

Dutch multinationals and foreign multinationals; same difference?

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Abstract

Multinational enterprises account for only 2 percent of all enterprises in the business economy but create about 40 percent of employment. Between 2008 and 2013 Dutch multinationals and domestics experienced the largest decrease in their number of jobs while foreign multinationals experienced job growth. However, adjusted for relevant business characteristics, job growth in the "average" Dutch multinational was similar to that of foreign multinationals. The "average" domestic enterprise experienced significantly lower job growth than both types of multinationals. The geographical location of the parent company also seemed to affect job growth. The development of low paid and high paid jobs also diverged between the different types of enterprises.

Key words: Dutch multinationals, foreign multinationals, employment, crisis.

JEL Classification: F23, F66, J21

1. Introduction

Foreign multinationals bring much good to an economy. They introduce new technologies, provide knowledge transfer and foster job creation. While foreign enterprises constitute less than 1 percent of the Dutch enterprise population they generate almost a third of value added, 40 percent of turnover and almost 20 percent of all jobs in the business economy (CBS, 2015). Despite the economic crisis of recent years, these ratios remain fairly constant. There are no signs of foreign multinationals massively withdrawing from the Dutch economy and - with their retreat - many people losing their jobs. On the contrary, these enterprises were better able to face the economic crisis; they have laid off fewer people and were better equipped to reach their pre-crisis level (Smit and Jaarsma, 2014a/2014b).

Previous research in the Internationalisation Monitor used to focus on the difference between enterprises with international activities and those without. Bruls (2014), Bruls and Lemmers (2014), Doms and Jensen (1998) show that not the 'foreignness' of an enterprise is most relevant in explaining differences in enterprise performance, but whether an enterprise is (part of) a multinational or not. Where the parent company is located - at home or abroad - seems to be less relevant. Therefore, in this study, we make a clear distinction between foreign multinationals, Dutch multinationals and Dutch enterprises without foreign subsidiaries (domestics).

Between 2008 and 2013 the economic growth of the most important Dutch trading partners exceeded that of the Netherlands, which was beneficial to internationally active enterprises. In this period internationally active enterprises experienced a smaller decline in their number of jobs than enterprises without international activities (Smit and Jaarsma, 2014a, 2014b). In this paper we examine whether foreign multinationals, Dutch multinationals and domestic enterprises experienced differences in job growth during the crisis. Specifically, we examine whether differences in job decline during the economic crisis can be better explained by the fact that an enterprise is a 'multinational' rather than the characteristic of being 'foreign-owned'. We will also investigate whether the geographical location of the parent company is an additional explanatory variable in job growth/decline. Fortanier (2008b) provides a literature review why the country of origin of the multinational may play a role. Finally, we look at the impact that the economic downturn has had on the composition of the workforce, in terms of salary. For example, do we see that the number of low-paid jobs has declined during the crisis, and if so at what type of enterprise?

The remainder of this article is organised as follows. In paragraph 2 we will frame our research with some relevant studies and literature while paragraph 3 deals with the data used and the composition of the dataset. Descriptive data and overall trends are presented in section 4, followed by section 5 in which we present our ANOVA analysis results. The main conclusions are summarised in section 6.

2. Literature

It is sometimes feared that multinationals can cause (large) instability in an economy. For instance because multinationals are able to relocate and move production, knowledge and technology elsewhere. Thanks to their international network they are regarded as less dependent on local inputs and local markets (Godart et al, 2011) which makes them potentially more 'footloose' than domestic firms. In addition, enterprises face increasing 'shareholder' pressure, which has not always been beneficial for firm stability and continuity (Boot, 2009).

Setting up a foreign affiliate is not a trivial decision. For example, the choice to serve a foreign market through a foreign subsidiary rather than through exports (proximity-concentration trade-off) requires substantial research and brings with it costs and risk. Such a substantial investment is not for everyone and only the most productive enterprises are able to bear the costs involved. In an early study, McAleese and Counahan (1979) state that these sunk costs will actually ensure that multinationals behave like domestic enterprises because they cannot undo their foreign investment in the short term. The authors show that there was no difference in employment growth at multinationals and non-multinationals during the Irish recession of the early 70s. In fact, after the recession multinationals showed even stronger growth in employment.

