

current job. Our analysis differs from Hummels et al. (2014) in two important ways. First, and most importantly while the study from Denmark was limited to manufacturing companies and trade in goods, this study includes both manufacturing and services firms and covers goods and services exports and offshoring. To obtain comparable results we ran the regressions for services and manufacturing separately.¹³ Second, our study includes more recent data, covering the period 2003-2014.

The results for the manufacturing sector is reported in Annex table A2.3 and for services in Annex table A2.4 and summarized in Table 5. The regression using instruments for offshoring and exports of goods show a similar but an order of magnitude smaller overall wage effect as in the study of Denmark. Thus, a 10% increase in offshoring of goods leads to a 0.04% overall decline in average wages for all workers. However, as opposed to the Danish study, skilled workers are more affected, with an average decline in earnings of 0.2% following a 10% increase in offshoring.¹⁴ Offshoring of services by manufacturing firms on the other hand, leads to an overall increase in wages which in its entirety benefits low and medium skilled workers. Exports of goods on the other hand, raises overall wages and the skilled workers gain more than low and medium skilled workers. Finally, exports of services by manufacturing firms lead to lower overall wages but, higher wages for skilled workers.

Table 5. Impact on wages of a 10% increase in offshoring or exports

	Manufacturing firms		Services firms	
	High-skilled	Low and middle skilled	High-skilled	Low and middle skilled
Offshoring				
Goods	-0.2%	-0.04%	-0.4%	-0.3%
Services	-1.3%	0.6%	0	0
Exports				
Goods	0.3%	0.14%	-0.3%	-0.3%
Services	1.6%	-0.5%	-0.6%	-0.6%

Note: The table is based on the elasticities reported in Tables A2.2 and A2.3 Panel B, columns 2 and 4.

Services firms exhibit a somewhat different pattern when it comes to the wage effect of offshoring. Offshoring of services has no discernible effect on wages, while exports of services reduce wages slightly for all workers. Goods exports and offshoring also have a negative impact on wages for all workers, although the marginal as well as the absolute impact is small, given that the extent to which services firms export and offshore goods is quite limited.

Skilled workers are negatively affected by offshoring in Swedish manufacturing while the effect is positive in Denmark. A possible explanation is the difference in industrial structure between the two countries where Sweden is more specialised in medium to high-technology industries. High-technology industries tend to employ more high-skilled workers that may face competition from offshored high-skill services. A comparative analysis between Sweden and Denmark is beyond the scope of this paper, but could be an interesting area for future analysis.¹⁵

To summarize this section, workers in firms that change export status are slightly less likely to obtain wage rises in line with the average of their peers, while workers that stay in the same job on average face only

¹³ We also ran pooled IV regressions for all firms. These gave statistically insignificant results for the impact of services offshoring and exports, while a small negative impact on all workers were found for goods offshoring and goods exports for all workers.

¹⁴ Arguably, following Hummels et al (2014) and controlling for both output and employment takes out the impact of productivity, which may be the major channel through which offshoring and exports affect wages. We therefore focus on the results where sales and employment are not controlled for in the discussion.

¹⁵ This study is part of a larger project on trade and jobs focusing on services sectors. A comparative analysis of results from micro data analysis from several countries will be part of the final report.

marginal impact on earnings of exports or offshoring, with the exception of high-skilled workers in manufacturing firms who face a downward pressure on wages from services offshoring and higher wages from services exports.

Labour demand

We start with an analysis of how the probability of changing job is related to change in the firms' export status, controlling for worker characteristics. We study four margins of job change: Change firm across sectors, change firm within sector, change occupation and change occupation within firms. Starting with the control variables, we observe that men are somewhat less likely to change jobs than women on any of these margins. The probability to change occupation or job across firms within sector increases with age albeit at a diminishing rate, while the probability to change job to a different sector diminishes with age. Furthermore, the probability to change job diminishes with tenure, except for changing occupation within firms. The latter probably reflects promotion based on seniority. Skilled workers are less likely to change employer whether within or across sectors, but more likely to change occupation.

