Online Appendix
Migration and FDI: The role of job skills

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Abstract

This paper models and quantifies in a gravity multi-country framework the relevance of migrants' job position in promoting Foreign Direct investment (FDI). High-skilled migrants are defined as those individuals born in the investors' home/host country occupying managerial or professional positions in the host/home country of investment. Our estimates show that higher shares of migrants with management skills in an specific country promote FDI into that country. In contrast, an increase in the share of migrants in non-qualified positions (regardless of their educational attainment) has a negative impact on FDI decisions. These findings highlight that the enhancing effect of migrants is related with a shift in their skill composition in terms of the occupation they perform. We test our model on a global new panel data set of Greenfield bilateral investment with wide variety of specifications, both at the extensive and intensive margins. Additionally, we provide new insights into the mechanisms by which migration operates in FDI flows, with particular attention to the relevance of FDI level and activity.

Keywords: Skilled migration; Foreign Direct Investment; Job skills; Gravity equation; Extensive and Intensive Margins.
JEL Classification: F22, F23, F16

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1 Introduction

This technical appendix contains additional theoretical and empirical material that complement the results shown in the paper "Migration and FDI: The role of job skills". In Section 2, we present a detailed analyses of the solution of our model which includes the full set of derivations. In Section 3 we provide additional data information and robustness empirical analyses. Table A1 presnts the list of countries used both in the main paper and in this Appendix.

[Table 1 about here.]

2 Additional theoretical analyses

In the paper we have described the main elements and assumptions of our theoretical model and we have disclosed the main theoretical results. In this section we explain in detail how those results have been derived.

2.1 Solution of the model for capital

We start by deriving the first order conditions of the firm's problem:

$$\max_{K,S,L} \pi_{iz}^{Dom} = \max\{p_j S^s [K^k L^l]^{1-s} - \alpha(\bar{w}_j S + r_j K + w_j L) - f_j\}.$$

Which are:

$$\frac{\partial \pi_{iz}^{Dom}}{\partial S} = s p_j S^{s-1} [K^k L^l]^{1-s} = \alpha \bar{w}_j \tag{A.1}$$

$$\frac{\partial \pi_{iz}^{Dom}}{\partial K} = (k - sk) p_j S^s G^{k-sk-1} L^{l-sl} = \alpha r_j \tag{A.2}$$

$$\frac{\partial \pi_{iz}^{Dom}}{\partial L} = (l - kl) p_j S^s K^{k-sk} L^{l-sl-1} = \alpha w_j \tag{A.3}$$

From (A.2):

$$L^{l-sl} = \frac{r_j \alpha}{(k-sk)p_j} S^{-s} K^{-k+sk+1}, \tag{A.4}$$

now (A.4) in (A.1):

$$sp_j S^{s-1} K^{k-sk} \frac{r_j \alpha}{(k-sk)p_j} S^{-s} K^{-k+sk+1} = \alpha \bar{w}_j, \tag{A.5}$$

we obtain the relationship between K and S:

$$\frac{s}{k-sk} S^{-1} K = \frac{\bar{w}_j}{r_j} \rightarrow K = \frac{k-sk}{s} \frac{\bar{w}_j}{r_j} S. \tag{A.6}$$

From (A.3):

$$S^s = \frac{\alpha w_j}{(l-sl)p_j} K^{-k+sk} L^{-l+sl+1} \tag{A.7}$$

now (A.7) in (A.2):

$$(k-sk)p_j \frac{\alpha w_j}{(l-sl)p_j} K^{-k+sk} L^{-l+sl+1} K^{k-sk-1} L^{l-sl} = \alpha r_j \tag{A.8}$$

we obtain the relationship between K and L:

$$K^{-1} L = \frac{l-sl}{k-sk} \frac{r_j}{w_j} \rightarrow K = \frac{g-hg}{l-hl} \frac{w_j}{r_j} L. \tag{A.9}$$

Substituting (A.6) in (A.9) we obtain the relationship between S and L:

$$L = \frac{k-sk}{s} S \frac{\bar{w}_j}{r_j} \frac{l-sl}{k-sk} \frac{r_j}{w_j} = S \frac{l-sl}{s} \frac{\bar{w}_j}{w_j}. \tag{A.10}$$

