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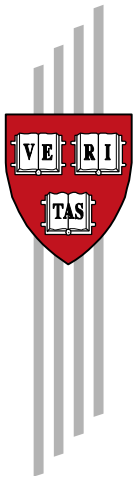

Working Papers

Center for International Development at Harvard University

Migration and Cross-Border Equity Portfolio Flows[1]

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Abstract

The gravity model has provided a tractable empirical framework to account for bilateral flows not only of manufactured goods, as in the case of merchandise trade, but also of portfolio assets. In particular, Portes and Rey (2005) show that the gravity model successfully accounts for the pattern of cross-border equity portfolio flows. The interpretation given to the negative coefficient on the distance measure in this context is not that distance proxies for transportation costs but rather that it proxies for information costs. Thus, information asymmetries are more severe when investors consider acquiring equity in assets based in far flung locations. In this paper, we explore to what extent migration plays a role in mitigating such informational asymmetries (indeed, migrants can convey information about assets in their country of origin to investors based in the destination country) and find that migration, and especially skilled migration, is associated with larger cross-border equity investment from the destination country of the migrant into assets based at the origin country of the migrant. We interpret these results as providing further evidence of the role of information asymmetries in explaining cross-border equity portfolio flows, and of the instrumental role of skilled migrants in promoting capital inflows to their home country.

JEL Classification: F21, F22, O1

Keywords: Migration, international equity portfolio flows, information asymmetries.

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1. Introduction

In early stages of development, foreign capital and finance can be catalysts to growth-enhancing investment. This research evaluates the potential for migration to generate foreign financial inflows in the form of international asset portfolio diversification. The latter effect stems from the fact that migrants may operate as conduits of information across borders and, as such, can contribute to reduce asset transaction costs between their home and host countries. Particularly, we will analyze how diasporas may induce such capital inflows to their origin country due to the migrants' ability to convey relevant information to potential foreign buyers of home-country portfolio assets (e.g., on the characteristics of the home country's financial and political institutions) and to create, or integrate into, business networks. This would seem to be particularly important when asymmetric information faced by foreign investors is acute, which is often the case for investments in emerging and developing countries.

Besides, the debate on the growth impact of migration is dominated by a long-standing concern, namely, that skilled migration, in the form of brain drain, can have deleterious effects (Docquier and Rapoport, 2011). Yet, as pointed out above skilled migration can be a catalyst to development through capital accumulation. In particular, when migrants are skilled, they can be instrumental in facilitating the interaction of businesses in their country of origin with foreign investors. Hence, a potential loss of human capital can be offset by a gain in physical capital, financial capital, and technology. Evidence on these channels, through which diasporas impact economic development, would complement recent work suggesting the possibility that migration opportunities may raise the rate of return to schooling, eventually yielding brain gain.

Indeed, once migration networks are formed, they act to reduce transaction costs, and can be catalysts for future economic transactions between the migrants' home and host countries. This diaspora effect is well identified in the case of international trade (Gould, 1994, Head and Ries, 1998, Rauch and Trindade, 2002, Rauch and Casella 2003, Combes et al., 2005, Iranzo and Peri, 2009) and FDI (Kugler and Rapoport, 2007, 2011, Javorcik et al., 2011). It is also well recognized that diasporas contribute to the creation of scientific networks and favor the diffusion of scientific and technical knowledge (Meyer, 2001, Kerr,

2008, Agrawal et al., 2011), thus fostering technology adoption in the migrants' source countries.

At the same time, there is a large body of evidence on the patterns of international equity flows. The most salient feature of these asset flows is a propensity for investors to bias their portfolio choice towards local rather than international assets. Relative to the risk diversification opportunities offered by international assets, investors appear to excessively load their portfolios with domestic equity. One factor associated with such home bias is that investors possess more knowledge about assets based in their home country relative to international assets. Given this information asymmetry, any factor that reduces the cost of acquiring information about foreign assets should induce international equity portfolio flows. To the extent that more information is available about assets in a given country there should be more foreign investors willing to buy those assets.

