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# Benefitting from immigration: The value of immigrants' country knowledge for firm internationalization

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**Abstract**

Migrants are able to provide firms with knowledge about their country of origin. This can become a valuable source of knowledge for firms in the process of internationalization. Relating to a Knowledge-Based-View perspective, this paper explains how the resource commitment of firms to foreign countries is contingent on immigration from those countries: Immigrants' country knowledge reduces uncertainty and makes the governance of foreign operations more efficient. Moreover, this paper connects the relevance of knowledge for firm internationalization to institutional characteristics in immigrants' home and host countries, both of which policymakers can shape. We test predictions on more than 13,000 observations over a 14-year period (2003–2016). The paper identifies economically significant contingencies of a positive effect of immigration, which are robust to changes in model specification, measurement, and sampling. The results indicate how immigration can shape firms' investments abroad and have implications for developing policy as well as international business theory.

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## INTRODUCTION

International migration has grown rapidly in recent decades, from 173 million migrants in 2000 to 258 million in 2017, which accounts for about 3.4 percent of the world population (United Nations, 2017). Consequently, the costs and challenges of migration, and immigrants' integration, became a recurring topic for policymakers around the world (e.g., Alba & Foner, 2016; Fong & Ooka, 2002; Nyberg-Sørensen, Hear, & Engberg-Pedersen, 2002). Research demonstrates the economic consequences of international migration for trade (Gould, 1994; Head & Ries, 1998), foreign direct investments (Javorcik, Özden, Spatareanu, & Neagu, 2011; Kugler & Rapoport, 2007), and international strategic considerations that lead to stronger resource commitments to migrants'

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home countries (Chung & Enderwick, 2001; Chung & Tung, 2013; Zaheer, Lamin, & Subramani, 2009; Zhao & Hsu, 2007). Those effects stem from, at least partially, a knowledge advantage that immigrants create for firms in the countries that receive them: a firm located where migrants move can use the migrants' knowledge to reduce knowledge barriers to the markets from which migrants originate. This in turn reduces a firm's uncertainty associated with migrants' home countries, which results in these countries being more attractive to a firm seeking foreign operations.

However, research to date largely assumes that this knowledge advantage is mostly a consequence of effects at the level of individual pairs of home and host countries and therefore is universally available across firms and different contexts for these country pairs. To some extent, this simplification may result from study samples with limited variation in the home- or host-country environment, as these settings do not allow tests that differentiate among these various contexts. Consequently, there are still substantial unknowns in the relationship between migration and a firm's investment decisions. In particular, it is unclear how migrants' knowledge can create a knowledge advantage that benefits a firm's decisions on resource commitment. Knowledge-based perspectives, however, highlight that, to create value at the firm level, the knowledge must be relevant and the firm must absorb it (Alcacer & Chung, 2007; Hernandez, 2014; Wiklund & Shepherd, 2003). What is more, theoretical approaches and empirical contributions note that the degree to which knowledge is valuable and applicable to a firm depends on the institutional conditions in which the firm is doing business (Beukel & Zhao, 2018; Cuervo-Cazurra, 2018).

We build on this research, drawing on the Knowledge-Based View (KBV) (Almeida & Kogut, 1999; Kogut & Zander, 1992; Wiklund & Shepherd, 2003), and argue that country-level migration creates knowledge pools that contain information about a specific country (immigrants' home country) in another country (immigrants' host country). A firm can benefit from this knowledge pool when it internationalizes from its home country (immigrants' host country) to another country (immigrants' home country), due to migrants' spillover of knowledge that results from their interaction with the local population (Gould, 1994; Oettl & Agrawal, 2008). However, we argue that policy instability in migrants' home countries and high anti-immigrant sentiment in

the area to which migrants move influence the knowledge benefits that a firm can reap from immigration. The knowledge that migrants import from their home countries: (1) becomes less valuable if circumstances in their home countries change, and (2) is harder to absorb into a firm's knowledge base if anti-immigrant sentiment makes the interaction with immigrants more difficult. As a consequence, a firm will derive reduced benefits from immigration, and its transactions with immigrants' home countries will not reach their full potential.

An investigation of how firms react to different flows of immigration requires an empirical "laboratory" that isolates the effects of immigration from those of related constructs. This paper uses a unique panel dataset of more than 13,000 parent firm–host country–year observations of approximately 600 Austrian firms around the world, across all industries and sizes. Austria is an effective context for this study, and for examining how immigration relates to firm internationalization in general, because it receives a large number of immigrants relative to its population from many different countries, has large within-country variation in immigration patterns (Statistik Austria, 2018a), and a highly international economy (Statistik Austria, 2018b).

Given the growing societal relevance of migration and the economic relevance of foreign investments and trade for economies and firms, this paper has substantial implications for policymakers. First, it may help policymakers not only to understand the implications of immigration for firms engaged in international activity, which positively contributes to their home-country employment and standards of living, but also to develop policy accordingly. Second, this paper provides evidence on the contingencies of the relationship between immigration and firm activity abroad. The results provide evidence as to what extent anti-immigrant sentiments influence the economic benefits associated with immigration and under what conditions immigrants' knowledge creates value for firm internationalization. Third, it makes an important contribution to international business theory by integrating the KBV with existing institutional perspectives on uncertainty and risk in the context of firm internationalization. Finally, this paper has direct implications for firms, as the results outline ways to benefit from the flow of immigration in the process of internationalization.



## MIGRATION AND FIRM INTERNATIONALIZATION: A KNOWLEDGE PERSPECTIVE

Empirical investigations have analyzed the relationship between migration and the internationalization activities of firms into the immigrants' country of origin. Past country-level studies find a positive relationship between immigration and outward foreign direct investment (FDI) (Javorcik et al., 2011; Kugler & Rapoport, 2007) as well as increased trade activities between migrants' home and host countries (Gould, 1994; Head & Ries, 1998) as a consequence of immigration. At the firm-level, international business literature shows a positive link between immigration and FDI location choice, as well as the choice of entry modes, with higher commitments of resources made to migrants' home countries (Chung & Enderwick, 2001; Chung & Tung, 2013; Hernandez, 2014; Zaheer et al., 2009; Zhao & Hsu, 2007). These studies make an implicit theoretical link between business activity abroad and international migration through reasoning that follows the KBV: immigration leads to knowledge transfer from the migrants' home countries to their new countries of residence.

Knowledge about circumstances in target countries is a core variable in international investment decisions (Johanson & Vahlne, 1977). Firm internationalization is characterized by high degrees of uncertainty about the foreign location, which can arise from limited knowledge about certain variables (Krishna Erramilli & D' Souza, 1995). A lack of knowledge concerning the social, cultural, or political environment leads to higher uncertainty for foreign firms about the host country compared to local companies. Through the accumulation of host-country knowledge, this uncertainty can be reduced which leads to higher commitments into the respective host country (Hernandez, 2014; Johanson & Vahlne, 1977).

Interactions between immigrants and other co-located individuals in the immigrants' country of residence lead to knowledge flows between different market actors, contributing to the transfer of knowledge that goes beyond the employment of immigrants (Hernandez, 2014; Oettl & Agrawal, 2008). Immigrants therefore can contribute to the development of a regional knowledge pool, which can become the source for knowledge spillovers to companies (Gould, 1994). The factor of immigrants' knowledge, also called the "immigrant

information effect" (Gould, 1994) or "the information effect" (Wagner, Head, & Ries, 2002), can provide firms with host-country knowledge that is valuable, rare, unique, and difficult to imitate (Chung, Rose, & Huang, 2012).

Immigrants' knowledge can develop in two ways: (1) from personal experiences in their home country before emigration, and (2) after emigration due to established and ongoing relationships with their home country. The former refers to the direct experience that immigrants gain working or living in their country of origin (Chung, Enderwick, & Naruemitmongkonsuk, 2010). The latter refers to networks and contacts abroad, where immigrants may collect new relevant knowledge through active political, business, or social networks in their country of origin (Javorcik et al., 2011; Rauch, 2001). Furthermore, the access to social networks goes beyond merely the inflow of knowledge; these networks also facilitate the verification of information about a firm's target country and provide, through ongoing contact and exchange, the foundation for up-to-date market knowledge (Zhao & Hsu, 2007).

