The Jobs at Risk from Globalization: the French Case (Online Appendix)

1 Change in the share of voting stocks

In this section, we analyze the employment effect of a change in the share of voting stocks held in a foreign subsidiary. The sample is composed of domestic firms and multinational firms that did not invest abroad during the period 2002-2007. The results only capture the effect of a change in the degree of commitment in the subsidiary on employment. Results reveal that increases in the share of voting stock in a firm's subsidiary located in high-income country raises significantly the share of executives and reduces the share of blue-collar workers.

Table 1: Employment effect of change in the share of voting stock

	Executive	Blue collar Workers
	(1)	(2)
Voting stock	0.072**	-0.156**
	[0.034]	[0.073]
France	-0.005	0.002
	[0.003]	[0.005]
Export	-0.000	0.000
	[0.000]	[0.000]
Revenue	0.004	-0.010**
	[0.003]	[0.004]
Capital	0.001	0.001
	[0.001]	[0.002]
Technology Frontier	0.016	0.005
	[0.012]	[0.015]
Constant	0.057**	0.642***
	[0.028]	[0.033]
Observations	16,353	16,353
R-squared	0.026	0.028
Log Likelihood	34724.360	29681.281

Source: LIFI survey, French annual census for manufacturing (EAE), French Déclaration annuelles des données sociales (DADS); period: 2002-2007. Fixed effect model, variables are calculated at the firm level- Authors' calculations.

Increasing the degree of commitment in a foreign subsidiary raises incentives to actively control the subsidiary's management and to transfer production technology abroad. It has a positive and significant impact on the demand for managers in the home country, at the expense of blue-collar workers. Increasing commitment in a foreign subsidiary promotes greater flexibility to streamline the production process, by strengthening skilled production function in headquarters activities and eliminating unnecessary domestic production subsidiaries in the home country.

2 IV-results: Robustness test

In this section, we report just-identified instruments. We use on the one hand the GDP per capita as an instrument and on the other hand the level of infrastructure. Whatever the instrumental variable retained we observe similar results.

Table 2: Random Effect Model by Tasks

	Managers	Blue Collar Workers	Managers	Blue Collar Workers
Subsidiaries in				
Low income countries	0.017**	-0.004	0.019**	-0.001
	[0.008]	[0.007]	[0.009]	[0.008]
High income countries	-0.003	-0.003	-0.003	-0.004
	[0.004]	[0.004]	[0.004]	[0.004]
First Stage Estimates (low income)				
High-income GDP per capita	0.070***	0.070***	-	-
	[0.003]	[0.003]	-	-
Low-income GDP per capita	0.006***	0.006***	-	-
	[0.002]	[0.002]	-	-
High-income infrastructure	-	-	0.020***	0.020***
	-	-	[0.005]	[0.005]
Low-income infrastructure	-	-	0.205***	0.205***
	-	-	[0.011]	[0.011]
First Stage Estimates (high income)				
High-income GDP per capita	0.005*	0.005*	-	-
	[0.003]	[0.003]	-	-
Low-income GDP per capita	0.073***	0.073***	-	-
	[0.002]	[0.002]	-	-
High-income infrastructure	-	-	0.196***	0.196***
	-	-	[0.006]	[0.006]
Low-income infrastructure	-	-	0.011	0.011
	-	-	[0.008]	[0.008]
France	-0.002	0.000	-0.002	0.000
	[0.003]	[0.004]	[0.003]	[0.004]
Exports	-0.000	0.001	-0.000	0.001
	[0.000]	[0.000]	[0.000]	[0.000]
Revenue	0.007*	-0.013***	0.007*	-0.012***
	[0.004]	[0.005]	[0.004]	[0.004]
Capital	-0.001	0.002	-0.000	0.002
	[0.001]	[0.002]	[0.001]	[0.002]
Technology Frontier	0.001	-0.000	0.001	-0.000
	[0.001]	[0.001]	[0.001]	[0.001]
Observations	17,474	17,474	17,474	17,474
R-squared	0.037	0.017	0.038	0.024
Underidentification				
Keibergen-Paap LM stat	119.531***	119.531***	103.563***	103.563***
Weak indentification				
Kleibergen-Paap rk-stat	205.733	205.733	177.683	177.683
Stock-Yogo 5% max IV relative bias	11.04	11.04	11.04	11.04

Source: LIFI survey, French annual census for manufacturing (EAE), French Déclaration annuelles des données sociales (DADS); period: 2002-2007. Authors' calculations.