There are papers exploring how information asymmetry can bias equity holdings. This literature has established that geographic distance can be a good proxy for information asymmetry between asset holders based in different countries. In terms of providing a theoretical foundation for the use of the gravity model to characterize equity cross-border flows, Martin and Rey (2004) give a simple model of equity trade in which trade is proportional to the product of country sizes and depends negatively on the cost of trading in equity markets. In their empirical work, they use market capitalization as a measure of country size. Distance emerges as a measure of the cost of trading in equity markets.[2]

Many empirical studies on the geographic patterns of cross-border equity flows are related to the voluminous literature on home bias. For example, Portes and Rey (2005) show that the gravity model works also to explain bilateral international trade in equity assets. The gravity model has been the workhorse to explain bilateral international trade in goods. In that context, distance is considered a proxy for transportation costs. But, why

[2] The framework postulates incomplete asset markets, iceberg costs in financial markets, and endogenous asset creation. Larger countries have deeper domestic equity markets, and a reduction in financial trade costs leads to more international asset trade. Therefore equity positions are a function of the cost of bilateral financial trade and the endogenously determined market capitalization levels. Financial frictions include informational asymmetries.

should distance matter in the context of cross-border equity portfolio flows? Distance works as a proxy for information asymmetries.

Another study on the geography of international portfolio equity investment using bilateral data for several countries is Yildrim (2003) that examines the role of various corporate governance indicators in determining investment patterns, for countries for which such data are available. Other related studies on the geography of portfolio equity investment have focused mostly on a single source country, focusing on the United States (e.g., Ahearne, Griever and Warnock, 2004, Dahlquist et al. 2003).

As pointed out above, several of these studies are linked to the large literature on home bias. Our focus is different, in that we explore the structure of the international component of equity portfolios rather than the division among domestic and foreign shares. Relative to the existing literature, this paper is most closely linked to both Lane and Milesi-Ferretti (2008), who developed a double fixed effects empirical specification to analyze bilateral equity holdings, and Portes and Rey (2005), who deploy the gravity model augmented with information asymmetry proxies to explain bilateral cross-border equity flows.

Their common empirical finding is that bilateral portfolio holdings are found to be significantly correlated with informational asymmetry and financial frictions measures. In this paper, we develop a general empirical specification that highlights the potential for bilateral migration to explain bilateral asset holdings but also allows for a host of proxies for informational and financial frictions to also influence portfolio allocations.

The structure of the rest of the paper is as follows. Section 2 describes the data and discusses sources. Econometric results from the basic specification based on Portes and Rey (2005) are reported in Section 3. In Section 4, we introduce bilateral migration as determinant of international asset portfolio flows and explain its impact. Our conclusions and directions for future research are outlined in Section 5.

2. Data

2.1 Portfolio data

The equity transactions flow data comes from Cross-Border Capital (London). These panel data span 8 years of from 1989–1996. The data cover bilateral flows between 14 source (country *i*) and 14 identical destination (country *j*) countries. The original data contain 1456 observations (8x13x14). The cross-sectional dimension is the most important in our panel. In our analysis we used the mean of 8 years' transactions data, so the dataset collapses to 182 observations (13x14).

The capital flows are transactions data: they record purchases (*purchasij*) and sales (*salij*) by residents of country *i* (source) in the portfolio equity markets of country *j* (destination). The transaction variable we use here in our analysis is portfolio purchases, *purchasij*. The countries (or regions) are: United States, Canada, Japan, Hong Kong, Singapore, UK, Germany, France, Netherlands, Spain, Italy, Scandinavia, Switzerland, and Australia.

2.2. Migration data.

We use the Docquier, Marfouk, Ozden and Parsons (2010) data set, the last extension of the Docquier and Marfouk (2006) dataset which includes bilateral data on migration by country of birth, skill category (skilled v. unskilled, the former having college education) and gender for 195 sending/receiving countries in 1990 and 2000. The main additional novelty is that the dataset now captures South-South migration based mainly on observations and occasionally on estimated data points (for the skill structure).[3]

After combining the two datasets, we dropped 53 of the 182 observations in the equity data set. Firstly, Hong Kong and Scandinavian countries were not in the migration data set, reason for which we only have 12 countries/regions left. This gives us 12x11=132 observations. Secondly, we do not have bilateral migration data in 1990 for 3 country pairs, namely Switzerland and Japan, Netherlands and Spain, and Netherlands and Japan. In the analysis, there are 129 observations.