As a consequence of both the knowledge they possess from living in a certain environment and their ability to effectively obtain new knowledge about that environment from afar, immigrants have a positive effect on overcoming knowledge barriers between their home and host countries (Hernandez, 2014; Kugler & Rapoport, 2007), as long as firms can absorb their knowledge. Migrants can develop a comprehensive understanding of the language, the economic, cultural, and political systems, and the business practices of their home countries (Chung et al., 2012). The "information effect" (Wagner et al., 2002) can shorten a firm's learning process about a foreign host country and reduce the perceived psychic distance to the firm's host country (Zhao & Hsu, 2007). Immigrants' knowledge about regulations, the language, customs (Chung et al., 2012), or market needs and opportunities (Aubry, Kugler, & Rapoport, 2012; Wagner et al., 2002) reduces knowledge discrepancies for a firm located in the immigrants' host country that considers investing in the immigrants' home countries. Firms' familiarity with host markets improves because of immigrants' first-hand market knowledge and social ties to their respective home countries (Chung & Enderwick, 2001; Zhao & Hsu, 2007). Firms can therefore benefit from the knowledge that immigrants offer and engage in



information arbitrage to enhance their corporate internationalization strategies, especially in the immigrants' home country.

### HYPOTHESES

A firm's knowledge of a host country is an essential resource if the firm seeks to make commitments to that country (Johanson & Vahlne, 1977; Kogut & Zander, 1993). Therefore, according to KBV logic (Almeida & Kogut, 1999; Kogut & Zander, 1992; Wiklund & Shepherd, 2003), knowledge can be a source of competitive advantage for internationally active firms. In line with literature, we argue that there is a knowledge spillover effect from immigrants to companies, which increases the firms' understanding of the conditions in a target country (Gould, 1994; Head & Ries, 1998; Javorcik et al., 2011). We theorize that immigrants' knowledge can be transferred in two different ways: directly through being employed by the firm (knowledge through employment) or indirectly through the immigrants' social networks (knowledge through network effects).

First, firms can benefit from immigrants' knowledge directly: immigrants can be the owner of the firm, be part of the top management team, or otherwise employed in the company. If so, the immigrant can either directly apply their knowledge or transfer the knowledge to a colleague who is in charge of the international activities of the firm. In both cases, the firm can use the immigrant's knowledge and can benefit from it.

Second, immigrants can also contribute to a firm's knowledge indirectly. They may contribute knowledge about their home countries to a local knowledge pool located outside, but in close proximity to the firms. Firms can receive knowledge spillovers from those knowledge pools. Close spatial proximity makes knowledge flows easier (Agrawal, Cockburn, & McHale, 2006). First-tier and second-tier social relationships drive this mechanism. Immigrants can have relationships with people working in the parent firm (first-order tie), or firm employees can know someone who knows an immigrant (second-order tie). Oettl and Agrawal (2008) show that social relationships explain knowledge transfers. The basis for these knowledge transfers is that people who migrate from one country to another will establish relationships with people in the local community in their new home country (Oettl & Agrawal, 2008). Such relationships

can be established in every-day life through friendship between immigrants and non-immigrants, contact in school or at the gym, coincidental meetings at a coffee shop or supermarket (Agrawal et al., 2006), or through professional contact at events like conferences (Singh, 2005). In other words, people who work for the parent firm can have knowledge about immigrants' home countries due to their relationships with immigrants outside of the firm (first-order tie).

Singh (2005) and Chung, Yen and Wang (2019) show that interpersonal networks are facilitators for knowledge diffusion beyond firm boundaries. Those networks not only consist of first-tier relationships but also include second (and higher)-order links. Thus, knowledge about the immigrants' home country can also be received from other persons someone knows who are in close contact with immigrants. This means that immigrants can transfer their knowledge to persons who work in a company, or an employee knows someone who again knows an immigrant from a potential host country and can transfer the knowledge via such an indirect relationship. The knowledge about an immigrant's home country can therefore be spread to many people in the immigrant's surrounding. Hence, we regard an immigrant not only from a human capital perspective (someone who works in a company and applies her skills and knowledge) but also from a social perspective as someone who interacts with the local community. Because first- and second-tier indirect ties increase geometrically with the number of immigrants, small numbers of immigrants can transfer knowledge widely. If, for example, 100 immigrants have 5 independent first-order ties to the local population, and every member of the local population has 10 independent first-order ties to other members of the population, 100 immigrants will have 5,000 second-order ties to members of the local community.

Firms can use the knowledge they obtain from immigrants, either directly or indirectly, to better control their operations abroad. First, it enables firms to more accurately identify relevant sources of risk and to develop mitigation strategies (Johanson & Vahlne, 1977). Immigration can hence reduce uncertainty and help firms to overcome knowledge barriers between their home and (potential) host countries, which is an advantage over alternative investment locations (Hernandez, 2014). Second, when internationalizing, firms must consider the costs of doing business in a target location



(Dunning, 1998). As firms have access to more knowledge about a target country (and therefore a reduced degree of uncertainty), the costs of collecting and interpreting information decrease for firms that want to operate in the immigrants' home country. In general, more host-country knowledge therefore decreases the uncertainty for firms in the immigrants' home country, which leads to lower costs. This incentivizes firms to invest, and to increase existing investments, because it allows them to more efficiently control resources they commit to a country (Cuervo-Cazurra, 2018).

In summary, we argue that the knowledge pools that immigrants provide reduce the costs associated with collecting and interpreting information about a foreign country. Consequently, firms' foreign operations in immigrants' home countries become more efficient and parent firms commit more resources. Accordingly, we hypothesize:

**Hypothesis 1:** Resource commitments from the parent firm to a foreign subsidiary increase with immigration from the subsidiary country to the location of the parent firm.

Based on KBV reasoning, in order for knowledge to create advantages, the knowledge must be valuable to the firm (Kogut & Zander, 1992; Rodrik, 2018). Knowledge that allows a firm to understand the policy environment is an essential type of host-country knowledge (Delios & Henisz, 2003; Henisz, 2000). Migrants can develop policy knowledge with regards to their home countries through experiential learning in their home country or via social networks (Chung et al., 2012). Such knowledge, established by immigration, can therefore provide a valuable resource for firm internationalization, as long as the policy environment in migrants' home countries is relatively stable.

We argue that instability in the policy environment in migrants' home countries reduces the value of migrant knowledge for two reasons. First, migrants' experiential knowledge about policy structures, processes, and decision-makers becomes less applicable. In countries characterized by high instability, policy change can be rapid and non-linear (Eisenhardt & Martin, 2000), making country knowledge about policy structures that was gained experientially less applicable (Nadkarni & Chen, 2014). Second, policy instability reduces the value of knowledge migrants develop through social networks, as policy instability reduces the ability to recognize opportunities (Garrett & Holland,

2015) and to correctly interpret situations in such environments (Eisenhardt & Martin, 2000), particularly from afar. This can reduce the knowledge migrants derive from the network, and lessen its efficient interpretation. Accordingly, we argue that the value firms can derive from knowledge pools is less valuable if the policy environment in the immigrants' home countries is unstable, leading to the following hypothesis:

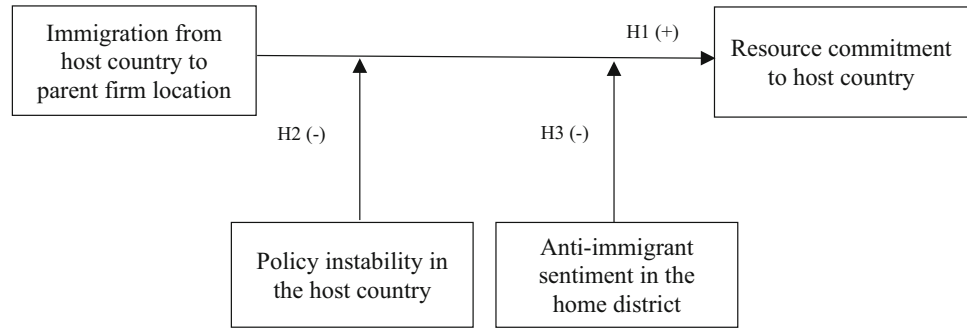
**Hypothesis 2:** The positive relationship between immigration and resource commitment to a foreign subsidiary (Hypothesis 1) is negatively moderated by higher policy instability in the subsidiary country.

The KBV suggests that, for knowledge to be beneficial, firms must successfully absorb it (Alcacer & Chung, 2007; Kogut & Zander, 1992; Wiklund & Shepherd, 2003). The knowledge a firm receives through the presence of immigrants is a consequence of that firm's ability to access knowledge pools that immigration creates. Knowledge sharing can be difficult if immigrants and the local population are not willing or able to interact with one another. According to Amir (1969) and Li & Tong (2018), the environmental context is an important factor for the development of contact with and relationships between groups. The climate for the interaction between immigrants and the local population is therefore an important determinant of the knowledge exchange between immigrants and the local population. If immigrants are confronted with anti-immigrant sentiment from the local population, it is likely that they will share less knowledge (Johnson & Jacobson, 2005).

