evidence is key in determining if and how—and to what extent—migration is related with trade and other aspects of internationalization.

3.1 Empirical Strategy

To answer the question whether migration influences bilateral trade between migrant source and host countries, studies have tended to use a gravity model of international trade. This model is the industry standard for quantifying the impact of trade costs on international trade flows. In its simplest form, the model postulates that the volume of trade, X_{ij} , between the countries (objects) i and j is determined by the economic size (mass) of the countries, designated Y , the distance between them, designated d_{ij} , and the gravitational constant g .

The first economic application of the typical gravity law given in the above approach is ascribed to Tinbergen (1962). When first introduced, the model lacked a satisfactory theoretical basis. Anderson (1979), Helpman and Krugman (1985), Bergstrand (1989) and Deardorff (1998) have subsequently strengthened the theoretical foundations of the model. The general assumptions are: complete product specialization between countries, consumer preferences of CES type, and symmetrical trade costs between trading partners. Deardorff derived the model on the basis of a factor proportion explanation. Anderson and van Wincoop (2003) further justified the model on the basis of assumptions of monopolistic competition and product differentiation. The theoretical basis of the gravity model is now regarded as robust.

³⁷ Since vertical investment is commonly expected in countries that are more different in terms of the relative supply of factors of production, migrants may be particularly useful for such FDI. Flisi and Murat (2011)'s conjecture is that emigrants from more developed countries are more influential in economic decision-making. Vaccarini (2014) summarizes the literature on psychic distance and FDI.

³⁸ In addition, Murat et al. (2011) explore the impact of 'transnational social capital' that is presumably embodied in ethnic associations on FDI, and perform a case study of Italy.

The basic gravity specification is generally augmented by geographical and historical information about the countries and the relationship between them to capture other significant trade costs. This is motivated by the strong correlation with transport and information costs. Most studies also agree that the geographical location and characteristics of countries affect trade costs and foreign trade. Greater geographical distance between countries is reflected in higher bilateral trade costs. Hence, distance has a negative influence on trade. As Limao and Venables (2001) demonstrated, infrastructure has a powerful influence on volumes of trade. Language is another important factor, since countries that share a language avoid trade costs associated with communication problems, translation of necessary documents, etc (J. Melitz 2008). Countries that have a shared history can also escape indirect trade costs in various ways (e.g., (Rauch 1999)). Equations that include historical and cultural variables generally fall into the category of 'augmented gravity models' that are estimated by including geographical variables, such as indicators for whether the countries share a national border, and a number (k) of historical and cultural variables, indicating whether the country is a former colony, any colonial relationship between the countries, and so forth.

As previously discussed, it is assumed that information barriers are an important determinant of bilateral trade costs. People who are resident in countries other than their countries of birth have the potential to reduce these costs and thus facilitate trade between their current home countries and the countries where they were born. To capture this line of argument, most studies in our sample have extended the gravity model by including a control variable for the number of people born in country j but resident in country i . Hence, most specifications used for estimating the migration-trade nexus at the macro level are based on gravity models augmented with the number of immigrants from country j who are resident in the host country—the immigrant stock—at time t .

Studies have suggested estimating gravity models using a country-specific fixed effects approach, mainly to control for 'multilateral trade resistance.' (Anderson and van Wincoop, 2003; Santos Silva and Tenreyro, 2006). This recommendation has had a significant impact in the literature, and most studies that investigate the role of migration on the determinants of bilateral trade have implemented this approach.

Without a micro-level approach, however, it is difficult to conclude beyond doubt that migrants facilitate internationalization, and to analyze through which mechanism the effect is derived. If migration impacts internationalization and trade flows by lowering trade costs of firms via the infusion of human capital, a macro-level approach misses crucial aspects surrounding the relationships among migration, trade costs, and firms' trade. Moreover, analysis at the aggregate level may confound other consequences of migration, such as bias toward products from home in migrants' demand.

In sum, there are three reasons why a micro-level is superior to a macro-level approach. First, the potential influence of migration on internationalization is often interpreted as a result of tacit knowledge and connections across markets being facilitated through social networks (Aleksynska and Peri 2014). Social networks are generally defined in terms of relations between agents (Granovetter 1973; Milgram 1967; Podolny and Page 1998). Knowledge and familiarity can in turn build on interaction and social proximity (that could be spatial in character). In this light, it is reasonable to think that the business network effect influence on

internationalization is likely to be most relevant at the micro level, where migrants can affect firms directly (Lodefalk 2016).³⁹

Second, the use of micro-level data makes it possible to explore the relation between migrants and internationalization at depth and in isolation. At the micro-level the relation can be analyzed with respect to distinctive characteristics of migrants and with internationalization while controlling for confounding factors at more aggregate levels, including migrants' home bias in demand.

Third, even when migrants may not influence the relative degree of internationalization of specific industries, they could influence the internationalization of firms within certain industries, which could affect firms or firm activities. This mechanism may have possible welfare effects, which further motivates a micro-level approach.

In this light it makes sense to adopt a micro-level approach to the attempt to capture the potential of migration for internationalization, while considering factors at the macro-level.⁴⁰

The empirical trade literature at the level of the firm establishes that traders are different from non-traders (Bernard and Jensen, 1995; Bernard and Jensen, 1999; and Bernard et al., 2007). As discussed, this has led to the development of new models that highlight firm differences in productivity (e.g., Bernard et al., 2003; and Melitz, 2003). More recently, models that endogenize exporters' pre-entry productivity premiums have also been developed (e.g., Melitz and Constantini, 2008).