Godart, Görg and Hanley (2011) also look at Irish enterprises and examine whether foreign multinationals have developed differently during the crisis than domestic firms. They see that the probability of 'exit' or enterprise mortality was many times higher during the crisis than in normal economic times. Before the crisis, the probability of a foreign enterprise exit was much smaller than for domestic firms. However, during crisis both types of enterprises were equally likely to exit. This indicates that employees of multinational enterprises were equally likely to lose their job as employees of domestic enterprises. I.e. during the crisis domestics and foreign enterprises had an equal chance to exit. Where the mother was located - in the EU or in a non-EU country - was not relevant.

Alvarez and Görg (2007) also investigate whether multinationals react differently to economic crisis than domestic enterprises in terms of employment. They look at enterprises in the Chilean industry during the economic crisis in Latin America. They also found no evidence to suggest that employment in multinationals develops differently than that of domestic enterprises during a crisis.

In this article we build further on this line of literature and investigate whether Dutch employment at multinational enterprises also developed similarly to that of purely domestic enterprises. We also make the additional distinction between Dutch multinationals and foreign owned multinationals. Doms and Jensen (1989) show in their study of multinationals in the United States that the superior performance of multinational enterprises (American and foreign) compared to non-multinationals is more due to their being 'multinational' rather than due to being 'foreign-owned'. They investigated this with respect to a number of variables, including the average wage, use of technology and productivity, and came to the conclusion that US multinationals perform the best, followed by foreign multinationals and then the non-US multinationals. Bruls (2014) and Bruls and Lemmers (2014) demonstrated that Dutch multinationals and foreign multinationals are not statistically different from each other in terms of wage-adjusted productivity and profits. In this article, we examine whether this also applies to employment growth (decline) during the crisis. As such our first research question is:

- Did Dutch multinationals experience a different development in employment during the crisis years (2008-2013) than foreign owned multinationals and *domestics*?

To answer this question we start out by illustrating the overall employment trend and present some descriptive statistics. Next, by making use of ANOVA analysis, we correct for the fact that multinational enterprises are different (e.g. in terms of size and type of activity) than domestic enterprises. Inspired by Doms and Jensen's finding that the 'domestically owned' multinational fared better in their home country than foreign owned multinationals, we also investigate whether there are interesting differences within the group of multinationals. The second research question is therefore as such:

- Does the geographical location of the parent company of multinational play a role in explaining differences in employment growth during the crisis years?

The third and last research question deals with the fears that the economic downturn has impacted on the composition of the workforce of enterprises.

- Which types of jobs disappeared during the crisis; mainly low-paying jobs or high-paying jobs as well, and in which type of enterprise?

3. Data

To analyse employment growth (decline) at Dutch multinationals, foreign multinationals and domestic enterprises we composed a comprehensive micro data set for the years 2008 up to 2013. The starting point is the General Business Register (GBR) of Statistics Netherlands which includes all enterprises (statistical units) that are active in the Netherlands. In this register several characteristics of enterprises are recorded such as the economic activity and size of the enterprise.

The total number of jobs at an enterprise is determined using the policy administration (Dutch: Polisadministratie). The policy administration is an authentic data register and includes all jobs for which a salary or wages are earned. Jobs with a salary higher than the 81st percentile of the Netherlands are characterized as high paid, and jobs with a salary lower than the 31st percentile as low paid jobs. This allows us to calculate per enterprise the proportion of high paid and low paid jobs.

Subsequently, the enterprises in the dataset are characterized according to their international trade status. We distinguish between enterprises with international trade in goods and enterprises without international trade of goods, with a further distinction between

- 1) importers of goods and
- 2) exporters of goods.

The remaining enterprises are characterized as non-traders.