One key antecedent of how interactions work between groups in general, and immigrant and local populations in particular, is the institutional support for contact (Li & Tong, 2018) that comprises the support from the executive and legislative authorities (Pettigrew, 1998). Furthermore, contact between groups is enhanced by indirect institutional support that can stem from the "social atmosphere" or a "general public agreement" (Amir, 1969) that foster interaction between immigrants and the local population. In this sense, the political attitude of the local population is central to the institutional support for contact between local population and immigrants.

We argue that the extent of knowledge sharing between immigrants and the local population is subject to institutional factors. Regions with high

Figure 1 Research framework.



anti-immigrant sentiment have reduced knowledge exchange: they will be less accepting of immigrants, who will in turn interact less with the local population, and firms therefore have less access to the knowledge of those immigrants. Hence, in line with KBV, we argue that a negative attitude towards immigration hampers the absorption of knowledge in firms located in such areas, which leads to the following hypothesis:

**Hypothesis 3:** The positive relationship between immigration and resource commitment to a foreign subsidiary (Hypothesis 1) is negatively moderated by higher anti-immigrant sentiment in the location of the parent firm (Figure 1).

**EMPIRICAL SETTING AND DATA**

We conduct our study in the context of Austrian firms. Austria provides an effective “laboratory” for this study because it is a developed country that receives a high number of immigrants relative to its population. In the year 2016, 23 percent of Austria’s total population were born in a foreign country (1,594,723 of 8,700,471 people), and between 2003 and 2016, international net immigration to Austria reached 626,920 (Statistik Austria, 2018a). Austria has borders with eight different countries, made up of German-speaking countries (Germany, Liechtenstein, Switzerland), Eastern European countries (Czech Republic, Slovakia, Slovenia, Hungary), and Italy. This geographic closeness encourages immigration from these countries that are characterized by different environments. What is more, immigration patterns have changed over time. Austria historically experienced high immigration flows from Germany and Eastern European countries. In the last few years, however, immigration from Asian countries has picked up substantially (Statistik Austria, 2018a).

Austria also has large within-country variation in immigration patterns. While the western regions mostly receive immigrants from Germany and Italy, the eastern parts of the country have substantial immigrant populations from Eastern Europe and Turkey. In addition, Austria’s economy is highly international, with approximately 50 percent of its GDP generated by business activity abroad (Statistik Austria, 2018b). The most attractive countries for FDI by Austrian firms in our sample are Germany, Hungary, the Czech Republic, Switzerland, and Poland. Immigration data are available from Statistic Austria StatCube on a political district-year level, starting in 2002, and includes all foreign-born inhabitants who register Austria as their principal residence for at least 90 days per year.<sup>1</sup>

Austria is divided into approximately 200 political districts, with an average population of approximately 40,000 inhabitants. Within Austria, we investigate how the immigration flow to a political district affects firms located there. This is because knowledge sharing is possible mainly when immigrants and companies are based in the same location. Therefore, the political districts provide a smaller, more suitable entity than individual counties.

The subsidiary data we use come from the ADI (Aktive Direktinvestitionen—Active Direct Investments) dataset provided by the Austrian Central Bank (Oesterreichische National Bank, OeNB). The Austrian Central Bank collects this annual data from all Austrian firms with a voting capital share of minimum EUR 500,000. This provides the most comprehensive data about Austrian firms’ international operations, including about Austrian headquarters, foreign subsidiaries, and the relationship between the two. The dataset offers general information about the Austrian companies including their Ultimate Beneficial Owners (UBO), number of employees, and financial information on parent



companies and subsidiaries. Because it is collected by Austria's central bank, the dataset is a comprehensive representation of the complete activities abroad of the included firms.

We limit the sample to companies located in an environment in which the knowledge that immigrants can provide constitutes added value for the firms. To be part of our sample, firms must be located in an environment with no comparable alternative knowledge sources that could efficiently provide host-country knowledge. In this sense, we excluded from our analysis firms located in "global cities" (Goerzen, Asmussen, & Nielsen, 2013). We characterize global cities as having three qualities: international connectedness, advanced producer services, and a cosmopolitan environment (Goerzen et al., 2013). This means that companies in global cities are surrounded by high internationality, a high degree of knowledge spillovers from international firms, a culturally diverse population, specific managerial capabilities that firms require for internationalization, and ongoing inflows of knowledge resources. Austria's country's capital and largest city, Vienna, represents such a global city. Consequently, we include only companies that are not located in the districts that make up Vienna or its directly adjacent districts.

Additionally, this study considers only companies with Austrian UBOs and only direct subsidiaries of the Austrian companies, because we want to exclude potential confounding effects that a foreign UBO may have on an Austrian subsidiary which, in turn, controls subsidiaries abroad. For example, a foreign UBO can transfer and provide knowledge about the firm's host countries, which can benefit the Austrian company in its internationalization process. We also exclude indirect subsidiaries of Austrian companies to eliminate confounding effects, because an intermediary subsidiary may also provide knowledge advantages that this study cannot observe. To eliminate bias from several subsidiaries that firms have in the same country abroad, we aggregate into one entity all information on subsidiary firms in the same foreign country and year. Finally, due to their specific organizational structures, regulations, and internationalization behaviors, we exclude from this study firms that operate in regulated, public, financial, or educational industries. As a result, we test the above hypotheses on a sample of 13,788 parent firm–host country–year observations in 73 different host countries over a 14-year (2003–2016) period. We use panel data, i.e., cross-sectional data

over several years. This allows us to consider variation over time in immigration flows and firms' resource commitments. At the same time, it allows us to consider cross-sectional variation across political districts and firms.

## MEASUREMENTS

### Dependent Variable

The dependent variable in this analysis is a continuous variable indicating the total assets a firm's subsidiaries in each foreign country own in a specific year. We measure these subsidiary assets using the ADI dataset maintained by the OeNB, and standardize this variable.

### Independent Variable

The main independent variable is the number of immigrants from a subsidiary's host country coming to the political district in which the parent firm is located, in a certain year. This measurement is in line with prior studies that also use immigration to account for the knowledge effects of immigration (Gould, 1994; Hernandez, 2014; Wagner et al., 2002). We measure migration inflow on the level of the political district (3-digit district code) in Austria (except for towns with a city statute, which we treat as single entities). To measure immigration, we use the Statistic Austria StatCube data on cross-border migration. We measure these data at the district level to account for the knowledge spillovers of immigrants to companies located in the same district. To avoid reverse causality, we standardize the immigration variable and lag it by 1 year.

### Moderating Variables

For the moderator variable in Hypothesis 2, we measure policy instability in immigrants' home countries using the POLCON dataset (Henisz, 2000). The Political Constraint Index indicates the degree to which veto rights in the political system constrain policy changes. The higher a country is in the ranking, the higher the constraints, which means that policy changes are not easily realizable. This leads to higher stability and reduced uncertainty in the policy environment. To facilitate interpretation of the regression coefficient for the moderation, and in line with prior literature (e.g., Holburn & Zelner, 2010), we invert the POLCON variable. Thus, in our analysis, a higher value indicates higher risk of policy changes and

therefore of policy instability. The variable ranges from 0 (low policy instability) to 1 (high policy instability).

We measure anti-immigrant sentiment using political support for anti-immigrant parties (the moderator variable in Hypothesis 3) using election data for federal elections for the years 2003–2016. Federal elections took place in 2002, 2006, 2008, 2013, and 2017. For the years inbetween, we linearly interpolate the election results. More specifically, we measure the yearly growth (in percent) in the share of votes for Austrian anti-immigrant parties (BZÖ and FPÖ).<sup>2</sup> A change in election results represents the voters' preferences for these parties: a positive number indicates growing support for right-wing parties, whereas a negative number stands for the opposite (Tavits, 2007). An increase in votes for these parties associates with rising anti-immigrant sentiment. This variable is measured on the political-district level, and the data are available from the Austrian electoral database (Oesterreichische Wahldatenbank). We standardize both moderator variables and lag them by 1 year.