Turning to change in export status and labour market churning, it appears that the direction of change in export status is less important than the fact that there is a change. However, the effect of a change in export status is different across margins of job change. Thus, workers in a firm that change export status are less likely to move to another sector, but more likely to change job within the sector.¹⁶ Second, a change in export status is associated with a higher probability of a change in occupation in general as well as change in occupation within firms. Annex Table A2.4 presents the detailed results.

We finally study labour demand at the firm level using a standard factor demand regression. We estimate labour demand by skill level, distinguishing between high, medium and low skill workers. Labour demand is a function of relative wages and we extend the model by adding a number of trade-related shift parameters.¹⁷ To reduce sensitivity to measurement error, we estimate the equation in five-year differences.

We first notice that all the trade variables are positively related to labour demand at all three skill levels. The elasticities of labour demand to goods and services exports and offshoring are relatively small, however, indicating that a 10% increase in exports or offshoring is associated with between 0.1% and 0.5% higher labour demand. Interestingly, we find that both exports and offshoring of services shift labour demand towards high-skilled workers, while exports and offshoring of goods raise the relative demand for unskilled workers. Furthermore, after controlling for export volume, exporting goods to a larger number of countries gives an additional boost to labour demand particularly for unskilled workers. It also appears that the impact of trade on labour demand is non-linear. A dummy variable that distinguishes traders from non-traders is negatively associated with labour demand, but as noted, labour demand rises with export and offshoring value.

The elasticity of labour demand to wages exhibits an interesting pattern. While demand for high and low skilled labour is relatively inelastic to wages, demand for middle-skilled workers is quite sensitive to changes in wages. Thus, while a 1% increase in the wage rate reduces demand for high and low skilled workers by about 0.1%, the same wage increase reduces demand for middle skilled workers by about 0.8%. Moreover, an increase in the wage rate for middle-skilled workers has a stronger negative impact on

¹⁶ The only exception from this is for firms that exit services export markets in which case workers are less likely to move to another firm in the same sector.

¹⁷ The capital stock is omitted from the regressions due to limited information. The estimated equation is the following: $\Delta \ln l_{sit} = \alpha_0 + \sum \alpha_j \Delta \ln w_{sit} + \sum \gamma_l \Delta \ln z_{it} + \varepsilon_{sit}$, where subscript s denote skill level, i denotes firm and z represents trade related shift parameters.

the demand for low-skilled workers than for middle skilled workers. This surprising finding is consistent with previous studies of polarisation of the labour market, where the tasks traditionally performed by middle-skilled workers are more offshorable and automatable than both high-skilled and low-skilled tasks. A twist here is that low and middle-skilled workers are strongly complementary. Middle and low skilled workers often work in teams where the middle-skill worker supervise one or more low-skilled workers. When demand for middle-skilled workers go down, the low-skilled team member become obsolete as well. The detailed results are reported in Annex Table A2.5. More research is needed to explore complementarities between skill levels and could be extended to occupations as well.

CONCLUSIONS

This study has analysed the relationship between trade and jobs using matched employer employee data for Sweden. It has uncovered rich and multifaceted labour market developments at the worker and firm level that may inform policy action in response to disruptions from international trade. As predicted by economic theory, trade is associated with reallocation of jobs within and across sectors. Moreover, as found in a number of studies from other countries, the largest effect is within sectors. We also find evidence that the impact of trade on job flows and earnings is moderate to small and appears to affect small firms and firms that are marginally competitive in international markets and trade only occasionally – and the workers in these firms. Both exports and offshoring are associated with higher labour demand and in some cases slightly lower wages.

In the introduction we raised the question whether the Swedish labour market is less dynamic and Swedish workers better protected than in other countries. Although no rigorous comparison has been made to other countries, it appears that the answer to both these questions are in the affirmative, as also pointed out in two recent Swedish studies (Eklund and Thulin, 2018; Enegren et al., 2019). However, both argue that lack of flexibility also has costs in terms of a poorer match of skills demand and supply, loss of competitiveness and lagging behind the frontier as far as productivity gains are concerned.