Empirical studies based on this heterogeneous-firm trade framework have demonstrated that other factors beyond sunk-costs and productivity can influence trade (e.g., Greenaway and Kneller, 2007). Firm size, age, relative capital-intensity, ownership status, as well as human capital all help explain why some firms export and others do not.

With this background, micro-level studies on the migration-trade nexus at the level of the firm have elaborated on the conventional gravity model framework. In specific, they have come to draw on new trade models that integrate firm and market characteristics as determinants of export behavior (e.g., Chaney, 2008; and Greenaway et al., 2008).

Based on the theory that migration—not the least through the immigrant employees—can spur foreign demand for firms' products and services in foreign markets, as well as to provide knowledge and contacts that lower friction in trade, studies have expanded on a firm-level type of gravity model by including a control variable for foreign-born employees. Specifications tend to have a firm's export (import) volume to (from) country j at time t as the independent variable. The main explanatory variable of interest in our context is the number of people born in country j that are employed in firm f at time t would. In addition, a set of explanatory firm-specific supply side factors may be included, such as firm size, productivity, ownership status, previous trade experience, as well as human and physical capital intensities. In addition to economic 'mass'—measured in terms of GDP—specifications include covariates to control for characteristics that affect bilateral trade resistance: population size; distance; contiguity; access

³⁹ Herander and Saavedra (2005) provided evidence using state-level US data in support of the idea that that proximity of migrants is important. More generally, social networks and proximity are considered conducive to knowledge transfer, as discussed by Inkpen and Tsang (2005) and empirically demonstrated by Head et al. (2014).

⁴⁰ Additionally, effects of migration on trade are expected to be stronger at the micro than the macro level (Herander and Saavedra, 2005).

to coasts, and language. Finally, studies generally include indicators that capture industry data, regional export-destination, and year effects respectively. These are included to control for unobserved time-invariant variables and year-specific shocks.

The key concerns when studies have tried to estimate an estimation like this has been that many firms do not engage in trade with other countries, and most firms do not trade with a randomly selected country (Helpman et al. 2008).⁴¹ One approach to deal with the fact that firms select whether or not to trade, with whom to trade, and how much to trade, has been to use a selection model, e.g., based on what was proposed by Heckman (1979).

Another methodical issue has been related to endogeneity. If trade leads to increased familiarity between trading partners, this could theoretically lower the cost of migration at the firm level. The potential for endogenous migration arising from reverse causality, with respect to trade, would imply a correlation between the number of foreign-born workers in a certain firm and unobserved factors that influence trade decisions with respect to the source countries of these immigrants. For both macro and micro level studies, instrumental variable estimation has been a common approach to deal with endogeneity.

3.2 Macro-level Evidence

The US has been one of the greatest magnets for immigration in the world since its foundation. The early mass emigration from Europe to the United States led some to call the 20th century the 'golden age of migration' (O'Rourke, 2001). In modern times, the country has continued to be an important destination for large groups of emigrants, from both rich and poor countries. At the same time, the US is a major economic player and is responsible for a significant share of total global production and trade. Due to the clear impact of both migration and foreign trade has had on the US economy, many studies of the trade-migration nexus have chosen to focus on the US.

In his seminal study, Gould (1994) found a statistically significant link between immigrants to the US and its trade with their countries of origin. This link was argued to be the result from immigrants' contribution to lower trade costs between the US and immigrants' source countries.

Looking further back in history, between 1870 and 1910, Dunlevy and Hutchinson (1999) demonstrated that exports to countries from which the US had many immigrants increased to a greater extent than those to other countries, which is in part explained by the contribution of immigrants in lowering the trade costs between the US and immigrant source countries. However, the effect on trade during the latter part of the period was greatest for those countries with English as an official language, and those with a similar level of prosperity. It seems, however, that the connection with the level of prosperity in countries of origin has been reversed.

According to the macro-level evidence, the positive correlation between immigration and US foreign trade in modern times tends to primarily be driven by immigration from developing countries (White, 2007). Further evidence has provided by Bandyopadhyay et al. (2006), and they estimated a larger ethnic-network effects on trade than previous studies, at least for a subset of countries. Furthermore, concerning immigrants and their ability to strengthen the commercial with specific source countries, the rapid expansion of US trade with China in recent

⁴¹ Zeros generally account for approximately 90 percent of the observations.

decades has partly been attributed with the networks of Chinese-born business people living in the United States (Rauch and Trindade, 2002).

Canada, a relatively small country in terms of population but with a substantial proportion of immigrants, has also been studied frequently in the migration-trade literature. As with the US, studies have established that immigrants have a positive association with the level of foreign trade with countries from which immigrants originate (Head and Ries, 1998; (Wagner et al. 2002)).

The UK and Spain constitute two other countries where macro-level studies have found evidence in support of a positive migration-trade link (Girma and Yu 2002). The study by Blanes-Cristóbal (2008) found that Spain's imports from former colonies do not seem to have benefited specifically from immigration from those countries. One explanation can be that trade was steered to such an extent by imperialistic decisions that most other factors remain statistically insignificant. Exports was however found to have benefited from immigration. Additional macro-level evidence that suggest a trade facilitating influence of immigrants in Spain was provided by Peri and Requena (2009).

