

## ***A5. Effects of globalisation: wage differences between employees at Dutch and foreign controlled enterprises in the Netherlands***

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### **5.1 Introduction**

Economic globalisation in the form of increased international direct investment has a multitude of potential consequences. While the impact on productivity and economic growth is probably most often studied in the academic literature, the social consequences of Multinational Enterprise (MNE) investments and the effects of Foreign Direct investment (FDI) on employment are increasingly recognised as similarly important, and subject of growing research interest (see e.g. Görg, 2000; Lipsey and Sjöholm, 2004). At first sight, MNEs do not play a major role in absolute employment. The latest UNCTAD World Investment Report (2008) estimates suggest that worldwide only 82 million workers (or 2 percent of a total global workforce of 3.5 billion, see ILO, 2007) are directly employed by foreign affiliates. In an open economy such as the Netherlands, however, this share is substantially higher: foreign enterprises in the Netherlands employ approximately 17 percent of employees in the private sector (SN, 2008). However, it is not necessarily only the quantity of employment that is affected by FDI: MNEs also have the opportunity to create 'higher quality' jobs, given their size (and associated need for managerial capacity) and level of technology. In addition, their indirect (multiplier) employment effects may be substantial, due to linkages with local suppliers and buyers (cf. Bloom, 1992; Pack, 1997; UNCTAD, 1999).

In particular the wages paid by MNEs to their employees are considered to be an important way in which foreign controlled enterprises may contribute to host countries' economies and societies. Indeed, most empirical studies in non-Dutch contexts have now established that MNEs pay higher wages than domestic enterprises, both in developing and developed countries (Görg, 2000; Lipsey and Sjöholm, 2004; Caves, 1996), although the distributional effects of such premiums may be substantially higher for highly skilled labour and are therefore sometimes questioned (ODI, 2002; Lipsey and Sjöholm, 2004; Aitken et al., 1996). For the Netherlands, however, little is known empirically with respect to the impact of foreign investment on wages. Therefore, this paper analyses the difference in

average wages per employee between foreign controlled and domestically controlled enterprises in the Netherlands, using a newly developed integrated employer-employee dataset for the 2001–2005 period.

The remainder of this paper is organised as follows. First, we present some of the stylised facts from the existing theoretical and empirical literature that explored the question of foreign ownership and wages in other (i.e., non-Dutch) empirical contexts. We then briefly describe the process of matching employer and employee-level data, and subsequently present the results. We find that foreign enterprises indeed on average pay higher wages than domestically controlled enterprises (controlling e.g. for enterprise level variables like enterprise size and industry of activity). Wages at foreign controlled firms are on average 15 percent higher than those at domestically controlled firms. In addition, Dutch controlled firms with investments abroad pay 10 percent higher wages compared to domestic firms without foreign affiliates. Finally, we also establish effects that point at positive spillovers and increased competition on the labour market due to the presence of foreign investors: wages at domestically controlled firms are higher in industries where the share of foreign investors is higher. Traditionally, such wage differences are explained by differences in productivity. Furthermore, the frequently cited explanation that this wage differential can be explained by foreign enterprises preventing labour migration seems warranted, given that labour turnover at foreign enterprise does differ substantially from labour turnover at domestically controlled enterprises (reported in tables of chapter B6 in this Internationalisation Monitor).

## 5.2 *Theory and background*

The existing theoretical and empirical literature generally assumes and finds that MNE affiliates pay on average higher wages than local enterprises in host countries (Caves, 1996). This is the case both for developing countries (see e.g. Lipsey and Sjöholm, 2004), as well as developed countries: for example, inward FDI has been found to positively affect wages in the UK (Taylor and Driffield, 2005), Ireland (Barry et al., 2005) and the US (e.g. Figlio and Blonigen, 2000).

Higher wages might simply be triggered by the fact that foreign enterprises are more productive in general, due to their enterprise specific competitive advantages (Caves, 1996; Dunning, 1988). Enterprises need such advantages in order to compensate for the fixed costs that they encounter when entering foreign markets, such as costs associated with market exploration, the search for local business partners and other adaptation costs. Indeed, as we have seen in other publications of Statistics Netherlands (cf. SN, 2008; Fortanier and Van de Ven, 2009), foreign controlled enterprises in the Netherlands are on average more productive than

domestic ones. Another reason that explains the higher wages at foreign controlled firms is that they aim to refrain employees from switching jobs to domestically controlled competitors or to set up their own businesses (Globerman et al., 1994). This 'labour migration' is an important channel through which technology transfer from MNEs to local enterprises may occur, especially if workers also receive extensive on-the job training (Bloom, 1992; Pack, 1997; UNCTAD, 1999; Fosfuri et al., 2001).