### Control variables

We use several control variables on the parent-, subsidiary-, and host-country levels. We include the number of parent-firm employees to indicate the firm size and its capital endowments. We expect that larger parent firms will invest more in their subsidiaries. We also control for the experience that the parent firms have in the host countries by including the number of years the parent company has operated in the host country. More experience in the subsidiaries' country reduces the need of the parent firm for host-country knowledge as the company can directly collect information through operating there, and consequently the uncertainty for the parent firm in this country diminishes over time (Rangan & Sengul, 2009). We expect that this leads to larger commitments of resources (Pedersen & Petersen, 1998). The ownership share the parent company holds in its subsidiaries in a target country, as well as the question of whether the subsidiary is a greenfield or brownfield investment, influence the firm's willingness to allocate more resources to its subsidiaries (Luo, 2004). We weight both variables according to the subsidiary's assets and aggregate the variables over the parents' host country to bring it to the same level of analysis as the dependent

variable. We include the target country's GDP per capita to control for the development of the target country's economy. To capture the overall FDI attractiveness of the country, we control for GDP growth in the target country and FDI inflows into the target country (García-Canal & Guillén, 2008). Those variables account for macro-economic developments (e.g., economic crises) that can influence the profitability of foreign ventures in a country and reduce a company's willingness to make commitments into the respective countries. We measure the distance between a parent's home country and a potential target country using geographic distance (Berry, Guillén, & Nan, 2010).<sup>3</sup> We draw firm-level control data from the ADI database and country-level control data from the World Bank's World Development Indicators. We lag all of the continuous control variables by 1 year and standardized them for regression analyses. Table 1 provides an overview of the variables used in the analysis.

### METHODOLOGY

We investigate the asset levels of foreign subsidiaries per parent firm, year, and host country using hierarchical linear regressions (Hox, Moerbeek, & Van de Schoot, 2017). The estimation technique for the resource allocation to a foreign subsidiary is a linear mixed effects model using the `lmer()` command (Croissant & Millo, 2018) in R. We executed the modeling strategy in an R 3.4.3. distribution (R-Core-Team, 2017). Linear mixed effects models allow us to use random intercepts and hence to consider hierarchical structures in our data. We use the political district as the random intercept in our model, given that we analyze immigration flows not to the whole country but to Austrian districts, and that the Austrian companies are clustered within these different districts. Formally, we estimate the amount of assets that firm  $i$  based in political district  $j$  commits to its subsidiaries in country  $l$  at time  $t$ , depending on the immigration from country  $l$  into the political district  $j$  at time  $t - 1$  with the random intercept on the political-district level  $j$ :

$$\text{Assets}_{ijlt} = \beta_0 + \beta_1 \cdot \text{controls}_{ijlt-1} + \beta_2 \cdot \text{immigration}_{jlt-1} + u_j + \varepsilon_{ijlt}$$



**Table 1** Variables used in the estimations

| Variable                             | Description  | Level  | Source                       |
|--------------------------------------|--|--|------------------------------|
| Host country assets (DV)             | Sum of all subsidiary assets in a host country (in EUR)  | Parent firm–host country–year                    | ADI                          |
| Migrant inflows (IV)                 | Migration inflow from subsidiary country into the parent firms' political district   | Host country–parent firm political district–year | Statistik Austria            |
| Policy instability (Moderator)       | POLCON (III) index (inverted) for the subsidiary country   | Host country–year                                | Henisz (2000)                |
| Anti-immigrant sentiment (Moderator) | Yearly growth in the share of votes for Austrian anti-immigrant parties  | Parent firm political district–year              | Austrian election database   |
| Greenfield investment                | Dummy indicating whether a subsidiary is a greenfield investment (1) or not (0) weighted by the subsidiaries' total assets in the subsidiary country if there is more than one subsidiary in a country | Host country–year                                | ADI                          |
| Ownership share                      | Parent firm's ownership share in subsidiary weighted by subsidiaries' total assets aggregated over the subsidiary country  | Parent firm–host country–year                    | ADI                          |
| Parent firm experience               | Number of years the parent firm has been active in the subsidiary country  | Parent firm–host country–year                    | ADI                          |
| Parent firm employees                | Employees employed by the parent firm  | Parent firm–year                                 | ADI                          |
| Host country GDP growth              | Nominal GDP growth in the subsidiary country   | Host country–year                                | World Bank                   |
| Host country GDP per capita          | Nominal GDP per capita in the subsidiary country (in USD)  | Host country–year                                | World Bank                   |
| Host country population              | Number of inhabitants of subsidiary country  | Host country–year                                | World Bank                   |
| Host country FDI inflows             | Net FDI inflows into subsidiary country (in current USD)   | Host country–year                                | World Bank                   |
| Geographic distance                  | Geographic distance between Austria and the subsidiary country   | Host country                                     | Berry, Guillén, & Nan (2010) |

**Table 2** Summary statistics

| Variable                           | <i>n</i> | Mean       | SD         | Min      | Max         |
|------------------------------------|----------|------------|------------|----------|-------------|
| Host country assets (billion)      | 13,788   | 0.079      | 0.340      | 0.00000  | 11.779      |
| Greenfield investment              | 13,788   | 0.507      | 0.500      | 0        | 1           |
| Ownership share                    | 13,788   | 0.907      | 0.189      | 0        | 1           |
| Parent firm experience             | 13,788   | 13.962     | 14.885     | 0        | 171         |
| Parent firm employees              | 13,788   | 596.489    | 3,252.564  | 0        | 73,008      |
| Host country GDP growth            | 13,788   | 2.184      | 3.430      | – 14.814 | 25.557      |
| Host country GDP per capita        | 13,788   | 29,717.560 | 19,481.460 | 850.293  | 111,968.300 |
| Host country FDI inflows (billion) | 13,788   | 47.660     | 77.934     | – 29.679 | 734.010     |
| Host country population (million)  | 13,788   | 106.721    | 269.858    | 0.399    | 1,371.220   |
| Geographic distance                | 13,788   | 2,053.152  | 3,061.873  | 176.520  | 18,347.970  |
| Anti-immigrant sentiment           | 13,788   | 0.060      | 0.143      | – 0.132  | 0.829       |
| Policy instability                 | 13,788   | 0.570      | 0.140      | 0.282    | 1.000       |
| Migrant inflows                    | 13,788   | 96.908     | 196.192    | 0        | 5,748       |

To understand the contingency of the relationship between immigration and resource commitment, we decompose the coefficient  $\beta_2$  depending on the policy instability in the immigrants' home

country  $l$  at time  $t - 1$ , and the anti-immigrant sentiment in political district  $j$  at time  $t - 1$ :

$$\beta_2 = \gamma_0 + \gamma_1 \cdot \text{policy instability}_{lt-1} + \gamma_2 \cdot \text{anti-immigrant sentiment}_{jt-1}$$

**RESULTS**

Table 2 shows the summary statistics for the unstandardized data in our analysis. The foreign subsidiaries in our analysis have (on average) assets of about 79 million EUR, and half of them are greenfield investments. The average ownership share parent companies hold is about 91%, indicating that the parent firms in our sample have a high degree of control in their subsidiaries. For the parent firms' experience as well as employees, the sample shows a great variety: on average the parent companies have been active in the host country for 14 years, but there is a substantial range (from 0 to 171 years). The average firm in the sample has 596 employees. The host countries in our data have a yearly average growth rate in GDP of 2.2 percent, a GDP per capita of 29,717 USD, 47.6 billion USD of FDI inflows per year, and a population of 106 million people. The economic development as well as the size vary greatly across the host countries, also including the geographic distance from Austria. The sample shows a medium policy instability (0.570) concerning the host countries, with measures from 0.282 (very low policy instability, 0 being the lowest score) and 1.000 (the highest possible policy instability). We also consider two variables on the political-district level, i.e., migration inflows and the growth in right-wing party support. On average, 100 people migrated to the political district where a parent firm is located from the subsidiary country. The yearly growth in right-wing support has a mean of 6.0 percent, with values ranging from negative numbers to an increase of 83 percent from 1 year to the next. Table 3 shows partial correlations among the variables in this study.

Table 4 reports the results of the empirical models we use to test the hypotheses developed above. We use hierarchal linear models to account for random effects at the political-district level. All models in this table include these random intercepts. Model 1 is the control model, which includes only the control variables. All coefficients except GDP growth and host-country population have a significant effect on firms' resource commitment. If subsidiaries are greenfield investments, if parent firms have high ownership share, and if investments are distant, we observe a negative influence on firms' resource commitments to subsidiaries. The size of the parent firm, its experience and the economic development including GDP per capita and FDI inflows positively affect the parent firms' commitment.