[3] See http://perso.uclouvain.be/frederic.docquier/filePDF/DMOP-ERF.pdf for further details.

2.3 Other data

Market capitalization of country *i* (at the beginning of the year) is denoted by *mktcapi.*

Other variables representing information flows and transactions costs, as well as equity market returns include:

Distij: distance between country *i* and country *j*. The distance is between capital cities. We experimented with distance between financial centers and got similar results.

Telephij: volume of telephone call traffic in minutes from country *i* to country *j* in each year, normalized to give *telephnorij*.

Bankij: number of branches in country *j* of banks headquartered in country *i*, normalized to give *banknorij.*

Overlapij: number of trading hours overlap between the main financial centers of countries *i* and *j*.

Insidersj: degree of insider trading in the stock market of the destination country (World Competitiveness Report, 1996, 1998, 2000).

Sophi: sophistication of financial markets of the source country *i* (World Competitiveness Report, 1996, 1998, 2000).

Insidersj is available only for 1992–1996, and *Sophi* is available only for 1993–1996. Therefore, for the previous years, we take the 1992 and the 1993 values, respectively.

The data set for trade flows of manufactures comes from OECD. These bilateral flows are between the same countries (*tradeij*) and are strictly comparable to our equity flow data.

3. Basic specification

The basic estimating equation arising out of this analysis takes the following form:

$$\log(T_{ij}) = \alpha_1 \log(migration_{ij}) + \alpha_2 \log(distance_{ij}) + \alpha_3 \log(mktcap_i) + \alpha_4 \log(mktcap_j) + \alpha_5 \text{information variables} + \alpha_6 \text{transaction techology variables} + \text{country dummies} + \text{constant} + \varepsilon_{ij}$$

In the regression function, $\log(T_{ij})$ is the log of average purchase of equity from country *j* by residents of country *i*. Before taking the average, the equity purchase data is deflated by US CPI to put nominal asset transaction values in real terms comparable across years. Here country *j* is also the migrant sending country, whereas country *i* is the migrant receiving country. $\log(mktcap_i)$ and $\log(mktcap_j)$ are log values of average market capitalization in country *i* and country *j*, respectively. All the other variables have been introduced in section 2.3. All the data cover from 1991 to 1996.

Table 1 shows the regression results for the basic specification, which is identical to that in PR, but restricted to a sample congruent with our migration data. All variables are in logs with robust standard errors. All regressions include sending and receiving countries fixed effects. Constant terms are omitted from the table. The results we obtain are quantitatively very similar to those obtained by PR.

To find out if distance proxies for information, we introduce variables measuring information flows jointly with distance. These variables are *Telnorij*, which is telephone traffic, normalized for economic size (divided by square root of product of GDPs), *Banknorij* is an index of bank branches based in country j which are headquartered in country i with, and *Insidersj* is an index of the extent of insider trading in country j, taken from the *World Competitiveness Report*.

Distance seems to proxy for information as *Telnorij* and *Banknorij* enter with large significant coefficients, while the geographic distance variable becomes much less important. Table 1 shows specifications where both distance and telephone calls are included. Both variables are significant but seem to have less effect than when either one is used individually.[4] The R-squared of the basic specification without geographic distance is

[4] It could be that telephone calls represent information gathering associated with cultural ties. Also, foreign bank branches seem to matter.

89% and it increases when distance and other variables measuring informational frictions are included.

4. Results with migration

In Table 2, we introduce total migration and the coefficient on the distance variable declines uniformly by about 15% across all specifications except for the one in the last column. This indicates that total migration from the country whose assets are being acquired to the country where investors are based is partly reducing the impact of asymmetric information on cross-border equity flows. Conversely, when distance is excluded and migration included, the coefficient on migration is higher so that migration is partly proxying for the impact of information asymmetry captured by geographic distance. The R-squared in this set of regressions exceeds that in the set of regressions in Table 1, which exclude migration all together.