In order to empirically establish to what extent and in what way foreign investors affect wages in the Netherlands, a simple comparison between wages paid at foreign and domestically controlled enterprise is not sufficient however. First of all, other factors are known or expected to affect both wages and the propensity of enterprises to be foreign controlled, including industry, enterprises size, and foreign activities. In addition, foreign firms may also affect wage levels at domestic firms, e.g. of those active in the same industry in which these foreign firms operate (Lipsey and Sjöholm, 2004; Driffield and Girma, 2003). Such so-called indirect effects may be due to the positive consequences of foreign investors for productivity at Dutch firms (through competition, and demonstration effects) that translates into higher wages, and by the increased demand for (primarily highly skilled) staff due to the entry of new foreign firms.

### 5.3 *Data and methodology*

In order to assess the consequences of economic globalisation (in the form of inward direct investment) for employees working in the Netherlands, we built an integrated employer-employee database that allows us to link employee level information (in the form of earned wages) with employer level information data, including enterprise size, sector of activity, and international investments. Foreign controlled enterprises have a centre of control outside the Netherlands, whereas Dutch controlled enterprises are nationally owned. The distinction enables an analysis of the consequences of inward foreign direct investments (FDI) in the Netherlands at the micro level.

The integrated employer-employee dataset presented in this paper consists of a sample of approximately 20 thousand enterprises from the General Business Register in each year (2001–2005), for which the locus of control (i.e., Dutch vs. foreign) is known from either the Financial Statistics of Large Enterprise Groups (SFGO) or the Community Innovation Survey (CIS) and for which the Social Statistics Database (SSB) employment data were available. The micro data integration occurred at the enterprise level with the unique enterprise identifier (BEID) as key variable. More details on the matching methodology are available in Fortanier and Korvorst (2009).

The sample of approximately 20 thousand enterprises forms only a relatively small part of the total population of approximately 600 thousand enterprises in the Netherlands. However, since this sample of enterprises contains a disproportionate share of large enterprises, they account for nearly 3 million jobs (full-time equivalent). This number is equal to 55 percent of the total number of jobs (fte) in the Netherlands, and 75 percent of the jobs (fte) in the private sector. This means that although the results should be interpreted with caution – in particular with respect to the sample of enterprises – the data give a clear perspective on the consequences for employees of working for foreign versus Dutch controlled enterprises.

In order to explore the differences in wages between foreign- and domestically controlled enterprises, we first present a set of descriptive tables. These tables compare the wages paid by foreign and Dutch controlled enterprises, over time and broken down by industry, size class, and foreign affiliates (i.e., if the enterprise has foreign affiliates itself or not). Subsequently we combine the various factors influencing wages in a regression analysis, in order to establish if foreign firms pay higher wages when other variables are controlled for. In this regression equation we also include a variable FDI, which measures for each industry the share of value-added accounted for by foreign controlled enterprises and thereby captures intra-industry spillover effects. The regression model includes time ( $\alpha_t$ ) and industry ( $\delta_s$ ) fixed effects and controls the standard errors for heteroskedasticity:

$$\text{LogWage} = \alpha_t + \delta_s + \beta_1 \text{Size}_{it} + \beta_2 \text{ForControl}_{it} + \beta_3 \text{ForAffiliates}_{it} + \beta_4 \text{FDI}_{it} + \varepsilon_{it}$$

## 5.4 Results

The first results are displayed in Table A5.1 – indicating the raw, uncontrolled wage differences between foreign and domestically controlled enterprises. We see that in the time-frame under investigation, foreign controlled enterprises pay consistently higher wages than domestically controlled enterprises. This difference also gets more pronounced over time.

**Table A5.1**  
Average annual wage per employee at foreign and Dutch controlled enterprises

	Dutch controlled	Foreign controlled	T-value
	<i>1,000 euro</i>		
2001	32.6	39.8	-16.63***
2002	33.6	41.0	-20.42***
2003	34.9	43.2	-19.14***
2004	35.1	44.0	-21.39***
2005	35.6	46.5	-20.97***

\*\*\*p<0.01; \*\*p<0.05; \*p<0.10.

