

Beyond Culture: How does international migration affect cross-border mergers and acquisitions?

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Abstract

We provide direct evidence that higher migrant stock from an acquiring country to a target country leads to higher deal frequency and dollar volume in cross-border acquisitions after controlling for their cultural distances. Instruments derived from the interactions between the variations in factors affecting migration are used to mitigate endogeneity in migration. The results suggest that immigrants can counter the adverse impacts of cultural differences on cross-border deals, especially when countries are culturally distant. Migrant networks are also shown to alleviate information asymmetry surrounding acquisitions and facilitate deals exposed to potentially high post-merger integration costs. Furthermore, higher migrant stock is associated with higher synergy gains and higher deal completion rates. In short, international migration helps firms to extend beyond national borders.

Keywords: Cross-border mergers and acquisitions; national culture; international migration

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1. Introduction

Failure to understand cultural differences has often been blamed for many disastrous consequences of cross-border mergers and acquisitions (M&As)¹. Unlike domestic acquirers, foreign acquirers have to deal with unfamiliar business environments and to face different political and regulatory regimes. More importantly, managers and employees of acquiring firms often need to interact and coordinate with their counterparts in target firms, and to liaise with governments and local communities to succeed. As shown in a recent paper by Ahern, Daminelli, and Fracassi (2015), differences in national culture strongly hinder cross-border acquisitions. In this paper, we show that the existence of a migrant network can counteract the impediments of such differences. As a result, a higher number of immigrants leads to a higher volume of cross-border deals and a higher likelihood of successful deal completion, especially when countries are culturally distant.

Immigration can, directly and indirectly, influence cross-border acquisitions. Immigrants possess the advantage of social contacts, knowing financial markets, and understanding the cultures of the host and home countries. The existence of migrant stock may enlarge the potential pool of suitable employees, consultants, investment bankers, and other professionals who are likely to be involved in negotiations and post-merger integration. The presence of immigrants is also indirectly associated with increased cultural exchanges and casual encounters between citizens of the two countries. Learning different languages, experiencing cultures and economic systems are also promulgated. All of these factors contribute to reduced transaction costs associated with choosing suitable targets, facilitating deal negotiations, and successful post-merger integration. Therefore, we expect that the existence of a migrant network could counter the adverse impacts of cultural differences between nations.

In this study, we mainly evaluate the effect of inbound international migration, seen from the perspective of a recipient country that accepts the inflow of both immigrants and capital from their country of origin. Specifically, we examine whether the migrant stock will influence the decisions made by acquirers when seeking targets abroad. Based on a large sample of M&As across 52 countries, we find that increasing migration from the original

¹ One of the examples is illustrated in the following case study. When the Daimler-Chrysler merger fell apart in 2007, cultural conflict was considered to have played a major role in its failure.

<https://www.crossculture.com/latest-news/cross-cultural-issues-at-the-daimlerchrysler-merge-case-study/>

(acquiring) country to the destination indeed enhances M&As between the two countries. In particular, an increase from the 25th percentile to the 75th percentile in the number of inbound migrant stock in 1990 is associated with 1.91% increase in subsequent deal frequency between 1991 and 2014, or an increase of 29% from the mean ratio (6.5%) of cross-border deal frequency relative to domestic deals in our sample. This economic significance is also found for dollar volume at the country-pair level, and for synergy gains at the deal level. Our findings hold after controlling for common country-level factors that are identified as being the determinants of cross-border mergers in the prior literature, such as differences in population growth, financial development, and GDP growth; differences in legal environments; differences in geography, bilateral trade, stock market valuation, and currency appreciations; and differences in language, religion and cultural values (Rossi and Volpin, 2004, Erel, Liao, and Weisbach 2012, Ahern, Daminelli, and Fracassi, 2015).

The identification of the impact of international migration on cross-border activities is hindered by endogeneity. Although we match mergers with lagged migrant stock at the country-pair level to mitigate reverse causality, unobserved common factors could cause both acquiring capital and migrants to flow into a specific target country during the same period. Especially significant are those factors arising from government policy changes. These simultaneous changes cannot be sufficiently captured by common country-level macroeconomic or institutional factors. To identify the causal effect of the inbound migrant stock on cross-border acquisitions, we construct the instrumental variables (IVs) by modifying the evolutionary country-pair migrant stock equation proposed in Burchardi, Chaney and Hassan (2018): the migrant stock at time t from an origin (acquiring) country to a destination (target) country is equal to the lagged migrant stock at $t-1$ plus the migrant flow between $t-1$ and t adjusted for biases caused by births and deaths. The migrant flow depends on (1) push factors, causing migration from the origin country to the rest of the world due to policy changes or diminished domestic social and economic opportunities; and (2) pull factors, attracting migrants from all other countries into the destination country due to its favorable immigration policy, stable political regime, and better economic opportunities². The interaction terms between origin-specific push factors and destination-specific pull factors generate quasi-random time-series variations in the allocation of migrants across the world when we exclude

² For a detailed analysis of the push and pull factors of international migration from a selection of developing countries to the European Union, see Schoorl et al. (2000). Burchardi et al. (2018) also give an account of the historical waves of European migrations to the U.S.

the country-pair specific push and pull factors from the variations.³ These instrumental variables are shown to be highly correlated with the inbound migrant stock, hence satisfying the relevance condition; and the deeply-lagged (at least 10 years) push and pull factors ensure that the instruments are predetermined, hence satisfying the exclusion condition.

We next investigate cross-sectional heterogeneity and time-serial variations in our IV approach. It is possible that not every country-pair in our sample responds to the treatment of the constructed instruments, and our results might be restricted to those countries that are most attractive to migrants and international capital flows, such as the U.S., Canada, or Germany. To address this concern, we restrict our analysis to various subsamples, for instance, a sample including deals with neither the U.S. acquirers nor the U.S. targets; samples having the deals completed either within or outside the EU countries; and samples with the deals completed either within or outside the OECD countries, respectively. To test further whether our IV approach is valid in using migrant stock from different sample periods, we employ a rolling-window approach, matching the migrant stock at the end of 1980, 1990 and 2000 to the cross-border deals in 1991-2000, 2001-2010, and 2011-2014, respectively. We identify an exogenous shock in migrant stock resulting from the changes in immigration policy in several European countries following the 1970's oil crisis and so besides the above IV approach we conduct additional "change-in-change" analysis. Our results consistently support a direct link between international migration and cross-border acquisitions.

We explore three possible channels through which international migration might affect cross-border deals. The guiding principle of the investigation is based on a cost-benefit analysis. As mentioned earlier, cultural differences impose additional transaction costs in these deals (Ahern, Daminelli, and Fracassi, 2015). Thus, we first test the impact of cultural distance at country-pair level using a number of measures of national culture constructed from both Hofstede (1980, 2001) and the World Value Surveys. We find that the inbound migrant stock has a positive effect on the frequency and dollar volume of cross-border deals, especially when the two countries are culturally distant. But more importantly, after controlling for cultural distance, the impact of international migration on cross-border deals remains statistically and economically significant.

³ For example, when considering Japanese firms acquiring American targets, we consider the interactions between the forces "pushing" people out of Japan to all other countries except America and the forces "pulling" people from all other countries except Japan into America. Such "leave-out" instruments are most likely independent of unobservable country-pair factors (i.e. Japan-U.S. country-pair specific factors in the example) that drive both immigration and cross-border deals to move within the country-pair simultaneously.

Secondly, lack of information and unfamiliarity with a foreign country especially in the processes of target selection and due diligence increase the difficulties and uncertainties of mergers. Social networks between acquiring and target countries formed by migrants are likely to enhance the information available for cross-border M&As, and hence mitigate information asymmetry. However, the effectiveness of such networks can be subtle, and difficult for outsiders to recognise. Therefore acquiring firms that seek potential cross-border deals may favor those nations that receive a greater number of immigrants from their home country, since they could rely on the migrant networks and put trust in people with whom they are better connected through stronger ethnic ties. We would expect that the effect of these social networks should be greater where the problem of information asymmetry during mergers is more severe. Our empirical evidence indicates that the impact of international migration is more pronounced where the targets are privately-held rather than publicly-listed; where acquirers and targets are in different industries; and where targets are in industries that are identified as informationally more complex.

Thirdly, integration of human capital is likely to be particularly important in cross-border mergers and acquisitions⁴. Successful integration requires managers and employees from different countries to collaborate with each other: Staff from both sides may need to be re-trained in order for them to work effectively as teams in different environments. Hence, we expect that the impact of immigration is more significant if the target is in labor-intensive industries since the anticipated integration costs through restructuring and employee retraining are generally higher for these industries. Further, successful mergers rely on the specialized knowledge of key employees and managers of acquirers to improve the operational efficiency of the combined firms (Li, Qiu, and Shen, 2018). This type of knowledge, or “organization capital” (Prescott and Michael, 1980, Evenson and Westphal, 1995) is crucial in facilitating the effective combination of human capital and physical capital in production (Eisfeldt and Papanikolaou, 2013), especially in cross-border mergers. We expect that the impact of international migration is stronger if the acquirer is in an industry with higher organization capital since acquirers are more likely to depend on their organization capital for creating post-merger value. Our results validate both arguments related to the importance of human capital in cross-border deals. Put together, our research suggests that migrant networks can mitigate

⁴ Financial economists have studied the various aspects of human capital in mergers and acquisitions, see Fulghieri and Sevilir (2011), Chen, Gao, and Ma (2016), and Lee, Mauer, and Xu (2018) for examples.

the deal-impeding effects of cultural differences, reduce transaction costs owing to information asymmetry, and enhance the impact of human capital when post-merger integration costs of human capital are crucial. In short, immigrants help firms to extend across national borders.

Migrant networks are also associated with synergy gains at deal level, but the finding is limited to those acquirers and targets that are publicly listed. Using either the value-weighted or the equal-weighted returns, we find that the combined cumulative abnormal returns (CARs) for targets and acquirers upon announcement are positively correlated with the inbound migrant stock. As the CARs reflect the average changes of market valuation surrounding the deal announcement windows, the evidence suggests that increased migration has a positive impact on the expected synergy which can be achieved in post-merger operations at the time of the announcement.

Several additional tests are conducted. First, we show that our findings are robust to the survivorship bias caused by the data screening criteria that include only successfully-completed deals in the sample. Secondly, inbound migrant stock is likely to improve the completion rate in cross-border deals. Interestingly, we also find that both “outbound” and “inbound migrants can enhance cross-border acquisitions, but the effect of inbound migration is stronger.

This paper contributes mainly to the finance literature on the determination of cross-border M&As. It also contributes to the broad bodies of research investigating the effect of national culture on corporate financial decision making, and the impact of immigrants on international trade and investments, respectively. For the determination of cross-border mergers and acquisitions, Erel, Liao and Weisbach (2012) find that geographical distance, bilateral trade, and differential firm valuation due to currency or stock market appreciations motivate cross-border deals. Based on data from the European Union, Dinc and Irel (2013) find that economic nationalism hinders cross-border mergers and acquisitions as nationalist governments prefer target companies to remain domestically owned rather than foreign owned. Frésard, Hege, and Phillips (2017) argue that acquirers from more specialized industries in a country are more likely to buy foreign targets in countries that are less specialized in these same industries. Alimov and Officer (2017) document a significant increase in inbound cross-border M&As in industries that are more intellectual capital-intensive after a target country strengthens the legal protection of intellectual property rights. Ahmad, de Bodt and Harford (2018) find that international trade networks propagate merger waves both at the domestic and cross-border levels. Cao, Li, and Liu (2019) show that political uncertainty in national elections

affects the volume and outcome of cross-border acquisitions. Our research complements the literature by showing that a migrant network is one of the important determinants of cross-border acquisitions.

Searching beyond economic and financial factors and bringing the role of culture into corporate acquisition decisions, Morosini, Shane, and Singh (1998), and Ahern, Daminelli, and Fracassi (2015) show that national cultural distance hinders cross-border acquisitions⁵. Our study adds to the main findings of the latter authors by considering the role of international migration in reducing the deal-impeding influence of cultural distance. We find that the impact of international migration on cross-border acquisitions remains significant after controlling for cultural distances and, thus, goes beyond the cultural considerations.

Our study is also closely related to two other recent studies on the role of ancestral networks on cross-border trade and investments, Cohen, Gurun, and Malloy (2017) and Burchardi, Chaney, and Hassan (2018). Both deal with one single recipient country (i.e., the U.S.), while our study covers 52 recipient countries and our findings hold even if we exclude all deals associated with the U.S. In addition, these two studies focus mainly on the ancestry effect; while ours is on the impact of contemporary migrant networks⁶. Thirdly, Cohen, Gurun, and Malloy (2017) investigate the outbound effect, and Burchardi, Chaney, and Hassan (2018) study combined outbound and inbound effects. Even though our main analysis focuses on the inbound effect, we are able to document the impact of migration on cross-border deals in both directions although the inbound effect is more pronounced.

The paper is organized as follows. Section 2 describes data collection procedures and reports the sample characteristics. Section 3 states our main reduced-form regression equation and how we address endogeneity concerns through the instrumental variables approach. Section 4 presents the main regression results of the impact of inbound migrant stock on the frequency and dollar values of cross-border acquisitions at the country-pair level. We then

⁵ Guiso, Sapienza and Zingales (2006) give a general discussion regarding the impact of culture on economic outcomes. Researches have shown that national culture has impacts on various aspects of corporate financial decisions, such as on financial contracting (Giannetti and Yafeh, 2012), executive compensation (Bryan, Nash, and Patel, 2015), cash holdings (Chen et al. 2015), cost of debt (Chui, Kwok, and Zhou, 2016), and target premium in cross-border M&As (Lim, Makhija, and Shenkar 2016), among others. Using U.S. data of mergers and acquisitions, Bereskin et al. (2018) find that culturally similar firms can ease post-deal integration and are more likely to merge.

⁶ Although the ancestry of the citizens and migrant stock at the country-pair level are related, they are different. For example, Chinese Americans of the second generation who were born in the U.S. are not included in the migrant stock statistics, yet they have ancestral links with China.

explore three potential channels through which international migration can affect cross-border mergers and acquisitions in Section 5. Section 6 shows the deal-level evidence when both acquirer and target are publicly traded firms. Section 7 addresses data selection bias, and issues related to deal completion rate and the outbound and inbound effect of migration. Section 8 concludes.

2. Data Sample and Summary Statistics

Three sets of data are required for this study: cross-border mergers and acquisitions; international migration at the country-pair level; and the country-level economic development, cultural, political and regulatory regime that could affect cross-border financial transactions, and other control variables used in the literature. Summary statistics and the stylized facts for the association between migrant stock and cross-border acquisitions are given at the end of this section.

2.1. Cross-border mergers and acquisitions data

Cross-border M&As data are collected from the Security Data Corporation's (SDC) Platinum database and require the deals to have been announced and completed between 1991 and 2014. As with Erel, Liao and Weisbach (2012), we exclude leveraged buyouts (LBOs), spinoffs, splits and equity carve-outs, recapitalizations, self-tender offers, exchange offers, repurchases, partial equity stake purchases, acquisitions of remaining interest, and privatizations, as well as deals in which either the target or the acquirer is recorded as a government agency. We also exclude deals in financial or utilities industries since mergers and acquisitions in these industries are heavily regulated in many countries, or deals in which the primary nation of either the target or the acquirer is recorded as missing or unknown. Covering 52 countries from 1991 to 2014, our initial sample has 272,755 deals with a total nominal transaction value of US\$11.16 trillion, of which 66,529 are cross-border deals with a total nominal value of US\$5.37 trillion. For each deal, we collect the announcement and completion dates, names, public status, the four-digit Standard Industrial Classification (SIC) code, and the country of domicile for both targets and acquirers, as well as the information regarding the deal value and form of payment.

2.2 International migration data

The global bilateral migration sample is constructed from the United Nations Population Division's Global Migration Database⁷, which covers 226×226 global origin–destination migrant stock for each decade over 1960–2000. To be able to perform the instrumental variable analysis detailed in the next section, we also need the migration flow data on the country-pair basis. Unfortunately, there is no comprehensive, reliable, and consistent bilateral migration flow data available. Therefore, we use the inferred bilateral migration flow data produced by Abel and Sander (2014). Using an iterative proportional fitting algorithm, these authors generate a comprehensive bilateral migration flow dataset from the migrant stock statistics published by the U.N. from 1970 to 2010. The U.N. migrant stock data (and the derived migrant flow data) are based on the censuses or population registers of each country, which are available only once every ten years. Such a limitation on the migrant flow data may influence our empirical test procedures.

2.3 Data collections for control variables

The country-level social and economic statistics, such as population, financial development, real GDP growth, and GDP per capita are obtained from the World Bank Development Indicators as our control variables for cross-border M&As activities. Unless otherwise specified, the control variables are defined as the difference of the variable of interest between the origin (acquirer) country i and the destination (target) country j . Thus, the variable *Population growth*⁸ is the difference in population growth rates between country i and country j . *GDP per capita* is the difference in GDP per capita between country i and country j . *Real GDP growth* is the difference in the real growth rate of GDP per capita between country i and country j adjusted by the inflation deflector of the year 2000 US dollars. *Private credit* is the difference in the private sector credit to GDP ratio⁹ between country i and country j , which has been used as a proxy for country-level financial development following Rajan and Zingales (2003).

⁷ See the webpage <http://data.worldbank.org/data-catalog/global-bilateral-migration-database>.

⁸ For ease of exposition, we use italics to denote the variable names in the text, but without italics in the tables and figures.