Analyses have mainly focused on investigating how immigration affects trade in large countries. Case-studies, however, do exist for some small and open developed economies, such as Denmark (White 2007a), Greece (S. Piperakis 2003) and Sweden (Hatzigeorgiou and Lodefalk 2015b). These studies are important since small open economies are generally more dependent on foreign trade and, moreover, are countries where immigrants tend to make up a considerable share of the population.

Unfortunately, the lack of the necessary data has impeded analysis of the migration-trade nexus for many individual developing countries. Fewer than one in five studies out of the close to 80 studies that we have examined is the immigration country a developing country, and only in a few studies are immigrants not from any developing country. Nevertheless, a positive and significant link was confirmed for Bolivia by Ehrlich and Canavire Bacarreza (2006).

A number of studies have attempted to estimate a more general correlation between migration and foreign trade. However, a lack of data, particularly concerning migration flows, has limited these studies to primarily investigating countries that are members of the OECD. The aim of quantifying the correlation between immigration and foreign trade for entire groups of countries is to obtain more generally applicable results. These can provide a pointer for countries that lack sufficient data for their own analysis of the correlation between immigration and foreign trade. Countries that lack experience with immigration can gain ideas about how an increase in people born abroad may affect domestic exports and imports.

The studies conducted for groups of OECD countries have in general confirmed the positive link between migration and trade (Lewer, 2006; Felbermayr and Toubal, 2008). As expected, the results have varied between depending on groups of products and sectors. These studies, like those for individual countries, tend to suggest that the migration-trade relationship—in addition to transplanted home bias—primarily stems from the dissemination of information and increased confidence between business partners via transnational trade networks between migrants' host countries and countries of origin (Lewer and Van den Berg, 2009).

To date, a total of approximately 60 macro-level studies on the migration-trade nexus have been conducted. Like the studies we have summarized above, a majority of these additional studies have focused on analyzing how immigration to one single country is related to its trade with a group of countries. Around 15 countries have been studied.

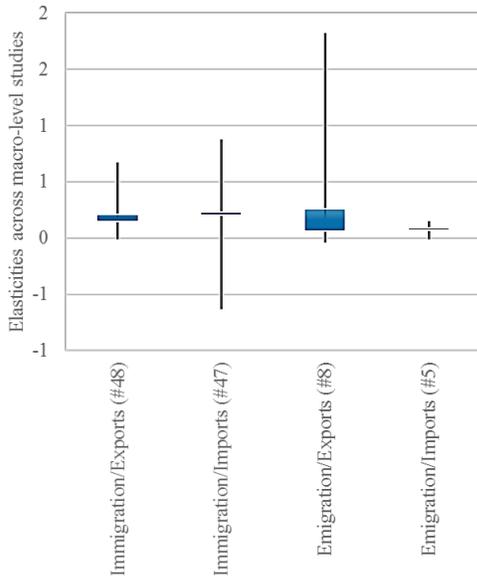
Table 1 summarizes the main estimates of the macro-level studies. On average, the elasticity of immigration on exports and imports to immigrant source countries is in the span 0.21-0.23. That is, a one percent increase in a country's stock of foreign born people is associated with a 0.2 percent increase in trade with immigrant source countries, on average and all else equal. The median elasticity is lower, however, which imply that a few studies have disproportionately impacts the overall picture. The size of the general macro-level relationship is closer to an elasticity span of 0.15-0.20.

Table 1. The Macro-level Evidence – Elasticities across Studies

	Immigration		Emigration	
	Exports	Imports	Exports	Imports
Average	0.21	0.23	0.26	0.09
Max	0.67	0.88	1.82	0.15
Min	-0.01	-0.63	-0.04	-0.01
Median	0.15	0.20	0.06	0.07
Number of studies	48	47	8	5

Fewer than ten studies have looked at the role of emigration and trade. As is demonstrated in Figure 4, these studies have indicated a weaker relationship relative to immigration. On average, the elasticity is 0.1, which suggests that a one percent increase in the stock of emigrants in a certain country is associated with 0.1 more trade. Although this result is based on a small number of studies and should be interpreted carefully, it is substantial in economic terms.

Figure 4. Visualizing the Macro-level Evidence – Elasticities across Studies



Imperfect information affects trade differently depending on the products. For example, trade in electronics tends to be sensitive to information in terms of quality, brand and origin. Imperfect information for such relatively advanced products hampers trade more than for basic products.

Since the trade facilitating influence of migration is postulated to be derived, in part, by the ability of migrants to reduce information friction, empirical studies have analyzed how migration is related with trade in products with varying degrees of sensitivity towards information friction.

The relatively high impact of those born abroad on trade in differentiated products, compared with homogenous products, suggests that the migration-trade link depends on migrants' ability to improve the information flow between countries and increase confidence in business transactions. The finding that migrants tend to play a more important trade facilitating role for exports of differentiated goods has been interpreted as evidence of the foreign market and contacts mechanism (Casella and Rauch, 2002).