The same happens when we add skilled migration in Table 3 and unskilled migration in Table 4. At the same time the coefficients on the respective migration variables are large and significant. Note that the coefficient on skilled migration is the largest, followed by total migration, and the coefficient on unskilled migration is the smallest. This indicates that the kind of migration that most stimulates cross-border equity flows is that of skilled workers.

Table 3 therefore represents our preferred specification. The estimates imply that a 10% increase in the stock of *skilled* migrants from the country selling assets to the country purchasing assets induces a 1.84% increase in the bilateral cross-border equity portfolio flow. The idea is that skilled migrants from country *j* to country *i* convey information about assets from country *j* to investors in country *i.* This explains the link between bilateral migration and international capital flows.[5] In Table 4, the corresponding increase in bilateral cross-border equity portfolio flows associated with a 10 % rise in the stock

[5] As noted in the introduction, the link between international capital flows and migration is not limited to cross-border equity portfolio flows. The information transmission channel associated with migrant networks has been shown to be also relevant to the case of FDI. Finally, in the case of remittances, there is a direct link between the migrant stock from country *j* based in country *i* and financial flow from *i* to *j*.

unskilled migrants is substantially lower at 1.43%. This is consistent with our view that unskilled migrants convey less information about assets in their source countries to investors in their destination countries than do skilled migrants. This makes sense since skilled workers are more likely to tap into business and financial networks than their unskilled counterparts.

In Tables 5, 6 and 7, we do the robustness check of sequentially excluding the US, UK and intra-European flows, as in the case without the migration variables, for the sets of regressions including total migration (Table 2), skilled migration (Table 3) and unskilled migration (Table 4) respectively.

The results for total migration turn out to be robust, with the coefficient on migration increasing for the subsamples considered. The results for skilled migration are insignificant in the sample without intra-European flows but not otherwise. The results for unskilled migration are insignificant in the sample in which the US and the UK are excluded but not otherwise. Given the loss of precision due to reduced sample size, it is remarkable how robust the results turn out to be when different subsamples are being considered.

Not surprisingly the highest coefficient in terms of the impact of international migration on cross-border equity portfolio flows is for skilled migrants within Europe. In that case, a 10% increase in the stock of skilled migrants from the country selling assets to the country purchasing assets induces a 2.19% increase in the bilateral cross-border equity portfolio flow. The implication is that skilled migrants from country *j* to country *i* convey more information, if *i* and *j* are within Europe than elsewhere, about assets from country *j* to investors in country *i.*

5. Concluding remarks

To the extent that migration is mitigating information asymmetry, we would expect that skilled individuals would account mainly for the information transmission about investment opportunities associated with international migration. We add information and migration variables to a standard gravity model equation for goods trade. Information and

migration variables enter with large significant coefficients, while the geographic distance variable becomes much less important.

We develop an empirical framework that identifies the key correlates of bilateral equity investment patterns. The most striking result is that bilateral equity investment is strongly correlated with the underlying patterns of international migration. Informational linkages, such as bilateral telephone call volume, are also important. The evidence suggests first that financial frictions emanating from informational asymmetry are important determinants of cross-border equity portfolio flows. Second, the main implication is that international migration may be an important channel to mitigate informational asymmetry as migrants join business networks and convey their knowledge about assets in their country of origin to investors in their destination country.

There are many directions for future research. One key issue is the role of offshore centers. It would be desirable to compile datasets that include more offshore investment destinations associated with tax havens and explore the robustness of the results so far obtained. Another line of research consists in developing the economic implications of the asymmetries in the geographical portfolio allocations that this and other papers have highlighted. Asymmetries in investment positions also have implications for whether bilateral financial integration is linked with other bilateral economic relations. For example, Lane and Milesi-Ferretti (2008) report that bilateral equity investment is strongly correlated with the underlying patterns of international trade in goods. At the same time, Kugler and Rapoport (2007, 2011) show evidence that the asymmetric pattern of bilateral FDI positions, just like cross-border equity portfolio flows, is strongly correlated with international migration. This suggests important links between three different dimensions of globalization: the international movement of people, goods and capital. In terms of the latter, the evidence points to migration and trade inducing financial flows, the open question being whether asset market integration may impact upon migration and trade in goods and services.