⁹ The private sector credit to GDP ratio is defined as the ratio of a country's domestic private credit to the real sector by depository money banks to its GDP.

Erel, Liao and Weisbach (2012) show that the valuation advantages due to the national stock market and currency exchange rate motivate cross-border M&As and so we calculate the country level market-to-book ratios using stock market data from the Datastream. *Market-to-book* is the difference in the market-to-book ratio of the aggregate stock market between the acquiring country *i* and the target country *j* over the previous 12 months. The national exchange rates are obtained from Thomson Reuters I/B/E/S database. *Currency return* is the difference in real currency returns between country *i* and country *j* over the previous 12 months. The consumer price index (CPI) for each country is collected to convert all nominal exchange rate returns into real exchange rate returns at the year 2000 price level. *Total import and export* data are collected from the UN commodity trade database.

Prior studies (e.g., Rossi and Volpin, 2004; Ahern, Daminelli and Fracassi, 2015) find that geographic, cultural and legal system differences can affect cross-border deals. We use the database maintained by the Centre d'Études Prospectives et d'Informations Internationales (CEPII) to collect information on *Geographic distance* (the natural logarithm of geographic distance between the capitals of country *i* and country *j*), *Contiguity* (a dummy variable which equals 1 if a country-pair shares a border and 0 otherwise), *Colony* (equals 1 if a country-pair was ever in a colonial relationship), and *Same country* (equals 1 if a country-pair was or is the same country¹⁰). Using the CIA World Factbook 2008 we define *Same language* as a dummy variable that equals 1 if the primary language (English, Spanish, or others) in both the acquirer nation and target nation are the same. *Same religion* is a dummy variable that equals 1 if the primary religion (Protestant, Orthodox, Catholic, Muslim, Judaism, Buddhist, Hindu, Ethno-religion, or Chinese universe) in both the acquirer nation and the target nation are the same. Following Djankov et al. (2008), the anti-self-dealing index is used to quantify the level of investor protection in a country: a higher value of the index indicates that transactions are more tightly regulated, thus small investors are better protected. Therefore, in our reports, the control variable *Anti-self-dealing* is the difference of such an index between the acquirer nation and the target nation. All continuous variables have been winsorized at the 1st and 99th percentiles. This approach reduces the impact of extreme observations by assigning the cut-off value to

¹⁰ For example, Singapore and Malaysia, Croatia and Slovenia (the Socialist Federal Republic of Yugoslavia) in our data used to be in the same country. Hong Kong was returned to China in 1997 as a Special Administration Region and thus now is considered a part of China.

values beyond the cut-off point.¹¹ The detailed variable definitions are contained in Table A1 in the Appendix.

2.4 Summary statistics and stylized facts

The number of domestic and cross-border mergers and acquisitions at the country-pair level between 1991 and 2014 is summarized in Table 1. One notable fact is that there are missing data for many country-pairs. In the primary analyses, we exclude any such country-pairs, as Erel, Liao and Weisbach (2012) have done. In subsequent tests, we will replace missing data with the value of 0 in our Tobit regression analysis, as did Ahern, Daminelli and Fracassi (2015).

[Please Insert Table 1 Here.]

To get some intuition from the initial sample, we assign country-pairs to a high migrant stock group (i.e. the top tertile) or a low migrant stock group (i.e., the bottom tertile) based on the inbound migrant stock at the country-level in year 1990. Figure 1 and Figure 2 display the average annual difference in the number of deals and the aggregate value of transactions from 1991 to 2014 between the two groups respectively¹². On average, the high migration-stock country-pairs have 10 more completed deals and about US\$2 billion more transaction value per year than the low migration-stock country-pairs, demonstrating that the number of cross-border acquisitions between an acquirer nation and a target nation is strongly associated with the inbound migrant stock.

[Please Insert Figures 1 and 2 Here.]

In line with Erel et al. (2012), the key variable of interest, *Cross-border deal*, is defined as the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . For further analysis, we also use an alternative definition, *Cross-border value*, which is the total dollar value of cross-border deals from the acquiring country i to the target country j (where i

¹¹ Our results are qualitatively very similar if we truncate the distribution instead of winsorizing it.

¹² Figures A1a and A1b in the Appendix give similar comparisons between a high migrant stock group and a medium migrant stock group. Two Panels of Figure A1c in the Appendix show the difference in cross-border deal numbers between a high migrant country group and a low migrant country group using alternative migrant measures and a sequential matching approach similar to the one employed in Section 4.4.

$\neq j$) scaled by the sum of the total dollar value of domestic deals in target country j and the total dollar value of cross-border deals from the acquiring country i to the target country j in year t .¹³ The univariate summary statistics for our sample, including both key variables *Cross-border deal* and *Cross-border value*, and all control variables are reported in Table 2.

[Please Insert Table 2 Here.]

3. Model Specification and Instrumental Variables Approach

To investigate the impact of the inbound migrant stock on cross-border acquisition decisions, we run the following baseline reduced-form regression:

$$CB_{o,d}^t = \delta_o + \delta_d + \beta S_{o,d}^{t_0} + \gamma X_{o,d} + \mu Y_{o,d}^t + \eta_t + \varepsilon_{o,d}^t \quad (1)$$

where

- $CB_{o,d}^t$: Cross-border M&A activities (frequency, dollar value, or synergy) at time t
- δ_o : Origin (acquiring) nation fixed effects
- δ_d : Destination (target) nation fixed effects
- $S_{o,d}^{t_0}$: Migrant stock from the origin country to the destination country at time t_0 , $t_0 < t$
- $X_{o,d}$: Time-invariant country-pair difference, such as language and geographical distances
- $Y_{o,d}^t$: Time-variant country-pair difference, such as macroeconomic variables
- η_t : Year fixed effects
- $\varepsilon_{o,d}^t$: The residuals

The key dependent variable $CB_{o,d}^t$ is defined at the country-pair level which has two variants: one is based on the number of deals (i.e. *Cross-border deal*), the other is based on the dollar value of deals (i.e. *Cross-border value*). In the main specification, $t_0 = 1990$, and t_1 runs from 1991 to 2014. Regression analyses are also performed on alternative sample periods subsequently.

¹³ In addition to the univariate analysis, we also regress *Cross-border deal* and *Cross-border value* on *LN Stock1990* without controls but with acquiring and target country fixed-effects and year fixed-effects. The estimated coefficients are 0.0214 and 0.0182, respectively. The results are consistent with the patterns illustrated in Figures 1 and 2.

Methodologically, the approach in Eq. (1) is markedly different from the gravity model that is widely used in the literature of international trade and capital flows (e.g., Ahern, Daminelli, and Fracassi 2015; Fresard, Hege, and Phillips 2017, Burchardi, Chaney, and Hassan 2018). The traditional gravity model is symmetric and can identify only the relationship within a specific country-pair but not the direction¹⁴. For example, the country-pair observations of Australian firms acquiring U.S. targets (Australia-U.S.) is treated differently from the observations of U.S. firms acquiring Australian targets (U.S.-Australia) in this study, while in a gravity model estimation, the Australia-U.S. and the U.S.-Australia observations would be considered together.

The endogeneity issues need to be dealt with since some factors may simultaneously affect both cross-border acquisitions and migrations between two countries. Most notable examples are government policy changes such as the Chinese government “reform and opening-up” policy after the end of the Cultural Revolution and the recent Brexit event in the United Kingdom (U.K). The Chinese economic reform starting in the late 1970’s has led to the relative freedom of both capital and population movements. The Brexit event, unfolding at the moment, has caused many people to fear that the withdrawal of the U.K. from the European Union (EU) could potentially hinder free movements of both capital and population between the U.K. and the EU member countries. Another relevant example is the gradual integration of Central and Eastern European countries into the EU in the 1990s and 2000s. These examples suggest that $\text{cov}(S_{o,d}^{t_0}, \varepsilon_{o,d}^t) \neq 0$. To address this concern, we modify the methodology developed in Burchardi, Chaney, and Hassan (2018) to derive the instrumental variables.

Starting with a simple evolutionary migrant stock equation,

$$S_{o,d}^t = \alpha_t S_{o,d}^{t-1} + f_{o,d}^t, \quad 0 < \alpha_t < 1 \quad (2)$$

where $f_{o,d}^t$ is the migrant flow from the origin country o to the destination country d between time $t-1$ and time t . The range of the parameter α_t reflects the fact that the offspring of migrants will usually not be included in migrant stock statistics, but the deaths of migrants will reduce the stock.

Further, the migrant flow for a country-pair (o, d) is determined by two interacting forces: a push factor and a pull factor, reflecting the demand and supply of migration for a given

¹⁴ One of the main criticisms of the study of culture’s impact in finance using the gravity model is the assumption of symmetry. Although the cultural distance between the U.S. and Australia is the same, its impact on Australian firms’ decision to acquire U.S. targets may be different from U.S. firms’ decision to acquire Australian targets. For a formal argument, please see Shenkar (2001) and Karolyi (2016).

country-pair. The push factor can be quantified as the total number of migrants leaving country o at time t , I_o^t , perhaps due to reduced economic opportunities, deteriorating living conditions or worsening political stability in their country. The pull factor has two parts: one is related to the overall destination country's policy regarding accepting migrants as represented by the proportion of the destination country's intake of migrants to the world-wide migrant population, I_d^t/I^t . For historical, cultural, economic or geographical reasons, some countries such as the U.S., Canada or Australia are more accepting of immigrants than others. The other part of the pull factor is the existence of diaspora social networks: a particular attraction of the destination country for the migrants is the level of earlier migration from that country of origin, $S_{o,d}^{t-1}$. Thus, we hypothesize that the country-pair migrant flow is the result of the interaction of

the push and pull factors: $f_{o,d}^t = I_o^t \times \left(c_t \frac{I_d^t}{I^t} + d_t S_{o,d}^{t-1} \right)$, where c_t and d_t are coefficients.

Put together, Equation (2) becomes

$$S_{o,d}^t = \alpha_t S_{o,d}^{t-1} + I_o^t \left(c_t \frac{I_d^t}{I^t} + d_t S_{o,d}^{t-1} \right) = S_{o,d}^{t-1} (\alpha_t + d_t I_o^t) + c_t I_o^t \frac{I_d^t}{I^t}. \quad (3)$$

Solving (3) recursively,

$$S_{o,d}^t = S_{o,d}^0 \left[\prod_{s=1}^t (\alpha_s + d_s I_o^s) \right] + \sum_{s=1}^t c_s I_o^s \frac{I_d^s}{I^s}. \quad (4)$$

To overcome the potential problem that some economic or political factors for a particular country-pair could jointly determine both the bilateral migration flows and cross-border acquisitions, we replace I_o^t by I_{o-d}^t , which is the total number of migrants from country o who settle not in country d at time t . Similarly, we replace I_d^t by I_{d-o}^t , the total number of migrants settled in country d , excluding those from country o . Finally, we replace the worldwide total number of migrants at time t , I^t by I_{-o}^t , the number that excludes those from country o . Such exclusions are a major feature of the identification strategy: the modified migrant flow between two countries is less likely to be correlated with the cross-border deals $CB_{o,d}^t$, yet still positively correlated with the migrant flow, $f_{o,d}^t$, and thus the migrant stock $S_{o,d}^t$ through the recursive evolutionary migrant stock equation (4). As argued by Burchardi, Chaney, and Hassan (2018), this approach is able to mitigate the impact of unobserved factors that make destinations the recipient of both migrants and capital, which is impossible to control

in some recent single country studies which focus only on the U.S. as the country of destination for both migrants and trade.

Our main analysis will use the migrant stock in the year 1990 at the country-pair level as the key independent variable in order to investigate the impact of the level of the migrant stock from an origin (acquiring) nation to a destination (target) nation of that year on subsequent cross-border mergers and acquisitions from 1991 to 2014. If we use the migrant stock in the year 1970 as the starting point, then the first-stage specification based on the stock-flow relation (4) becomes¹⁵

$$\begin{aligned}
S_{o,d}^{1990} &= \delta_o + \delta_d + S_{o,d}^{1970} * (\alpha_1 + d_1 I_{o-d}^{1980-90}) * (\alpha_2 + d_2 I_{o-d}^{1970-80}) \\
&+ c_1 I_{o-d}^{1970-80} \frac{I_{d-o}^{1970-80}}{I_{-o}^{1970-80}} + c_2 I_{o-d}^{1980-90} \frac{I_{d-o}^{1980-90}}{I_{-o}^{1980-90}} + \gamma X_{o,d} + \eta_{o,d} \\
&= \delta_o + \delta_d + \beta_1 S_{o,d}^{1970} + \beta_2 S_{o,d}^{1970} * I_{o-d}^{1980-90} + \beta_3 S_{o,d}^{1970} * I_{o-d}^{1970-80} \\
&+ c_1 I_{o-d}^{1970-80} \frac{I_{d-o}^{1970-80}}{I_{-o}^{1970-80}} + c_2 I_{o-d}^{1980-90} \frac{I_{d-o}^{1980-90}}{I_{-o}^{1980-90}} + \gamma X_{o,d} + \eta_{o,d}
\end{aligned} \tag{5}$$

The sources and the construction of migrant stock and flow data have been explained in section 2.2.

A valid instrument must satisfy both the relevance and exclusion conditions in order to identify exogenous variations in the migrant stock. To check the validity of the instrumental variables, we report the first-stage regression results for the period between 1991 and 2014 in Table A2 (in Appendix). Following Burchardi, Chaney and Hassan (2018), we use a sequential estimation method to generate the incremental coefficient for each instrument relative to all of the instruments used in the previous estimations. For the main regressions, we use the logarithm transformed migrant stock variable. To test whether the instruments meet the relevance condition, we report, for each first-stage regression, the Shea partial R-squared and the Kleibergen-Paap partial F statistics of the excluded instruments. The collective explanatory power of the instruments in addition to other regressors is indicated by the partial R-squared statistic, which is 52% in the main instrumental specification used in the subsequent second-stage estimations (Column (2) of Table A2). Specifically, all of the five instruments used in

¹⁵ We take a parsimonious approach by including only initial migrant stock (in 1970) and all second-order interaction terms in equation (5), but our results are similar if we include all third-order interaction terms such as $S_{o,d}^{1970} * I_{o-d}^{1970-80} * I_{o-d}^{1980-90}$.

the first-stage regression are positive and statistically significant at the 1% level. The incremental R-squared reported in Column (3) in Table A2 indicates that *LNStock1970* incrementally contributes 12 percentage points to the overall explanatory power, while the push-pull interaction terms, *LNStock1970*Pull1970-1980*¹⁶ and *LNStock1970*Pull1980-1990*, contribute 7 and 3 percentage points, respectively. The results suggest that the initial stock in 1970 (migrant stock two decades earlier) does have a strong impact on the migrant stock in 1990, indicating that the diaspora factor has a strong impact on subsequent migrant stock. In addition, the sum of five incremental R-squareds of the instruments is 23%. We deduce from the diagnostic tests that the instruments are less likely to be affected by the weak instrument problems¹⁷. For comparison, we also report the estimates using raw data instead of the logarithm of migrant stock and flow data in Column (4) in Table A2. The diagnostic tests for weak instruments again indicate that our instruments are less likely to be affected by the weak instrument problems.

So far the baseline reduced-form regression (1) considers the impact of migrant stock in 1990 on the deals at the country-pair level in subsequent years from 1991 to 2014. Choosing the migrant stock of the year 1990 as the starting point is a relatively arbitrary exercise, necessary given the data available about international migration. There are some concerns that the deeply-lagged migrant stock, say in 1970 or 1960, might have an independent effect on cross-border M&As rather than through what has already been captured by the migrant stock in 1990. We run the baseline estimations again by employing the migrant stock in 1970 or 1960 as an additional control variable. As reported in Panel A of Table A4 in the Appendix, the estimates of migrant stock in either 1970 or 1960 are not statistically significant. In addition, the estimated residuals from the baseline regression using the migrant stock in 1990 are not correlated with either the migrant stock in 1970 or 1960 (reported in Panel B of Table A4 in the Appendix), hence it is plausible to choose the value for 1990 in the regression equation (5). Using the deeply-lagged and theory-based instruments reduces the likelihood that more than 10 years later the acquisition activities are directly affected by the instruments. Taken together,

¹⁶ The variable *Pull1970-1980* is the ratio of the total number of permanent migrants originated from the acquiring country *i* into the target country *j* over the total number of migrants who settled in country *j* (excluding those migrants from country *i* who settled in country *j*) between 1970 and 1980. The full descriptions of all variables are contained in Table A1 in the Appendix.

¹⁷ The first-stage F-statistics are 94.51, which is much higher than Stock-Yogo test critical values of 18.37 (5% maximal IV relative bias) recommended in the literature for detecting weak instrument problems (Stock, Wright and Yogo, 2002).

our instruments are largely predetermined relative to cross-border deals, thus most likely satisfying the exclusion conditions.

4. Panel Analysis of Immigration & Cross-border Mergers and Acquisitions

4.1. Instrumental variables estimation

In Section 3, we have detailed our two-stage least squares instrumental variables (2SLS) estimation approach. Specifically, we test whether an increase in the number of migrants in 1990 from an acquiring country to a target country increases the number of cross-border deals between 1991 and 2014. Table 3 reports the panel estimates of the ordinary least squares (OLS) (Columns 1-3) and the 2SLS (Columns 4-6) regressions, respectively. The estimated coefficient of *LN Stock1990* is 0.008 (Column 1) using the OLS approach and 0.006 using the 2SLS approach (Column 4)¹⁸, and the coefficients are statistically significant at the 1% and 5% level, respectively. The difference in the coefficients between the OLS estimate and the 2SLS estimate indicates that possibly endogenous inbound migrant stock induces a small upward bias in the OLS estimate, but such a bias does not affect the statistical inference. The estimated coefficients are also economically significant. For example, the estimated coefficient, 0.006 on *LN Stock1990* in Column 4 implies that increasing the number of inbound migrant stock from the 25th (50th) percentile to the 75th percentile of the immigration country-pairs is associated with an increase of 1.91% (0.90%) in the relative cross-border deal ratio from the acquirer to the target country¹⁹. This represents an increase of 29% (14%) relative to the mean cross-border deal ratio at the 6.5% level. In addition, the Hansen J statistic consistently rejects the null hypothesis of over-identification in 2SLS estimations.