The macro-level results also vary with characteristics of migrants and countries. Some variations are expected from theory, e.g., a stronger relationship with respect to skilled migrants and for less developed countries. Still, the deviation of results is noteworthy and can likely be explained by the differences in methodology and data.

Our review of the macro-level evidence suggests that migration is more strongly related to imports relative to exports, especially if we put less emphasis on results that deviate substantially from the bulk of the empirical studies. The elasticity of immigration is approximately 0.2 for imports and 0.15 for exports. This discrepancy between the immigrant

relation vis-à-vis imports on the one hand and exports on the other indicates that—as postulated by theory—both the preference mechanism as well as the foreign market and contacts mechanism play a role in explaining the migration-trade nexus. In addition, the discrepancy supports the hypothesis that the preference mechanism mainly influences imports.

A potential severe problem for the macro-level studies concerns reverse causality between migration and trade. If trade spurs migration rather than vice versa, the treatment variable is to be considered endogenous. Several studies have attempted to analyze the direction of causation, which has generally been done using instrumental variable analysis.

Gould (1994) conducted an econometric causality test and found that immigration precedes trade for most of the US trading partners. Furthermore, Gould underscored that immigration flows are restricted by binding quotas, which should make migration exogenous with respect to bilateral trade flows.

McKenzie (2005) analyzed passport and legal barriers to emigration in a large sample of countries, and concluded that countries with high passport costs have lower levels of emigration. Therefore, passport costs may impede migration. Javorcik et al. (2006) utilized this finding when assessing the relationship between migration in the US and FDI.

Although Gould (1994), Dunlevy and Hutchinson (1999), Javorcik et al. (2006), Aguiar et al. (2007), McKenzie (2007), Sangita (2013) and others concluded that the positive relationship between migration and trade ought to be viewed in terms of a causal influence, the macro-level studies cannot be said to have conclusively been able to demonstrate that the direction of causality runs from migration to trade. Despite the fact that the previous macro-level evidence indicates that there is a statistically significant and positive relationship between migration and trade, the methodological concerns and the inability to sufficiently address issues of proximity using aggregate data means that the macro-level findings cannot be ubiquitously applied.

3.3 Meso-level Evidence

There are approximately 25 studies that have analyzed the role of migration for trade at the meso-level, i.e., at the sub-national level within countries. These studies have utilized regional data from US states and Canadian as well as regions within European countries, and in one case for Mexican states.

An advantage of analyzing the migration-trade nexus at a sub-national level is that more detailed data can be used, which thereby makes it possible to better analyze the role of proximity in the migration-trade nexus.

Proximity is especially important within the context of studying migration and trade since the postulated relationship is driven by knowledge spillovers. Geographical proximity and intensity of interaction between immigrants and other agents are expected to enhance the ability of immigrants to relay knowledge and to match agents in their new country with agents in their country of birth (Gould, 1994; Rauch, 2001; Herander and Saavedra, 2005). This motivates the approach of conducting the analysis using as detailed data as possible. In addition, this approach reduces the risk of biased results due to merged and aggregated data (Anderson, 2011).

Table 5. The Meso-level Evidence – Elasticities across Studies

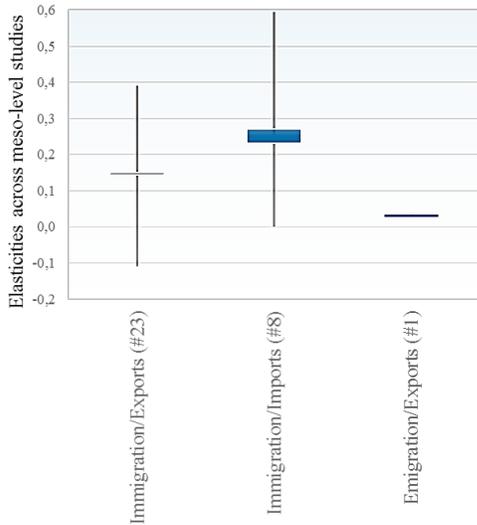
	Immigration		Emigration	
	Exports	Imports	Exports	Imports
Average	0.15	0.27	0.04	n/a
Max	0.39	0.59	0.03	n/a
Min	-0.11	0.00	0.03	n/a
Median	0.14	0.23	0.03	n/a
Number of studies	23	8	1	0

Compared with the macro-level, the the meso-level studies are more homogeneous in that they have almost exclusively focused on immigration and exports.

The macro-level evidence on the migration-trade link for Canada was confirmed by (Partridge and Furtan, 2008), which studied immigrants' contribution to Canada's foreign trade on the provincial level. Furthermore, Peri and Requena-Silvente (2010) analyzed how immigration to 50 Spanish provinces affects exports to 70 different countries in the period 1995-2008. They found a positive and significant relationship between immigration to Spanish provinces and their exports to immigrant source countries.

Several of the meso-level studies have applied methods, such as instrumental variable analysis, to test the causal direction of the relationship. In general, the meso-level evidence confirms the positive trade facilitating potential of migration. As demonstrated in Figure 5, the average estimated coefficient provided by the meso-level evidence is 0.14 for exports and 0.23 for imports. The variation across studies that have estimated a positive migrant influence on regional foreign trade has diminished over time. We derive this to the use of more reliable data and methods in newer studies.