3 Random Effect Model

The variance analysis shows that the overall variation of the share of managers (blue-collar workers) is explained to 75% (85%) by the variance between firms and to 25% (15%) for the variance within a firm over time. The covariance analysis shows that the number of FDI moves in the same direction as the share of managers, and that the covariance between them is 293.061. In contrast, the number of FDI and the share of blue-collar workers are

negatively related (with a covariance of -233.101). We also measure the covariance for the time-specific deviation of our variables from their average time values. We observe that there is a positive correlation between the time specific deviation to the average time of the share of managers and the number of FDI. Conversely, the relation is negative when considering the share of blue-collar workers. However, the value of the covariance is much smaller in this case (4.86 and -4.71). These results show that the correlation between offshoring and workforce composition is mostly driven by differences between firms, rather than specific changes over time. However, the Hausman test of endogeneity rejects exogeneity for the random effects. Still, for comparative purposes, we report the results with the random effect model in this section. The theta statistic reports the weight given to the between- and within-dimension, with $\theta^2 = \frac{\sigma_\varepsilon^2}{T\sigma_v^2+\sigma_\varepsilon^2}$. A higher θ indicates that the residual variance in the between-dimension is higher than in the within-dimension. The random effect model includes time, region and sector fixed effects.

Table 3: Random Effect Model by Qualification Group

Model	RE (1)	RE (2)	RE (3)	RE (4)
Dependant variable	Executives	Blue-collar workers	Intermediate Professions	Employees
Subsidiaries in:				
Low-income countries	0.022***	-0.023***	0.007*	-0.014***
	[0.004]	[0.005]	[0.004]	[0.003]
High-income countries	0.020***	-0.028***	0.011**	0.002
	[0.006]	[0.007]	[0.005]	[0.005]
France	0.005**	-0.013***	0.004*	0.018***
	[0.002]	[0.003]	[0.002]	[0.003]
Exports	0.002***	-0.002***	0.001***	-0.001***
	[0.000]	[0.000]	[0.000]	[0.000]
Revenue	0.029***	-0.049***	0.025***	0.027***
	[0.002]	[0.004]	[0.002]	[0.004]
Capital	-0.005***	0.007***	-0.004***	-0.006***
	[0.001]	[0.002]	[0.001]	[0.001]
Technology Frontier	0.001***	-0.001**	0.000	-0.000
	[0.000]	[0.000]	[0.000]	[0.000]
Constant	0.098**	0.000	0.220***	-0.013
	[0.043]	[0.000]	[0.041]	[0.052]
Observations	18,729	18,729	18,729	18,729
Number of firms	6.474	6.474	6.474	6.474
R^2 between	0.255	0.313	0.148	0.096
R^2 within	0.024	0.013	0.001	0.001
R^2 overall	0.234	0.284	0.148	0.071
theta (median)	0.7837	0.8383	0.782	0.720

Source: LIFI survey, French annual census for manufacturing (EAE), French Déclaration annuelles des données sociales (DADS); period: 2002-2007. Authors' calculations.

Table 4: Random Effect Model by Tasks

Model	RE (1)	RE (2)	RE (3)	RE (4)	RE (5)
Dependant variable	Routine manual	Non-routine manual	Non-routine interactive	Non-routine analytical	Routine cognitive
Subsidiaries in					
Low-income countries	-0.013**	0.001	0.024***	0.019***	0.015***
	[0.005]	[0.005]	[0.005]	[0.004]	[0.004]
High-income countries	-0.023***	-0.025***	0.007	0.004	0.012**
	[0.007]	[0.006]	[0.006]	[0.006]	[0.006]
France	-0.015***	-0.018***	0.009***	0.002	0.006***
	[0.003]	[0.003]	[0.002]	[0.002]	[0.002]
Exports	-0.007***	-0.004***	0.005***	0.005***	0.005***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Revenue	-0.020***	-0.018***	0.025***	0.018***	0.026***
	[0.003]	[0.002]	[0.002]	[0.002]	[0.002]
Capital	0.007***	0.007***	-0.003**	-0.001	-0.002**
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Technology Frontier	-0.001**	0.000	0.002***	0.002***	0.002***
	[0.001]	[0.001]	[0.001]	[0.000]	[0.000]
Constant	0.556***	0.000	0.328***	0.555***	0.000
	[0.051]	[0.000]	[0.041]	[0.037]	[0.000]
Observations	18,246	18,246	18,246	18,246	18,246
Number of firms	6.375	6.375	6.375	6.375	6.375
R^2 between	0.167	0.133	0.141	0.156	0.174
R^2 within	0.000	0.018	0.028	0.019	0.011
R^2 overall	0.140	0.104	0.126	0.138	0.153
theta (median)	0.6899	0.672	0.638	0.633	0.682

Source: LIFI survey, French annual census for manufacturing (EAE), French Déclaration annuelles des données sociales (DADS); period: 2002-2007. Authors' calculations.