The estimates of control variables used to capture other factors that affect cross-border merger activities are largely consistent with previous studies. Specifically, we find that acquirer countries with higher GDP per capita, higher stock market valuation and higher currency appreciation relative to target countries are associated with higher deal flows, which is consistent with the findings in Erel, Liao and Weisbach (2012). Country-pairs that have more

¹⁸ The first-stage regression for Column (4) corresponds to the estimation reported in Column (2) of Table 2A in Appendix.

¹⁹ Table 2 presents the data for the 25th percentile to the 75th percentile of the inbound migrant stock in 1990 at 1,194 and 28,913, respectively. With the estimated coefficient β at 0.006, the regression equation (6) indicates that the change in cross-border deal ratio equals to $0.006 * [\ln(28913) - \ln(1194)] = 1.91\%$.

bilateral trades, use the same language, and share the same border have a higher proportion of cross-border mergers measured either by deal number or by dollar value.

[Please Insert Table 3 Here.]

Some may suspect that companies could decide to make acquisition deals in anticipation of an increased migrant level from the acquiring country to the target country. Such a concern of reverse causality, i.e. cross-border deals in fact lead to increased migration at the country-pair level can be mitigated by using the deeply-lagged inbound migrant number as an independent variable. After all, it is very unlikely that a company plans an acquisition by expecting the target countries immigration policy will change 5 or 10 years in the future. For this purpose, we directly test whether the inbound migrant stock at the country-pair level in 1990 would be significantly and positively associated with subsequent cross-border deals by using the deeply-lagged dependent variable. In other words, we test whether the inbound migrant stock in 1990 is associated with cross-border M&As transactions happening many years later by re-estimating the baseline reduced form equation:

$$CB_{o,d}^t = \delta_o + \delta_d + \beta S_{o,d}^{1990} + \gamma X_{o,d} + \mu Y_{o,d}^t + \eta_t + \varepsilon_{o,d}^t, \quad t = 1995 \text{ or } 2000 \text{ to } 2014. \quad (6)$$

For this purpose, we match *LN Stock1990* with the acquisitions 5-years later (1995-2014) and 10-years later (2000-2014), respectively. While the size of our observations is reduced in the subsamples, the coefficients on *LN Stock1990* remain both statistically and economically significant in both the OLS and the 2SLS estimations. The results are reported in Columns (2), (3), (5) and (6) in Table 3. The first-stage regressions for the two subsample estimations have high Shea partial R-squared of excluded instruments, and a high Kleibergen-Paap partial F statistic of excluded instruments. The corresponding diagnostic tests indicate the weak instruments problem is of less concern in these 2SLS regressions.

Additionally, the baseline specification accounts for acquiring country, target country, and year fixed effects. However, if the changes in government policies or regulations that are associated with the mobility of capital or people happened in a specific year for a specific target or acquiring country, the baseline specification fails to consider such unobserved but time-variant changes. For robustness checks, we run the following specification with *acquiring country* year* and *target country* year* fixed effects.

$$CB_{o,d}^t = \delta_o \times \eta_t + \delta_d \times \eta_t + \beta S_{o,d}^{1990} + \gamma X_{o,d} + \mu Y_{o,d}^t + \nu_{o,d}^t, \quad t = 1991 \text{ to } 2014. \quad (7)$$

The estimated coefficients on *LN Stock1990* is 0.008 and statistically significant at 1% level (see Table A3)²⁰. The estimates for the migrant stock are almost identical to those (in Column (1) of Table 3) using acquiring country, target country, and year fixed effects models. In other words, accounting for time-dependent country-specific-policy changes makes no substantial difference to estimates from our baseline specification.

Our main focus is the impact of international migration on the frequency of cross-border M&As. Nevertheless, we are also interested in examining its impact on their value. In Table 4, the dependent variable is the total deal value, denominated in US dollars and adjusted for the inflation rate, of cross-border deals from acquiring country *i* to target country *j* (where $i \neq j$) scaled by the sum of the total value of domestic deals in target country *j* and the total value of cross-border deals from the acquiring country *i* to the target country *j* in year *t*. All of the independent variables and the full set of controls included are identical to those in Table 3. The migrant stock in 1990 again has a positive and significant impact on the value of cross-border M&As at the country-pair level, although the statistical significance is weakened somewhat.

[Please Insert Table 4 Here.]

4.2. Immigration policy change and cross-border M&As: An example

Although our instrumental approach, which utilizes the interactions of time-series variation in the “leave-out” push and pull factors of international migration, can capture the exogenous variations in immigration policies, we have not addressed the direct causal impact of immigration policy change on cross-border M&A activities. To identify purely exogenous changes in immigration policy in a large cross-section of countries, however, is difficult. In this subsection, we exploit largely-exogenous immigration policy changes in three European countries (Spain, Italy and Ireland) following the 1973 oil crisis to investigate how dramatically changed immigration policies in these countries in the early 1970s could have an economic impact on acquisitions ten or even twenty years later (i.e. M&As from 1991 onwards).

European immigration policies between 1960 and 1990 can be divided into two different phases. There was a period of pro-immigration driven by the post-war adjustment and de-colonization or labor demand, and one of restricted immigration due to increasing social

²⁰ To estimate such a high-dimensional fixed-effects model (with 1681 fixed-effects), we follow the suggestions proposed in Gormley and Matsa (2014) to use Stata user-written estimator REG2HDFE. As shown in Table A3 in Appendix, the estimates of the key variables of interest are quite similar to those using our baseline specification.

tensions and the fear of recessions after the first oil crisis of 1973 (Zimmermann 1995; Bauer, Lofstrom, and Zimmermann 2000). In the first half of the 1970s, the traditional immigration-friendly countries such as West Germany started to restrict immigration, while Ireland, Italy and Spain, which were historically emigration countries, reversed policy to increase the net inflow of migrants (Huntoon 1998). In West Germany, governments implemented a series of policies to restrict immigrants or to eliminate the employers' option of recruiting foreign workers. While immigration to these countries was abruptly halted, Ireland, Italy and Spain experienced the positive net inflow caused by either returning emigrants, or strong domestic economic demand (Hollifield 1986; Bauer, Lofstrom, and Zimmermann, 2000). Figure 3 illustrates the dramatic changes in net immigration flows (in thousands) during the period 1970-1980. While significant changes in net immigration are observed from 1960 to 1970 and from 1970 to 1980 in Spain, Ireland, and Italy, the net inflow of migrants slowed down or even dropped in West Germany.

[Please Insert Figure 3 Here.]

We use a “change-in-change” approach to examine how the net inflow of immigrants to Spain, Ireland, and Italy between 1970 and 1980 affected the cross-border acquisitions of the targets domiciled in these three countries from 1991 to 2014. Columns (1) to (3) of Table 5 show the net migrant inflow to Ireland, Spain and Italy in that period and the cross-border deal ratios between these three country-of-destination (target country) and the respective origin countries (acquiring countries). Column (4) provides the results for the aggregated sample of these three countries with country fixed-effects. The 1973 oil crisis and the subsequent immigration policy changes had a sizable impact on cross-border ratios ten-years later (from 1991 onwards). Our results indicate a link between cross-border acquisitions and immigration inflows following an exogenous shock.

[Please Insert Table 5 Here.]

4.3 Cross-sectional heterogeneity in cross-border M&As

Another potential concern about our sample selection is that despite our country-level variables controlling for social, economic and cultural differences between acquirer and target country-pairs, some factors that drive the cross-border M&A activities are likely to be correlated with either the country-pair migrant stock or the instrumental variables. Most notably, the member countries within the European Union (EU) or within the Organization for Economic Co-operation and Development (OECD) are likely to have both high levels of

bilateral immigrants and high levels of cross-border acquisitions due to their close economic and social relationships.

Although the EU was formally created by the Maastricht Treaty on November 1993, it was the result of gradual integration since the end of the Second World War. As a political and economic union between European member countries, which makes its own policies concerning the members' economies, societies, and laws, it is reasonable to expect that the flow of migrants and capital among the member countries may meet fewer hurdles than otherwise. Similarly, the OECD had been initially established in 1948 to run the U.S.-financed Marshall Plan for reconstruction of the European continent ravaged by the war. At the time of its establishment, the organization included 18 European countries plus the U.S. and Canada. Later on, more countries joined and today it has 35 members, which have a higher level of economic cooperation than otherwise. The establishment of both international organizations preceded our sample period and therefore it is important to check whether our main conclusions remain valid if we exclude either the member countries of the EU or those of the OECD²¹.

In addition, our findings could be biased by the U.S. related observations as the U.S. is both the most popular destination for immigrants and the largest contributor to cross-border M&As. Historically, the U.S. has welcomed more people from everywhere around the world than have other countries. Coupled with the world's strongest economy and well-functioning capital markets, it has the strongest pulling power for both immigrants and capital. Therefore, we also investigate whether our results remain valid if the U.S. data are excluded from the subsample tests.

[Please Insert Table 6 Here.]

Column 1 of Table 6 reports the estimates for a subsample including neither the U.S. acquirers nor the U.S. targets. Excluding the U.S. observations, the effect of immigration on cross-border mergers has been reduced slightly but remains significant. Columns 2 and 3 consider the deals which happened within and outside the EU. Although the impact of migration is slightly weaker for the deals outside of the EU than those inside, the effect of migration on cross-border acquisitions remains significant. The results for the subsamples comparing deals completed within the OECD with those completed outside are reported in

²¹ A detailed account of the history of the European Union can be found in the website: <https://www.thoughtco.com/the-history-of-the-european-union-1221595>. The history of the OECD can be found in this website: <http://www.oecd.org/about/history/>.

Column 4 and Column 5 of Table 6. The effect of migration remains positive and significant for the cross-border deal ratio irrespective of whether the country-pair is within or outside the OECD.

The above analysis confirms the robustness of our findings using alternative sample selections. Overall, higher migrant stock from an acquiring country to a target country enhances the deal frequency in cross-border acquisitions.

4.4. Rolling-window analysis of immigration and cross-border M&As

Our baseline regression uses Equation (5) to specify the instrumental variable $LN Stock1990$ and links migrant stock in 1990 to cross-border activities from 1991 onwards. In all subsequent regressions, $LN Stock1990$ is the key static explanatory variable. To test whether the IV approach using migrant stock data of other sample periods is valid, we replace $LN Stock1990$ every ten-years from 1980 to 2000 using $LN Stock1980$, $LN Stock1990$, and $LN Stock2000$ when the corresponding immigration statistics are available. We then match migrant stock data with the cross-border M&A data lagged at least ten years at the country-pair basis. More specifically, M&A data from 1991 to 1999 are matched with migrant stock in 1980; M&A data from 2000 to 2009 are matched with migrant stock in 1990; and M&A data over 2010 are matched with migrant stock in 2000. The first-stage specifications are adjusted accordingly for the migration data in 1980 and 2000 (the year 1990 specification is in Equation (5)).

$$S_{o,d}^{1980} = \delta_o + \delta_d + \beta_1 S_{o,d}^{1960} + \beta_2 S_{o,d}^{1960} * I_{o-d}^{1960-70} + \beta_3 S_{o,d}^{1960} * I_{o-d}^{1970-80} + c_1 I_{o-d}^{1960-70} \frac{I_{d-0}^{1960-70}}{I_{-o}^{1960-70}} + c_2 I_{o-d}^{1970-80} \frac{I_{d-0}^{1970-80}}{I_{-o}^{1970-80}} + \gamma X_{o,d} + \eta_{o,d} \quad (8)$$

$$S_{o,d}^{2000} = \delta_o + \delta_d + \beta_1 S_{o,d}^{1980} + \beta_2 S_{o,d}^{1980} * I_{o-d}^{1980-90} + \beta_3 S_{o,d}^{1980} * I_{o-d}^{1990-2000} + c_1 I_{o-d}^{1980-90} \frac{I_{d-0}^{1980-90}}{I_{-o}^{1980-90}} + c_2 I_{o-d}^{1990-2000} \frac{I_{d-0}^{1990-2000}}{I_{-o}^{1990-2000}} + \gamma X_{o,d} + \eta_{o,d} \quad (9)$$

Unlike our main specification regressing cross-border M&As between 1991 and 2014 on the migrant stock in 1990, this sequential estimation approach captures the variations in the past (i.e. the year 1980) and the more recent (i.e. the year 2000) migrant stock data better. Our instruments for migrant stocks in 1980 and 2000 specified in Equations (8) and (9) are able to exploit further the changes in immigration for the periods 1960-1970, 1970-1980, 1980-1990, and 1990-2000. For brevity, we report only the second-stage IV estimates and the related diagnostic statistics for the validity of instruments in Columns 1 and 3 of Table 7. Similarly,

we also use the bilateral migrant flow data constructed by Abel and Sander (2014) (in Columns 2 and 4) to replace the stock data and employ the same instrumental specifications in Equations 5, 8 and 9. Using this new rolling-window specification approach the link between immigration and M&As is shown to be robust. .

[Please Insert Table 7 Here.]

5. Channels of the impact

In this section, we investigate potential channels through which the migrant stock could affect cross-border acquisitions within a country-pair. We focus on three aspects: reducing national cultural distance, mitigating information asymmetry, and facilitating post-merger integration to realize the expected synergy.

5.1. Immigration counters the effects of cultural distance

In an influential pioneering study of national cultural differences, Professor Geert Hofstede defined culture as “the collective programming of the mind distinguishing the members of one group or category of people from others”. Comparing values and behaviors for different nations Hofstede (1980, 2001) developed six dimensions of national culture, namely power distance index (PDI), individualism (IDV) vs. collectivism, masculinity (MAS) vs. femininity, uncertainty avoidance index (UAI), long-term orientation (LTO) vs. short-term orientation, and indulgence versus restraint (IVR), which have been shown as important factors affecting various business decisions in cross-country studies in the literature. A recent study by Ahern, Daminelli, and Fracassi (2015) finds that the similarity of national cultural values between acquirer and target countries affects cross-border acquisitions positively²². This raises concerns that the positive impact of inbound migrant stock on cross-border M&As in our findings could be purely driven by the similarity in the national culture between the acquiring and target countries, since both migration and cross-border deals are more likely if two countries are culturally similar. In this subsection, we first verify whether the cultural distance between two countries is one of the determinants of cross-border M&As in our

²² An alternative hypothesis regarding the impact of national cultural distance and cross-border acquisitions is that cultural diversity may increase an organization’s effectiveness. As consistent with the findings in Ahern, Daminelli and Fracassi (2015), our results do not support this alternative hypothesis in our cross-border M&A sample.

sampled data, and then investigate whether the effect of immigration on cross-border acquisitions remains significant after controlling for the cultural distance.

In addition to the six dimensions of Hofstede's national culture, we also follow Ahern, Daminelli and Fracassi (2015) and collect data for three more national cultural measures from the World Values Survey (WVS)²³. Specifically we use the Longitudinal Multiple-Wave data carried out in five surveys in 1990–1994, 1995–1998, 1999–2004, 2005–2009 and 2010–2014 to construct three new measures: trust versus distrust (*Trust_WVS*), hierarchy versus egalitarianism (*Hierarchy_WVS*), and individualism versus collectivism (*Individualism_WVS*). In order to examine whether the existence of migrant stock can bridge the cultural gap within country-pairs, we add the interaction terms of nine cultural distance measures with the variable *LN Stock1990* in the estimates.

[Please Insert Table 8 Here.]

Table 8 reports the regression results for cross-border deal ratios using the nine different measures of cultural distance. We find, like Ahern, Daminelli and Fracassi (2015), that the cultural distance has a negative effect on cross-border acquisitions, and that all cultural distance measures are significant at the 5% level except the *Individualism* of Hofstede, *Individualism_WVS* and *Hierarchy_WVS*. After controlling for the cultural distance measures, the effect of inbound migrant stock on cross-border acquisitions remains positive and statistically significant.²⁴ More importantly, the interaction terms between cultural distance and migrant stock are all positive and statistically significant, except for Long-term orientation (Column 5) and *Trust_WVS* (Column 7). These findings indicate that first, the impact of immigration has not been subsumed by the factor of cultural distance between two countries; and secondly, it can mitigate the deal-impeding effect of cultural distance on cross-border M&As²⁵. Taken together, these findings suggest that migrant stock in our sample is not just a

²³ The World Values Survey (www.worldvaluessurvey.org) is a long-term, world-wide study of values and their impact on social, political, and business life. The Survey began in 1985 and now covers 97 countries, representing almost 90% of the world's population. It completed six waves of surveys of which five are within our sample period. The seventh wave of the survey is currently under way.

²⁴ Ahern et al. (2015) have established a strong link between cultural distance and cross-border acquisitions using a Gravity model. However, its specification is symmetric while our panel specification here is asymmetric and directional. In unreported results, we replicate Ahern et al. (2015)'s approach and find symmetric results similar to the three World Values Survey measures and Hofstede's six dimensions of national culture.