Figure 5. Visualizing the Meso-level Evidence – Elasticities across Studies



3.4 Micro-level Evidence

Firm-level studies of the migration–trade nexus have recently started to emerge. This may seem overdue in light of the obvious role of proximity in the migrants’ role for internationalization postulated by theory.

Migrants neither obtain information on all host country opportunities without effort, nor do they diffuse relevant foreign market information uniformly to all host country firms. Far from all migrants possess the relevant information and contacts to be able to act as host-country agents for trade. Ultimately, the specific firms that benefit from international contacts and superior information about foreign markets can utilize this human and social capital to identify and exploit foreign trade opportunities. For example, Herander and Saavedra (2005) emphasized how the proximity between migrants themselves—and between migrants and firms—plays an important role for the exchange of trade-related information, which implies that migrants are expected to primarily have a local trade-facilitating effect. Hence, the most direct effects on firm trade result from migrants running firms themselves or being employed in firms. These migrants and firms have close and repeated interactions, akin to a strong economic network which, through the migrants, has ties to foreign networks (Rauch, 2001).

The first empirical firm-level studies have typically combined country or regional migrant stocks with firm trade data to analyze possible firm-level migration–trade links. This has generally been done within a gravity model framework. Overall, the expected key role of proximity on migrants’ impact on foreign trade is borne out in these studies.

Koenig (2009) examined the relation between a measure of regional immigrant stocks in 1982 and the export propensity of French firms *vis-à-vis* 61 countries between 1986 and 1992. The results demonstrated a positive and statistically significant association between regional

immigrant stocks and firm export propensity, especially for immigrant groups with a higher average age and level of education. On average, an increase in the immigrant stock was associated with a 0.12 percent increase in the likelihood of firms to start exporting to immigrant source countries.

Based on an analysis of firm exports from a set of European countries and the regional share of immigrants in four Central European countries, Pennerstorfer (2012) concluded that the proportion of immigrants is strongly related with export propensity. Further, a one percent increase of the number of immigrants in a region is associated with 0.08 percent higher firm exports to immigrant source countries.

Hiller (2011) studied the relation between total emigrant stocks and exports for a cross section of firms in Denmark in 2001, very much similar to what Bastos and Silva (2012) did for Portugal in 2005. The former study indicated that emigrants only foster exports of small firms, while the latter suggested that firms in regions with historically large emigration flows are more likely to export and that they export more.

The most detailed studies to date are Hiller (2013), Graneli and Lodefalk (2014) as well as Hatzigeorgiou and Lodefalk (2016). These studies all exploited both detailed trade and migration data at the firm-level.

In the case of Hiller (2013), Danish manufacturing exporters were analyzed with respect to 168 countries during the 1995–2005 period. This study found a positive—yet quite statistically weak—association between immigrant workers and firm export sales. On average, an additional immigrant employee was estimated to increase firms' exports to immigrant source countries by one percent. This positive influence of immigrant employees on firm exports was confirmed by Hatzigeorgiou and Lodefalk (2016), which studied all Swedish manufacturing firms with more than ten employees during the 1998–2007 period. The estimated influence of hiring an additional immigrant was similar in size as in Hiller (2013), i.e., increasing firm exports to immigrant source countries by approximately one percent on average. In addition, Hatzigeorgiou and Lodefalk (2016) tried to separate the different impact channels through which migration is thought to spur trade.

A few attempts have been made to explore other firm-level aspects of the relationship between and migration and internationalization. Hatzigeorgiou and Lodefalk (2015a) studied the relationship between immigrant employees and firms' exports of services. They developed a heterogeneous firm framework and drew on employer-employee data for nearly 30,000 Swedish firms during the period 1998–2007. The results suggested that immigrant employees facilitate services exports; hiring one additional foreign-born worker can increase services exports by approximately 2.5 percent, on average, with a stronger effect found for skilled and newly arrived immigrants. In addition to test the validity of the trade facilitating role of migration for services, the analysis adds to the understanding of the underlying mechanisms of the role of migration for internationalization. The provision of services often require a considerable degree of mutual trust between sellers and buyers, which creates a need for firms to establish links with foreign markets to reduce information friction and promote trust.

In addition to services, offshoring is an important aspect of firms' internationalization. However, offshoring comes at a cost, especially where information or trust is lacking. Immigrant employees could reduce such offshoring costs through their knowledge of their former home countries and via access to foreign networks. Hatzigeorgiou et al. (2015) studied approximately 12,000 Swedish firms and found that that immigrant employees spur offshoring activities by firms through lower offshoring costs. Hiring one additional foreign-born worker

Kommenterad [AH1]: MALO ska kolla om Hiller hade lower cutoff i data.

can increase offshoring up to three percent on average, with stronger effects for skilled migrants.

There is still no firm-level evidence on the potential role of migration for foreign investment. Considering that migrants have been found to facilitate trade at different levels of analysis, and also for other aspects of internationalization—such as offshoring—there is reason to think that foreign-born employees could help to facilitate firms' international investments as well. Also, there are some studies that have suggested that migration and FDI are linked at the macro-level, which further supports the case for firm-level analysis in regard to FDI.⁴²

Reasons for endogeneity in the firm-level context may be due to reverse causality caused by the influence of preexisting commercial relationships on firms' decisions to hire immigrants. An important question is then if firms deliberately hire foreign-born workers to increase internationalize activities with respect to immigrant source countries, or whether hiring decisions are exogenous with respect to internationalization activities. If the latter is true, this would imply that immigrants promote internationalization. If, on the other hand, firms hire immigrants from countries with which they already have established commercial relationships, and/or hire immigrants as a way of increasing internationalization prior to implementing their internationalization plans—a sort of preparatory behavior emphasized in recent trade models (e.g., López, 2009)—this would imply that immigrant employment is endogenous to the trade decision.