However, this comparison cannot be made too readily: foreign controlled enterprises are often not equally represented across the various industries of the Dutch economy (and wages differ across industries); foreign controlled enterprises are also often larger (resulting in more managerial – highly paid – staff); and differ also in a number of other ways from domestically controlled enterprises, such as job productivity, working hours and the like. In addition, the sample of domestic enterprises is also not homogeneous: it includes both enterprises with activities only in the Netherlands, as well as enterprises that have international investments themselves (i.e., Dutch multinationals). In order to adequately compare wages at foreign and domestic enterprises, we need to control (at least) for these factors. Tables A5.2, A5.3 and A5.4 do exactly that.

Table A5.2 shows the average wage per employee at foreign and domestically controlled enterprises broken down by industry. It is clear that the wage differential between foreign and domestically controlled-firms remains present even within individual industries. The wage differences are highest in agriculture, mining, and food and beverages, as well as in trade and repairs, and business services. In financial intermediation, wages paid by domestically controlled enterprises are nearly as high as those paid by foreign enterprises.

**Table A5.2**  
Average annual wage per employee at foreign and Dutch controlled enterprises by industry (‘000 euro)

	2001			2005		
	Dutch controlled	Foreign controlled	T-value	Dutch controlled	Foreign controlled	T-value
	1,000 euro			1,000 euro		
Agriculture, forestry, fishing	26.5	38.8	-5.83***	28.0	41.0	-5.53***
Mining, quarrying	37.5	52.9	-4.15***	42.9	65.9	-5.38***
Food, beverages	27.6	35.5	-7.57***	31.7	41.6	-9.00***
Paper, paper prod, publishers	30.2	36.1	-7.67***	33.6	38.7	-5.88***
Chemicals/ plastics	30.7	37.7	-8.90***	36.1	44.3	-7.95***
Metal products	29.0	31.4	-3.29***	31.8	35.4	-4.12***
Machinery, equipment	30.2	33.6	-5.71***	34.2	38.3	-5.93***
Other industry	27.7	33.7	-12.20***	31.6	39.6	-13.46***
Construction	29.8	34.7	-4.37***	33.8	38.9	-5.03***
Trade, repairs	29.2	39.3	-20.03***	31.0	44.2	-25.73***
Hotels, restaurants	21.8	24.0	-3.38***	23.2	27.2	-6.02***
Transport, storage, communication	31.2	34.9	-5.10***	33.4	41.1	-7.94***
Financial intermediation	52.4	54.4	-0.5	50.7	64.2	-3.49***
Business services	39.7	50.1	-7.50***	44.8	60.9	-10.05***
Other services	30.4	33.6	-2.11**	32.0	50.9	-6.05***

\*\*\* p< 0.01; \*\* p< 0.05; \* p<0.10.

The foreign controlled enterprises in our sample for the Netherlands are on average larger than domestically controlled enterprises. Table A5.3 gives a comparison of

wages at foreign and Dutch enterprises while taking into account enterprise size (measured by number of employees). Controlling for size classes, foreign controlled enterprises consistently pay higher annual wages than domestic firms, both in 2001 and 2005. Differences in annual wage between foreign and Dutch firms average around 15 percent. The wage differential however becomes less pronounced as enterprises are larger. This is likely due to the fact that very large enterprises often involve production plants with a large share of low-skilled (and hence low-paid) labour.

**Table A5.3**  
Average annual wage per employee at foreign and domestically controlled enterprises by size class

	2001			2005		
	Dutch controlled	Foreign controlled	T-value	Dutch controlled	Foreign controlled	T-value
	<i>1,000 euro</i>			<i>1,000 euro</i>		
0– 4 employees	41.7	55.5	–5.38***	48.7	71.6	–6.70***
5– 9 employees	33.7	47.3	–7.97***	38.8	50.4	–5.18***
10– 19 employees	30.2	42.9	–15.22***	32.8	50.6	–14.99***
20– 49 employees	30.8	38.8	–10.99***	33.2	46.2	–20.17***
50– 99 employees	30.2	36.9	–11.93***	32.8	43.4	–18.14***
100– 149 employees	31.0	36.8	–8.57***	34.2	42.5	–10.27***
150– 199 employees	31.7	36.0	–4.98***	35.6	41.8	–3.46***
200– 249 employees	31.8	35.9	–4.13***	35.7	41.7	–4.20***
250– 499 employees	32.0	37.7	–3.81***	36.2	42.2	–6.65***
500– 999 employees	31.5	36.1	–4.20***	36.5	43.1	–4.07***
1,000–1,999 employees	30.7	35.4	–3.03***	36.7	42.3	–1.92*
2,000 and more employees	32.9	35.0	–0.77	35.7	40.5	–1.67*

\*\*\* p< 0.01; \*\* p< 0.05; \* p<0.10.