²⁵ In Table A5 of the Appendix, we also report the regression results without the interaction term between the migrant stock and the cultural distance. We find that the cultural distance has a negative effect on cross-border acquisitions, but is significant at the 1% level only for Masculinity and *Trust_WVS* and marginally significant for Uncertainty avoidance, Long-term orientation and Indulgence measures of Hofstede. Surprisingly, the impact of

proxy for cultural distance that affects cross-border acquisitions. While the existence of migrant stock can more effectively facilitate cross-border deals when the two countries are culturally distant, its role goes beyond counteracting the cultural distance alone. This conclusion calls for further investigation of potential channels through which immigration can affect cross-border M&A decisions. The next subsections attempt to be more specific regarding which industries are most affected by international migration through the analyses of information asymmetry and the anticipated post-merger integration costs.

5.2. Immigration reduces information asymmetry

The capital market is often characterized by information asymmetry: firms have more information than outside investors. This problem is exacerbated when cross-border transactions are involved. Migrant networks can mitigate this asymmetry between the acquirer in the country of origin and the target in the destination country and therefore overcome informational communication barriers to a certain degree. We conjecture that the informational benefits derived from increased migration may extend to the market for mergers and acquisitions.

We use three different measures as proxies for information barriers between acquirers and targets in the cross-border setting. First, if immigration can reduce information asymmetry in cross-border deals, we expect to see that the impact of migration on cross-border activities is more prominent for opaque (privately-held) targets than for relatively transparent (publicly-listed) targets.²⁶ We identify whether a target is privately held using the SDC database. For the dependent variables, we recalculate the proportion of cross-border deals from acquiring country i to target country j (where $i \neq j$) over the total number of all deals in the target country j for private and public targets.

Generally speaking, the degree of information asymmetry will be greater for the deals where acquirers and targets are not in the same industry. To judge whether two firms are in the same industry we check whether they have the same two-digit SIC industry code. This classification constitutes our second measure.

cultural distance on M&As becomes positive if the distance is measured by either the Individualism of Hofstede or Individualism constructed from the WVS.

²⁶ It is well recognized that there is likely to be substantially more information asymmetry concerning a privately held target's value relative to a publicly traded target, see Officer et al. (2009).

The last proxy for information asymmetry between acquirers and targets during deal negotiation is the level of accounting complexity of the target firm. Francis and Gunn (2015) construct an industry-level measure of accounting complexity and argue that industries with high accounting complexity require more effort from auditors to produce audited financial statements. Their measure is based on industry-specific accounting guidance contained in either the Financial Accounting Standards Board's (FASB) Topic 900: Industry Series or the American Institute of Certified Public Accountants' (AICPA 2014) Audit and Accounting Practice Guides. Of the 48 Fama-French industries 18 are classified as complex, and the rest as less so. We hypothesize that information asymmetry issues are more severe if targets are in complex industries, thus the role of international migration on mitigating information asymmetry in cross-border acquisitions will be more significant.

[Please Insert Table 9 Here.]

As Table 9 shows, the regression results reveal that the impact of immigration is more pronounced in deals involving private targets; in deals where the acquirer and the target are not in the same industry; and in deals where targets are in more complex industries²⁷. The message is consistent: the existence of inbound migrant stock seems able to mitigate the impact of information asymmetry on cross-border M&As at the country-pair level.

5.3. Immigration mitigates concerns for post-merger integration costs: the human capital factor

One of the main reasons for M&As is to realize the post-merger synergy through successful integration. But this process brings significant uncertainties to both acquiring and target firms, especially when each of them is from a different country. Perhaps one of the most important factors is how successful the integration of the human capital and its associated intangible assets will be. To realize potential synergy, firms need to share “information based assets”, such as production knowledge, skills, and management capabilities successfully (Romer 1986, Morck and Yeung, 2003)²⁸. The information-based assets are some of the key prerequisites for the creation of synergy because of the increasing returns to scale, yet trading

²⁷ We report similar regression results of the impact of international migration on reducing information asymmetry based on the dollar value of cross-border deals in Table A7 in the Appendix.

²⁸ Romer (1986) does not address the issues of mergers and acquisitions directly. His main contribution is to study the increasing return to knowledge-based capital, the importance of which in mergers and acquisitions has been discussed in Morck and Yeung (2003).

in such intangible assets is hampered by numerous market failures. Thus, according to transaction cost economics (Williamson 1975, Tadelis and Williamson 2013), a merger of the two companies to internalize the market is the way to transfer and share the knowledge or skills between acquirers and targets. Such transfer and sharing requires intensive interaction between managers and employees alike, which is more important for cross-border deals due to additional communication barriers such as different languages, cultures, and regulatory regimes. We use two proxies for potential integration costs related to the human capital factor that might occur during the process. One is a direct measure related to labor intensity, and the other is an indirect measure that is related to the concept of organization capital at the industry level.

We hypothesize that the potential integration costs of retaining, retraining or firing employees in a foreign target will be much higher for targets that operate in a high labor-intensive industry than for those in a low labor-intensive one. If increased inbound migration can act as a catalyst in the success of M&As, then the impact should be more pronounced in high labor-intensive industries.

To test this hypothesis, we use the Compustat Global and Compustat North America data from 1991 to 2014 to construct two proxies for the level of potential integration costs related to employee interactions at the merged company at the industry level. The first proxy, *EmpSale*, is the past three-year average of the industry-median of employee numbers over sales in the Compustat full sample for each of Fama and French 48 industries. Specifically, for every industry in each year, we first calculate the industry median of *EmpSale* and then take the average of the past three year industry median in order to mitigate the influence of outliers and the volatility in the measure over time. High labor-intensive industries are those with the top 12 *EmpSale* values each year (or the top quartile) while low labor-intensive industries are in the bottom 12 *EmpSale* values (or the bottom quartile). The second proxy, *CapEmp*, is defined as the past three-year average of the industry median of invested capital over the total number of employees. High labor-intensive industry is in the bottom 12 *CapEmp* values each year among Fama and French 48 industries while a low labor-intensive industry is in the top 12 group²⁹.

[Please Insert Table 10 Here.]

²⁹ For the industry ranking based on these measures of labor intensity, please see Table A6 in Appendix.

As presented in Table 10, we find supportive evidence that the impact of inbound migration on cross-border acquisitions is more pronounced when the targets are in labor-intensive industries, which is consistent with the principles of transaction cost economics.

Another related measure is organization capital, which can be defined as “a production factor that is embodied in the firm’s key talent and has an efficiency that is firm specific”, see Eisfeldt and Papanikolaou (2013). Li, Qiu, and Shen (2018) use the measure these authors developed to study domestic mergers and acquisitions and find that high organization capital acquirers achieve better post-merger operating and stock performance than low ones. We accordingly conjecture that inbound migrant stock can mitigate concerns about post-merger integration costs of a cross-border deal by facilitating information-sharing in customs, regulations, business procedures, and technology know-hows between acquirers and targets based in different countries; this effect is more pronounced where the acquiring firms are in organization capital-intensive industries.

To test this hypothesis, we construct the stock of organization capital using the perpetual inventory method proposed by Eisfeldt and Papanikolaou (2013). We recursively estimate the stock of organization capital by cumulating the deflated value of the 30% of annual selling, general, and administrative (SG&A) expenses for each firm in each year using a depreciation rate of 15%. An industry-level organization capital is defined as the past three-year average of the industry median of organization capital over total assets at the firm-level in the Compustat full sample for each of Fama and French 48 industries. The high organization capital industry is one of those industries with the top 12 organization capital to assets ratios each year (or the top quartile) while the low organization capital industry is one with the bottom 12 organization capital to assets ratios (or the bottom quartile). Alternatively, instead of using capitalized SG&A expense as a proxy for organization capital, we use the ratio of SG&A annual expense to sales directly, following Li, Qiu, and Shen (2018). Similarly, a high SG&A expense industry is defined as one in the top 12 SG&A expense to sales ratios each year (or the top quartile) while a low SG&A expense industry is defined as one with the bottom 12 SG&A expense to sales ratios (or the bottom quartile)³⁰. The results reported in Table 11 are consistent

³⁰ Tables 10 & 11 report the regression results concerning the role of human capital in anticipated post-merger integration costs where the dependent variable is related to the number of deals. Complementary results related to the dollar value of the deals are reported in Table A8 in Appendix.

with the conjecture that the impact of inbound migrant stock is more prominent if the acquirer is in an industry with high organization capital.

[Please Insert Table 11 Here.]

6. Deal level analysis

So far, we have demonstrated that the inbound migrant stock plays an important role in assisting acquirers from the countries of origin of migrants in their destination countries. Our country-pair panel analysis, however, is silent on deal-level factors that could potentially affect the individual firm's decision about acquiring overseas targets. We therefore investigate the impact of inbound migration on value creation, using the standard event study approach. To perform this analysis, both acquirers and targets have to be publicly listed. Unfortunately, there is a very limited number of cross-border deals involving both publicly-listed targets and acquirers. Of 66,529 deals from 1991 to 2014, we can identify only 1,803 public acquirers and 1,647 public targets. Within this subset, there are 912 deals for which both the acquirer and the target have non-missing deal-level control variables, and 788 deals for which we have both the deal-level and the country-level relevant financial and economic information.

We collect daily stock prices for all public non-U.S. targets and acquirers, and individual country stock market index prices from the Datastream and all U.S. firms from the CRSP Daily database. Currency exchange rates from I/B/E/S are used to convert all international stock returns to returns denominated in U.S. dollars (e.g. Officer et al, 2014). We compute the cumulative abnormal returns (CARs) around the deal announcement date over the three-day (-1,+1) and five-day (-2, +2) event windows for acquirers and targets, respectively. Table 12 reports the CARs for targets, acquirers, and combined acquirer and target pairs. Similar to Ahern, Daminelli and Fracassi (2015), the abnormal cumulative stock returns are adjusted relative to a firm's local stock market benchmark returns which are available from the Datastream. The average CAR(-1,+1) for targets in our sample is 17.3% whereas it is 0.6 % for acquirers. This result is consistent with the literature that the market value created around the deal announcement date is largely captured by target shareholders even for cross-border deals. In addition, the positive average combined CARs, whether equally-weighted or value-weighted, are mainly driven by the positive market reactions to the targets.

[Please Insert Table 12 Here.]

We next regress the value-weighted three-day CAR (-1, +1) and five-day CAR (-2, +2) on the raw inbound migrant *Stock1990* (in ten thousands)³¹ while controlling for the deal-level and the country-level control variables. More specifically, we control for target and acquirer characteristics, deal characteristics, country characteristics, year and industry (two-digit SIC industry classification) fixed-effects, and target and acquiring country-pair fixed-effect in the regressions.

Consistent with our prediction, the inbound migrant stock is associated with significantly higher CARs for the overall deal including both acquirers and targets. Over the three-day announcement window CAR (-1, +1), a one-standard deviation increase in migrant stock (which is equivalent to 243,317 immigrants within a country-pair in 1990) is associated with a 1.46 percentage point higher value-weighted CARs (Column 3 of Table 13). The results are significant for both the OLS and the 2SLS estimations.

[Please Insert Table 13 Here.]

7. Additional Analyses

7.1. Inbound migration and bid success

In the main analysis, all failed deals have been excluded from the data selection process. In other words, our finding is *conditional* on completed deals between 1991 and 2014 (Officer 2003). An interesting and related question is whether the inbound migrant stock from the acquiring countries in the target countries is likely to improve the bid success rate in cross-border M&As. The SDC database classifies a deal's status into several categories: "Completed", "Unconditional", "Intended", "Partially Completed", "Pending", or "Withdrawn". We count the number of successful bids within a country-pair each year if the status code of a deal is either "Completed" or "Unconditional"³² as defined by the Thomson Reuters' convention. Of the sample of 79,724 cross-border bids, 66,529 transactions were completed and 13,195 were withdrawn. The withdrawal rate of 16.5% in our cross-border

³¹ Using *LN Stock1990* in OLS and 2SLS, estimates of the coefficients are economically significant but statistically insignificant. The insignificant results might be due to the log-transformation in the small sample with reduced variations in *LN Stock1990*. For brevity, these results are not reported here.

³² According to SDC data descriptions, the label of "Unconditional" is for U.K. and Australian deals only. It indicates that "the initial conditions for the transaction set forth by the acquirer have been met, but the deal is still not completed (unconditional deals are considered completed for Thomson Financial Ranking purposes)." See http://mergers.thomsonib.com/DealsWeb/help/Field_Definitions_S-T.htm. Our results are similar if we count only the "Completed" deals for successful bids.

sample is lower than but comparable with the rate of 21.01% reported by Bates and Lemmon (2013) for a restricted sample of U.S. domestic deals.

[Please Insert Table 14 Here.]

Several alternative model specifications are adopted in Table 14 to examine the bid success (the log-transformed total number of successful bids) of cross-border M&As for each country-pair each year. All of the estimates from the OLS, 2SLS, Tobit two-stage and Poisson regressions indicate that migrant stocks from acquirer countries in target countries in 1990 are positively associated with the number of successfully completed bids over the period 1991 to 2014. Silva and Tenreyro (2006) propose the application of a pseudo-Poisson maximum likelihood estimator (PPML) to estimate the log-linear formed model that will give better statistical performance relative to Poisson or Tobit models. For robustness, we report the estimates using PPML in Column (6) of the Table 14 and our results hold.

7.2. Replacing missing observations

Our main sample consists of the country-pairs with at least one bilateral deal per year for each pair covered in the SDC database. Consequently, country-pairs having no entry of deals at a given year are dropped from the main analysis³³. As an alternative approach, we replace the missing country-pair observations with 0 to generate a more balanced panel dataset. The new sample consists of 26,299 country-pair year observations over the sample period 1991-2014. Since the dependent variables have non-negative values, we apply a Tobit or a Tobit two-step instrumental estimator with acquirer- and target-country fixed-effects and year fixed-effects.

[Please Insert Table 15 Here.]

Consistent with the main results reported in Table 3, *LN Stock1990* is associated with significantly higher M&A activities. This confirms the finding that cross-border acquisitions increase with inbound migrant stock from the acquirer to target countries is robust to the sample selection bias.

So far, we have studied the effect of inbound migrant stock from acquiring countries to target countries on cross-border deals. But what is the effect of outbound migrant stock from

³³ Erel, Liao and Weisbach (2012) adopt a similar approach.

target countries to acquiring countries on cross-border acquisitions? This is examined in the next subsection.

7.3. Outbound versus inbound effects of migration

Can international migration help acquirers from the migrants' host country to buy targets in the birth country of migrants (i.e. an outbound effect)? In the previous sections, we have found support for the inbound effect. Cohen, Gurun, and Malloy (2017) find that a firm with resident networks originating from the past generations of international immigrants surrounding the firm's headquarter in the U.S. is more likely to acquire target firms in the countries from which these residents came i.e. an outbound effect. Based on their resident network argument³⁴, it is possible that migrants to a host country are also likely to help firms of the host country in acquiring firms in the migrants' home country. In order to examine both the outbound effect and the inbound effect of international migration in cross-border M&As, we use the total number of migrants (based on UN migrant stock data) moving out of an acquiring country to a target country over the total population of the target country in years 1980, 1990, 2000, and 2010 to measure inbound migration (*UN Inbound Stock*), while the total number of migrant stock moving out of a target country to an acquiring country over the total population of the target country in years 1980, 1990, 2000, and 2010 is used to measure outbound migration (*UN Outbound Stock*). Similarly, the immigration flow data from Abel and Sander (2014) are used to define *ABEL Outbound Flow* and *ABEL Inbound Flow*.

[Please Insert Table 16 Here.]

We find that *UN Inbound Stock* and *ABEL Inbound Flow* are strong and positive predictors of the proportion of cross-border acquisitions for a specific country-pair. The effect of *ABEL Outbound Flow* is significant but with a much smaller magnitude compared with that of *ABEL Inbound Flow*. The estimates of *UN Outbound Stock* is of the predicted positive sign but insignificant. In sum, these findings complement Cohen, Gurun, and Malloy (2017) by showing that both the inbound and outbound migrations can enhance cross-border acquisitions, but the main impact is from the inflow of migrants to the target country.

³⁴ Note that there is a difference between Cohen et al. (2017) and the current study. While their focus is on the national origin of U.S. residents, ours is on the international migrant stock. As mentioned earlier, the second-generation of Japanese Americans (studied in Cohen et al 2017) are not counted toward the current migrant stock, which is the focus of our study.

8. Conclusions

We have conducted a comprehensive study of the impact of international migration on cross-border mergers and acquisitions based on a large, cross-country sample. We find that a higher inbound migrant stock can lead to significantly higher frequency, dollar value, synergy gains, and the success rate of completion of cross-border deals. The instrumental variables approach based on the interactions between deeply-lagged variations in migration factors from both the target and acquiring countries mitigates endogeneity concerns. The results are robust to a variety of subsample tests and alternative regression specifications. Putting it all together, our research shows that migrant networks can mitigate the deal-impeding effects of cultural differences and information asymmetry. Their impacts are more pronounced in industries where the anticipated post-merger integration costs of human capital are likely to be crucial. Therefore, international migration helps firms to extend beyond national borders.

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Figure 1 **Difference in average cross-border deal numbers between high and low migrant stock countries 1991-2014**

This figure presents the average difference in total cross-border deal numbers between the high and low inbound migrant stock groups by year. The high inbound migrant stock country group contains the country-pairs whose migrant stock from the acquirer to the target country is in the top tertile of the World Bank's annual migrant stock in 1990. The low inbound migrant stock country group contains the country-pairs whose migrant stock from the acquirer to the target country is in the bottom tertile of the World Bank's annual migrant stock in 1990. The migration country-level stock data are from the Global Bilateral Migration Database of the World Bank. The sample covers 52 countries for the period 1991-2014.