Substituting (A.6) and (A.10) in (A.2):

$$(k-sk)p_j\left(\frac{s}{k-sk}K\frac{r_j}{\bar{w}_j}\right)^s K^{k-sk-1}\left(K\frac{l-sl}{k-sk}\frac{r_j}{w_j}\right)^{l-sl}=\alpha r_j \rightarrow$$

$$(k-sk)p_j\left(\frac{s}{k-sk}\frac{r_j}{\bar{w}_j}\right)^s K^{s+l-sl+k-sk-1}\left(\frac{l-sl}{k-sk}\frac{r_j}{w_j}\right)^{l-sl}=\alpha r_j. \tag{A.11}$$

Rearranging terms:

$$K^{s+l-sl+k-sk-1}\left(\frac{s}{k-sk}\frac{r_j}{\bar{w}_j}\right)^s\left(\frac{l-sl}{k-sk}\frac{r_j}{w_j}\right)^{l-sl}=\frac{\alpha r_j}{(k-sk)p_j}\rightarrow$$

$$K^{s+l-sl+k-sk-1}=\frac{\alpha r_j}{(k-sk)p_j}\left(\frac{s}{k-sk}\frac{r_j}{\bar{w}_j}\right)^{-s}\left(\frac{l-sl}{k-sk}\frac{r_j}{w_j}\right)^{sl-l}\rightarrow$$

$$K^{s+l-sl+k-sk-1}=\frac{\alpha r_j^{1-s-l+sl}}{(k-sk)p_j}\left(\frac{k-sk}{s}\bar{w}_j\right)^s\left(\frac{k-sk}{l-sl}w_j\right)^{l-sl} \tag{A.12}$$

And we obtain an expression for K:

$$K=\left(\frac{(k-sk)p_j}{\alpha r_j^{1-s-l+sl}\left(\frac{k-sk}{s}\bar{w}_j\right)^s\left(\frac{k-sk}{l-sl}w_j\right)^{l-sl}}\right)^{\frac{1}{-h+1-g+hg-l+lh}} \tag{A.13}$$

Now, naming $\eta = s - sk + l - ls + k < 1$, we obtain the expression for K_j^{Dom} in the paper:

$$K_j^{Dom}=\left(\frac{(k-sk)p_j}{\alpha r_j^{1-\eta-sk+k}\left(\frac{k-sk}{s}\bar{w}_j\right)^s\left(\frac{k-sk}{l-sl}w_j\right)^{l-sl}}\right)^{\frac{1}{1-\eta}}.$$

2.2 Solution for labor

Similarly, we can obtain the optimal solution for skilled and unskilled labor:

$$S = \left(\frac{sp_j}{\alpha \bar{w_j}^{1-k+sk-l+ls} \left(\frac{s}{k-sk} r_j\right)^{sk-k} \left(\frac{s}{l-sl} w_j\right)^{ls-l}} \right)^{\frac{1}{1-\eta}} \tag{A.14}$$

$$L = \left(\frac{(l-sl)p_j}{\alpha w_j^{1-s-k+sk} \left(\frac{l-sl}{s} \bar{w_j}\right)^{s} \left(\frac{l-sl}{k-sk} r_j\right)^{k-sk}} \right)^{\frac{1}{1-\eta}} \tag{A.15}$$

3 Additional empirical analyses

We start our robustness checks by reporting the results that replace country-pair fixed effects with an array of constant country-pair variables. Table (A2) describes the gravity controls and the source of each variable. Table (A3) reports the descriptive statistics and correlations of the data.

[Table 2 about here.]

[Table 3 about here.]

The gravity estimates reported in Table A4. The first four columns show the results for aggregate FDI flows (intensive margin) and the last four are those corresponding to the explanation of the extensive margin.

[Table 4 about here.]

We start by analyzing the determinants of the investment decision (extensive margin). Our results are consistent with those obtained by previous studies estimating a gravity equation for FDI. The market size has the standard positive effect on the dependent variables, whereas geographical obstacles such as distance and one of the countries being landlocked display a standard negative impact (however, sharing a border is not relevant). On the cultural side, the investment decision is positively affected by the existence of a common language or past political links such as a

former colonial relationship. Finally, the existence of bilateral agreements displays heterogeneous effects[1]. The outcomes for the intensive margin are quite similar to those of the extensive margin, although the impact of distance seems less clear in this case, and the common language is not significant in any case.