International investments also play a mediating role in the annual wage level at (foreign and domestically controlled) enterprises in the Netherlands, as Table 5.4 shows. Enterprises with foreign subsidiaries pay substantially higher wages than enterprises of which the scope is confined to the Netherlands only – this applies to foreign and Dutch enterprises alike. Apparently, there is an additive correlation between locus of control of an enterprise and the existence of foreign affiliates: the lowest average annual wages are paid at Dutch enterprises without foreign subsidiaries whereas the highest annual wages are paid at foreign controlled enterprises which also have foreign subsidiaries (MNEs).

Table A5.5 shows the results of our regression analysis. The bivariate findings reported above are confirmed by these results. All the models control for time and industry effects, and show that the overall effect of firm size on wages is negative (though not very large). In addition, we see that foreign ownership is positively associated with wage levels: based on models 3 and 4, we see that also after

Table A5.4

Average annual wage per employee at foreign and Dutch controlled enterprises with of without foreign affiliates

	2001			2005		
	Dutch controlled	Foreign controlled	T-value	Dutch controlled	Foreign controlled	T-value
	<i>1 000 euro</i>			<i>1 000 euro</i>		
With foreign affiliates	37.6	40.7	-3.73***	44.4	49.2	-4.50***
Without foreign affiliates	34.1	38.8	-5.89***	37.8	47.6	-8.53***

\*\*\* p&lt; 0.01; \*\* p&lt; 0.05; \* p&lt;0.10.

controlling for the presence of Dutch multinationals (i.e. Dutch controlled firms with foreign affiliates), foreign firms pay on average 15 percent higher wages. Firms that have foreign affiliates themselves also pay higher wages compared to those that do not (10 percent), and also the presence of foreign firms in an industry is positively related to wages at domestic firms (see models 6 and 7 in particular). In an industry where 75 percent of the value added is controlled by foreign firms, wages at Dutch controlled firms are 10 percent higher than in industries where foreign firms only account for 25 percent of value added.

Table A5.5

GLS regression results (dependent variable: average annual wage per employee)

	Full sample					Dutch controlled enterprise	
	1	2	3	4	5	6	7
Constant	10.67***	10.62***	10.80***	10.76***	10.68***	10.62***	10.66***
Size	590.97	635.71	467.67	468.15	673.65	606.00	469.26
	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
	-11.45	-22.02	-21.41	-21.40	-20.48	-15.64	-17.92
Foreign controlled		0.25***	0.15***	0.14***	0.24***		
		76.34	33.99	31.52	72.61		
Foreign affiliates			0.09***	0.08***			0.09***
			21.99	21.62			19.08
FDI in industry				0.00***	0.00***	0.00***	0.00***
				17.36	26.19	22.37	11.96
Time fixed effects	Included	Included	Included	Included	Included	Included	Included
Industry fixed effects	Included	Included	Included	Included	Included	Included	Included
n	90,536	90,536	30,106	29,436	85,361	72,095	21,117
F	764***	1,005***	404***	422***	975***	585***	271***
R-square	0.14	0.20	0.24	0.24	0.19	0.14	0.23

Heteroscedasticity corrected t-values below the coefficients.

\*\*\* p&lt; 0.01; \*\* p&lt; 0.05; \* p&lt; 0.10.

## 5.5 *Discussion*

The key conclusion from this study is that foreign enterprises pay higher wages than domestically controlled enterprises. Controlling for enterprise size, sector and foreign investments, foreign enterprises pay 15 percent higher wages compared to their domestic counterparts.