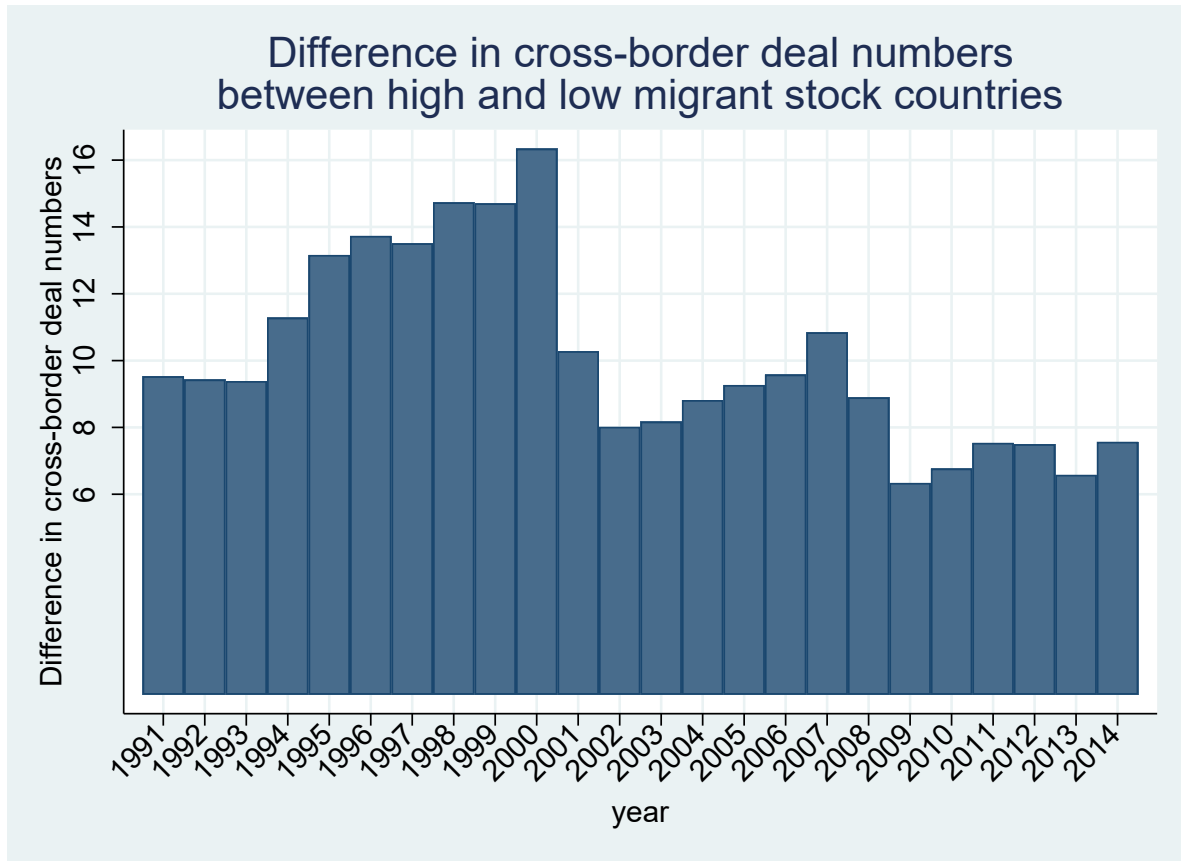


Figure 2 **Difference in average cross-border value between high and low migrant stock countries 1991-2014**

This figure presents the average difference in the cross-border value (in million US\$) between the high and low inbound migrant stock groups by year. The high inbound migrant stock country group contains the country-pairs whose migrant stock from the acquirer to the target country is in the top tertile of the World Bank’s annual migrant stock in 1990. The low inbound migrant stock country group contains the country-pairs whose migrant stock from the acquirer to the target country is in the bottom tertile of the World Bank’s annual migrant stock in 1990. The migration country-level stock data are from the Global Bilateral Migration Database of the World Bank. The sample covers 52 countries for the period 1991-2014.

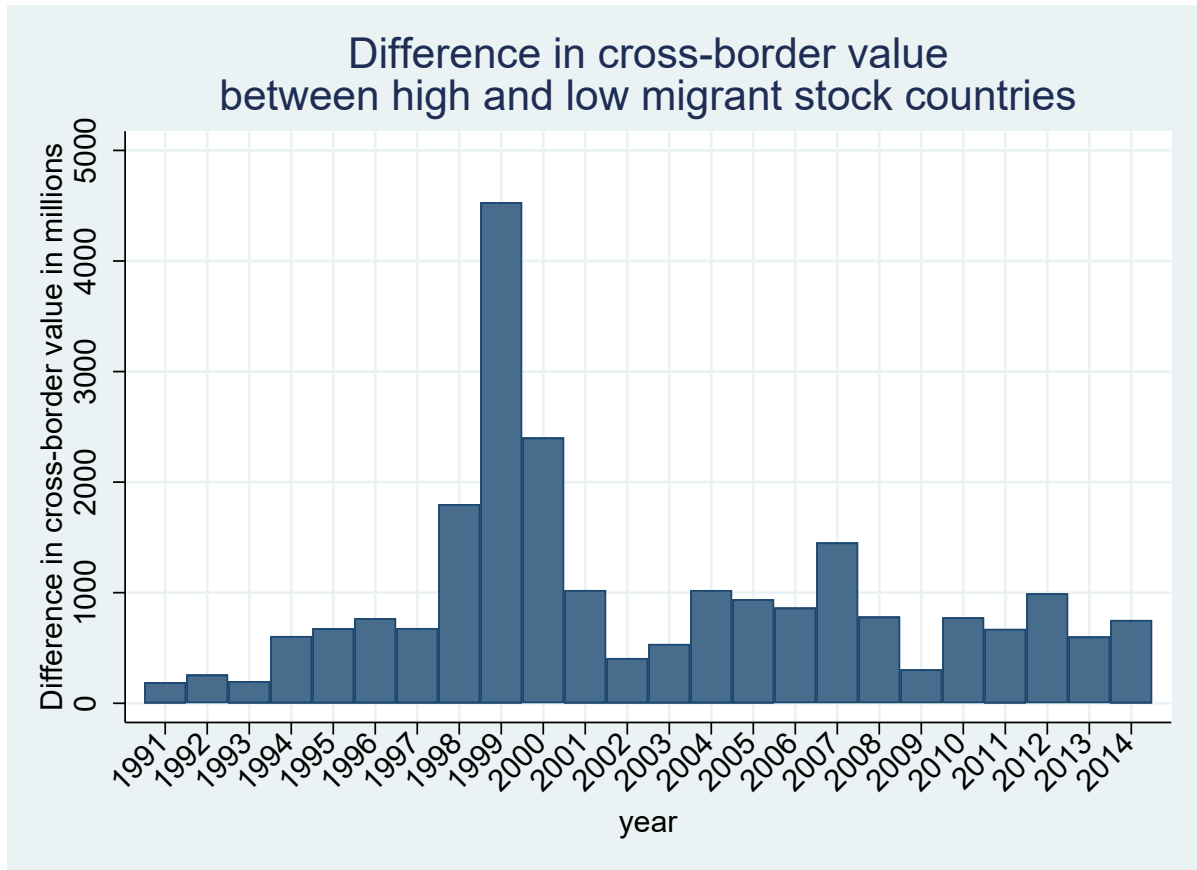


Figure 3 Immigration net inflow of several European countries during 1960-1990

This figure presents the net immigration inflow (in thousands) in Spain, Ireland, Italy, and West Germany for three specific decades: 1960-1970, 1970-1980, and 1980-1990. The bilateral immigration net inflow data are constructed by Abel and Sander (2014) using the migrant stock statistics published by the U.N. from 1970 to 2010.

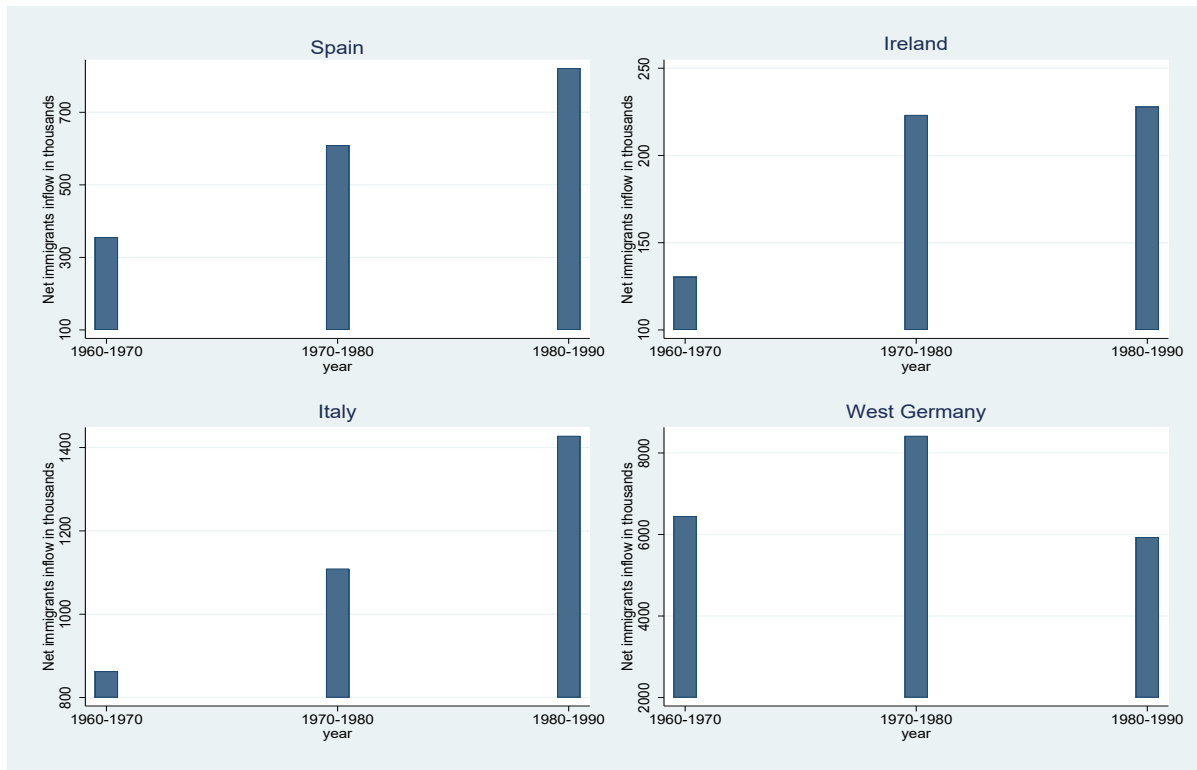


Table 2 **Summary statistics**

M&A data are collected from 1991 to 2014. *Crossborder deal* is the total number of cross-border deals from the acquiring country *i* to the target country *j* (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country *j* and the number of cross-border deals from the acquiring country *i* to the target country *j* in year *t*. *Crossborder value* is the total aggregate value of cross-border transactions from the acquiring country *i* to the target country *j* (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country *j* and the number of cross-border deals from the acquiring country *i* to the target country *j* in year *t*. Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. Stock1990 is the total number of migrants who moved from the acquiring country *i* to the target country *j* up to the year 1990. All the other explanatory variables are based on the country-pair difference between the acquirer and the target countries except *Total import and export*, *Geographic distance* and the dummy variables. *Population growth* is the difference in population growth rates between country *i* and country *j* from World Bank Development Indicators. *Market-to-book* is the difference in market-to-book ratios of the aggregate stock markets between the acquiring country *i* to the target country *j* over the previous 12 months. *Currency return* is the difference in real currency returns between the acquiring country *i* and the target country *j* over the previous 12 months. *Total import and export* is the natural logarithm of total bilateral import and export between a country pair from the UN commodity trade database. *GDP per capita* is the difference between GDP per capita of country *i* and country *j* from the World Bank Development Indicators. *Real GDP growth* is the difference in the real growth rate of GDP per capita of country *i* and country *j* from World Bank Development Indicators adjusted by an inflation deflector of 2000 US dollars. *Private credit* is the difference of domestic private credit to the real sector by deposit money banks to GDP between a country pair. *Anti-self-dealing* is the difference between the acquiring country *i* and the target *j* country of domicile in the anti-self-dealing Index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (DLLS, 2008). *Same language* is a dummy variable which equals 1 if the target and acquirers' primary language (English, Spanish, or Others) are the same (CIA World Factbook 2008). *Same religion* is a dummy variable equaling 1 if the target and acquirers' primary religion (Protestant, Orthodox, Catholic, Muslim, Judaism, Buddhist, Hindu, Ethnoreligion, or Chinese universe) are the same (CIA World Factbook 2008). *Geographic distance* is the natural logarithm of geographic distance between capitals of country *i* and country *j* from CEPII. *Contiguity* equals 1 if a country-pair shares the same border. *Colony* equals 1 if a country-pair has ever been in a colonial relationship. *Same country* equals 1 if a country-pair was or is the same country (CEPII).

variable	N	Mean	SD	Min	p25	p50	p75	Max
Crossborder_deal	10143	0.065	0.091	0.000	0.009	0.029	0.080	0.813
Crossborder_value	10143	0.101	0.222	0.000	0.000	0.002	0.060	1.000
Stock1990	10143	57495.7	243316.9	0	1194	6485	28913	4298014
Population Growth	10143	-0.012	0.936	-5.374	-0.559	-0.010	0.520	5.512
Market-to-book	10143	0.035	0.929	-2.930	-0.490	0.030	0.550	2.880
Currency return	10143	0.100	0.999	-5.212	-0.368	0.000	0.503	6.162
Total import and export	10143	22.478	1.400	12.67 0	21.585	22.640	23.716	24.122
GDP per capita	10143	0.369	1.435	-4.684	-0.231	0.164	1.140	4.671
Real GDP growth	10143	0.025	0.642	-2.491	-0.139	0.035	0.210	2.491
Private credit	10143	0.141	0.685	-1.558	-0.339	0.143	0.634	1.558
Anti-self-dealing	10143	-0.005	0.316	-0.763	-0.201	-0.006	0.194	0.763
Same_language	10101	0.099	0.299	0	0	0	0	1
Same_religion	10101	0.332	0.471	0	0	0	1	1
Geographic distance	10143	8.069	1.109	6.276	7.054	8.233	9.082	9.820
Contiguity	10143	0.118	0.322	0	0	0	0	1
Colony	10143	0.081	0.273	0	0	0	0	1
Same country	10143	0.019	0.136	0	0	0	0	1

Table 3 Migrant stock and cross-border mergers and acquisitions: A panel analysis

This table reports the panel analysis of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *Ln Stock1990* is the log-transformed total number of migrants who moved from the acquiring country i to the target country j up to the year 1990. All the other explanatory variables are based on the country-pair difference between the acquirer and the target countries except *Total import and export*, *Geographic distance* and the dummy variables. *Population growth* is the difference in population growth rates between country i and country j from World Bank Development Indicators. *Market-to-book* is the difference in market-to-book ratios of the aggregate stock markets between the acquiring country i to the target country j over the previous 12 months. *Currency return* is the difference in real currency returns between the acquiring country i and the target country j over the previous 12 months. *Total import and export* is the natural logarithm of total bilateral import and export between a country-pair from UN commodity trade database. *GDP per capita* is the difference between GDP per capita of country i and country j from the World Bank Development Indicators. *Real GDP growth* is the difference in the real growth rate of GDP per capita of country i and country j from the World Bank Development Indicators adjusted by inflation deflector of 2000 US dollars. *Private credit* is the difference of domestic private credit to the real sector by deposit money banks to GDP between a country-pair. *Anti-self-dealing* is the difference between the acquiring country i and the target j country of domicile in the anti-self-dealing Index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (DLS, 2008). *Same language* is a dummy variable equal to 1 if the target and acquirers' primary language (English, Spanish, or Others) are the same (CIA World Factbook 2008). *Same religion* is a dummy variable which equals 1 if target and acquirers' primary religion (Protestant, Orthodox, Catholic, Muslim, Judaism, Buddhist, Hindu, Ethnoreligion, or Chinese universe) are the same (CIA World Factbook 2008). *Geographic distance* is the natural logarithm of geographic distance between capitals of country i and country j from CEPII. *Contiguity* equals 1 if a country-pair shares the same border. *Colony* equals 1 if a country-pair was ever in a colonial relationship. *Same country* equals 1 if a country-pair was or is the same country (CEPII). The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 2. The first stage regressions and weak instrument tests are presented in Table A2 in the Appendix. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Ordinary Least Squares (OLS)			Two-Stage Least Squares (2SLS)		
	1991-2014	1995-2014	2000-2014	1991-2014	1995-2014	2000-2014
<i>LN Stock1990</i>	0.008*** (3.26)	0.008*** (3.23)	0.008*** (3.31)	0.006** (2.27)	0.006** (2.36)	0.007*** (2.80)
Population Growth	-0.000 (-0.36)	-0.000 (-0.30)	-0.001 (-1.43)	-0.000 (-0.36)	-0.000 (-0.30)	-0.001 (-1.44)
Market-to-book	0.007*** (6.57)	0.009*** (8.18)	0.008*** (6.28)	0.007*** (6.62)	0.009*** (8.23)	0.008*** (6.33)
Currency return	0.003***	0.003***	0.000	0.003***	0.003***	0.000