Regarding the variables of interest, we observe few differences with the results reported in the paper. The most evident one is the negative effect of non-qualified jobs, which here is negative and significant and in our preferred specification was negative, but non-significant. However, the results reported in Table 4 of the paper, we do observe a negative and significant effect of non-qual jobs on the extensive margin. The main difference was that in this Table we aggregated other job positions, and thus reducing colinearity.

In order to confirm the validity of the results of the paper, we try an alternative specification following Aleksynska & Peri (2014) and Javorcik et al. (2011). Thus, in the estimates displayed in Table A5 we introduce separately shares of managers, professionals and non-qualified migrant together with the total stock of migrants. This latter variable absorbs omitted variables that affect both FDI and total migration, so the direct effect of migrants in each job position on FDI can be singled out[2].

[Table 5 about here.]

The total stock of migrants coming from the investing country is significant in all cases, as expected. More interstingly, the share of migrants in managerial positions display a positive and significant impact, whereas the share of non-qualified

[1]Paniagua et al. (2015) explain that the negative effect of BIT is explained by firm-heterogeneity bias. To overcome this bias, the authors develop a quantile regression procedure. Furthermore, this bias is corrected with the country-pair fixed effects.

[2]Additionally, this specification allows us to distinguish between Mundra's (2010) information and demand channels. Thus, the migrant's share measures the information channel. The migrant stock controls for the demand channel, by which FDI can be attracted by the demand for goods and services from the country of origin of migrants created by the stock of migrants from this country.

migrants has a negative effect on the extensive margin, confirming the existence of the composition effect mentioned above.

3.1 Educational Attainment vs. Jobs Positions

Most previous studies have quantified migrants' capacities and skills through their educational attainment. Our robustness analysis here considers three categories of educational level: primary, secondary and higher-educated migrants.

[Table 6 about here.]

Most of the previous considerations regarding education-occupation mismatch can be traced out in the outcomes presented in tables of this sub-section, where we replicate our results for job occupations displayed in the main paper. Thus, the positive and significant impact reported for higher-educated migrants in Table A6, is consistent with those corresponding to managers and professionals, and in line with the assumption that most managers and professionals are highly-qualified. We find mixed evidence regarding the effect of migrants with a less advanced level of schooling: the impact of secondary-educated migrants is positive only on both the intensive and non-significant on the extensive margin, whereas migrants with primary studies do not have any effect on either of them.

[Table 7 about here.]

Table A7 presents the results for the quantile regression. These outcomes do not seem to improve our understanding of the link between our educational indicators and FDI. As we can see, the impact of higher educational levels is positive and significant for most of the investments, but we do not observe significant differences across quantiles, the only exception being the last quantile, where we obtain a much

smaller impact. Migrants with secondary studies are significant only for the smallest investments, although the sign of the effect varies. This lack of consistent evidence could stem from the group of migrants with secondary studies being divided across job positions with different impacts on our dependent variable. Primary studies are significant and negative, regardless of the size of the investment. The explanation in this case is probably that the educational level has a more direct equivalence with a particular job position: non-qualified jobs. In fact, the pattern across investment sizes is the closest to those in Table 11 in the paper.

[Table 8 about here.]

Table A8, also considers the activity at which the investment is targeted. Recall that managers in Table 9 had a consistent positive effect across all activities (except construction). Higher education pays off only for sales and its effect is only barely significant for construction. Secondary education is only positive and significant for manufacturing activities and primary education ranges is non-significant, except in sales where it is negative and significant.

In Table A9 we subdivide j→ i migrants by education level .We can confirm a positive and significant impact for higher-educated migrants, with mixed results at the activity level. Moreover, the evidence obtained for lower educational levels is mixed, at best. This lack of clear evidence regarding the relevance of the level of education can be interpreted as attesting to a mismatch between migrants' formal education and the job they hold and scarce returns of migrant education.

[Table 9 about here.]