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Table 1: Regression without migration

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(average market capital i)	0.950***	0.897***	0.897***	0.897***			
	(0.0895)	(0.0515)	(0.0515)	(0.0515)			
log(average market capital j)	1.126***	1.073***	1.073***	1.073***			
	(0.100)	(0.0544)	(0.0544)	(0.0544)			
mean(average sophistication i)	0.182**	0.350***	0.350***	0.350***	0.362***	0.208***	0.259***
	(0.0717)	(0.0576)	(0.0576)	(0.0576)	(0.0590)	(0.0723)	(0.0825)
mean(average sophistication j)	-0.0502	0.118*	0.118*	0.118*	0.109*	-0.0301	-0.265
	(0.0849)	(0.0622)	(0.0622)	(0.0622)	(0.0655)	(0.134)	(0.197)
log(distance)		-0.613***	-0.613***	-0.613***	-0.613***	-0.446***	-0.252**
		(0.0576)	(0.0576)	(0.0576)	(0.0576)	(0.0795)	(0.115)
log(average normalized volume of telephone calls)						0.0680	0.0493
						(0.0460)	(0.0503)
log(average normalized bank subsidiaries)						0.302***	0.242**
						(0.113)	(0.106)
average insider j						0.0214	0.393
						(0.188)	(0.299)
log(average trade ij)							0.250*
							(0.131)
Observations	129	129	129	129	129	129	129
R-squared	0.891	0.935	0.935	0.935	0.834	0.851	0.856
Robust standard errors in parentheses							
*** p<0.01, ** p<0.05, * p<0.1							

Table 2: Regression with total migration

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(total migration stock ji in 1990)	0.343***	0.181***	0.181***	0.181***	0.181***	0.131**	0.104*
	(0.0536)	(0.0500)	(0.0500)	(0.0500)	(0.0500)	(0.0545)	(0.0569)
log(average market capital i)	0.238*	0.530***	0.530***	0.530***			
	(0.134)	(0.112)	(0.112)	(0.112)			
log(average market capital j)	0.847***	0.935***	0.935***	0.935***			
	(0.101)	(0.0632)	(0.0632)	(0.0632)			
mean(average sophistication i)	0.455***	0.464***	0.464***	0.464***	0.519***	0.361***	0.366***
	(0.0786)	(0.0633)	(0.0633)	(0.0633)	(0.0694)	(0.0930)	(0.0952)
mean(average sophistication j)	0.215**	0.228***	0.228***	0.228***	0.235***	-0.0998	-0.255
	(0.0872)	(0.0602)	(0.0602)	(0.0602)	(0.0641)	(0.139)	(0.192)
log(distance)		-0.501***	-0.501***	-0.501***	-0.501***	-0.414***	-0.280**
		(0.0654)	(0.0654)	(0.0654)	(0.0654)	(0.0741)	(0.112)
log(average normalized volume of telephone calls)						0.0399	0.0321
						(0.0485)	(0.0507)
log(average normalized bank subsidiaries)						0.242**	0.211**
						(0.107)	(0.105)
average insider j						0.306	0.517*
						(0.227)	(0.296)
log(average trade ij)							0.181
							(0.133)
Observations	129	129	129	129	129	129	129
R-squared	0.917	0.941	0.941	0.941	0.849	0.857	0.860
Robust standard errors in parentheses							
*** p<0.01, ** p<0.05, * p<0.1							