	(3.84)	(3.49)	(0.38)	(3.87)	(3.52)	(0.39)
Total import and export	0.008***	0.009***	0.008***	0.008***	0.009***	0.008***
	(3.35)	(3.56)	(3.26)	(3.36)	(3.59)	(3.32)
GDP per capita	0.033***	0.032***	0.025***	0.033***	0.032***	0.025***
	(4.78)	(4.37)	(3.42)	(4.77)	(4.37)	(3.45)
Real GDP growth	-0.002**	-0.002*	-0.000	-0.002**	-0.002*	-0.000
	(-2.40)	(-1.93)	(-0.24)	(-2.42)	(-1.95)	(-0.25)
Private credit	-0.003	-0.001	-0.001	-0.003	-0.001	-0.001
	(-1.26)	(-0.26)	(-0.45)	(-1.27)	(-0.26)	(-0.46)
Anti-self-dealing	-0.546	-0.522	-0.331	-0.542	-0.519	-0.329
	(-1.21)	(-1.14)	(-1.10)	(-1.21)	(-1.14)	(-1.11)
Same language	0.017**	0.017**	0.018**	0.017**	0.018**	0.018**
	(2.05)	(2.14)	(2.25)	(2.13)	(2.22)	(2.31)
Same religion	-0.001	0.001	0.001	-0.001	0.001	0.001
	(-0.20)	(0.19)	(0.17)	(-0.19)	(0.19)	(0.18)
Geographic distance	-0.009***	-0.009***	-0.010***	-0.009***	-0.009***	-0.010***
	(-3.24)	(-3.19)	(-3.71)	(-3.77)	(-3.69)	(-4.07)
Contiguity	0.026***	0.025***	0.022***	0.027***	0.027***	0.023***
	(3.49)	(3.43)	(3.21)	(3.56)	(3.48)	(3.19)
Colony	-0.004	-0.004	-0.001	-0.003	-0.003	-0.001
	(-0.77)	(-0.65)	(-0.20)	(-0.57)	(-0.49)	(-0.14)
Same country	0.004	0.002	0.001	0.005	0.003	0.001
	(0.30)	(0.15)	(0.07)	(0.36)	(0.20)	(0.09)
Constant	-0.356	-0.162	0.112	0.284	-0.064	-0.042
	(-0.98)	(-0.50)	(1.03)	(0.85)	(-0.94)	(-0.65)
Hansen J statistic for over-identification (<i>p</i> -value)				0.3075	0.2917	0.3813
Partial R-squared				0.52	0.51	0.51
F test of excluded instruments				94.51***	92.71***	88.91***
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,101	9,250	7,601	10,101	9,250	7,601
R-squared	0.57	0.58	0.60	0.57	0.58	0.60

Table 4 Migrant stock and cross-border mergers and acquisitions: cross-border value

This table reports the panel analysis of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total value of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the total value of domestic deals in target country j and the total value of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $Ln Stock1990$ is the log-transformed total number of migrants who moved from the acquiring country i to the target country j to the year 1990. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 2. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	1991-2014	1995-2014	2000-2014	1991-2014	1995-2014	2000-2014
	Ordinary Least Squares (OLS)			Two Stage Least Squares (2SLS)		
<i>LN Stock1990</i>	0.008* (1.87)	0.009** (2.01)	0.009** (2.13)	0.008** (2.14)	0.010* (1.85)	0.011** (1.98)
Population Growth	-0.000 (-0.05)	0.000 (0.10)	-0.003 (-0.79)	-0.000 (-0.05)	0.000 (0.10)	-0.003 (-0.80)
Market-to-book	0.005 (1.44)	0.009*** (2.76)	0.012*** (3.20)	0.005 (1.45)	0.009*** (2.78)	0.012*** (3.23)
Currency return	0.007*** (2.98)	0.006*** (2.86)	0.005* (1.86)	0.007*** (2.99)	0.006*** (2.88)	0.005* (1.87)
Total import and export	-0.001 (-0.20)	0.001 (0.17)	-0.002 (-0.32)	-0.001 (-0.20)	0.001 (0.19)	-0.001 (-0.30)
GDP per capita	0.026 (1.46)	0.023 (1.19)	0.020 (1.12)	0.026 (1.47)	0.023 (1.21)	0.020 (1.14)
Real GDP growth	-0.008*** (-2.73)	-0.008*** (-2.75)	-0.005 (-1.49)	-0.008*** (-2.75)	-0.008*** (-2.77)	-0.005 (-1.50)
Private credit	-0.018*** (-2.81)	-0.015** (-2.14)	-0.019** (-2.07)	-0.018*** (-2.83)	-0.015** (-2.15)	-0.019** (-2.09)
Anti-self-dealing	-1.401 (-1.13)	-1.320 (-1.06)	-0.909 (-0.39)	-1.402 (-1.13)	-1.323 (-1.07)	-0.914 (-0.40)
Same language	0.022* (1.68)	0.026* (1.87)	0.029* (1.93)	0.022* (1.68)	0.026* (1.86)	0.029* (1.91)
Same religion	0.017***	0.020***	0.018**	0.017***	0.020***	0.018**

	(2.63)	(3.01)	(2.51)	(2.65)	(3.03)	(2.53)
Geographic distance	-0.011**	-0.008	-0.005	-0.011*	-0.007	-0.004
	(-1.97)	(-1.40)	(-0.84)	(-1.94)	(-1.30)	(-0.68)
Contiguity	0.020*	0.027**	0.031***	0.020*	0.026**	0.030**
	(1.79)	(2.34)	(2.64)	(1.72)	(2.19)	(2.45)
Colony	-0.010	-0.011	-0.005	-0.011	-0.012	-0.007
	(-0.90)	(-0.95)	(-0.46)	(-0.91)	(-1.00)	(-0.56)
Same country	-0.009	-0.017	-0.038	-0.009	-0.017	-0.038
	(-0.27)	(-0.54)	(-1.43)	(-0.28)	(-0.55)	(-1.47)
Constant	-1.155	-0.607	0.335	1.145	1.027	0.128
	(-1.17)	(-0.69)	(0.49)	(1.26)	(1.13)	(0.87)
Hansen J statistic for over- identification (<i>p</i> -value)				0.3594	0.7213	0.7376
Partial R-squared				0.52	0.51	0.51
F test of excluded instruments				94.51***	92.71***	88.91***
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,101	9,250	7,601	10,101	9,250	7,601
R-squared	0.19	0.20	0.20	0.19	0.20	0.20

Table 5 Exogenous immigration inflow and cross-border mergers and acquisitions: Three European Countries

This table reports the effects of the exogenous changes in immigration inflow on cross-border mergers and acquisitions in three European countries, Spain, Italy and Ireland following the 1973 oil crisis. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . The bilateral immigration net inflow data is constructed by Abel and Sander (2014) using the migrant stock statistics published by the U.N. from 1970 to 2010. $\ln Inflow1980$ is the log-transformed total number of migrants who move from the acquiring country i to the target country j (namely Spain, Italy and Ireland) between 1970 and 1980. The control variables are defined as in Table 3. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1) Ireland	(2) Spain	(3) Italy	(4) Ireland, Spain, and Italy
LnInflow1980	0.027*** (3.46)	0.015*** (5.77)	0.015*** (7.45)	0.008*** (5.75)
Target country FE	No	No	No	Yes
Acquiring country FE	Yes	Yes	Yes	Yes
Control variables	Included	Included	Included	Included
Observations	138	361	373	872
R-squared	0.89	0.58	0.66	0.64

Table 6 Migrant stock and cross-border mergers and acquisitions: alternative samples

This table reports the 2SLS estimates of the cross-border mergers and acquisitions for several alternative country-pair samples: excluding the deals with the U.S.; including deals within or outside the EU; including deals within or outside the OECD countries. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *Ln Stock1990* is the log-transformed total number of migrants who move from the acquiring country i to the target country j to the year 1990. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 2. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Excluding deals with the U.S.	(2) Within the EU	(3) Outside the EU	(4) Within the OECD	(5) Outside of the OEDC
<i>LN Stock1990</i>	0.005*** (4.20)	0.008*** (4.06)	0.006*** (3.76)	0.007*** (5.52)	0.005** (2.04)
Full set of controls included	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes
Observations	8,622	2,697	7,404	5,746	4,355
R-squared	0.54	0.61	0.58	0.58	0.59

Table 7 Migrant stock and cross-border mergers and acquisitions: Alternative model specifications

This table reports the OLS and the 2SLS estimates of cross-border mergers and acquisitions for country-pairs using alternative immigration measures from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LN UN Stock* is the log-transformed total number of migrants who moved from the acquiring country i to the target country j up to the year 1980, 1990, 2000, and 2010. *LN ABEL Flow* is the log-transformed total number of migrants who move from the acquiring country i to the target country j during the period from 1970 to 1980, from 1980 to 1990, from 1990 to 2000, and from 2000 to 2010. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are discussed in Section 4.4. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)
	OLS		2SLS	
LN UN Stock _{$t-10$}	0.005** (2.38)		0.005** (2.00)	
LN ABEL Flow _{$t-10$}		0.008*** (3.12)		0.017* (1.83)
Hansen J statistic for over-identification (p -value)			0.4223	0.5390
Partial R-squared			0.51	0.07
F test of excluded instruments			117.91***	12.57***
Full set of controls included	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes
Observations	10,101	10,101	10,101	10,101
R-squared	0.57	0.57	0.57	0.57

Table 8 Migrant stock, cultural distance, and cross-border mergers and acquisitions

This table reports the 2SLS estimates of cross-border mergers and acquisitions for country pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $LN\ Stock1990$ is the log-transformed total number of migrants who move from the acquiring country i to the target country j up to the year 1990. Nine measures of culture are used as the main explanatory variable (Column names from (1) to (9)). Power distance index (PDI), Individualism (IDV) vs. collectivism, Uncertainty avoidance index (UAI), Masculinity (MAS) vs. femininity, Long-term orientation (LTO) vs. short-term orientation and Indulgence versus restraint (IVR) are the six dimensions of the national culture obtained from Hofstede (1980, 2001). Trust_WVS, Hierarchy_WVS, and Individualism_WVS are constructed from the Longitudinal Multiple-Wave data available at the World Values Survey (WVS). The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1) Power distance	(2) Individualism	(3) Masculinity	(4) Uncertainty avoidance	(5) Long-term orientation	(6) Indulgence	(7) Trust_WVS	(8) Hierarchy WVS	(9) Individualism WVS
<i>LN Stock1990</i>	0.0019** (2.37)	0.0022** (2.53)	0.0035** (2.52)	0.0018** (2.23)	0.0045*** (2.76)	0.0030** (1.96)	0.0046*** (3.26)	0.0041*** (2.64)	0.0036** (2.23)
Cultural distance	-0.0001** (-2.53)	0.0001 (1.27)	-0.0002*** (-4.64)	-0.0002*** (-3.52)	-0.0001** (-2.02)	-0.0002*** (-3.64)	-0.0023*** (-3.49)	-0.0065 (-0.93)	0.0003 (0.21)
LN Stock1990*Cultural distance	0.0002*** (4.62)	0.0002*** (4.38)	0.0001* (1.73)	0.0002*** (4.11)	0.0001 (1.58)	0.0002*** (4.26)	0.0085 (1.37)	0.0140*** (3.59)	0.0035*** (3.25)
Full set of controls included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,804	9,804	9,804	9,804	10,101	9,877	10,101	8,748	10,101
R-squared	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.58	0.57

Table 9 Migrant stock and cross-border mergers and acquisitions: Information asymmetry

This table reports the 2SLS estimates of cross-border mergers and acquisitions for country pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LN Stock1990* is the log-transformed total number of migrants who moved from the acquiring country i to the target country j up to the year 1990. Different industry sample (Column 3) includes the deals that the target and the acquirer in a deal are not in the same 2 digit Standard Industry Classification (SIC) industry, while Same industry sample (Column 4) includes the deals that the target and the acquirer in a deal are in the same 2 digit SIC industry. The complex or less complex industry (Columns 5 and 6) is defined using industry accounting complexity measures constructed by Francis and Gunn (2015) for the Fama and French 48 industries based on industry-specific accounting guidance in the U.S. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Private targets	Public targets	Different industry	Same industry	Targets in less complex industry	Targets in more complex industry
<i>LN Stock1990</i>	0.0067*** (3.88)	0.0042** (2.55)	0.0073*** (3.76)	0.0050*** (3.40)	0.0058*** (3.07)	0.0070*** (4.48)
Full set of controls included	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,497	7,033	6,594	7,957	7,866	6,313
R-squared	0.55	0.58	0.57	0.57	0.58	0.58

Table 10 Migrant stock and cross-border mergers and acquisitions: Labor-intensity

This table reports the 2SLS estimates of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LN Stock1990* is the log-transformed total number of migrants moving from the acquiring country i to the target country j up to the year 1990. The high capital-to-labor ratio industry is the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of invested capital over the total number of employees while the low capital-to-labor industry is the bottom quartile of the Fama and French 48 industries each year. The high labor-intensive industry is the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of total employee number over sales while the low labor-intensive industry is the bottom quartile of the Fama and French 48 industries each year. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
	Targets in high capital-to-labor ratio industry	Targets in low capital-to-labor ratio industry	Targets in low labor intensive industry	Targets in high labor intensive industry
M&A Deals				
<i>LN Stock1990</i>	0.0137*** (5.65)	0.0214*** (13.79)	0.0209*** (12.67)	0.0219*** (13.54)
Full set controls included	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes
Observations	4,018	6,743	5,986	6,647
R-squared	0.53	0.53	0.52	0.53

Table 11 Migrant stock and cross-border mergers and acquisitions: Organization capital

This table reports the 2SLS estimates of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $LN\ Stock1990$ is the log-transformed total number of migrants moving from the acquiring country i to the target country j up to the year 1990. The high organization capital industry is the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of estimated organizational capital scaled by total assets, constructed using selling, general, and administrative (SG&A) expense and the perpetual inventory method following Eisfeldt and Papanikolaou (2013), while the low organization capital industry is the bottom quartile of the Fama and French 48 industries each year. The high SG&A expense industry is the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of SG&A expense over sales while the low SG&A expense industry is the bottom quartile of the Fama and French 48 industries each year. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 2. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) acquirers in low organization capital industry	(2) acquirers in high organization capital industry	(3) acquirers in low SG&A expense industry	(4) acquirers in high SG&A expense industry
M&A Deals				
<i>LN Stock1990</i>	0.0107*** (4.68)	0.0240*** (15.21)	0.0167*** (7.51)	0.0240*** (15.00)
Full set controls included	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes
Observations	3,637	6,935	3,913	7,081
R-squared	0.53	0.53	0.52	0.53

Table 12 Summary statistics of the cumulative abnormal returns of public targets and public acquirers upon the announcement

The table reports all completed cross-border mergers and acquisitions between 1991 and 2014 as listed by SDC where either a publicly-traded acquiring firm gains control of a target or a publicly traded target firm is acquired by an acquirer with a transaction value over 1 million US\$. The announcements of abnormal returns of three-day event window CAR(-1, +1) and five-day event window CAR (-2, +2) are reported for all public targets, all public acquirers, and their combined abnormal returns, respectively. The ***, **, and * denote the statistical significance of *t*-tests on the equality of means equal to 0 at the 1%, 5%, and 10% level, respectively.