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Table A1: List of Countries

Source countries (i):
Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Belgium, Bangladesh, Bulgaria, Bahrain, Belarus, Bermuda, Brazil, Canada, Switzerland, Chile, China, Colombia, Costa Rica, Cayman Islands, Cyprus, Czech Republic, Germany, Denmark, Dominican Republic, Algeria, Ecuador, Egypt, Spain, Estonia, Finland, France, UK, Greece, Hong Kong, Croatia, Hungary, Indonesia, India, Ireland, Iraq, Iceland, Israel, Italy, Jamaica, Jordan, Japan, Kazakhstan, South Korea, Kuwait, Lebanon, Sri Lanka, Lithuania, Luxembourg, Latvia, Morocco, Mexico, Macedonia, Malta, Malaysia, Nigeria, Netherlands, Norway, New Zealand, Pakistan, Panama, Peru, Philippines, Papua New Guinea, Poland, Portugal, Qatar, Russia, Saudi Arabia, Singapore, Slovakia, Slovenia, Sweden, Togo, Thailand, Trinidad & Tobago, Tunisia, Turkey, Taiwan, Ukraine, Uruguay, United Arab Emirates, United States, Venezuela, Vietnam, South Africa.
Host countries (j):
Portugal, Australia, Canada, Switzerland, France, UK, Ireland, Italy, New Zealand, United States, Mexico, Czech Republic, Denmark, Spain, Hungary, Luxembourg, Poland, Sweden, Finland, Greece, Slovakia, Austria, Belgium, Netherlands.

Table A2: Variable description and sources

Variable	Description	Source
FDI_{ijt}	Intensive margin: Aggregate bilateral greenfield investments	FDIMarkets
N_{ijt}	Extensive margin: Number of investment projects (firm-level)	
$\ln(Y_{it} * Y_{jt})$	Logarithm of the gross domestic products of home and host countries respectively	World Bank
D_{ij}	Distance in kilometres between country capitals	CEPII
$border_{ij}$	Takes the value 1 when countries share a common border, and 0 otherwise	
$lang_{ij}$	Takes the value 1 if both countries share the same official language	
$colony_{ij}$	Takes the value 1 if the two countries have ever had a colonial link, and 0 otherwise	
$locked_{ij}$	Number of landlocked countries in the pair (0,1,2)	
FTA_{ijt}	Is a dummy that indicates whether both countries have a free trade agreement in force	UNCTAD
BIT_{ijt}	Is a dummy that takes the value of 1 if the country pair has a bilateral investment treaty in force	
$manager_{ijt}$	Stock of manager migrants	OECD
$professionals_{ijt}$	Stock of professional migrants	
$nonqual_{ijt}$	Stock of non-qualified migrants	
$migra_{ijt}$	Total migration defined as $migra_{ijt} = manager_{ijt} + professionals_{ijt} + nonqual_{ijt}$	

Table A3: Descriptive statistics and correlations

	mean	sd	FDI_{ij}	Nij	$\ln(Y_i \cdot Y_j)$	$\ln(D_{ij})$	$border_{ij}$	$lang_{ij}$	$colony_{ij}$	$locked_{ij}$	BIT_{ij}	FTA_{ij}	$manager_{ij}$	$professionals_{ij}$
FDI_{ij}	115.35	84.99	1											
Nij	1.40	1.14	0.388***	1										
$\ln(Y_i \cdot Y_j)$	27.31	1.40	0.162***	0.368***	1									
$\ln(D_{ij})$	8.33	1.00	-0.002	-0.027	0.281***	1								
$border_{ij}$	0.06	0.24	0.076**	0.146***	-0.036	-0.473***	1							
$lang_{ij}$	0.16	0.36	0.039	0.120***	0.053	0.053	0.180***	1						
$colony_{ij}$	0.05	0.21	0.049	0.155***	0.064*	0.015	0.117***	0.357***	1					
$locked_{ij}$	0.26	0.47	-0.037	-0.029	-0.025	-0.065*	0.060*	0.039	0.010	1				
BIT_{ij}	0.37	0.48	-0.075**	-0.091**	-0.167***	-0.093***	-0.029	-0.147***	0.081**	0.058	1			
FTA_{ij}	0.24	0.42	-0.028	-0.030	-0.309***	-0.739***	0.252***	-0.0821**	-0.064*	0.036	0.024	1		
$manager_{ij}$	5.35	2.50	0.142***	0.270***	0.572***	0.050	0.215***	0.363***	0.280***	0.013	-0.182***	-0.116***	1	
$professionals_{ij}$	6.81	2.70	0.126***	0.241***	0.528***	0.006	0.242***	0.347***	0.277***	0.019	-0.191***	-0.110***	0.954***	1
$nonqual_{ij}$	6.11	2.78	0.112***	0.195***	0.510***	0.050	0.214***	0.304***	0.261***	0.022	-0.185***	-0.156***	0.918***	0.962***

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Results (CYFE)