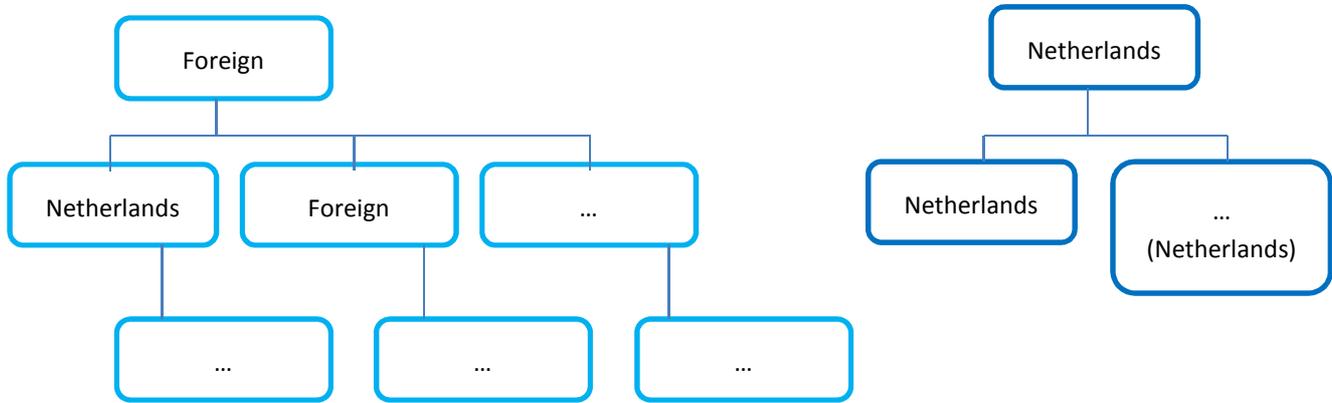
Lastly, we added a classification of the (international) control structure. Information on the ultimate controlling institute of an enterprise, and whether the enterprise itself has interests or subsidiaries abroad, is derived from the Foreign Affiliates Statistics (FATS) and corporate tax data on foreign participations (See the methodological note in Lemmers et al. 2014). The FATS provides information on the geographical location of the ultimate controlling institute (UCI) of an enterprise. When the ultimate controlling institute of an enterprise is located abroad, than the enterprise and all its associated business units are characterized as 'foreign-owned' (graph 1, left picture). If the ultimate control is established in the Netherlands, the enterprise is characterized as 'Dutch controlled' (graph 1, right picture).

Information on corporate income taxes on foreign participation provides insight into the investment relationship between Dutch enterprises and enterprises abroad. Using this data we were able to deduce which enterprises in the Netherlands have a substantial interest in a foreign company. We distinguish between minority participations (<50 percent) and subsidiaries (>50 percent). Combining the information from the FATS and corporate income taxes, we distinguish four types of enterprises:

- 1) Domestic enterprises,
- 2) Domestic enterprises with minority interests abroad,

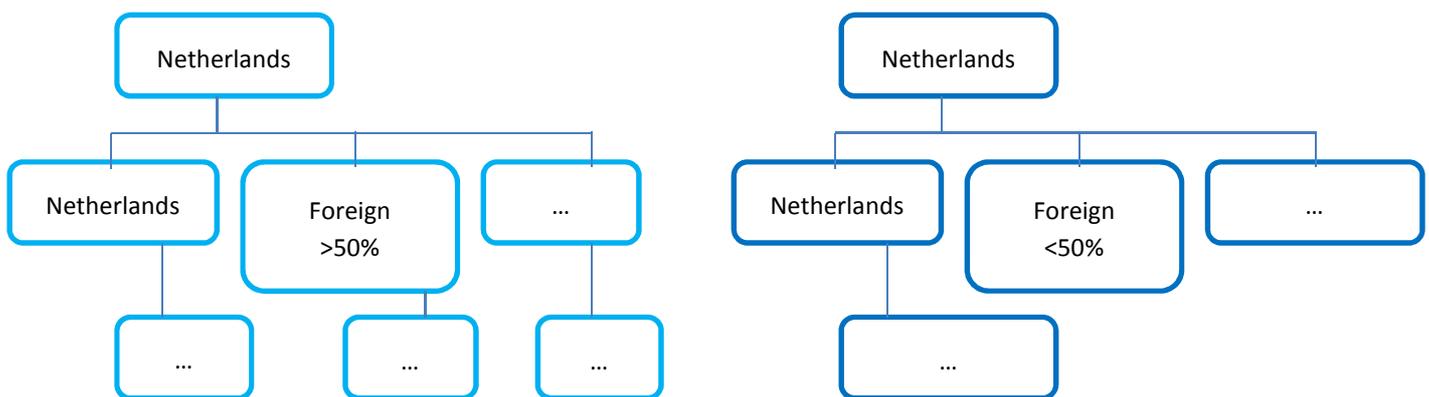
- 3) Dutch multinationals, and
- 4) foreign multinationals.