Variable	Observations	Mean	Median	Standard Deviation
Target CAR(-1, +1)	1,647	0.173***	0.146	0.211
Target CAR (-2, +2)	1,647	0.186***	0.160	0.224
Acquiror CAR(-1, +1)	1,803	0.006*	0.004	0.068
Acquiror CAR (-2, +2)	1,803	0.008*	0.005	0.081
Equally-weighted combined CAR(-1, +1)	1,152	0.092***	0.079	0.115
Value-weighted combined CAR(-1, +1)	1,146	0.039***	0.022	0.092
Equally-weighted combined CAR (-2, +2)	1,152	0.098***	0.088	0.123
Value-weighted combined CAR (-2, +2)	1,146	0.044***	0.027	0.101

Table 13 Combined announcement abnormal returns and migrant stock

The table reports all completed cross-border mergers and acquisitions between 1991 and 2014 as listed by SDC where both acquiring firm and target firm are publicly traded. The target firm is acquired by an acquirer with a transaction value over 1 million US\$. The dependent variable is the three-day cumulative abnormal return CAR (-1, +1) and the five-day cumulative abnormal return CAR (-2, +2) measured using the market model, respectively. *Deal size* is the total value of the consideration paid by the acquirer, excluding fees and expenses. *Stock1990* is the total number of migrants (in ten thousands) who move from the acquiring country *i* to the target country *j* up to the year 1990. *Relative size* is the ratio of the transaction value over the target market capitalization of equity at the announcement date. *Acquirer size* is the acquirer's market capitalization of equity at the announcement date. *Percentage of cash* is the percentage of cash over total transaction value paid. *Tender-offer*, *hostile*, *A high-tech* and *T high-tech* are dummy variables that take the value 1 if the acquisition is a tender offer, if it is hostile according to SDC, if the acquirer is in a high-technology industry based on its four-digit SIC code, if the target is in a high-technology industry based on its four-digit SIC code following Loughran and Ritter (2004), respectively. *Percentage acquired* is the percentage ownership of the target shares acquired after the deal by the acquirer. *Diversify* is a dummy variable that equals one if the target and the acquirer are not in the same four-digit SIC industry. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. *t*-statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)
	OLS		2SLS	
	Value-weighted CAR(-1,+1)	Value-weighted CAR(-2,+2)	Value-weighted CAR(-1,+1)	Value-weighted CAR(-2,+2)
<i>Stock1990</i>	0.0007*** (3.58)	0.0008*** (3.55)	0.0006* (1.83)	0.0008** (2.07)
Deal size	0.0090*** (3.42)	0.0118*** (4.10)	0.0090*** (3.72)	0.0118*** (4.43)
Relative size	0.0000 (0.05)	-0.0000 (-0.22)	0.0000 (0.05)	-0.0000 (-0.24)
Acquirer size	-0.0080*** (-3.88)	-0.0103*** (-4.53)	-0.0081*** (-4.21)	-0.0103*** (-4.89)
Percentage of cash	0.0003** (2.54)	0.0003*** (2.78)	0.0003*** (2.76)	0.0003*** (3.01)
Tender offer	-0.0049 (-0.61)	-0.0143 (-1.62)	-0.0050 (-0.67)	-0.0143* (-1.76)
Hostile	0.0161 (0.82)	0.0182 (0.85)	0.0162 (0.90)	0.0182 (0.92)
A high-tech	0.0043 (0.36)	0.0185 (1.43)	0.0041 (0.38)	0.0185 (1.54)
T high-tech	-0.0274** (-2.45)	-0.0347*** (-2.83)	-0.0275*** (-2.66)	-0.0347*** (-3.06)
Percentage acquired	-0.0000 (-0.14)	0.0000 (0.06)	-0.0000 (-0.15)	0.0000 (0.06)
Diversify	0.0075 (0.96)	0.0168* (1.95)	0.0075 (1.03)	0.0168** (2.11)
Full set of controls included	Yes	Yes	Yes	Yes
Acquiring country fixed effects	Yes	Yes	Yes	Yes
Target country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	788	788	788	788
Adjusted R-squared	0.25	0.25	0.25	0.25

Table 14 Migrant stock and cross-border mergers and acquisitions: The number of bidding success

This table reports the regressions of the number of bid success rate of cross-border mergers and acquisitions for country pairs from 1991 to 2014. The dependent variable is the log-transformed total number of successful bids within a country-pair each year if the status code of a deal is either “Completed” or “Unconditional” denoted by the SDC. Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LN Stock1990* is the log-transformed total number of migrants who move from acquiring country *i* to target country *j* up to the year 1990. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of 2SLS, Tobit IV, and Tobit two-step IV approaches are derived in Section 2. PPML is the Poisson pseudo maximum likelihood estimator. Robust *z*-statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1) OLS	(2) 2SLS	(3) Tobit	(4) Tobit IV	(5) Poisson	(6) PPML
<i>LN Stock1990</i>	0.053*** (4.29)	0.046*** (5.61)	0.049*** (3.53)	0.044*** (4.83)	0.038*** (3.12)	0.036*** (3.83)
Full set of controls included	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,540	11,540	11,540	11,540	11,540	11,540
R-squared	0.44	0.44				

Table 15 Migrant stock and cross-border mergers and acquisitions: Sample selection bias

This table reports the Tobit regressions of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . In order to address the sample selection bias, all missing cross-border deal and cross-border value observations are replaced with 0. Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LN Stock1990* is the log-transformed total number of migrants moving from the acquiring country i to the target country j up to the year 1990. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Tobit IV and Tobit two-step IV approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1) Tobit	(2) Tobit IV	(3) Tobit Two-Step IV
<i>LN Stock1990</i>	0.007*** (2.96)	0.004** (2.35)	0.004** (2.44)
Full set of controls included	Yes	Yes	Yes
Acquiring country fixed effects	Yes	Yes	Yes
Target country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	26,299	26,299	26,299
Uncensored observations	10,101	10,101	10,101

Table 16 International migration and cross-border mergers and acquisitions: Outbound vs. Inbound effects

This table reports the panel analysis of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . All immigration data are lagged ten years to M&As data. Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *UN Outbound Stock* is the percentage of the number of migrants who moved out of the target country j to the acquiring country i over the total population of the target country j at the year 1980, 1990, 2000, and 2010, respectively. *UN Inbound Stock* is the percentage of the number of migrants moving out of the acquiring country i to the target country j over the total population of the target country j at the years 1980, 1990, 2000, and 2010, respectively. The immigration flow data are from Abel and Sander (2014). *ABEL Inbound Flow* is the total number of migrants flow moving out of the acquiring country i to the target country j over the total population of the target country i during the periods from 1970 to 1980, from 1980 to 1990, from 1990 to 2000, and from 2000 to 2010, respectively. *ABEL Outbound Flow* is the total number of migrants moving out of the target country j to the acquiring country i over the total population of the target country i during the periods from 1970 to 1980, from 1980 to 1990, from 1990 to 2000, and from 2000 to 2010. All the other explanatory variables are based on the country-pair difference between the acquirer and target countries except *Total import and export*, *Geographic distance* and dummy variables. The explanatory variables are defined in Table 3. Robust t -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)
UN Inbound Stock _{$t-10$}		0.117** (2.57)		
UN Outbound Stock _{$t-10$}	0.022 (0.92)	0.011 (0.40)		
ABEL Outbound Flow _{$t-10$}			0.081*** (2.85)	0.084*** (3.22)
ABEL Inbound Flow _{$t-10$}				0.297*** (4.66)
Full set of controls included	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes
Observations	10,101	10,101	10,101	10,101
R-squared	0.57	0.58	0.58	0.58

Appendix

Figure A1a Difference in average cross-border deal numbers between high and medium migrant stock countries, 1991-2014

This figure presents the average difference in total cross-border deal numbers between the high and medium inbound migrant stock groups by year. The high inbound migrant stock country group contains the country-pairs whose bilateral migrant stock from the acquirer to the target country is in the top tertile of the World Bank's annual migrant stock in 1990. The medium inbound-migrant stock country group contains the country-pairs whose bilateral migrant stock from the acquirer to the target country is in the middle tertile of the World Bank's annual migrant stock in 1990. The migration country-level stock data are from the Global Bilateral Migration Database of the World Bank. The sample covers 52 countries for the period 1991-2014.

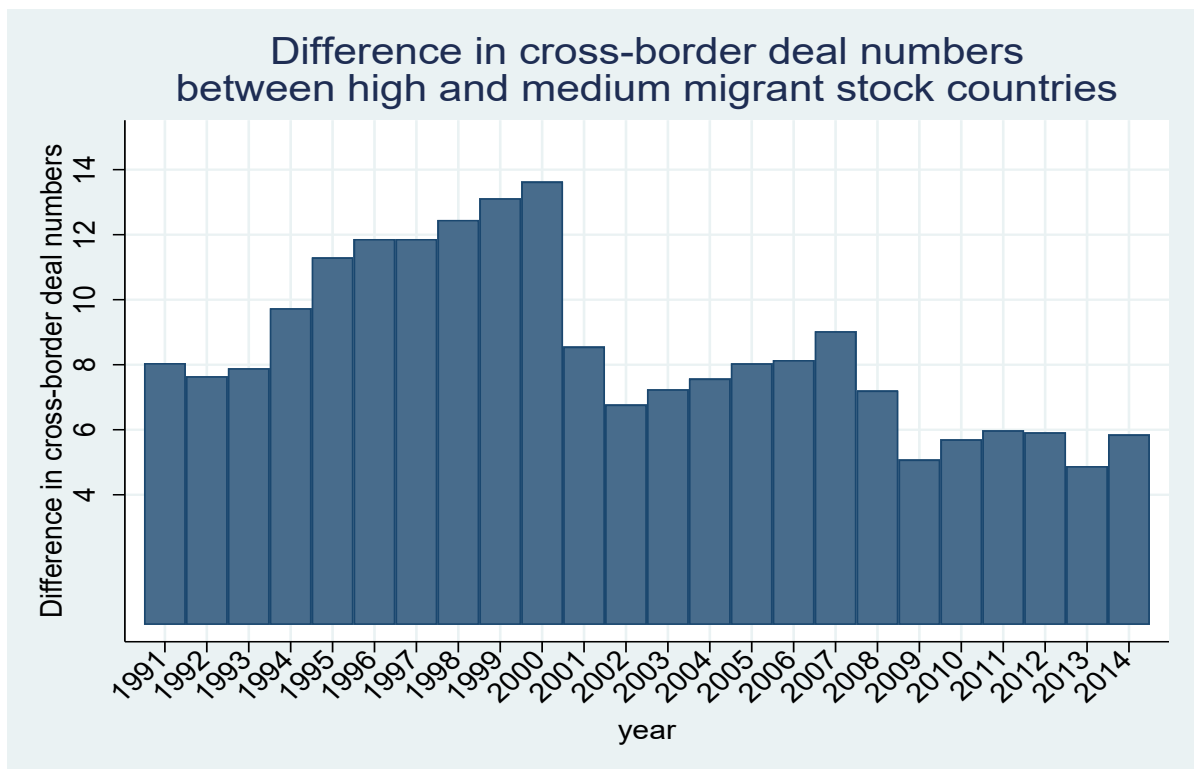


Figure A1b Difference in average cross-border deal value between high and medium migrant stock countries, 1991-2014

This figure presents the average difference in the cross-border value (in million US\$) between the high and medium inbound migrant stock groups by year. The high inbound migrant stock country group contains the country-pairs whose bilateral migrant stock from the acquirer to the target country is in the top tertile of the World Bank's annual migrant stock in 1990. The medium inbound migrant stock country group contains the country-pairs whose bilateral migrant stock from the acquirer to the target country is in the middle tertile of the World Bank's annual migrant stock in 1990. The migration country-level stock data are from the Global Bilateral Migration Database of the World Bank. The sample covers 52 countries for the period 1991-2014.

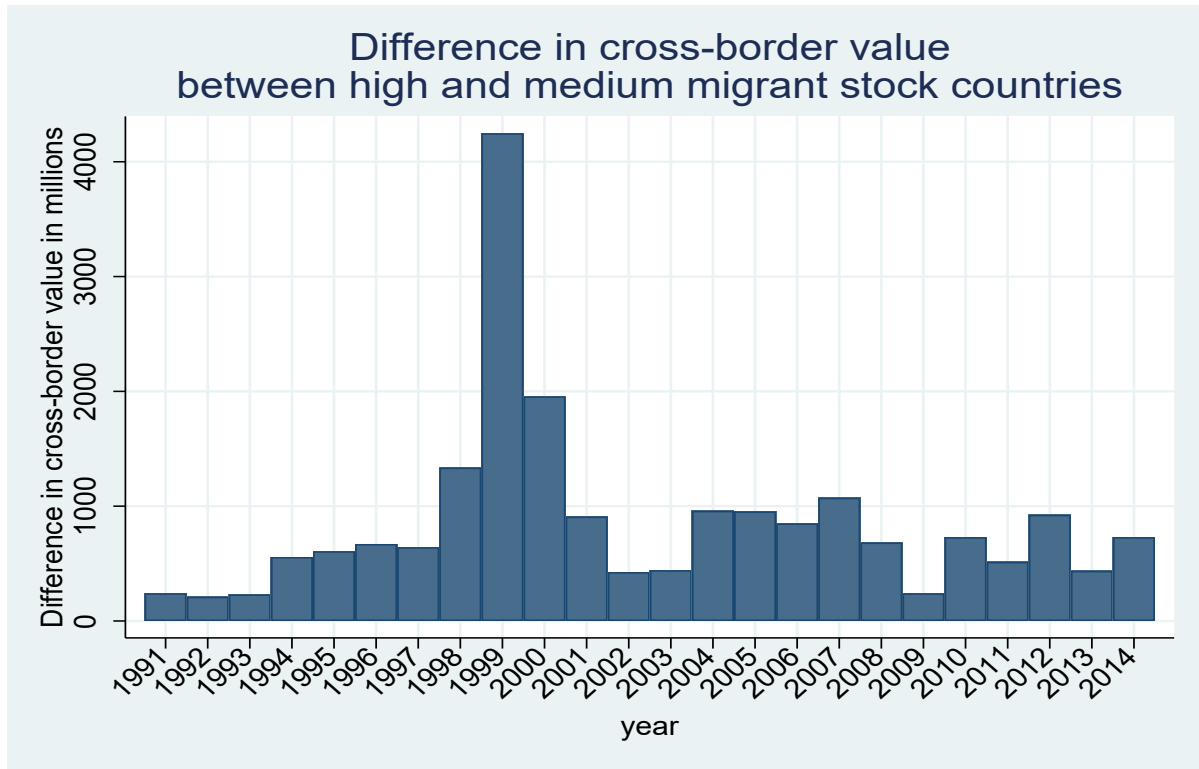
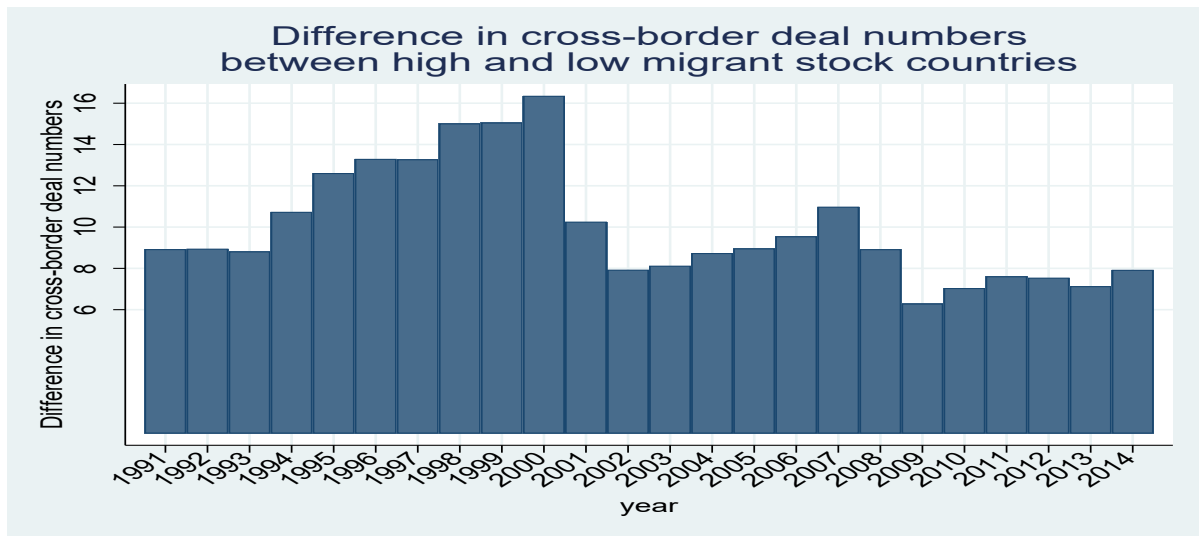


Figure A1c Difference in average cross-border deal numbers between high and low immigrant countries: Sequential matching

The figures present the average difference in total cross-border deal numbers between the high and low inbound migrant country groups by year using a sequential matching approach. The high inbound migrant country group contains the country-pairs whose inbound migrant stock (lagged 10 years, in Panel A) or whose inbound migrant flow (lagged 10 years, in Panel B) from the acquirer to the target country are in the top tertile of annual migrant stock (flow) during the periods from 1970 to 1980, from 1980 to 1990, from 1990 to 2000, and from 2000 to 2010, respectively. The migration country-level stock data are from the Global Bilateral Migration Database of the World Bank. The immigration flow data are from Abel and Sander (2014). The cross-border deal number at a given year is matched sequentially with the inbound migrant stock or flow data with a time lag of (at least) ten years at the country-pair level. For example, the deal number in 1991 to 1999 will be matched with inbound stock or flow data for the period from 1980 to 1990. The sample covers 52 countries for the period 1991-2014.