	Intensive Margin				Extensive Margin			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(Y_{it} * Y_{jt})$	0.717***	0.797***	0.814***	0.693***	0.793***	0.835***	0.860***	0.762***
	(0.17)	(0.14)	(0.15)	(0.17)	(0.13)	(0.11)	(0.12)	(0.10)
$\ln D_{ij}$	-0.391*	-0.320	-0.358	-0.371	-0.381***	-0.396***	-0.354**	-0.298**
	(0.23)	(0.21)	(0.23)	(0.27)	(0.13)	(0.13)	(0.14)	(0.14)
$border_{ij}$	0.050	0.060	0.154	0.108	-0.039	-0.138	0.045	0.067
	(0.32)	(0.33)	(0.35)	(0.33)	(0.23)	(0.22)	(0.26)	(0.20)
$lang_{ij}$	0.003	0.058	0.187	-0.075	0.138	0.183	0.370*	0.072
	(0.26)	(0.25)	(0.27)	(0.28)	(0.21)	(0.21)	(0.22)	(0.20)
$colony_{ij}$	1.007***	1.079***	1.084***	0.930***	0.793***	0.800***	0.875***	0.695***
	(0.27)	(0.28)	(0.29)	(0.28)	(0.26)	(0.26)	(0.30)	(0.19)
$smcntry_{ij}$	0.339	0.642	0.671	0.404	0.735	0.929	1.080*	0.765
	(0.71)	(0.74)	(0.74)	(0.74)	(0.60)	(0.63)	(0.56)	(0.62)
$locked_{ij}$	-0.580***	-0.605***	-0.558***	-0.539**	-0.442***	-0.434***	-0.417***	-0.428***
	(0.20)	(0.21)	(0.22)	(0.21)	(0.12)	(0.12)	(0.12)	(0.11)
BIT_{ijt}	-0.797***	-0.909***	-0.901***	-0.684***	-0.752***	-0.774***	-0.698***	-0.635***
	(0.23)	(0.22)	(0.23)	(0.23)	(0.15)	(0.15)	(0.15)	(0.14)
FTA_{ijt}	0.273	0.447	0.391	0.260	0.051	0.037	0.110	0.064
	(0.61)	(0.52)	(0.57)	(0.69)	(0.33)	(0.32)	(0.31)	(0.35)
$\ln manager_{ij}$	0.245***			0.446*	0.173***			0.393**
	(0.07)			(0.23)	(0.07)			(0.16)
$\ln professionals_{ijt}$		0.180***		0.140		0.162***		0.398**
		(0.06)		(0.24)		(0.06)		(0.17)
$\ln nonqual_{ijt}$			0.139**	-0.285*			0.082	-0.539***
			(0.06)	(0.15)			(0.07)	(0.11)
Observations	1021	1066	1041	998	1021	1066	1041	998
R^2	0.620	0.602	0.613	0.639	0.562	0.563	0.589	0.714

Notes: Robust standard errors in parentheses (PPML estimation in levels). Home*year and source*year country fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Occupation shares

	Intensive Margin			Extensive Margin		
	(1)	(2)	(3)	(4)	(5)	(6)
Managers share	0.713***			0.635***		
	(0.17)			(0.09)		
Professionals share		-0.443			-0.299	
		(0.37)			(0.19)	
Non-qualified share			-0.205			-0.143*
			(0.18)			(0.08)
Total migrant stock	0.489***	0.393***	0.406***	0.363***	0.290***	0.288***
	(0.06)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)
Observations	1636	1650	1639	1636	1650	1639
R^2	0.863	0.872	0.864	0.925	0.912	0.913

Notes: Robust standard errors in parentheses (PPML estimation in levels) clustered by country pair. Home*year and source*year country fixed and country-pair effects included.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Educational levels

	Intensive Margin			Extensive Margin		
	(1)	(2)	(3)	(4)	(5)	(6)
Higher edu	0.919***			0.482***		
	(0.30)			(0.14)		
Other levels	-0.016			-0.014		
	(0.10)			(0.06)		
Secondary edu		0.714**			0.251	
		(0.34)			(0.19)	
Other levels		0.034			0.060	
		(0.18)			(0.11)	
Primary edu			-0.277			-0.127
			(0.19)			(0.10)
Other levels			0.556***			0.276***
			(0.15)			(0.07)
Migrants j→i	0.079**	0.118***	0.074**	-0.016	-0.027	-0.015
	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Observations	467	467	467	467	467	467
R^2	0.895	0.879	0.893	0.942	0.935	0.941