The firm-level studies that we have reviewed have either used a historically determined or a lagged migrant variable or adopted an instrument for the migrant variable, such as its lagged value or the regional or industry stock of migrants, to investigate the causal characteristics of the migration-internationalization relationship. Hiller (2013) used regional and two-digit industry immigrant employment stocks as instruments to find that the link between immigrant employment and export sales to be 'borderline significant.'

Hatzigeorgiou and Lodefalk (2016) addressed the endogeneity in their empirical analysis by lagging firms' immigrant employment and by adopting an IV analysis. Their instrument consisted of two components: the average number of immigrants from country j who are employed in Swedish firms other than f , and the average number of immigrants from country j who are employed in the same three-digit industry as firm f but do not work at the firm. They found evidence in support of a causal influence of immigrant employees on firms' trade.

In addition to econometric applications, Hatzigeorgiou and Lodefalk (2016) conducted a business survey to shed light on the endogeneity issue. They emphasized that the concern over endogeneity in a firm-level context would be remedied if it could be demonstrated that firms' hiring of foreign-born workers were exogenous with respect to preexisting trade relationships, or planned decisions related to trade with immigrant source countries. Their survey did not indicate that responding firms mainly hired foreign-born workers for reasons explicitly related to their foreign trade.

⁴² We found 12 studies that have analyzed migration and FDI. Unlike the macro-level studies that looked at trade in manufactures, which overall have found a stronger influence on imports relative to exports, the evidence of the FDI studies suggest that migration tends to have a stronger influence on outgoing FDI than on investment inflows. On average, the migration elasticity with respect to outgoing FDI to immigrant source countries is 0.33, while the corresponding elasticity with respect to incoming FDI is 0.15.

Kommenterad [ML2]: Osäker vilken studie hänvisar till.

In sum, the emerging firm-level evidence tends to support the hypothesized key role of proximity for migrants' impact on trade. However, much remains to be explored with respect to how—through which channels and mechanisms—migrants may facilitate firm internationalization, not least because evidence is scant regarding trade impacts across firms, firms' products and product margins, as well as across groups of migrants with different human and social capital.

4. Discussion and Concluding Remarks

The importance of understanding the nexus between migration and internationalization is growing amidst the intensifying debate over the effects of both migration and trade. This article has provided a comprehensive review of the theory and evidence of role of migration in internationalization.

As we have discussed, the conjecture of neoclassical economics via the endowment-based models has been that international trade and migration are substitutes. However, as migrants can overcome informational friction and provide access to networks that could infuse trust into business relationships, migration can positively influence the capacity of firms to internationalize. A direct impact of migration on trade could be derived from firms that hire foreign-born workers. Thus, a firm seeking to enter—or expand business with—a certain market may be relatively more likely to hire individuals from that country. Such an investment would be in line with preparatory firm behavior, as suggested by heterogeneous firm trade models (e.g., Melitz and Constantini, 2008). Purchasing such services would be a less attractive option because migrants' skills tend to be source- and destination-specific, as well as tacit in nature. Finding trust creating intermediate services such as those provided by migrants is likely to be particularly difficult (Casella and Rauch, 2002).

The bulk of the substantial empirical literature on the role of migration for internationalization have confirmed the existence of a positive and statistically significant relationship. The evidence mainly comes from macro-level studies that have focused on immigration and manufacturing exports. Nonetheless, studies that have started to emerge more recently have provided a more robust evidence. In specific, the nascent firm-level evidence, based on employer-employee data, is important in this regard since it is able to illuminate the underlying mechanisms and the co-influencing factors of the complex relationship between migration and internationalization.

The issue of whether migrants' characteristics—especially in terms of skills—can impact the extent to which migration can facilitate internationalization, has been the focus of several recent studies. Unlike the early macro-level studies that treated migrants more or less as a homogenous group, recent evidence indicates that a trade facilitating role of migration is conditioned upon certain features of the migrants themselves (in addition to, *inter alia*, country-level factors). In our review of the literature, we found a dozen studies suggesting that migrants' educational level and/or company position matter for the capacity of migration to act as a facilitator of internationalization (e.g., Giovanetti and Lanati, 2014; Hatzigeorgiou and Lodefalk (2016). The fact that skills seem to enhance the enabling role of migrants in regard to internationalization can be viewed as support for the theoretical proposition that migrants provide knowledge and contacts that lower information friction in international business activities. Hence, education is used as a proxy for the ability to disseminate information, infuse knowledge and trust into business relations. Yet, there still is no firm-level evidence on the

possible role of company position for the trade facilitating role of foreign-born employees, which constitutes a serious gap in the research (Felbermayr et al., 2014).