Panel A UN stock data (lagged 10 years)



Panel B ABEL inflow data (lagged 10 years)

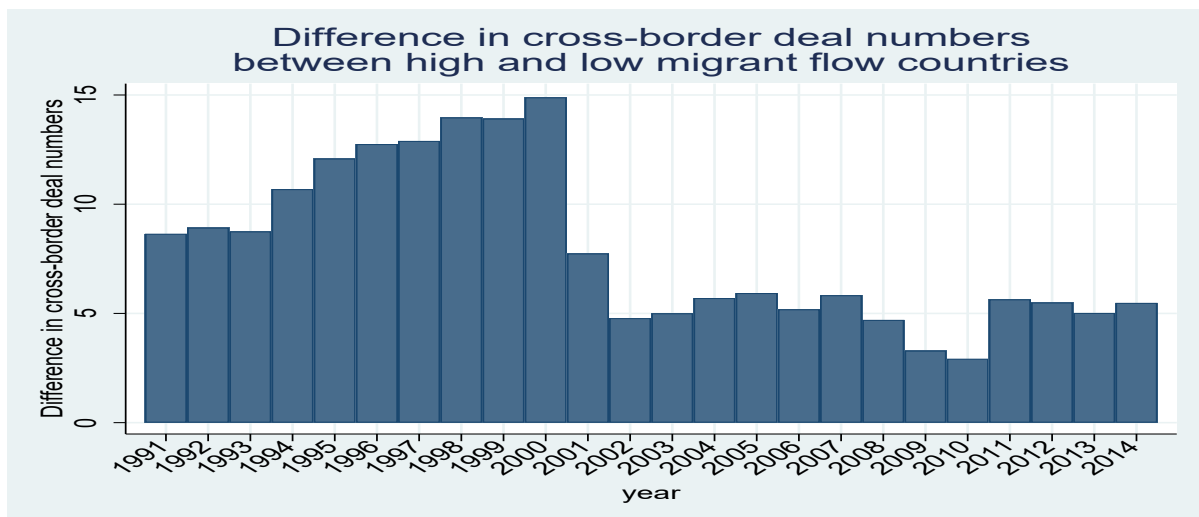


Table A1 Description of Variables

Country-level control variables	
Cross-border deal	The total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . (Data source: the Security Data Corporation's database, SDC)
Cross-border value	The aggregate value of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the total value of domestic deals in the target country j and the total value of cross-border deals from the acquiring country i to the target country j in year t . (Data source: SDC)
LN Stock1990	The natural log-transformed total number of migrants originating from the acquiring country i into the target country j up to the year 1990. (Data source: the Global Bilateral Migration database 1960–2000 of the World Bank that is constructed from the UN Population Division's Global Migration Database)
LN UN Stock $_{t-10}$	The natural log-transformed total number of migrants originating from the acquiring country i into the target country j up to 1980, 1990, 2000, and 2010, respectively.
LN ABEL Flow $_{t-10}$	The natural log-transformed total number of migrant flow originating from the acquiring country i into country j during the periods from 1970 to 1980, from 1980 to 1990, from 1990 to 2000, and from 2000 to 2010. (Data source: the Bilateral migration flow dataset of Abel and Sander (2014))
Push T_1 - T_2	The total number of migrants leaving country i but excluding those who settled in the target country j between time T_1 and T_2 (Data sources: the Global Bilateral Migration database 1960–2000 of the World Bank and the Bilateral migration flow dataset of Abel and Sander (2014))
Pull T_1 - T_2	The ratio of the total number of migrants originating from country i into the target country j over the total number of migrants who settled in the target country j (excluding those migrants from country i who settled in the target country j) between time T_1 and T_2 . (Data sources: the Global Bilateral Migration database 1960–2000 of the World Bank and the Bilateral migration flow dataset of Abel and Sander (2014))
Population growth	The difference in population growth rates between country i and country j (World Bank Development Indicators).
Market-to-book	The difference in market-to-book ratios of the aggregate stock markets between the acquiring country i and the target country j over the previous 12 months (Datastream)
Currency return	The difference in real currency returns between country i and country j over the previous 12 months. The consumer price index (CPI) for each country is collected to convert all nominal exchange rate returns into real exchange rate returns at the year 2000 price level.
Total import and export	The natural logarithm of total bilateral imports and exports between a country-pair (Data source: UN commodity trade database)
GDP per capita	The difference between GDP per capita (adjusted by GDP deflator) of country i and country j (Data source: World Bank Development Indicators)
Real GDP growth	The difference in the real growth rate of GDP per capita of country i and country j . (Data source: World Bank Development Indicators)
Private credit	The ratio of domestic private credit to the real sector by deposit money banks to GDP (Data source: World Bank Development Indicators)
Anti-self-dealing	The difference between acquiring country i and target j country of domicile in the anti-self-dealing Index (Data source: Djankov, La Porta, Lopez-de-Silanes, and Shleifer 2008)

Same language	Dummy variable that equals 1 if both the target and acquiring nation's primary language (English, Spanish, or Other) are the same, and 0 if otherwise (Data source: CIA World Factbook 2008)
Same religion	Dummy variable that equals 1 if both the target and acquiring nation's primary religion (Protestant, Orthodox, Catholic, Muslim, Judaism, Buddhist, Hindu, Ethnoreligion, or Chinese universe) are the same, and 0 if otherwise (Data source: CIA World Factbook 2008)
Geographic distance	The natural logarithm of the geographic distance between the capitals of country i and country j (Data source: CEPIL).
Contiguity	Dummy variable that equals 1 if a country-pair shares the same border, and 0 if otherwise.
Colony	Dummy variable that equals 1 if a country-pair was ever in a colonial relationship, and 0 if otherwise.
Same country	Dummy variable that equals 1 if a country-pair was or is the same country, and 0 if otherwise.
Hofstede cultural distance	The six dimensions of national cultural measures of Hofstede, namely Power distance index (PDI), Individualism (IDV) vs. collectivism, Uncertainty avoidance index (UAI), Masculinity (MAS) vs. femininity, Long-term orientation (LTO) vs. short-term orientation and Indulgence versus restraint (IVR) of Hofstede (1980, 2001).
WVS cultural distance	Three cultural distance measures, Trust_WVS, Hierarchy_WVS and Individualism_WVS, constructed from the Longitudinal Multiple-Wave data available at the World Values Survey (WVS) following Ahern, Daminelli and Fracassi (2015).

Deal level control variables

Data source: SDC

Deal size	The total transaction value of a deal at the announcement date.
Relative size	The ratio of the transaction value over the target's market value at the announcement date.
Percentage of cash	Percentage of cash used for the payment of an acquisition.
Tender offer	Dummy variable that equals 1 if a merger is a tender offer and 0 if otherwise.
Hostile	Dummy variable that equals 1 if a deal is classified as hostile and 0 if otherwise.
T high-tech	Dummy variable that equals 1 if a target is in a high technology industry classified by their 4-digits Standard Industry Classification (SIC) code.
A high-tech	Dummy variable that equals 1 if an acquirer is in a high technology industry classified by its 4-digits SIC code following Loughran and Ritter (2004).
Percentage acquired	The percentage of target shares acquired after the deal.
Diversify	Dummy variable that equals 1 if the target and the acquirer in a deal are not in the same 4 digit SIC industry.

Table A2 First stage regression: The effect of past pull and push factors on migrant stock

This table contains the first-stage regression results of the IV approach reported in Table 3. *LN Stock1990* and *LN Stock 1970* are the natural logarithms of the raw number of migrant stock from the country of origin *i* to country *j* in 1990 and in 1970 respectively. *Stock 1970* and *Stock 1990* are the raw numbers of migrants from the origin country *i* to country *j* in 1970 and in 1990, respectively. The push factors *Push1970-1980* and *Push1980-1990* are defined as the total number of migrants leaving the country of origin *i* but excluding the migrants settled in the target country *j* between the year 1970 to 1980 and the year 1980 to 1990, respectively. The pull factors *Pull1970-1980* and *Pull1980-1990* are the ratio of the number of migrants moving from the country of origin *i* to the target country *j* over the total number of migrants settled in country *j* (but excluding the migrants settled in the target country) *j* between the year 1970 to 1980 and the year 1980 to 1990, respectively. All the other variables are defined in Appendix I Description of Variables. All test statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
	LN Stock1990	LN Stock1990	Incremental R-squared	Stock1990
LN Stock1970*Pull1970-1980	0.0003*** (9.47)	0.0001*** (9.47)	0.07	0.007*** (8.83)
LN Stock1970*Pull1980-1990	0.0002*** (8.85)	0.0001*** (8.85)	0.03	0.003*** (6.14)
Push1970-1980*Pull1970-1980	0.016*** (6.18)	0.016*** (7.36)	0.004	-0.062 (-0.86)
Push1980-1990*Pull1980-1990	0.014*** (5.89)	0.006*** (3.69)	0.004	0.179*** (3.62)
LN Stock1970	0.240*** (18.09)	0.150*** (16.51)	0.12	
Stock1970				0.338*** (4.97)
Partial R-squared	0.63	0.52		0.23
F test of excluded instruments	109.23***	94.51***		56.90***
Year fixed-effects	Yes	Yes		Yes
Full set of controls	Yes	Yes		Yes
Target country FE	No	Yes		Yes
Acquiring country FE	No	Yes		Yes
Observations	10,101	10,101		10,101
R-squared	0.68	0.82		0.51

Table A3 Migrant stock and cross-border mergers and acquisitions: High-dimensional fixed effects

This table reports the panel analysis of cross-border mergers and acquisitions for country-pairs from 1991 to 2014 with high-dimensional fixed effects. *Crossborder_deal* is the total number of cross-border deals from the acquiring country *i* to the target country *j* (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country *j* and the number of cross-border deals from the acquiring country *i* to the target country *j* in year *t*. *Crossborder_value* is the total aggregate value of cross-border transactions from the acquiring country *i* to the target country *j* (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country *j* and the number of cross-border deals from the acquiring country *i* to the target country *j* in year *t*. International migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. *LnStock1990* is the natural logarithms of the raw number of migrants from the acquiring country *i* to the target country *j* up to the year 1990. The full set of controls is included as in Table 3. Robust t-statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) <i>Cross-border Deal</i>	(2) <i>Cross-border Value</i>
<i>LN Stock1990</i>	0.008*** (9.06)	0.008** (2.32)
Full set of controls included	Yes	Yes
Target country * Year FE	Yes	Yes
Acquiring country * Year FE	Yes	Yes
Observations	10,101	10,101
R-squared	0.77	0.42

Table A4 Migrant stock in 1990 and deeply-lagged migrant stocks

This table reports the panel analysis of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . International migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $LnStock1990$, $LnStock1970$, and $LnStock1960$ are the natural logarithms of the raw number of migrants from the country of origin i to country j up to the years 1990, 1970, and 1960, respectively. The full set of controls is included, as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country-pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A	(1)	(2)
<i>LN Stock1990</i>	0.010*** (2.99)	0.008*** (2.89)
<i>LN Stock1970</i>	-0.003 (-1.13)	
<i>LN Stock1960</i>		-0.001 (-0.17)
Full set of controls included	Yes	Yes
Year fixed-effects	Yes	Yes
Target country FE	Yes	Yes
Acquiring country FE	Yes	Yes
Observations	10,101	10,102
R-squared	0.57	0.57
Panel B Correlations		
	Residuals from the OLS regressions using <i>LN Stock1990</i>	
<i>LN Stock1970</i>	-0.0096	
<i>LN Stock1960</i>	-0.0024	

Table A5 Migration, cultural distance, and cross-border mergers and acquisitions

This table reports the 2SLS estimates of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total number of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the number of domestic deals in the target country j and the number of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $LN\ Stock1990$ is the natural logarithms of the raw number of migrants from the origin country i to country j up to the year 1990. Nine measures of culture are used as the main explanatory variables (Column names from (1) to (9)). Power distance index (PDI), Individualism (IDV) vs. collectivism, Uncertainty avoidance index (UAI), Masculinity (MAS) vs. femininity, Long-term orientation (LTO) vs. short-term orientation and Indulgence versus restraint (IVR) are the six dimensions of the national culture of Hofstede (1980, 2001). Trust_WVS, Hierarchy_WVS, and Individualism_WVS are constructed from the Longitudinal Multiple-Wave data available at the World Values Survey (WVS). The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1) Power distance	(2) Individualism	(3) Masculinity	(4) Uncertainty avoidance	(5) Long-term orientation	(6) Indulgence	(7) Trust_WVS	(8) Hierarchy_ WVS	(9) Individualism WVS
<i>LN Stock1990</i>	0.0050*** (4.36)	0.0055*** (4.80)	0.0043*** (3.77)	0.0048*** (4.09)	0.0060*** (5.25)	0.0064*** (5.63)	0.0053*** (4.67)	0.0069*** (6.00)	0.0060*** (5.30)
Cultural distance	0.0000 (0.04)	0.0002*** (4.57)	-0.0002*** (-4.75)	-0.0001 (-1.52)	-0.0001 (-1.48)	-0.0001* (-1.66)	-0.0018*** (-3.45)	0.0069 (1.20)	0.0030*** (3.03)
Full set of controls included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,804	9,804	9,804	9,804	10,101	9,877	10,101	8,748	10,101
R-squared	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.58	0.57

Table A6 Industry labor-intensity measures from the lowest to the highest using the Fama-French classification

This table reports the industry median invested capital to employee ratio (CapEmp, million US\$ capital per employee) and the industry median employee number over sales (EmpSale, employee number per million US\$ sales) for the Fama and French 48 industries (FF48), constructed from the Compustat North America and Global full sample from 1991 to 2014.

Industry Code	Fama and French 48 industries	EmpSale	CapEmp
5	Tobacco Products	0.19%	1,146.58
31	Utilities	0.20%	1,133.10
41	Wholesale	0.21%	872.74
30	Petroleum and Natural Gas	0.23%	1,461.43
18	Construction	0.24%	1,147.79
14	Chemicals	0.24%	1,252.66
4	Beer & Liquor	0.26%	486.48
19	Steel Works etc	0.26%	844.74
2	Food Products	0.28%	489.82
47	Trading	0.29%	5,721.97
29	Coal	0.33%	553.31
38	Business Supplies	0.35%	405.35
23	Automobiles and Trucks	0.38%	494.63
17	Construction Materials	0.39%	678.15
3	Candy & Soda	0.42%	327.95
6	Recreation	0.42%	214.36
40	Transportation	0.43%	532.56
39	Shipping Containers	0.43%	279.56
16	Textiles	0.46%	560.24
32	Communication	0.46%	506.22
21	Machinery	0.47%	362.70
9	Consumer Goods	0.49%	290.09
35	Computers	0.49%	223.55
15	Rubber and Plastic Products	0.52%	330.53
42	Retail	0.52%	212.52
25	Shipbuilding, Railroad Equipment	0.53%	191.27
20	Fabricated Products	0.56%	157.31
48	Other	0.57%	929.59
8	Printing and Publishing	0.57%	194.96
22	Electrical Equipment	0.57%	279.35
28	Non-Metallic and Industrial Metal Mining	0.58%	663.40
7	Entertainment	0.59%	323.31
36	Electronic Equipment	0.59%	236.68
1	Agriculture	0.61%	253.82
37	Measuring and Control Equipment	0.61%	258.88
10	Apparel	0.63%	159.59
24	Aircraft	0.64%	114.93
26	Defense	0.65%	138.89
34	Business Services	0.69%	166.39

33	Personal Services	0.71%	212.51
12	Medical Equipment	0.74%	170.03
13	Pharmaceutical Products	0.74%	436.48
27	Precious Metals	0.87%	583.47
11	Healthcare	1.04%	115.01
43	Restaurants, Hotels, Motels	1.70%	457.30

Table A7 Migrant stock and the dollar value of cross-border mergers and acquisitions: the role of information asymmetry

This table reports the 2SLS panel estimates of cross-border mergers and acquisitions for country pairs from 1991 to 2014. The dependent variable is the total value of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the total value of domestic deals in the target country j and the total value of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $Ln Stock1990$ is the log-transformed total number of migrants who moved from the acquiring country i to the target country j up to the year 1990. The subsample of “Different industry” includes the deals that the target and the acquirer in a deal are not in the same 2 digit Standard Industry Classification (SIC) industry, while the subsample of “Same industry” includes the deals that both the target and the acquirer in a deal are in the same 2 digit SIC industry. A complex or less complex industry is defined using industry accounting complexity measures constructed by Francis and Gunn (2015) for the Fama and French 48 industries based on industry-specific accounting guidance in the U.S. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two-Stage Least Squares (2SLS) approaches are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Private targets	Public targets	Different industry	Same industry	Targets in less complex industry	Targets in more complex industry
M&A Value						
<i>LN Stock1990</i>	0.0051 (0.98)	0.0050 (0.94)	0.0082** (2.50)	0.0061 (1.18)	0.0062 (1.22)	0.0114* (1.91)
Full set of controls included	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,972	6,785	6,246	7,640	7,488	5,966
R-squared	0.23	0.22	0.17	0.22	0.21	0.21

Table A8 Migrant stock and the dollar value of cross-border mergers and acquisitions: Implications for integration costs

This table reports the panel estimates of cross-border mergers and acquisitions for country-pairs from 1991 to 2014. The dependent variable is the total value of cross-border deals from the acquiring country i to the target country j (where $i \neq j$) scaled by the sum of the total value of domestic deals in the target country j and the total value of cross-border deals from the acquiring country i to the target country j in year t . Migrant stock statistics are from the World Bank Global Bilateral Migration 1960–2000. $LN\ Stock1990$ is the log-transformed total number of permanent migrants originating from country i into target country j up to the year 1990. The high capital-to-labor ratio industry is the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of invested capital over the total number of employees while the low capital-to-labor industry is the bottom quartile of the industries. A high labor-intensive industry is in the top quartile of the Fama and French 48 industries each year based on the past three-year industry average of the total employee number over sales. A low labor-intensive industry is in the bottom quartile of the industries. A high organizational capital industry is in the top quartile of the Fama and French 48 industries each year based on their past three-year industry average of estimated organizational capital scaled by total assets, constructed using selling, general, and administrative (SG&A) expense and the perpetual inventory method following Eisfeldt and Papanikolaou (2013), while a low organizational capital industry is the bottom quartile of the industries. The high SG&A expense industry is the top quartile of the Fama and French 48 industries each year based on the past three-year industry average of SG&A expense over sales while the low SG&A expense industry is the bottom quartile of the industries. The full set of controls is included as in Table 3. The instrumental variables used in the first stage regressions of Two- Stage Least Squares (2SLS) are derived in Section 3. Robust z -statistics in parentheses are adjusted using heteroskedasticity-corrected clustered standard errors within each country pair. The ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Targets in high capital-to-labor ratio industry	Targets in low capital-to-labor ratio industry	Targets in low labor-intensive industry	Targets in high labor-intensive industry	Acquirers in low organization capital industry	Acquirers in high organization capital industry	Acquirers in low SG&A expense industry	Acquirers in high SG&A expense industry
M&A Value								
<i>LN Stock1990</i>	0.0042 (0.60)	0.0215*** (4.91)	0.0009 (0.18)	0.0162*** (3.57)	-0.0080 (-1.07)	0.0176*** (3.98)	-0.0024 (-0.33)	0.0209*** (4.64)
Full set controls included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquiring country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,601	6,245	5,483	6,152	3,208	6,533	3,449	6,563
R-squared	0.21	0.20	0.18	0.21	0.21	0.20	0.18	0.21