Graph 1: Foreign controlled enterprises (left) and Dutch controlled enterprises (domestic, right)



Dutch enterprises with a foreign parent are by definition part of a foreign multinational and are characterized as such (type 4, graph 1, left). The other three categories are all enterprises with the ultimate control located in the Netherlands but with different international activities. In the simplest case, there are no subsidiaries or other controlling relationships in other countries, and we characterize those enterprises as *domestic* (type 1, graph 1, right). If a Dutch company does have foreign investments but no majority control, we characterize those enterprises as *domestic with minority holdings abroad* (type 2, graph 2, right). If the foreign investments do indicate majority control, the enterprise is characterized as a Dutch multinational (type 3, graph 2, left). Foreign multinational enterprises with minority holdings abroad (besides the Netherlands) are not identified separately but this is included in the ANOVA analyses.

Graph 2: Dutch multinational (left) and domestic with minority holding (right)



In this article we only consider enterprises that are active in the so-called Dutch ‘non-financial business economy’¹. This implies that enterprises active in agriculture, government, education, healthcare and financial services are excluded. Even with the exclusion of these enterprises, the resulting dataset contains more than 880 thousand enterprises in 2008 and more than 1 million enterprises in 2013. The composition of the dataset is shown in table 1. As is expected, the vast

¹ Eurostat definition to be found at [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Non-financial business economy](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Non-financial_business_economy)

majority of enterprises are *domestic*, i.e. not part of a multinational. These enterprises also provide most jobs in the business economy, namely around 60 percent. Dutch multinationals form the second largest group in terms of number of enterprises and also in terms of jobs. In 2013 more than 1 million jobs are at Dutch multinationals. There were roughly 9.5 thousand foreign multinationals in 2008 and almost 11 thousand in 2013. They accounted for nearly 900 thousand jobs in both years.

Table 1: Composition dataset

	2008		2013	
	Enterprises	Jobs	Enterprises	Jobs
Dutch business economy	880,286	4,806,882	1,019,307	4,600,823
Foreign multinationals	9,481	851,843	10,877	889,628
Dutch multinationals	14,325	1,171,291	8,883	1,038,541
Domestics	856,480	2,783,747	999,547	2,672,654
with minority investments	3,517	81,128	2,274	49,589
Only exports of goods	21,123	132,683	26,130	117,049
Only imports van goods	76,855	750,604	90,209	710,633
Both exports and imports of goods	58,542	2,227,883	75,919	2,420,836
No trade in goods	723,748	1,695,712	827,049	1,352,305

4. Descriptive results

The dataset contains for 2013 approximately 11 thousand foreign multinationals, nearly one million domestic enterprises (with or without subsidiaries abroad) and almost nine thousand Dutch multinationals. However, these three types of enterprises are not evenly distributed across economic sectors in the Netherlands, nor are they similar in terms of size. Table 2 shows that almost half of all domestic enterprises were active in the service sector (47 percent in 2013). Dutch multinationals were also the most active in services, while foreign multinationals were relatively more active in wholesale. Domestic enterprises are more often active in retail and hospitality compared to multinationals.

With regard to the distribution of the number of jobs we see that all three types of enterprises have a stable base in manufacturing (20-26 percent of the enterprises). Jobs at domestic enterprises and Dutch multinationals are slightly more often found in retail and services sector, foreign multinationals have relatively many jobs in wholesale and manufacturing.

Table 3 shows that nearly 99 percent of domestic enterprises are micro or small enterprises, with fewer than 50 employees. Nearly 60 percent of all jobs at domestic enterprises are at such a micro or small enterprises. Only a very small number of domestic enterprises are large enterprises with over 250 employees. Around 80 percent of foreign enterprises are also characterized as micro or medium-sized enterprises, but they account for only 10 per cent of all jobs at foreign enterprises. Almost two thirds of the jobs provided by foreign multinationals are at large multinationals. For Dutch multinationals this distribution is even more skewed. Almost 75 percent of all Dutch multinationals are small enterprises and account for 9 percent of the jobs of Dutch multinationals. Nearly 75 percent of all jobs provided by Dutch multinationals is at a large Dutch multinational.