The study has covered many aspects of the links between trade and labour market developments that deserve further analysis. Among these are the job flows and earnings across occupations at a more detailed level. Changing occupation can be costly for workers but could improve the matching problem identified in the Swedish labour market.

REFERENCES

- Eklund, J. and P. Thulin (2019), 250 miljarder fattigare! Svensk produktivitetsutveckling 1950-2027. Entreprenörskapsforum.se
- Enegren, B., T. Halldin and L- Jagrén (2019), Lönens inverkan på Sveriges internationella konkurrenskraft, Svensk Näringsliv, BNP #6, Sammanfattande rapport – lönebidning for framtida konkurrenskaft.

- Fredriksson, P. and B. Holmlund (2011). "Svensk arbetsmarknad", in Hultkrantz, L. and H. T. Söderström (eds.). *Marknad och Politik*. 9th edn. SNS Förlag
- Frieden, J. (2018). The politics of the globalization backlash: Sources and implications. Paper presented at the American Economic Association annual conference, 6 January 2018.
- Gomes, P. (2012). Labour market flows: Facts from the United Kingdom. *Labour Economics*, 19(2):165–175.
- Goos, M., Manning, A., and Salomons, A. (2014). Explaining job polarization: Routine biased technological change and offshoring. *American Economic Review*, 104(8):2509–26.
- Growth Analysis (2010). *Svensk tjänstehandel - omfattning, utveckling och betydelse*. Report Working Paper No 15, Swedish Agency for Growth Policy Analysis.
- Haltiwanger, J., Scarpetta, S., and Schweiger, H. (2014). Cross country differences in job reallocation: the role of industry, firm size and regulations. *Labour Economics*, 26:11–25.
- Haltiwanger, J. C. and Vodopivec, M. (2002). Gross worker and job flows in a transition economy: an analysis of Estonia. *Labour economics*, 9(5):601–630.
- Haltiwanger, J. C. and Vodopivec, M. (2003). Worker flows, job flows and firm wage policies. An analysis of Slovenia. *Economics of Transition*, 11 (2), 253-290.
- Henig, D. (2019). Sweden, UK and the EU: Managing post-Brexit relations and defining a new agenda for European competitiveness. *ECIPE Policy Brief no 1/2019*.
- Hummels, D., R. Jørgensen, J. Munch and C. Xiang (2014). The wage effects of offshoring: evidence from Danish matched worker-firm data. *American Economic Review*, 104(6), 1597-1629.
- Larsson, M. (2016). *Facklig anslutning år 2015 – Facklig anslutning bland anställda efter klass och kön år 1990-2015*. Landsorganisationen (LO), Arbetslivsenheten, Report.
- OECD (2017). How to make trade work for all. Chapter 2 in *World Economic Outlook*, vol 2017, issue 1. Paris: OECD.
- United Nations (2002). *Manual on statistics of international trade in services*. Report, UN, Department of Economic and Social Affairs, Statistics Division.
- UKÄ (2016). *Labour market prospects after tertiary education. Sweden in an international perspective – A comparison based on Education at a Glance*. Swedish Higher Education Authority, Report 2016:3.
- WTO (2018). *Overview of developments I the international trading environment*. Annual report by the Director General. WT/TPR/OV/21.