Table 3: Regression with skilled migration

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(skilled migration stock ji in 1990)	0.374***	0.184***	0.184***	0.184***	0.184***	0.118*	0.0860
	(0.0703)	(0.0594)	(0.0594)	(0.0594)	(0.0594)	(0.0617)	(0.0650)
log(average market capital i)	0.105	0.489***	0.489***	0.489***			
	(0.165)	(0.135)	(0.135)	(0.135)			
log(average market capital j)	0.786***	0.913***	0.913***	0.913***			
	(0.118)	(0.0711)	(0.0711)	(0.0711)			
mean(average sophistication i)	0.480***	0.472***	0.472***	0.472***	0.531***	0.349***	0.352***
	(0.0820)	(0.0647)	(0.0647)	(0.0647)	(0.0735)	(0.101)	(0.103)
mean(average sophistication j)	0.155*	0.194***	0.194***	0.194***	0.204***	-0.153	-0.315
	(0.0872)	(0.0610)	(0.0610)	(0.0610)	(0.0651)	(0.153)	(0.198)
log(distance)		-0.524***	-0.524***	-0.524***	-0.524***	-0.427***	-0.271**
		(0.0689)	(0.0689)	(0.0689)	(0.0689)	(0.0758)	(0.115)
log(average normalized volume of telephone calls)						0.0444	0.0353
						(0.0490)	(0.0512)
log(average normalized bank subsidiaries)						0.257**	0.220**
						(0.110)	(0.107)
average insider j						0.330	0.555*
						(0.252)	(0.313)
log(average trade ij)							0.208
							(0.133)
Observations	129	129	129	129	129	129	129
R-squared	0.913	0.940	0.940	0.940	0.845	0.855	0.858
Robust standard errors in parentheses							
*** p<0.01, ** p<0.05, * p<0.1							

Table 4: Regression with unskilled migration

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(unskilled migration stock ji in 1990)	0.286***	0.143***	0.143***	0.143***	0.143***	0.0981**	0.0744
	(0.0516)	(0.0453)	(0.0453)	(0.0453)	(0.0453)	(0.0484)	(0.0506)
log(average market capital i)	0.394***	0.625***	0.625***	0.625***			
	(0.127)	(0.0990)	(0.0990)	(0.0990)			
log(average market capital j)	0.914***	0.974***	0.974***	0.974***			
	(0.0996)	(0.0596)	(0.0596)	(0.0596)			
mean(average sophistication i)	0.409***	0.440***	0.440***	0.440***	0.483***	0.322***	0.334***
	(0.0787)	(0.0625)	(0.0625)	(0.0625)	(0.0672)	(0.0888)	(0.0927)
mean(average sophistication j)	0.197**	0.217***	0.217***	0.217***	0.220***	-0.0565	-0.237
	(0.0889)	(0.0599)	(0.0599)	(0.0599)	(0.0636)	(0.135)	(0.194)
log(distance)		-0.523***	-0.523***	-0.523***	-0.523***	-0.422***	-0.273**
		(0.0632)	(0.0632)	(0.0632)	(0.0632)	(0.0744)	(0.114)
log(average normalized volume of telephone calls)						0.0468	0.0371
						(0.0485)	(0.0511)
log(average normalized bank subsidiaries)						0.255**	0.219**
						(0.109)	(0.106)
average insider j						0.210	0.460
						(0.213)	(0.295)
log(average trade ij)							0.199
							(0.135)
Observations	129	129	129	129	129	129	129
R-squared	0.913	0.940	0.940	0.940	0.846	0.855	0.859
Robust standard errors in parentheses							
*** p<0.01, ** p<0.05, * p<0.1							