Table 2: Distribution of jobs and enterprises across sectors, 2013

	Jobs			Number of enterprises		
	Foreign multinationals	Dutch multinationals	Domestic	Foreign multinationals	Dutch multinationals	Domestic
Retail and hospitality	175,051	213,203	760,062	629	568	203,003
Services	224,249	392,162	922,084	3,370	3,078	471,154
Wholesale	141,467	88,913	217,843	3,970	2,270	79,571
Manufacturing	250,901	236,149	614,590	2,141	2,322	209,708
Transport	97,959	108,113	158,075	767	645	36,111
Total	889,628	1,038,541	2,672,654	10,877	8,883	999,547

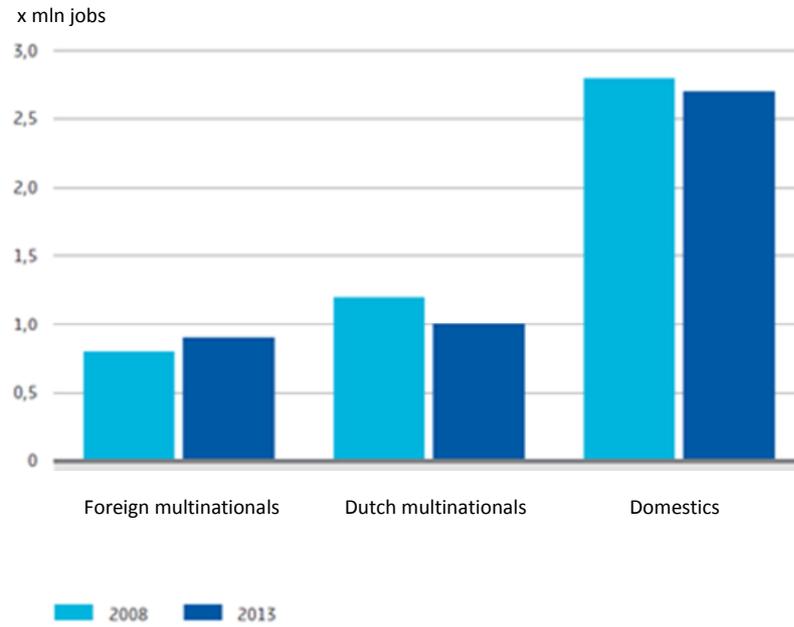
Table 3: Distribution of jobs and enterprises across size class, 2013

	Jobs			Number of enterprises		
	Foreign multinationals	Dutch multinationals	Domestic	Foreign multinationals	Dutch multinationals	Domestic
Micro enterprises	3.170	1.655	151.816	2.641	1.696	742.924
Small enterprises	90.465	90.380	1.418.572	5.896	4.854	251.133
Medium sized enterprises	206.310	202.707	540.187	1.758	1.829	4.906
Large enterprises	589.683	743.799	562.080	582	504	584
Total	889.628	1.038.541	2.672.654	10.877	8.883	999.547