STATISTICAL ANNEX

Table A1: Variable definitions and sources

Variables	Definitions	Sources
UE	Nr. of individuals from unemployment to employment	LISA and own calculation
IE	Nr. of individuals from inactive to employment	LISA and own calculation
EE	Nr. of individual from employment in one firm to another	LISA and own calculation
E	Nr. of individual employed	LISA and own calculation
Male (1,0)	Male, zero otherwise	LISA
Age	Age of individuals	LISA
Age square	Squared term of individuals' age	LISA and own calculation
Tenure	Nr. of years that an individual has worked at the same firm	LISA and own calculation
Tenure square	Squared term of individuals' tenure	LISA
High skill (1, 0)	Received tertiary education, zero otherwise	LISA and own calculation
Share high skilled	Share of employees that have post-secondary education	LISA and own calculation
Change job (1, 0)	Change from one firm to another	LISA
Change export status (1, 0)	From non-exporter to exporter, zero otherwise	FTS
Ln offshoring	Log value of the total value of imports	FTS
Ln exports	Log value of the total value of exports	FTS
Civil (1, 0)	Married, zero otherwise	FTS
Ln Employment	Log value of the number of (full-time equivalent) employees	SBS
Ln Sale	Log value of the turnover	SBS
Ln wage high-skilled	Log value of the full-time equivalent earnings of high-skill (i.e., tertiary educ. two year or longer) workers	LISA and own calculation
Ln wage middle-skilled	Log value of the full-time equivalent earnings of medium-skill (i.e., secondary educ. or less than two year tertiary educ.) workers	LISA and own calculation
Ln wage low-skilled	Log value of the full-time equivalent earnings of low-skill (i.e., less than secondary educ.) workers	LISA and own calculation
Ln services exports	Log value of the service exports	FTS
Ln services import	Log value of the service imports	FTS
Foreign owned (0, 1)	Larger than 50 percent foreign ownership, zero otherwise	EGR
Number of markets S	Number of markets for service exports	FTS and own calculation
Number of markets G	Number of markets for good exports	FTS and own calculation
Ln goods exports	Log value of goods exports	FTS
Ln goods imports	Log value of goods imports	FTS
Services exporter (1, 0)	Service exporter, zero otherwise	FTS
Services importer (1, 0)	Service importer, zero otherwise	FTS
Goods exporter (1, 0)	Goods exporter, zero otherwise	FTS
Goods importer (1, 0)	Goods importer, zero otherwise	FTS

Notes: Sources from Statistics Sweden are Structural Business Statistics (Företagens ekonomi), SBS; Longitudinal Integration Database for Health Insurance and Labour Market Studies, LISA; Enterprise Group Register (Koncernregistret), EGR; Foreign Trade Statistics (Utrikeshandel med varor, Utrikeshandel med tjänster), FTS; Compensation of Employees and Current Transfers (Löner och transfereringar), FTS.

TECHNICAL ANNEX, REGRESSION RESULTS

We calculated average wage increase from one year to the next by year, gender, tenure, skill level, industry and occupation. Next, we estimated the probability that a worker would gain more than average if he or she changed job, conditioned on whether the firm of employment in year $t-1$ changed export status using population averaged probit. Table A2.1 reports the results. Panel A shows the regression of the core control variables while panel B depicts the coefficient on change in job and change in export status of the firms of employment. These are introduced one by one in the regressions. Since the coefficients on the core variables are robust to the inclusion of additional variables, in the interest of space we only report the coefficients of the variable of interest in Panel B. Since our main interest is trade in services, we also limit the reporting to change in export status to services. The coefficients for change in export status for goods are typically similar in sign and statistical significant but in most cases smaller.

Table A2.1 Probability of obtaining higher wage rise than average

Panel A. Core variables

	Core variables
Male	-0.055*** (166.89)
Age	0.017*** (215.36)
Age squared	-0.000*** (248.16)
Tenure	-0.017*** (205.06)
Tenure squared	0.001*** (202.94)
High-skill	-0.010*** (29.53)
Log likelihood	-50,609,122.45
N	74,657,536

Panel B. Change job and export status

Job change	Coefficient	Change export status	Coefficient	Interaction
Change firm	-0.0280***	Entry service exports	-0.176***	0.127***
Change firm within sector	0.208***	Exit services exports	-0.176***	-
Change sector	-0.0575***	Entry services offshoring	-0.181***	0.127***
Change occupation	0.0111***	Exit services offshoring	-0.185***	0.0917*
Change occupation within firm	0.0563***			

Note: Probability that a worker will obtain an above average wage increase in a given year. Average is calculated by year, gender, age, tenure, occupation and industry of employment. T-statistics are reported in parenthesis where ***, ** and * signify statistical significance at the 1%, 5% and 10% level respectively. The interaction term is between the change in occupation within firm and change in the export status of the firm as indicated in the row.