Based on the empirical evidence there is reason to assume refugees matter less or not at all as facilitators for internationalization, at least in the short term (e.g., Head and Ries, 1998; White and Tadesse, 2010; Graneli and Lodefalk, 2014). The reasons for this can seem obvious. It is the rule rather than the exception that refugees' hail from countries that are struck by conflict with very unfavorable conditions for international commerce and foreign investments. It is more uncertain, however, how migrants' time in the host country (away from the source country) influence the ability to facilitate internationalization.

We did not find conclusive evidence concerning the role of time since immigration for the ability of immigrants to promote internationalization. Time since immigration can facilitate absorption of the immigrant into the life and culture of the adopted country. Foreign-born people who master the language and expectations of their new country and readily adapt to the work requirements of the firms in which they are employed may be more likely to have increased credibility when they share their knowledge about their country of origin with their employer. Then again, time since immigration can result in the loss of contacts and deterioration of access to networks in migrants' countries of origin.

The conflicting evidence concerning time since immigration can be due to countervailing powers. Consistent with the theoretical ambiguity, several empirical studies have found that time since immigration can be either positively or negatively related to trade (Gould, 1994; Herander and Saavedra, 2005; Jansen and Piermartini, 2009). Jansen and Piermartini (2009) hypothesized that the stronger association to trade of temporary migrants than for permanent migrants is due to differences in employment levels. At the micro-level Hatzigeorgiou and Lodefalk (2016) found that that contacts and access to networks quickly fade with time away from the source country. Interestingly, however, they also found that integration into the host country as indicated by years since immigration seems to compensate over time for the loss of contacts and deterioration of access to networks in migrants' countries of origin. Overall, we have identified three studies that time since immigration enhances the role of migration to internationalization, whilst five studies find the opposite.

Notwithstanding the substantial work produced in the last two decades on the role of migration for internationalization, there are still important gaps in the research. Concerning theory, there is a lack of a formal framework which ties together migration its broader role for internationalization. In specific, the nexus between migration, trade and FDI is insufficiently explained by theory, despite the reasonable assumption that clear linkages exist (e.g., Fontagné, 1999).

Regarding the empirical research, a large part of the literature has been based on aggregate data, which has largely failed to provide robust evidence of the main mechanisms of the migration-trade nexus. Little systematic work has been undertaken to analyze and quantify the contributions of the specific underlying mechanisms. The nascent firm-level approach has the potential to bridge several of the existing knowledge gaps, but the research is still in its initial stages. The use of detailed data aims to get closer to the actual interaction between migrants and firms in order to understand the relationship and its underlying mechanisms.

There are theoretical justifications for why the direction of causality runs from migration to internationalization and not *vice versa*. Trade is for instance not put forward as an important

determinant of migration in the vast literature on international migration.⁴³ Considering the many documented factors behind migration decisions, it can be assumed that the degree of internationalization at the macro-level significantly influences migration flows. International trade theory provides some insight surrounding the relationship between migration and internationalization, although the focus is mostly on how factor movements influence internationalization, rather than the other way around (Hatzigeorgiou 2010).

Notwithstanding the empirical irregularities the research has converged on a few conclusions. Most studies agree that migration facilitates internationalization—both trade in manufactures and services—as well as other aspects of internationalization, such as investment and offshoring. The estimated size of the relationship varies across samples and focus, but we interpret the results to suggest an economically meaningful role of migration for internationalization.

Still, there needs to be more research on the causal characteristics of the relationship in order to determine, beyond doubt, whether migration in fact spurs internationalization. Most macro-level studies have interpreted the positive relationship between migration and internationalization as an indication of a positive effect of migration on internationalization. For reasons we have discussed, a macro-level approach is marred with potential issues, not the least concerning the potential endogeneity of migration. We believe that macro-level data simply cannot be used to completely rule out the endogeneity concern. Furthermore, the refugee crisis of the past couple of years may have had disruptive effects on the migration-trade relationship as it appears at the aggregate level. As more recent firm-level studies have indicated, the positive relationship between migrant employees and internationalization tends to be conditioned upon skills and the requirement that immigrant source countries are not burdened by conflict. It is possible that the refugee crisis may have altered the character of the macro-level relationship, at least for some countries and for some time. We would not be surprised to find that the results of some previous macro-level studies that were conducted before the refugee crisis, that confirmed a positive relationship between migration and trade, are no longer valid.

Therefore, the refugee crisis adds to the reasons why more focus and energy should be placed on the nascent firm-level literature. Nevertheless, despite the progress that has been made in the recent research that exploits employer-employee data to deal with the issues of endogeneity—especially caused by reverse causality—based on our comprehensive review of the existing literature, we cannot conclude that it is certain that migration drives internationalization. There are many mechanisms at play that could influence the nexus between migration and internationalization, and there is still not sufficient evidence in support of a robust and ubiquitous influence of migration on internationalization. Although detailed data are becoming increasingly more available, most of the studies in the nascent firm-level literature are limited to data panels with relatively brief time periods.

In addition, more research on the long-term effects is needed. The long-term perspective is especially relevant in light of the recent and ongoing migration crisis in the world, largely stemming from war and unrest in the Middle East. It should not be surprising that refugees are not drivers of trade in the short or even medium term. It would however be useful to know—not the least from a policy perspective—whether refugees could facilitate trade with their

⁴³ Case studies of immigrant communities indicate that individual migration decisions are mainly driven by such factors as differences in living standards and the size of the existing ethnic community (Gould, 1994).

source countries once the right preconditions are met in their source countries. It could be the case that refugees can act as facilitators of trade and internationalization similar to voluntary migrants when the situation in the country of origin improves. But, it could also be the case that refugees, either due to characteristics or the circumstances surrounding their migration process and establishment in the host country, fail to show any positive influence on trade.