**Table 3** Pairwise correlations

|                                   | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     |
|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Host country assets (bn) (1)      | 1      | -0.071 | -0.186 | 0.081  | 0.090  | -0.021 | 0.030  | 0.006  | -0.009 | -0.061 | -0.035 | -0.048 | 0.124  |
| Greenfield investment (2)         | -0.071 | 1      | 0.156  | 0.123  | -0.034 | 0.079  | -0.135 | 0.068  | 0.097  | 0.103  | 0.076  | 0.117  | -0.065 |
| Ownership share (3)               | -0.186 | 0.156  | 1      | 0.031  | 0.007  | -0.008 | 0.036  | 0.040  | -0.030 | 0.041  | -0.012 | -0.034 | -0.063 |
| Parent firm experience (4)        | 0.081  | 0.123  | 0.031  | 1      | 0.003  | -0.086 | 0.076  | 0.007  | -0.047 | -0.117 | -0.070 | -0.069 | 0.214  |
| Parent firm employees (5)         | 0.090  | -0.034 | 0.007  | 0.003  | 1      | -0.004 | 0.002  | -0.006 | 0.005  | -0.003 | -0.021 | -0.007 | -0.017 |
| Host country GDP growth (6)       | -0.021 | 0.079  | -0.008 | -0.086 | -0.004 | 1      | -0.193 | 0.155  | 0.409  | 0.248  | 0.261  | 0.276  | -0.103 |
| Host country GDP per capita (7)   | 0.030  | -0.135 | 0.036  | 0.076  | 0.002  | -0.193 | 1      | 0.207  | -0.232 | -0.085 | 0.017  | -0.243 | 0.144  |
| Host country FDI inflows (bn) (8) | 0.006  | 0.068  | 0.040  | 0.007  | -0.006 | 0.155  | 0.207  | 1      | 0.477  | 0.395  | 0.090  | 0.170  | 0.002  |
| Host country population (mn) (9)  | -0.009 | 0.097  | -0.030 | -0.047 | 0.005  | 0.409  | -0.232 | 0.477  | 1      | 0.467  | 0.004  | 0.423  | -0.054 |
| Geographic distance (10)          | -0.061 | 0.103  | 0.041  | -0.117 | -0.003 | 0.248  | -0.085 | 0.395  | 0.467  | 1      | -0.023 | 0.383  | -0.207 |
| Anti-immigrant sentiment (11)     | -0.035 | 0.076  | -0.012 | -0.070 | -0.021 | 0.261  | 0.017  | 0.090  | 0.004  | -0.023 | 1      | -0.002 | -0.034 |
| Policy instability (12)           | -0.048 | 0.117  | -0.034 | -0.069 | -0.007 | 0.276  | -0.243 | 0.170  | 0.423  | 0.383  | -0.002 | 1      | -0.116 |
| Migrant inflows (13)              | 0.124  | -0.065 | -0.063 | 0.214  | -0.017 | -0.103 | 0.144  | 0.002  | -0.054 | -0.207 | -0.034 | -0.034 | 1      |

**Table 4** Results of regression analysis

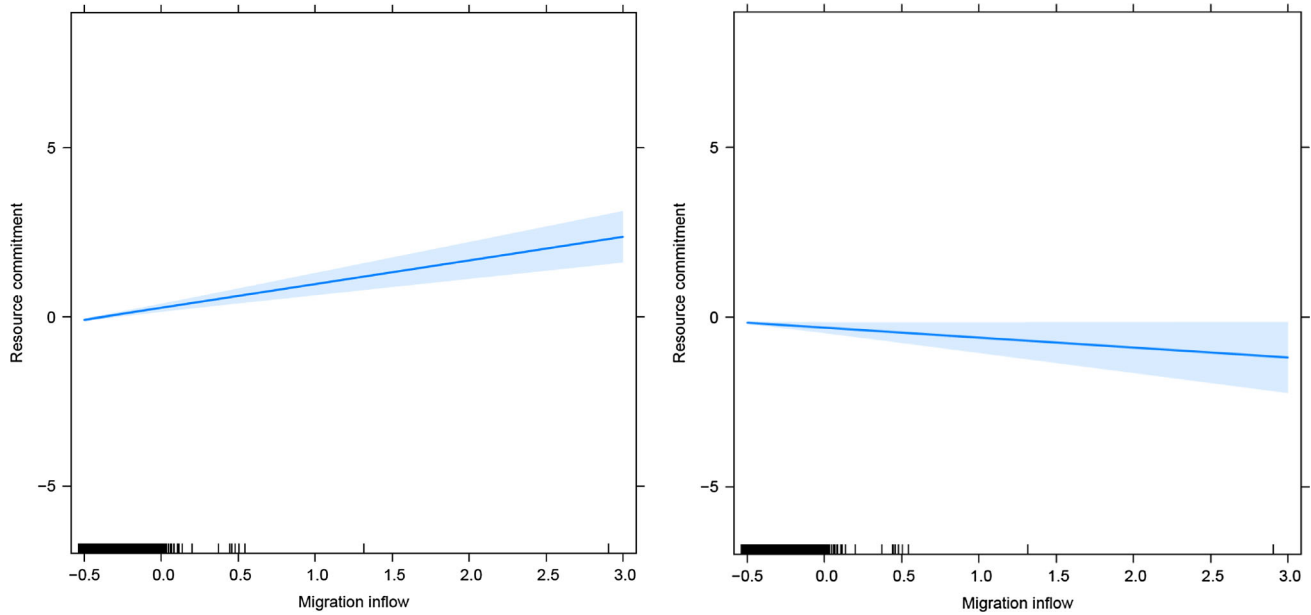
|  | (1)                   | (2)                   | (3)                   | (4)                   | (5)                   |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Constant                                   | – 0.086***<br>(0.013) | 0.063**<br>(0.020)    | 0.009<br>(0.023)      | 0.056**<br>(0.021)    | 0.010<br>(0.024)      |
| Ownership share                            | – 0.093***<br>(0.004) | – 0.092***<br>(0.004) | – 0.092***<br>(0.004) | – 0.097***<br>(0.005) | – 0.097***<br>(0.005) |
| Greenfield investment                      | – 0.040***<br>(0.008) | – 0.037***<br>(0.008) | – 0.035***<br>(0.008) | – 0.034***<br>(0.008) | – 0.032***<br>(0.008) |
| Parent firm experience                     | 0.041***<br>(0.005)   | 0.031***<br>(0.005)   | 0.031***<br>(0.005)   | 0.030***<br>(0.005)   | 0.030***<br>(0.005)   |
| Parent firm employees                      | 0.015***<br>(0.003)   | 0.016***<br>(0.003)   | 0.015***<br>(0.003)   | 0.015***<br>(0.003)   | 0.015***<br>(0.003)   |
| Host country GDP growth                    | – 0.002<br>(0.004)    | 0.0004<br>(0.004)     | 0.0002<br>(0.004)     | 0.002<br>(0.004)      | 0.002<br>(0.004)      |
| Host country GDP per capita                | 0.014**<br>(0.004)    | 0.011*<br>(0.004)     | 0.007<br>(0.004)      | 0.012**<br>(0.005)    | 0.008<br>(0.005)      |
| Host country FDI inflows                   | 0.015***<br>(0.004)   | 0.013**<br>(0.004)    | 0.012**<br>(0.004)    | 0.013*<br>(0.005)     | 0.012**<br>(0.005)    |
| Host country population                    | 0.005<br>(0.004)      | 0.002<br>(0.004)      | 0.005<br>(0.004)      | 0.002<br>(0.005)      | 0.005<br>(0.005)      |
| Geographic distance                        | – 0.017***<br>(0.004) | – 0.010*<br>(0.004)   | – 0.008<br>(0.004)    | – 0.011*<br>(0.004)   | – 0.009<br>(0.005)    |
| Migrant inflows                            |                       | 0.306***<br>(0.032)   | 0.205***<br>(0.038)   | 0.291***<br>(0.033)   | 0.204***<br>(0.040)   |
| Policy instability                         |                       |                       | – 0.161***<br>(0.031) |                       | – 0.143***<br>(0.033) |
| Migrant inflows × Policy instability       |                       |                       | – 0.285***<br>(0.061) |                       | – 0.248***<br>(0.064) |
| Anti-immigrant sentiment                   |                       |                       |                       | – 0.050***<br>(0.014) | – 0.039**<br>(0.014)  |
| Migrant inflows × Anti-immigrant sentiment |                       |                       |                       | – 0.091**<br>(0.028)  | – 0.069<br>(0.028)    |
| Observations                               | 14,507                | 14,507                | 14,507                | 13,788                | 13,788                |
| Random intercept                           | Yes                   | Yes                   | Yes                   | Yes                   | Yes                   |
| Log likelihood                             | – 8,676.730           | – 8,634.633           | – 8,623.293           | – 8,469.799           | – 8,461.665           |
| Akaike Inf. Crit.                          | 17,377.460            | 17,295.270            | 17,276.590            | 16,969.600            | 16,957.330            |
| Bayesian Inf. Crit.                        | 17,468.450            | 17,393.840            | 17,390.320            | 17,082.570            | 17,085.370            |

\*, \*\*, and \*\*\* represent statistical significance at the 0.05, 0.01, and 0.001 levels for two-sided tests, respectively. Standard errors in parentheses.