Table A2.2 Worker level wage regressions, manufacturing firms
Panel A. fixed effect regressions

	Services		Goods		Goods and services	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln offshoring	-0.001*** (4.31)	-0.001 (1.54)	-0.001* (1.85)	0.002*** (7.78)	-0.001* (1.75)	0.002*** (8.02)
High-skilled*Ln offshoring	-0.000 (0.14)	-0.001** (2.02)	-0.000 (0.71)	-0.002*** (6.51)	-0.000 (0.73)	-0.002*** (6.43)
Ln exports	0.000 (1.09)	0.001 (1.36)	-0.001 (1.64)	0.002*** (5.73)	-0.001 (1.16)	0.002*** (6.59)
High-skilled*Ln exports	-0.000 (0.95)	-0.000 (0.91)	-0.002*** (3.86)	-0.003*** (10.17)	-0.002*** (4.12)	-0.003*** (10.30)
Tenure	0.009*** (6.25)	0.012*** (9.70)	0.009*** (6.32)	0.012*** (9.59)	0.009*** (6.31)	0.012*** (9.58)
Tenure squared	-0.000*** (12.34)	-0.001*** (23.73)	-0.000*** (12.24)	-0.001*** (23.21)	-0.000*** (12.25)	-0.001*** (23.21)
Civil	-0.005*** (4.29)	-0.002** (2.49)	-0.005*** (4.22)	-0.002** (2.46)	-0.005*** (4.22)	-0.002** (2.46)
Share of high-skilled	0.229*** (21.03)		0.193*** (16.96)		0.192*** (16.86)	
Ln Employment	0.007 (0.62)		0.009 (0.76)		0.009 (0.74)	
Ln sale	0.040*** (3.02)		0.041*** (3.07)		0.041*** (3.04)	
R-squared	0.72	0.74	0.72	0.74	0.72	0.74
Observations	4,828,689	7,582,837	4,834,193	7,588,972	4,834,175	7,588,934

Note: the dependent variable is log of annual full-time equivalent earnings. The regressions are run on all Swedish manufacturing firms using industry-year and worker fixed effects. Standard errors are clustered on firm-year. T-statistics are shown in parenthesis and ***, ** and * denote statistical significance at a 1%, 5% and 10% level respectively.

Panel B FE-IV regressions

	Services		Goods	
	(1)	(2)	(3)	(4)
Ln offshoring	0.024* (1.66)	0.063*** (5.26)	-0.025*** (7.29)	-0.004*** (2.69)
High-skilled*Ln offshoring	-0.029 (0.53)	-0.191*** (4.46)	-0.002 (0.14)	-0.021*** (3.81)
Ln exports	-0.008 (0.68)	-0.048*** (3.85)	0.015** (2.19)	0.014*** (6.27)
High-skilled*Ln exports	0.032 (0.54)	0.211*** (4.25)	0.001 (0.09)	0.016*** (3.06)
Tenure	0.015*** (26.61)	0.018*** (30.86)	0.016*** (38.45)	0.018*** (44.68)
Tenure squared	-0.001*** (39.44)	-0.001*** (24.77)	-0.001*** (119.17)	-0.001*** (160.66)
Civil	0.000 (0.11)	-0.001 (1.10)	-0.001 (1.41)	-0.000 (0.44)
Share of high-skilled	0.202** (2.25)		0.226*** (28.42)	
Ln Employment	0.027*** (6.32)		0.031*** (11.54)	
Ln sale	0.009* (1.82)		0.031*** (3.88)	
R-squared	0.71	0.58	0.72	0.72

Observations	4,726,678	6,111,141	4,731,981	6,117,054
--------------	-----------	-----------	-----------	-----------

Note. IV regressions only includes observations of firms that both export and import. Firms that both imports and exports goods and services are too few to include in this specification. The offshoring instrument is the trading partner export supply to all countries except Sweden of the product in question. The export instrument is trading partner's total purchases of the product in question less imports from Sweden.