Comparing these findings with other results from the linked employer-employee dataset used in this paper (reported in tables of chapter B5 in this Internationalisation Monitor), we can explore several reasons as to why this may be the case. First of all, we have already seen in previous work that foreign enterprises are on average more productive than domestic enterprises – clearly part of that productivity differential translates into higher salaries. Secondly, labour turnover, i.e. annual outflow of jobs, tends to be much lower at foreign enterprises than their domestic counterparts, see Table B5.7. This results in a higher retention rate of employees working at foreign enterprises, possibly mediated by a higher wage level in general. Furthermore, higher wages and hence higher retention rates might also be driven by more opportunities of training-on-the job, and greater job mobility within foreign enterprises compared to their domestic counterparts.

However, wages are not only dependent upon the enterprise-level characteristics explored in this paper. The prevailing academic literature on the determinants of wages also indicates that individual characteristics including education and work experience play a major role in wages. Table B5.8 highlights the differences between employees working for foreign and Dutch controlled enterprises. The data indicate that labour conditions differ between foreign and Dutch controlled enterprises: workers at foreign controlled establishments report longer average working weeks and more importantly, more overtime hours. Physically demanding or heavy work is more concentrated among employees at Dutch controlled enterprises. Interestingly though, the overall evaluations of labour conditions do not differ between employees at foreign and domestically controlled enterprises.

## 5.6 *Conclusion and further research*

This chapter analysed the differences in wages between foreign and domestically controlled enterprises in the Netherlands for the 2001–2005 period. We found that foreign enterprises on average pay significantly higher wages than domestically owned enterprises. More specifically, employees at foreign controlled enterprises earn on average 15 percent more than their counterparts at domestically controlled enterprises. We established however that this difference was not equally distributed across all industry sectors: in the sectors of paper and publishing, metal products,



machinery and equipment, as well as in construction and hotels and restaurants, foreign controlled enterprises paid about 15 percent more, whereas in the sectors of agriculture, mining, and food and beverages, as well as in trade and repairs, and business services, foreign controlled enterprises paid up to 50 percent higher wages. We also established that these differences are influenced by enterprise size. The wage differential between foreign controlled and domestically controlled establishments is lower among the very large enterprises.

These higher wages at foreign enterprises in part merely represent the higher in productivity levels at foreign controlled enterprises (see e.g. SN, 2008): because foreign investors need to overcome the fixed (often sunk) costs that are by definition involved in doing business overseas (e.g. exploration, adaptation costs), they will only engage in foreign direct investment if they believe they cannot only equal the performance of domestic enterprises but also outcompete incumbents. A second often cited reason in the academic literature that could explain for the wage differences between foreign and domestically controlled enterprises is that exactly because foreign controlled enterprises compete with local enterprises based on their technological advantages, they will pay their employees more than they would earn at local enterprises, in order to prevent labour migration (and subsequent unintentional knowledge spillovers) to domestic enterprises. We found indeed that employee turnover (i.e., employees leaving a enterprise each year as a share of total employees at that enterprise) does vary substantially between foreign and domestically controlled enterprises. This would mean that enterprises pay higher wages not only as a reflection of productivity differentials but also to prevent labour migration, resulting in better retention of skilled labour. However, to the extent that labour migration indeed represents the transfer of knowledge and skills across enterprises, these results bode somewhat less positive in the short run for the Dutch economy as a whole: knowledge that is embedded within foreign enterprises does not spread at the same rate as knowledge at domestic enterprises.

A third and final explanation comes from linking the findings of this paper to the results reported in table B5.8 on labour condition differences at foreign and domestically controlled enterprises. Work at foreign controlled enterprises is not only better paid but also more demanding: working weeks are longer, overtime is more prominent, and overall education levels of employees are also substantially higher. The sample of matched firms and employees is yet too small to draw strong conclusions or make more detailed inferences with respect to industry, but does seem to indicate that higher wages paid by foreign controlled enterprises also partly reflect more demanding labour conditions.

In addition to these direct effects, we also found evidence pointing at indirect effects: in an industry where 75 percent of the value added is controlled by foreign firms,

wages at Dutch controlled firms are 10 percent higher than in industries where foreign firms only account for 25 percent of value added. This may either reflect increased labour market competition, or Dutch firms benefiting from foreign entrants in terms of productivity increases (which in turn are partly transferred to employees). Further research in this area should elaborate this point, and will include a wider variety of dimensions of globalisation – not only including the activities of foreign enterprises in the Netherlands, but also of Dutch investment abroad, outsourcing, and international trade – and a more fine-grained analysis of the role of employee characteristics as determinants of wages, exploiting the multilevel structure of the linked employer-employee dataset.

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