In Model 2, the migration inflow variable is added, with a positive and significant coefficient at the 0.001-level. This provides support for Hypothesis 1, which states that immigrants in a firm's environment positively affect the resource commitment into the immigrants' home countries. In Model 3, we add policy instability in the host country of a firm's investment and its moderation on the migration effect. We find a highly significant negative interaction, which provides support for Hypothesis 2. We include anti-immigrant sentiment as well as the interaction between this variable and immigration flows in Model 4. As hypothesized, higher anti-immigrant sentiment lowers the positive relationship between

immigration and parent firms' decisions about making commitments there.

In Model 5, we present the full model with all variables. All the effects are robust to the step-wise approach we take to testing. We focus the quantitative interpretation of the models on the full model (Model 5). Again, the migration inflow coefficient is highly significant at the 0.001-level and shows an effect of 0.204. This means that, in the case of an increase in migrant inflows of one standard deviation (and when the value for policy instability and anti-immigrant sentiment are 0, which is in our case their respective mean because variables are standardized in the regression analysis), firms' resource commitment in the migrants' home country increases by 0.204 standard



**Figure 2** Effect plots for the moderating effect of policy instability on the relationship between immigration and resource commitment to a subsidiary abroad. The *left panel* shows the effect of immigration on resource commitments to subsidiaries abroad if the policy uncertainty there is low (mean

minus two standard deviations), and the *right panel* shows the same relationship for high policy instability (mean plus two standard deviations). The model underlying this plot is Model 5 in Table 4.

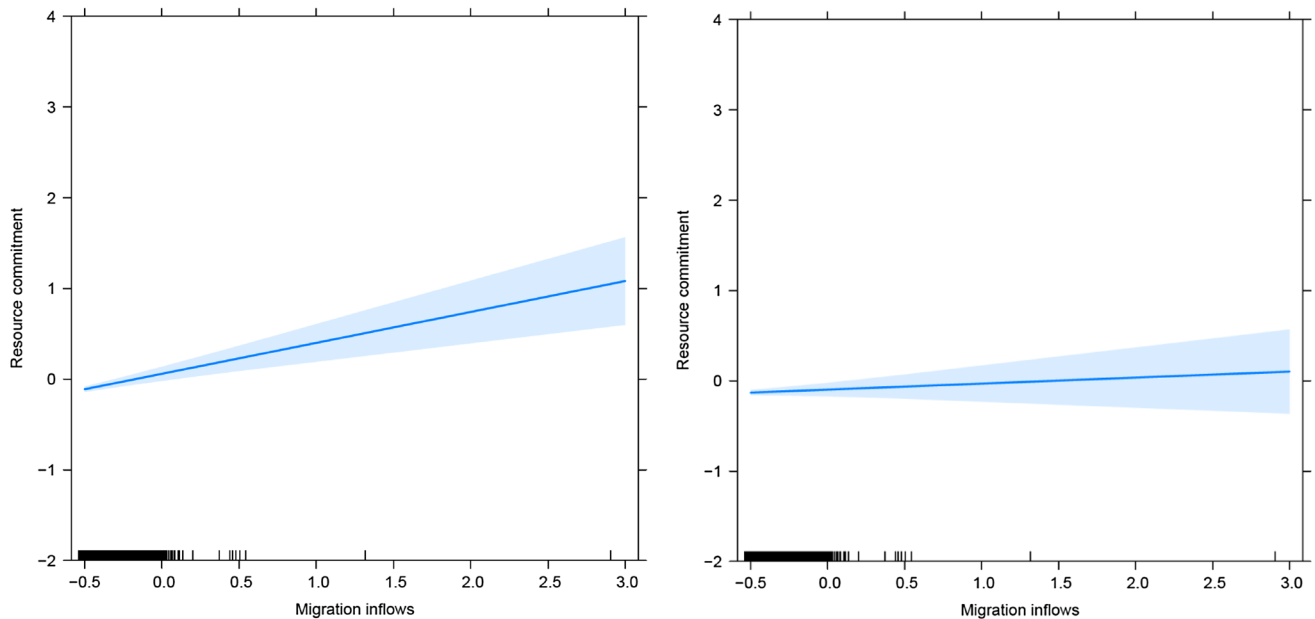
deviations. The positive effect of migration inflows on firms’ resource commitment to the migrants’ home country is negatively influenced by policy instability in the migrants’ home country and anti-immigrant sentiments in the firms’ home country.

Figures 2 and 3 show how the positive effect of immigration on resource commitments in firms’ target countries is contingent on policy instability in the target country, and the anti-immigrant sentiment the local population has at the firm’s location. The left panel of Figure 2 shows a strong positive effect of immigration on firms’ resource commitments if policy instability in the subsidiary country is low (two standard deviations below the mean). The right panel of Figure 2 shows that this positive effect is eliminated if policy instability in the subsidiary country is high (two standard deviations above the mean). The left panel of Figure 3 shows a significantly positive effect of immigration inflows on resource commitment if the anti-immigrant sentiment of the local population is low (two standard deviations below the mean). The right panel of Figure 3 again shows that this positive effect decreases if the anti-immigrant sentiment is high (two standard deviations above the mean).

The economic effect of the mechanisms suggested here is quite substantial. An increase in one

standard deviation in immigration flows increases the asset allocation to a foreign country by almost 60 million EUR. If we compare two firms from districts that face extremely different immigration flows, this variable explains substantial differences in economic commitment. As both moderating variables eliminate the main effect for scenarios in which policy uncertainty and anti-immigrant sentiment are high, the economic effects of the moderators are also quite substantial. Because policymakers can manage these effects, we believe that the economic consequences of appropriate policies in this regard are also substantial. We return to this finding in the “Discussion and Conclusions”. The variables suggested by Hypotheses 1–3 contribute tremendously to model fit. The improvement in model fit from Model 1 in Table 4 to Model 5 in Table 4 represents an increase in deviance of almost 430 points, which is statistically highly significant ( $p < 0.000001$ ).

We conducted several additional analyses to assess the robustness of the results in Table 4 and Figures 2 and 3. First, we vary the estimation method to a simple ordinary least squares (OLS) regression. The results are presented in Table 5 (Models 1–4) where we find similar results to those in Table 4. Second, we limit the sample to foreign



**Figure 3** Effect plots for the moderating effect of anti-immigrant sentiment on the relationship between immigration and resource commitment to a subsidiary abroad. The *left panel* shows the effect of immigration on resource commitments to subsidiaries abroad if the anti-immigrant sentiment is low (mean

minus two standard deviations), and the *right panel* shows the same relationship for high anti-immigrant sentiment (mean plus two standard deviations). The model underlying this plot is Model 5 in Table 4.

subsidiaries located in non-EU countries. As the EU is characterized by a common economic zone, internationalization and the establishment of FDI in foreign EU countries provides lower uncertainty and risk for companies. Moreover, knowledge flows quite easily and frequently between the member countries. As conditions in non-EU countries are different from the prevailing conditions in EU countries, companies require more knowledge to reduce their uncertainty. Table 5 reports results for the same models as in Table 4, but for investments in non-EU countries (Models 5–8). Again, the results are statistically equivalent to the results in Table 4. Third, we use an alternative host-country instability measure. We use the political risk measure of the International Country Risk Guide from the PRS Group. The last two models in Table 5 show results with this measurement and we find similar results as in Table 4. This shows that also political instability has a negative effect on the immigration-commitment relationship.

## DISCUSSION AND CONCLUSIONS

This paper argues that immigrants provide companies with valuable knowledge about their home countries. Firms may particularly benefit from this

knowledge when they have subsidiaries in those countries. Because immigrants' knowledge reduces uncertainty regarding the host markets, firms can more efficiently control investments in immigrants' home countries. Consequently, firms will commit more resources to those countries. Moreover, we argue that the effect of immigrants' knowledge on a firm's resource allocations abroad is contingent on the environment both in the immigrants' and the firm's home environments. This is because an unstable environment in the immigrants' home countries will make the knowledge advantage immigrants provide less valuable, and because knowledge sharing between immigrants and local firms is reduced if anti-immigrant sentiment is prominent in firms' home environments.