Table A2.3 Worker level wage regressions, services firms
Panel A. fixed effect regressions

	Services		Goods		Goods and services	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln offshoring	0.000 (0.16)	0.001*** (2.91)	0.000* (1.76)	0.002*** (13.13)	0.000* (1.75)	0.002*** (14.55)
High-skill*Ln offshoring	-0.001* (1.80)	-0.001** (2.00)	-0.001*** (5.35)	-0.001*** (7.95)	-0.001*** (5.46)	-0.001*** (7.89)
Ln exports	-0.001*** (3.00)	-0.001** (1.98)	0.000 (0.51)	0.001*** (5.74)	-0.000 (0.52)	0.001*** (5.86)
High-skill* Ln exports	-0.000 (1.00)	-0.000 (0.11)	-0.001*** (3.16)	-0.001*** (5.62)	-0.001*** (3.03)	-0.001*** (4.79)
Tenure	0.018*** (3.92)	0.018*** (4.01)	0.018*** (3.94)	0.018*** (4.00)	0.018*** (3.94)	0.018*** (4.00)
Tenure squared	-0.001*** (17.00)	-0.001*** (44.70)	-0.001*** (17.09)	-0.001*** (44.65)	-0.001*** (17.12)	-0.001*** (44.63)
Civil	-0.020*** (20.80)	-0.007*** (13.10)	-0.020*** (20.77)	-0.007*** (13.12)	-0.020*** (20.78)	-0.007*** (13.13)
Share of high-skill	0.166*** (22.73)		0.152*** (21.43)		0.151*** (21.26)	
Ln employment	0.016*** (4.47)		0.015*** (4.22)		0.015*** (4.24)	
Ln sale	0.025*** (7.53)		0.024*** (7.03)		0.024*** (7.24)	
R-squared	0.70	0.68	0.70	0.68	0.70	0.68
Observations	11,186,009	42,798,610	11,199,473	42,813,395	11,195,162	42,809,027

Panel B IV-FE regressions

	(1)	(2)	(3)	(4)
Ln offshoring	0.088*** (7.44)	-0.002 (0.11)	-0.039*** (14.78)	-0.028*** (7.72)
High-skilled*offshoring	-0.206*** (3.16)	-0.014 (0.25)	0.004 (1.25)	-0.011* (1.94)
Ln exports	-0.084*** (4.83)	-0.063*** (6.14)	-0.003 (1.14)	-0.034*** (8.03)
High-skill*exports	0.220*** (3.11)	0.005 (0.08)	-0.007* (1.88)	0.009 (1.46)
Tenure	0.033*** (27.99)	0.025*** (70.74)	0.027*** (124.91)	0.024*** (132.78)
Tenure squared	-0.001*** (18.89)	-0.001*** (37.62)	-0.001*** (97.42)	-0.001*** (181.80)
Civil	-0.021*** (16.24)	-0.010*** (15.84)	-0.015*** (15.73)	-0.008*** (15.11)
High-skill share	-0.008 (0.10)		0.185*** (34.22)	
Ln employment	0.009**		0.016***	

	(2.43)		(8.97)	
Ln sale	-0.009		0.075***	
	(0.63)		(25.97)	
R-squared	0.62	0.64	0.71	0.65
Observations	6,309,188	16,731,455	6,319,405	16,742,849