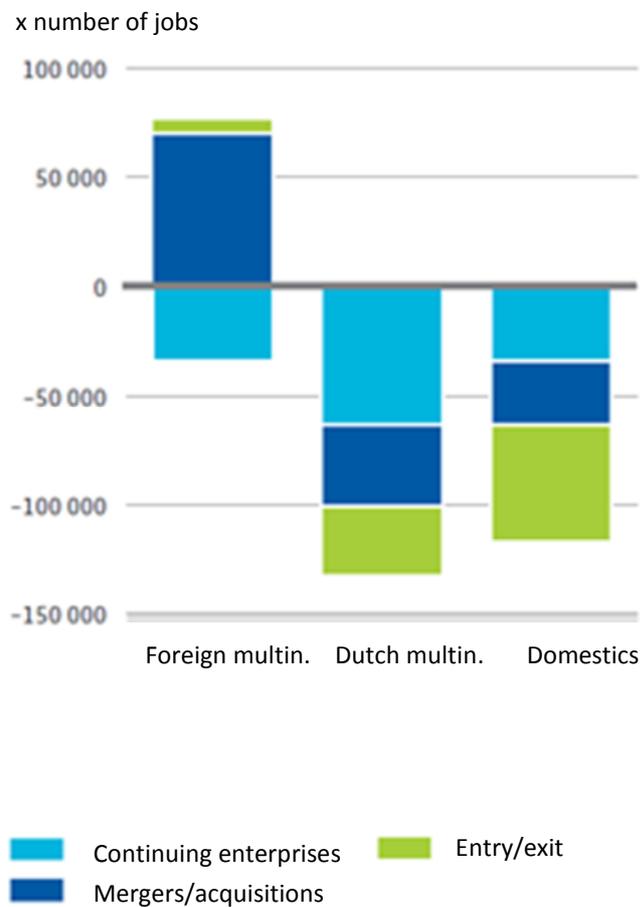
Between 2008 and 2013, the total number of jobs in the Dutch business economy decreased by 200 thousand jobs (-4 percent). Both domestics and Dutch multinationals showed a decline in the number of jobs, with the strongest decline in the number of jobs at Dutch multinationals (133 thousand jobs, or -11 percent). The number of jobs at foreign multinationals actually increased between 2008 and 2013, but this increase was not large enough to offset the decline in employment at Dutch multinationals and domestics.

The increase in the number of jobs provided by foreign multinationals can be explained by the fact that Dutch enterprises - both domestics and Dutch multinationals, see graph 4 – have been taken over by foreign multinationals (+ 70 thousand jobs). Successful start-ups by foreign multinationals also created more jobs between 2008 and 2013 (+ 7 thousand). Employment at foreign multinationals that existed in both years decreased (-34 thousand jobs). Especially new and growing foreign multinationals have done well in terms of employment creation, while the existing enterprises population have experienced a decline in employment.

Graph 3: Employment growth/decline at foreign multinationals, Dutch multinationals and domestics, 2008-2013



Graph 4: Source of employment growth/decline at foreign multinationals, Dutch multinationals and domestics, 2008-2013

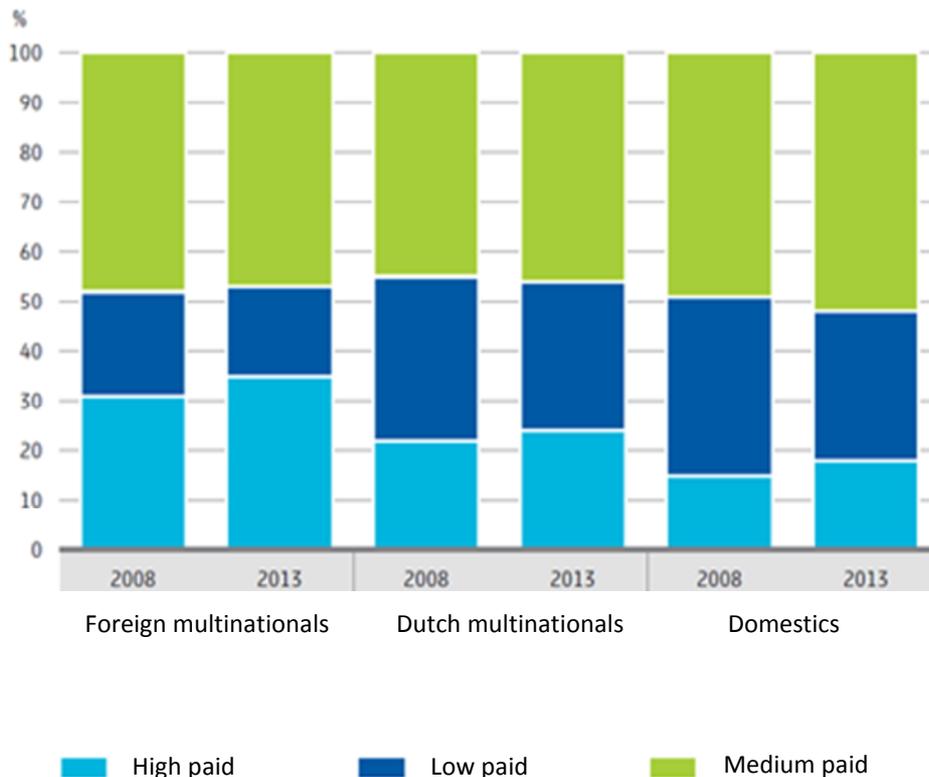


The same finding applied to continuing Dutch multinationals and domestics; they also lost a considerable number of jobs. But contrary to foreign multinationals, Dutch multinationals and domestics lost jobs across the board.