Our finding regarding the direct and positive effect of immigration on resource commitment mirrors existing findings in the literature. Javorcik et al. (2011) and Foley and Kerr (2013) found that immigration to the U.S. increases total assets of foreign subsidiaries of U.S. firms in the migrants' home country. Similarly, Kugler and Rapoport (2007) conclude that immigration leads to higher FDI outflows to immigrants' home countries. We add to those findings both conceptually and



empirically. First, we integrate KBV-based reasoning (Kogut & Zander, 1992; Wiklund & Shepherd, 2003; Zander & Kogut, 1995) as a conceptual backbone to the mechanism that connects immigration and firms' resource allocations. Second, we provide a substantially more detailed analysis than previous studies: we conceptualize and measure migration on the district level (rather than the country level) and capture FDI on the subsidiary level (rather than the firm or country levels) across all investment locations of a firm.

The reasoning for both moderating variables is based on the logic of the flow of knowledge: immigrants need to collect relevant knowledge in their home countries and it must be made available to firms in immigrants' host countries. We connect the KBV with the institution-based view from the field of international business (Mudambi & Navarra, 2002; Peng, Sun, Pinkham, & Chen, 2009) in the development of Hypothesis 2 and Hypothesis 3. We extend recent research on the relationship between migration effects and institutions. For example, Shukla and Cantwell (2018) discuss the importance of the institutional environment for how immigration influences knowledge flows between the home and the host country. Also, Li, Hernandez, and Gwon (2019) introduce an institutional lens into migration research and propose under which institutional conditions, positive migration effects are most beneficial. In Hypothesis 2, we suggest that the value of immigrants' host-country knowledge to internationalizing firms is limited in unstable host-country conditions. This is because experientially acquired knowledge and knowledge derived from networks become less accurate when environments change. This finding connects this paper with research on experiential learning and specifically on knowledge recombination. To benefit from their knowledge when expanding in a given country, firms need to adjust their knowledge base to the conditions prevailing in that country, through a process of knowledge recombination (Hutzschenreuter, Voll, & Verbeke, 2011; Kogut & Zander, 1992). Such recombination is arguably more complex if the policy environment in a target country is in flux. To some extent, the support of Hypothesis 2 may also reflect that non-FDI activities (such as exporting, licensing, etc.) might be more appropriate options in such environments. While central to many theories, such as real options (Brouthers, Brouthers, &

Werner, 2008) or internationalization theory (Johanson & Vahlne, 1977), this contingency should be the topic of future research.

We base Hypothesis 3 on the argument that firms are able to absorb less knowledge from immigrants under anti-immigrant sentiment. Our empirical findings supporting this reasoning extend findings from the area of knowledge flows within multinational corporations, specifically the phenomenon of absorptive capacity (e.g., Cohen & Levinthal, 1990; Minbaeva, Pedersen, Björkman, Fey, & Park, 2003). We conceptualize anti-immigrant sentiment as an institutional factor that reduces the ability to absorb immigrant knowledge. Moreover, due to the consideration of immigration flows to sub-national entities (i.e., political districts), we add to the debate of extending the national-state view to smaller geographical clusters (Iammarino, 2018). In summary, our findings highlight the relevance of integrating home- and host-country-specific institutional factors to understand the potential for firms to derive benefits from immigrants' knowledge (Cuervo-Cazurra, Luo, Ramamurti, & Ang, 2018).

This paper uses a comprehensive dataset of firms' resource allocations to its subsidiaries. We believe the high level of granularity (subsidiary level) and the extensive size of the dataset (more than 13,000 nonzero observations) allow us to unpack mechanisms that several theoretical perspectives in previous literature suggest. This dataset allows a detailed analysis that incorporates a broad set of control variables on the subsidiary, firm, and country levels. We believe the empirical setting is well suited for an analysis of how migration influences resource allocations, for several reasons. First, the firm's home country has one of the largest immigrant populations relative to its overall population in the developed world. Second, immigration patterns in Austria are quite diverse as a function of political districts and immigrants' home countries. Third, Austria is an open economy with a large share of international value-adding activities in its GDP, and a strong integration into global value chains. Furthermore, the economic structure is heterogeneous, with small- and medium-sized firms dominating the economy overall, but to a lesser degree in urban than in rural areas. Because Austria's central bank collects the data, firms are legally required to accurately report figures at the subsidiary level. This indicates that



Table 5 Robustness checks

|  | (1)                  | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  | (9)                  | (10)                 |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Constant                                   | 0.098***<br>(0.015)  | 0.051**<br>(0.018)   | 0.089***<br>(0.015)  | 0.049**<br>(0.019)   | 0.150***<br>(0.024)  | 0.170***<br>(0.025)  | 0.188***<br>(0.026)  | 0.238***<br>(0.028)  | 0.066<br>(0.037)     | 0.037<br>(0.040)     |
| Ownership share                            | -0.091***<br>(0.004) | -0.091***<br>(0.004) | -0.096***<br>(0.005) | -0.096***<br>(0.005) | -0.046***<br>(0.010) | -0.045***<br>(0.010) | -0.036**<br>(0.011)  | -0.035**<br>(0.011)  | -0.042***<br>(0.004) | -0.045***<br>(0.004) |
| Greenfield investment                      | -0.040***<br>(0.008) | -0.039***<br>(0.008) | -0.036***<br>(0.008) | -0.035***<br>(0.008) | -0.049*<br>(0.021)   | -0.050*<br>(0.021)   | -0.044<br>(0.023)    | -0.043<br>(0.023)    | -0.034***<br>(0.007) | -0.031***<br>(0.007) |
| Parent firm experience                     | 0.041***<br>(0.005)  | 0.041***<br>(0.005)  | 0.039***<br>(0.005)  | 0.039***<br>(0.005)  | 0.044**<br>(0.017)   | 0.042*<br>(0.017)    | 0.055**<br>(0.019)   | 0.051**<br>(0.019)   | 0.029***<br>(0.004)  | 0.028***<br>(0.005)  |
| Parent firm employees                      | 0.033***<br>(0.003)  | 0.033***<br>(0.003)  | 0.033***<br>(0.003)  | 0.032***<br>(0.003)  | 0.025**<br>(0.009)   | 0.026**<br>(0.009)   | 0.023*<br>(0.009)    | 0.024**<br>(0.009)   | 0.013***<br>(0.003)  | 0.013***<br>(0.003)  |
| Host country GDP growth                    | 0.001<br>(0.004)     | 0.004<br>(0.004)     | 0.005<br>(0.004)     | 0.005<br>(0.004)     | 0.027**<br>(0.010)   | 0.027**<br>(0.010)   | 0.031**<br>(0.011)   | 0.033**<br>(0.012)   | -0.009*<br>(0.004)   | -0.006<br>(0.004)    |
| Host country GDP per capita                | 0.002<br>(0.004)     | -0.002<br>(0.004)    | 0.003<br>(0.004)     | -0.001<br>(0.004)    | -0.020*<br>(0.009)   | -0.021<br>(0.009)    | -0.026**<br>(0.010)  | -0.029**<br>(0.010)  | 0.009<br>(0.006)     | 0.007<br>(0.006)     |
| Host country FDI inflows                   | 0.012**<br>(0.004)   | 0.011*<br>(0.004)    | 0.013**<br>(0.005)   | 0.012*<br>(0.005)    | 0.013<br>(0.011)     | 0.014<br>(0.011)     | 0.012<br>(0.012)     | 0.014<br>(0.012)     | 0.009*<br>(0.004)    | 0.009*<br>(0.004)    |
| Host country population                    | 0.0002<br>(0.004)    | 0.003<br>(0.004)     | -0.001<br>(0.004)    | 0.002<br>(0.005)     | -0.028***<br>(0.008) | -0.028**<br>(0.008)  | -0.031***<br>(0.009) | -0.032***<br>(0.009) | 0.013**<br>(0.004)   | 0.013**<br>(0.004)   |
| Geographic distance                        | -0.014***<br>(0.004) | -0.013**<br>(0.004)  | -0.016***<br>(0.004) | -0.014**<br>(0.005)  | -0.020*<br>(0.008)   | -0.020*<br>(0.008)   | -0.028**<br>(0.009)  | -0.030**<br>(0.009)  | -0.006<br>(0.004)    | -0.007<br>(0.004)    |
| Migrant inflows                            | 0.323***<br>(0.030)  | 0.230***<br>(0.036)  | 0.305***<br>(0.031)  | 0.227***<br>(0.037)  | 0.388***<br>(0.036)  | 0.428***<br>(0.039)  | 0.431***<br>(0.040)  | 0.529***<br>(0.047)  | 0.300***<br>(0.047)  | 0.234***<br>(0.049)  |
| Policy instability                         |                      | -0.154***<br>(0.032) |                      | -0.134<br>(0.033)    |                      | -0.036**<br>(0.013)  |                      | -0.069***<br>(0.015) | -0.020<br>(0.024)    | -0.057*<br>(0.025)   |
| Migrant inflows × Policy instability       |                      | -0.271***<br>(0.061) |                      | -0.231***<br>(0.064) |                      | -0.070**<br>(0.026)  |                      | -0.131***<br>(0.031) | -0.040<br>(0.047)    | -0.103*<br>(0.049)   |
| Anti-immigrant sentiment                   |                      |                      | -0.055***<br>(0.014) | -0.044**<br>(0.014)  |                      |                      | -0.024<br>(0.020)    | -0.027<br>(0.020)    |                      | -0.047***<br>(0.012) |
| Migrant inflows × Anti-immigrant sentiment |                      |                      | -0.086**<br>(0.028)  | -0.066*<br>(0.029)   |                      |                      | -0.077<br>(0.039)    | -0.078*<br>(0.039)   |                      | -0.077***<br>(0.023) |
| Observations                               | 14,507               | 14,507               | 13,788               | 13,788               | 7,171                | 7,171                | 6,334                | 6,334                | 13,047               | 12,331               |
| Random Intercept                           | No                   | No                   | No                   | No                   | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  |