The survey of the migration-trade nexus presented in this article is intended to provide food for thought and input to policymakers. Despite the gaps in the previous research, the findings have important policy implications.

The recent refugee crisis has resulted in calls for more restrictive immigration policies in many countries. Several governments, not the least in Europe, have imposed measures to reduce the number of refugees seeking asylum. There have also been rising demands to restrict overall immigration. In the 2016 UK referendum on the country's EU membership, immigration was at the center of the discussions. Immigration was the single most prominent issue for British voters: more than half overall (55%) said that they thought the government should have control over who comes into Britain even if this means having to leave the EU (Ipsos MORI, 2016).

It is very likely that the UK will restrict labor immigration from the rest of the EU once it is no longer a member. In Sweden, another country which has been open to immigration, the government has initiated a commission to review the legal framework for labor immigration, which could result in restrictions to labor immigration.

Changes to immigration policy have mainly been analyzed from the perspectives of public finances and the labor market. However, as this paper has demonstrated, migration and trade are related, which means that more restrictive immigration policies—especially regarding labor immigration—could impact trade and employment, as well as growth, in ways that have thus far been overlooked. One major argument of the 'Leave' (pro-Brexit) campaign was that Brexit would allow greater control over immigration (Wadsworth et al., 2016), yet this aspect was not accounted for in analyzes of the possible trade effects of a Brexit. Neither is this aspect generally considered in other countries where immigration is currently being restricted.

How can policymakers utilize the likely positive link between migration and trade? An obvious conclusion would be to implement more open migration policies with the aim of increasing trade with immigrant source countries. We refrain from making such a recommendation, however. Since a major strand of research is still underdeveloped, especially when it comes to utilizing firm-level data to examine various aspects of the complex relationship between migration and internationalization as well as the underlying mechanisms, policymakers are wise not to justify more a liberal migration policy solely on the basis of the literature on migration and internationalization.

More research is needed to understand whether migration in general can spur internationalization, and how the process works. It is not yet established beyond doubt that the direction of causation runs from migration, or the hiring of foreign-born employees, to increased trade and internationalization. Also, it is not yet established whether migration *per se* can have a long-term positive impact on the internationalization, or whether the evidence provided thus far is conditioned upon certain characteristics of migrants and their countries of origin. If policymakers want to apply the findings summarized and discussed in this article within migration policy, it would be reasonable to align the reforms with findings where results have been proven to be robust across numerous studies. For example, several studies have found that education seems to be an important factor for the ability of migrants to help firms in their internationalization. In this regard, it is reasonable to assume that restricting

immigration of high-skilled employees from other EU countries to the UK, a policy that could be result of the 'Brexit' negotiations, may risk hurting trade between the EU and UK.

A complementary or alternative approach to applying the findings on the migration-trade nexus to migration policy would be to improve the possibilities of migrants already present in the country to facilitate trade and promote internationalization. For instance, policymakers can set out to improve the channels through which immigrants can help to reduce information friction and infuse trust in business relationships between their countries of residence and source countries.

In light of the findings emphasizing the importance of education, policymakers may want to consider initiatives to increase the education level among migrants with insufficient skills. Moreover, in light of the importance of contacts and networks for the trade enhancing role of migration, policymakers could be motivated to find ways that would encourage migrants to foster the relationships with contacts and networks in their country of origin.

Although there is not much evidence on how much the trade enhancing role of migration relies on what company position foreign-born employees hold, we believe it is reasonable to assume a positive co-influence of managerial seniority within an organization and the ability for a foreign-born employee's trade promoting capabilities to come into its own. Improved matching on the labor market as well as within firms could improve the chances of migrants to act as facilitators for trade and internationalization.

Finally, the previous evidence suggests that the benefits to improving the integration of immigrants in the labor market might have been underestimated. Several industrialized countries struggle with inadequate integration of immigrants in their labor markets, including Sweden (OECD, 2012). In Sweden, unemployment is nearly three times as high for foreign-born individuals than for natives (SCB, 2012). The matches between qualifications and jobs are worse for foreign-born individuals and especially for women (Rooth and Ekberg, 2006; Segendorf and Teljosuo, 2011). Nevertheless, policies to address the challenges of inadequate labor market integration are typically discussed from a public finance perspective, as high unemployment implies public spending on social benefits and other welfare programs. As migration can facilitate internationalization, policymakers may therefore wish to revisit the emphasis placed on policies that focus on immigrants' labor market integration. Improvements could go beyond public finances to also increasing foreign trade, which has been shown to be important for jobs, long-term economic growth and development (e.g., Dollar, 1992; Jones, 1995; Sachs and Warner, 1995; Frankel and Romer, 1999; Winters, 2005).

We hope this article will help policymakers to formulate a balanced response to the increased calls for more restrictive immigration policies and to the need for better policies to promote internationalization. Increased knowledge is however necessary. Future research needs to explore, among other things, how the migration-trade nexus is influenced by migrants' characteristics and occupations, as well as firm and country characteristics.

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