These results on employment after acquisition or take over are an interesting finding for further research. Fortanier et al (2011) have conducted earlier research in the area of employment and business demography. They came to the conclusion that through ownership changes (from Dutch ownership to foreign ownership and vice versa), the number of jobs at the acquired company on average did not change dramatically. However, they made no distinction between Dutch multinationals and domestics. Also, the direction of causality is interesting: are only the most successful enterprises subject to acquisition or does acquisition boost firm performance?

Graph 5 shows the composition of the workforce at the three types of enterprises. Although we see an increase in the share of high paid jobs at all three types of firms, foreign multinationals experienced the largest increase in this share. Also in absolute terms they experienced the largest increase in high paid jobs between 2008 and 2013. In addition, these enterprises already started out with a relatively high share of high paid jobs in the total number of jobs. As a result more than a third of the jobs at foreign multinationals could be regarded as highly paid in 2013. Dutch multinationals also saw an increase in the proportion of high paid jobs between 2008 and 2013, but slightly less than foreign multinationals. In addition, their starting point was lower. In 2013 nearly a quarter of jobs was high paid and just under a third of jobs were low paid jobs. With respect to the proportion of low-paid jobs, there was a decrease across the board, but mainly in domestic enterprises. At domestic enterprises we see an increase in the number of medium-paid jobs resulting in more than half of all jobs in 2013. The share of high-paying jobs are in domestic enterprises is lowest, both in 2008 and 2013.

Graph 5: Composition workforce foreign multinationals, Dutch multinationals and domestics, 2008-2013



Section 4 showed that employment decreased during the crisis years and that there was substantial difference in job growth (decline) between foreign multinationals, Dutch multinationals and *domestics*. In this section, we examine whether this descriptive differences are statistically significant when we control for relevant business characteristics such as economic activity, trade and size.

Further analysis of the data showed that between 2008 and 2013 there was a substantial rate of enterprise exit and entry with - during the lifecycle of the enterprise - only one employee. Methodological and conceptual changes in the determination of the active business population (in the GBR) are at the basis of this high entry/exit rate. Since this large number of enterprises with an unchanging number of employees (namely 1) highly distorted the analyses we decided to remove all enterprises that entered or exited between 2008 and 2013 with 1 job **and did not** experienced job growth during their lifetime from the dataset.

To be able to interpret the ANOVA results unambiguously, we decided to keep the ownership status as well as the trade status constant, meaning that if a company exported goods once between 2008 and 2013, we characterized this enterprise as an exporter of goods in all years. The main reasoning behind this decision is the improved access to and quality of data sources such as international trade in goods, FATS and corporate tax data. Also differences in samples and surveys at Statistics Netherlands are also a potential reason for the lack of international data in later years. However, this still remain conceptual businesses clearly have more international experience and connections than enterprises that have never had international activities.

The most extensive model (columns 3-5 in Table 4) is as follows,

$$\ln\left(\frac{\text{jobs 2013} + 1}{\text{jobs 2008} + 1}\right) = \alpha + \beta_1 \text{Multinational} + \beta_2 \ln(\text{jobs 2008}) + \beta_3 \text{Sector} \\ + \beta_4 \text{Foreign investment} + \beta_5 \text{Importer} + \beta_6 \text{Exporter} + \beta_7 \text{StartStop} \\ + \epsilon$$

where *Multinational* is a categorical variable that can take one of three values; foreign multinational, Dutch multinational or domestic company. $\ln(\text{jobs 2008})$ is a continuous variable and is the natural logarithm of the number of jobs per company in 2008, i.e. a proxy for the starting size of an enterprise. *Sector* is a categorical variable that controls for the economic activity of a company. *Foreign subsidiaries*, *Importer* and *Exporter* are three internationalization variables that take on the value "1" respectively when an enterprise had foreign investments (<50 percent minority stake), imports of goods or exports of goods. *StartStop* is a categorical variable that indicates whether an enterprise started or stopped between 2008 and 2013, or continued to exist in both years.