Notes: Robust standard errors in parentheses (PPML estimation in levels) clustered by country pair. Home*year and source*year country fixed and country-pair effects included.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Quantile regression (education)

	Intensive Margin			
	(1)	(2)	(3)	(4)
	Q(0.25)	Q(0.50)	Q(0.75)	Q(0.90)
Average project size (mUSD):	14	28	61	79
Higher edu	0.929***	1.105***	1.159***	0.317**
	(0.04)	(0.07)	(0.07)	(0.13)
Other levels	-0.402***	-0.385***	-0.390***	-0.003
	(0.05)	(0.06)	(0.07)	(0.10)
Migrants j→i	0.517***	0.703***	0.540***	0.478***
	(0.07)	(0.10)	(0.07)	(0.09)
Secondary edu	-0.227***	0.188**	-0.206	-0.103
	(0.09)	(0.09)	(0.14)	(0.08)
Other levels	0.124**	-0.008	0.158***	0.181**
	(0.06)	(0.08)	(0.05)	(0.08)
Migrants j→i	0.494***	0.430***	0.460***	0.377***
	(0.10)	(0.09)	(0.05)	(0.11)
Primary edu	-0.106*	-0.334***	-0.542***	-0.573***
	(0.06)	(0.06)	(0.10)	(0.07)
Other levels	0.138	0.341***	0.436***	0.494***
	(0.08)	(0.03)	(0.07)	(0.06)
Migrants j→i	0.494***	0.442***	0.388***	0.351***
	(0.10)	(0.04)	(0.05)	(0.05)
Observations	269	269	269	269

Notes: Robust standard errors in parentheses (Dep variable $\ln(FDI+1)$).
Home*year and source*year country fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: FDI by activity (education)

	Manufacturing			Sales			Construction			Services		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Higher edu	0.666			0.898***			1.027*			0.336		
	(0.42)			(0.24)			(0.57)			(0.35)		
Other levels	-0.014			-0.274**			-0.141			-0.110		
	(0.21)			(0.11)			(0.21)			(0.12)		
Secondary edu		1.382**			0.152			0.280			0.101	
		(0.62)			(0.51)			(0.91)			(0.49)	
Other levels		-0.367			0.008			0.099			-0.051	
		(0.32)			(0.24)			(0.51)			(0.25)	
Primary edu			-0.365			-0.475**			-0.514			-0.210
			(0.32)			(0.19)			(0.50)			(0.19)
Other levels			0.507**			0.384***			0.583*			0.155
			(0.21)			(0.12)			(0.14)			(0.17)
Migrants j→i	-0.007	-0.079	-0.013	0.028	0.002	0.033	0.049	0.013	0.041	0.557***	0.575***	0.650***
	(0.06)	(0.05)	(0.07)	(0.04)	(0.05)	(0.04)	(0.07)	(0.07)	(0.07)	(0.16)	(0.18)	(0.16)
Observations	300	300	300	349	349	349	115	115	115	0.078	0.081	0.080
R^2	0.925	0.924	0.917	0.912	0.893	0.910	0.569	0.573	0.566	(0.06)	(0.06)	(0.06)

Notes: Robust standard errors in parentheses (PPML estimation in levels) clustered by country pair.

Home*year and source*year country fixed and country-pair effects included.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Sectoral results controlling for education levels

	Manufacturing	Sales	Construction	Services
	(1)	(2)	(3)	(4)
Higher edu i→j	0.066	0.579**	-0.266	-0.014
	(0.27)	(0.24)	(0.32)	(0.18)
Secondary edu i→j	0.475	-0.251	0.316	0.303
	(0.30)	(0.26)	(0.42)	(0.25)
Primary edu i→j	-0.360**	0.081	0.180	-0.221
	(0.18)	(0.14)	(0.21)	(0.14)
Higher edu j→i	0.880*	-0.172	0.800*	-0.042
	(0.52)	(0.49)	(0.47)	(0.51)
Secondary edu j→i	0.840**	-0.230	0.202	-0.419
	(0.34)	(0.28)	(0.47)	(0.34)
Primary edu j→i	-0.329	0.061	0.509	0.626**
	(0.25)	(0.20)	(0.32)	(0.27)
Observations	877	937	426	909
R^2	0.846	0.982	0.708	0.948

Notes: Robust standard errors in parentheses (PPML estimation in levels) clustered by country pair. Home*year and source*year country fixed and country-pair effects included.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$