Table A2.4. Probability to change job and change in export status

	Sector	Firm within sector	Occupation	Occupation within firm
Male	-0.0966*** (225.68)	-0.00564*** (6.71)	-0.0386*** (126.36)	-0.00402*** (-10.83)
Age	-0.0414*** (414.71)	0.0530*** (243.66)	0.0335*** (345.47)	0.0185*** (152.3)
Age squared	0.000434*** (361.3)	-0.000503*** (188.17)	-0.000487*** (427.99)	-0.000273*** (194.20)
Tenure	-0.245*** (1558.89)	-0.356*** (662.96)	-0.0269*** (269.79)	0.0209*** (159.98)
Tenure squared	0.00790*** (1124.67)	0.0119*** (596.45)	0.00146*** (340.25)	0.0000652*** (11.6)
Skill	-0.0694*** (208.66)	-0.0146*** (22.98)	0.0470*** (189.09)	0.0756*** (254.66)
Exit services exports	-0.136*** (50.85)	-0.0209*** (4.06)	0.227*** (91.64)	0.137*** (44.31)
Exit goods exports	-0.204*** (129.55)	0.152*** (59.25)	0.00174 (0.97)	0.0298*** (13.67)
Entry services exports	-0.0447*** (17.29)	0.0626*** (12.86)	0.168*** (66.08)	-0.00582 (1.73)
Entry goods exports	-0.203*** (125.69)	0.0303*** (10.53)	0.157*** (94.35)	0.206*** (106.36)
Exit services offshoring	-0.161*** (44.34)	0.105*** (16.78)	0.247*** (67.68)	0.146*** (32.00)
Exit goods offshoring	-0.265*** (110.83)	0.175*** (44.26)	0.0539*** (20.82)	0.128*** (42.50)
Entry services offshoring	-0.171*** (47.63)	0.194*** (34.96)	0.0531*** (14.31)	-0.0700*** (14.44)
Entry goods offshoring	-0.276*** (113.74)	0.0951*** (22.53)	-0.0788*** (29.07)	0.0254*** (8.14)
N	57355516	57355516	57355516	57355516

Note: Probability that a worker will change job in a given year. T-statistics are reported in parenthesis where ***, ** and * signify statistical significance at the 1%, 5% and 10% level respectively. Regressions are population-averaged probit.

Table A2.5 unconditional labour demand by skills category

	Trade volume			Trader and volume		
	High-skilled	Medium skilled	Low-skilled	High-skilled	Medium skilled	Low-skilled
Ln wage high-skilled	-0.138*** (3.97)	-0.116*** (3.52)	-0.0312 (0.70)	-0.144*** (4.15)	-0.122*** (3.69)	-0.0384 (0.85)
Ln wage middle-skilled	-0.332*** (6.54)	-0.828*** (17.18)	-1.050*** (16.08)	-0.353*** (6.96)	-0.849*** (17.50)	-1.074*** (16.32)
Ln wage low-skilled	0.0462 (1.95)	-0.0497* (2.21)	-0.0895** (2.94)	0.0414 (1.75)	-0.0550* (2.43)	-0.0961** (3.13)
Ln services exports	0.0123*** (6.85)	0.00711*** (4.15)	0.00543* (2.34)	0.0346*** (8.74)	0.0246*** (6.52)	0.0202*** (3.94)
Ln services offshoring	0.0185*** (7.60)	0.0114*** (4.93)	0.0123*** (3.91)	0.0377*** (8.92)	0.0245*** (6.06)	0.0282*** (5.16)
Foreign owned	0.023 (1.03)	-0.0236 (1.12)	-0.017 (0.59)	0.00889 (0.4)	-0.0366 (1.72)	-0.0326 (1.13)
Number of markets S	0.000627 (1.15)	0.00123* (2.38)	0.00187** (2.66)	0.000705 (1.29)	0.00161** (3.08)	0.00258*** (3.64)
Ln goods exports	0.0102*** (6.26)	0.0127*** (8.25)	0.0152*** (7.28)	0.0265*** (9.52)	0.0344*** (12.93)	0.0486*** (13.46)
Ln goods offshoring	0.0208*** (9.74)	0.0304*** (15.02)	0.0304*** (11.06)	0.0318*** (10.54)	0.0441*** (15.29)	0.0475*** (12.14)
Number of markets G	0.00962*** (12.83)	0.0114*** (16.02)	0.0155*** (16.04)			
Services exporter				-0.263*** (7.26)	-0.213*** (6.13)	-0.194*** (4.11)
Services importer				-0.261*** (6.25)	-0.179*** (4.48)	-0.210*** (3.88)
Goods exporter				-0.212*** (6.12)	-0.283*** (8.56)	-0.439*** (9.79)
Goods importer				-0.248*** (5.29)	-0.301*** (6.70)	-0.381*** (6.25)
N	5856	5856	5856	5856	5856	5856

Note: Seemingly unrelated regressions (SUR). All variables are in five year differences. The time period is 2003-2015. ***, ** and * denote statistical significance at a 1%, 5% and 10% level respectively.