Table 5: Robustness Check for Regression with Total Migration

	All	Excluding US	Excluding US and UK	Flows Within Europe		Without Intra-Europe Flows
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(total migration stock ji in 1990)	0.131**	0.161**	0.159*	0.210**	0.211**	0.135**
	(0.0545)	(0.0616)	(0.0823)	(0.0796)	(0.0872)	(0.0586)
mean(average sophistication i)	0.361***	0.395***	0.404***	0.328***	0.257***	0.0828
	(0.0930)	(0.104)	(0.109)	(0.0405)	(0.0558)	(0.120)
mean(average sophistication j)	-0.0998	0.0543	0.0331	0.130**	-0.0583	-0.201
	(0.139)	(0.139)	(0.158)	(0.0589)	(0.139)	(0.144)
log(distance)	-0.414***	-0.357***	-0.421***	-0.193	-0.174	0.157
	(0.0741)	(0.0952)	(0.130)	(0.181)	(0.193)	(0.175)
log(average normalized volume of telephone calls)	0.0399	0.0562	0.0363		0.0135	0.0185
	(0.0485)	(0.0501)	(0.0568)		(0.0394)	(0.0464)
log(average normalized bank subsidiaries)	0.242**	0.236*	0.193		0.0426	0.277**
	(0.107)	(0.122)	(0.165)		(0.121)	(0.108)
average insider j	0.306	0.137	0.214		0.298*	-0.0612
	(0.227)	(0.217)	(0.236)		(0.148)	(0.257)
Observations	129	107	87	41	41	109
R-squared	0.857	0.872	0.863	0.931	0.932	0.884
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Table 6: Robustness Check for Regression with Skilled Migration

	All	Excluding US	Excluding US and UK	Flows Within Europe		Without Intra-Europe Flows
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(skilled migration stock ji in 1990)	0.118*	0.155**	0.185*	0.219**	0.215*	0.115
	(0.0617)	(0.0737)	(0.107)	(0.102)	(0.123)	(0.0698)
mean(average sophistication i)	0.349***	0.391***	0.439***	0.350***	0.282***	0.0430
	(0.101)	(0.116)	(0.127)	(0.0397)	(0.0593)	(0.122)
mean(average sophistication j)	-0.153	0.0202	0.00293	0.0948*	-0.0375	-0.251*
	(0.153)	(0.144)	(0.169)	(0.0485)	(0.157)	(0.147)
log(distance)	-0.427***	-0.371***	-0.436***	-0.178	-0.175	0.171
	(0.0758)	(0.0979)	(0.131)	(0.194)	(0.203)	(0.180)
log(average normalized volume of telephone calls)	0.0444	0.0587	0.0262		0.00778	0.0233
	(0.0490)	(0.0514)	(0.0589)		(0.0456)	(0.0490)
log(average normalized bank subsidiaries)	0.257**	0.250**	0.204		-0.0224	0.285**
	(0.110)	(0.125)	(0.164)		(0.125)	(0.113)
average insider j	0.330	0.135	0.240		0.231	-0.0764
	(0.252)	(0.220)	(0.246)		(0.173)	(0.247)
Observations	129	107	87	41	41	109
R-squared	0.855	0.869	0.862	0.920	0.920	0.881
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Table 7: Robustness Check for Regression with Unskilled Migration

	All	Excluding US	Excluding US and UK	Flows Within Europe		Without Intra-Europe Flows
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)	log(normalized average equity purchase ij)
log(unskilled migration stock ji in 1990)	0.0981**	0.128**	0.112	0.189**	0.192**	0.121**
	(0.0484)	(0.0548)	(0.0728)	(0.0712)	(0.0784)	(0.0538)
mean(average sophistication i)	0.322***	0.354***	0.356***	0.330***	0.256***	0.0593
	(0.0888)	(0.100)	(0.104)	(0.0403)	(0.0557)	(0.117)
mean(average sophistication j)	-0.0565	0.0323	0.00488	0.124**	-0.0694	-0.179
	(0.135)	(0.136)	(0.153)	(0.0574)	(0.140)	(0.144)
log(distance)	-0.422***	-0.368***	-0.449***	-0.204	-0.182	0.168
	(0.0744)	(0.0961)	(0.129)	(0.178)	(0.191)	(0.176)
log(average normalized volume of telephone call)s	0.0468	0.0638	0.0450		0.0146	0.0210
	(0.0485)	(0.0502)	(0.0567)		(0.0393)	(0.0465)
log(average normalized bank subsidiaries)	0.255**	0.248**	0.199		0.0517	0.281**
	(0.109)	(0.124)	(0.168)		(0.121)	(0.109)
average insider j	0.210	0.150	0.225		0.317**	-0.0982
	(0.213)	(0.216)	(0.233)		(0.150)	(0.258)
Observations	129	107	87	41	41	109
R-squared	0.855	0.870	0.860	0.931	0.932	0.884
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						