Models 1–4 show the results on the data used for the main analysis for OLS regressions; Models 5–8 show the results for Austrian firms' investments in non-EU countries with random intercepts at the political-district level; Models 9–10 show the results with ICRG as an alternative measurement for policy instability including random intercepts at the industry and political-district level. \*, \*\*, and \*\*\* represent statistical significance on the 0.05, 0.01, and 0.001 levels for two-sided tests, respectively. Standard errors in parentheses.



data quality is superior to commercially available databases.

The empirical strategy this paper employs isolates cases in which immigrants enter political districts that are not strongly connected globally, following the logic of global cities. The findings in support of a general positive effect of immigration on resource commitments in immigrants' home countries by local firms are robust across different estimation techniques and samples. The degree to which immigrants' knowledge is representative of the political environment in their home countries at the time of an investment decision moderates (Hypothesis 2) the positive main effect of immigration on resource commitments (Hypothesis 1). The readiness of the local community to absorb immigrants' knowledge is a significant contingency of the main effect (Hypothesis 3). While our measures for Hypothesis 2 and Hypothesis 3 only capture parts of the country-specific knowledge that migrants carry and transfer, our results indicate that both variables fully eliminate the positive effect of immigration on firms' resource commitment in the immigrants' home country.

Our paper makes a number of important contributions to International Business theory and business practice. We believe this is the first paper to connect migration with the KBV, both conceptually and empirically on a subsidiary level. Based on our assessment, the KBV logic is important to understand the relevance of migration for internationally active firms (or firms that intend to internationalize). This paper, hence, makes an important contribution to International Business theory by integrating the KBV with existing institutional perspectives on uncertainty and risk in the context of firm internationalization. It highlights how dimensions of home- and host-country policy influence the extent to which immigrants' knowledge is relevant to firm internationalization. We demonstrate that research needs to consider an institutional perspective on both ends of migration: where people come from and where they go, and that migration is (similar to distance) a two-end-point construct. Although recent literature has highlighted the importance of the institutional environment for immigrants' knowledge flows (Li et al., 2019; Shukla & Cantwell, 2018), we believe this paper is among the first to connect the two end-points in a coherent conceptual model on a

high level of granularity and based on a consistent theoretical angle.

This paper also leads to numerous policy implications. In Hypothesis 1, we propose that immigrants transfer valuable knowledge about their home country to local firms, which increases firms' resource commitment in these countries. This leads to the following three policy implications: First, most developed countries currently base migration policies on education or industry-specific competencies. However, our results point to the relevance of migrants' country knowledge as a relevant source of knowledge in the process of firm internationalization. The origin of immigration flows could therefore be a factor in national investment strategies, and migration management systems could be managed accordingly. To benefit from this knowledge, countries might consider aligning immigration policy with firms' internationalization patterns. In this sense, it is important for policymakers to have an understanding of the relevance of foreign markets for local firms, either in terms of providers of inputs, or in terms of target markets for outputs. Second, to benefit from migrant knowledge, immigration barriers should be lowered for immigrants from countries that are central to the international operations of firms in a specific home country. Especially, countries characterized by high risk and a low level of FDI often provide major opportunities for companies. Nevertheless, the level of knowledge about those countries is often very limited in developed markets. Therefore, policymakers could provide lower immigration restrictions specifically for people from such countries in order to increase the knowledge pool in the firms' home country with regard to those countries. Third, immigration from those countries can also be actively fostered. This may increase the size of knowledge pools from which local firms can benefit.

The connection of KBV with an institutional perspective introduces an additional policy dimension to the paper. It highlights how home- and host-country policies can influence the extent to which immigrants' knowledge is relevant to firm internationalization. In Hypothesis 2, we argue that policy uncertainty in the target country reduces the positive effect of immigration on resource allocations to immigrants' home countries. Although we look only at one specific dimension of the





environment (i.e., policy), the effect is strong enough to eliminate the positive effect of immigration on resource commitment. High migration inflows from unstable countries are necessary to maintain information advantages derived from immigration. Constant immigration assures that companies can access relevant and up-to-date information. Policymakers could therefore promote steady immigration from those countries in order to guarantee a continuous knowledge inflow.

In Hypothesis 3, we argue that, under circumstances of high anti-immigrant sentiment, firms can benefit less from immigration. This result suggests that low acceptance of immigrants hampers the transfer of knowledge from the immigrants to the local community and hence the companies. This leads to policy implications on two levels. First, policymakers can inform and educate the local communities about the potential benefits of immigration for the local economy. They can highlight, for example, that immigration from countries that are relevant for local firms' internationalization leads to more international economic activity. This, in turn, increases economic output and employment. Second, policymakers can support the integration of immigrants into the local community and their new environment. This may reduce negative sentiment towards immigrants. Policymakers may, for example, consider setting up a knowledge exchange between immigrants and firms in order to overcome barriers to knowledge absorption present in locations with strong anti-immigrant sentiment. The result of Hypothesis 3 is also relevant for policymakers because firms might base location decisions on this information. Firms with significant international economic activity or firms that have the strong strategic intention to improve their international markets presence have a knowledge incentive to locate in regions with comparatively low anti-immigrant sentiment. As districts compete to some extent for firm investments to create employment, demand, and infrastructure, this may provide a competitive disadvantage for districts with high anti-immigrant sentiment.

This paper also has some limitations, which may provide avenues for future research. First, it looks only at immigration, instead of a combination of immigration and emigration, which may provide even deeper insights into how migrants influence the global economy at a firm level. Future studies

could investigate the different effects emigration can have on the knowledge available in the companies' home country versus the knowledge effects this has in the host country. Second, this study is empirically limited to Austria, which has some characteristics that limit generalizability. It is located in the developed world, which may influence how the knowledge that immigrants carry influences internationalization. Austria is also a relatively small country with an economy dominated by small- and medium-sized enterprises, and its immigration and labor policies are rather strict. Studies that do not limit the companies' home country to only one country would therefore provide additional insights into this issue. Furthermore, investigating this topic in the context of the developing world (e.g., South–South migration, or North–South migration) would contribute to theoretical development. Third, this paper looks at resource allocations to foreign subsidiaries, not at subsidiary performance or other strategic variables such as entry mode. We therefore encourage future studies to look at how immigrants' knowledge influences the success of foreign operations which would, besides an important theoretical advancement, also lead to central practical implications. Finally, this paper uses an empirical methodology that allows comparisons between many firms. However, a qualitative methodology may produce more insight into the mechanisms that govern the positive effect of immigration on resource commitment that this paper outlines in broad terms.

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### NOTES

<sup>1</sup>Registration of residence is compulsory in Austria, and tied to the receipt of social benefits and work permits.

<sup>2</sup>BZÖ (Alliance for the Future of Austria) and FPÖ (Freedom Party of Austria) are Austrian right-wing parties supporting immigration restrictions to Austria.



<sup>3</sup>Because geographic distance is a symmetric concept based on a two-dimensional surface, it is

not exposed to the “one-country problem” in distance studies.

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