Table 4 shows the results of the ANOVA analysis, starting with the simplest model in the first column. In this model, job growth (expressed in percentages) between 2008 and 2013 is estimated for the three types of enterprises, controlling for only the size of the enterprise in 2008 (start of the economic crisis). If we would not take into account the composition of the enterprise population, activities such as investment and internationalization, then the number of jobs at the average domestic enterprise decreased and employment at foreign multinationals and Dutch multinationals increased substantially.

Table 4: ANOVA results

	>= 1		>= 1		>= 1		>= 1		>= 1		>= 2		>= 5	
	job		job		job		job		job		job		job	
Foreign multinationals	84	***	150	***	156	***	36	***	59		41		19	
Dutch multinationals	60	***	113	***	130	***	31	***	57		43		19	
Domestics	-14	***	80	***	129	***	-11	***	23	***	13	***	-3	***
LN jobs 2008		***		***		***		***		***		***		***
Retail and hospitality			150	***	176	***	28		60	***	40		17	
Services			118	***	139	***	16		44		34	***	15	
Wholesale			53	***	83	***	-3	***	26	***	14	***	-3	***
Manufacturing			116	***	143	**	15		45		31	***	9	***
Transport			141	***	161	***	26		55	***	41		20	
Foreign investment = 0			47	***	74	***	-9	***	18	***	8	***	-4	***
Foreign investment = 1			208	***	226	***	47	***	79	***	60	***	30	***
Importer=0			48	***	71	***	-1	***	24	***	16	***	-2	***
Importer =1			205	***	231	***	36	***	70	***	49	***	27	***
Exporter = 0			58	***	84	***	-4	***	22	***	12	***	-3	***
Exporter =1			186	***	209	***	40	***	73	***	54	***	28	***
StartStop = 0					318	***			300	***	433	***	693	***
StartStop = 1							-45	***	-55	***	-73	***	-87	***
N	391106		391106		391106		391106		391106		273849		139807	
R ²	0,365		0,475		0,549		0,633		0,673		0,737		0,813	

*** significant at the 0,01 level

** significant at the 0,05 level

* significant at the 0,1 level

The economic activity of an enterprise company, the presence of foreign investments, import and export of goods turn out to be important explanatory variables. Again we see that the number of jobs grew mainly at foreign multinationals, followed by Dutch and domestic enterprises. Having foreign investment is shown to be positively related to employment growth at home. Model 2 in Table 4 shows employment growth at enterprises with international trade in goods compared to enterprises without international trade. Here a familiar picture emerges (Smit and Jaarsma, 2014b) namely that importers and exporters have done better in terms of employment growth than non-traders.

Model 2 insufficiently takes into account that there is substantial firm dynamics between 2008 and 2013. During this period are relatively many small businesses started, but also many small businesses exited. Because small enterprises can show huge growth (decline) rates this distorts the size of the coefficients in Model 1 and 2. Therefore, we added the *StartStop* variable in model 3 to adjust for this firm dynamics.

Three things immediately stand out. The *StartStop* variable is highly significant and has a large coefficient. The model's explanatory power increases significantly. And lastly, the size of the

coefficient of enterprise growth at the three types of enterprises is normalized. Moreover, the overall conclusion remains intact; employment at the average domestic enterprise grew less (on average 25 percent) than at foreign multinationals (59 percent more jobs) and Dutch multinationals (57 percent). However, the difference between foreign and Dutch multinationals is no longer statistically significant. This indicates that employment in Dutch multinationals has on average not developed differently than that of foreign multinationals in the Netherlands. This finding is robust, even when we only include enterprises with at least 2 and at least 5 jobs in the analysis. However, these results apply for the ‘average’ enterprise. It is a different picture than emerged from the aggregate employment figures graph 1: a micro-macro paradox.

Zooming in specifically on the jobs at multinationals (foreign and Dutch), based on model 3, we see that the country where the ultimate control is located also plays a role in employment growth (see e.g. Also Fortanier, 2008 or Dom and Jensen, 1989). For instance, foreign multinationals with a North American parent company showed a significantly higher increase (40 percent) in jobs between 2008 and 2013 than enterprises with an Asian or European parent (Table 5). North American enterprises are in fact among the largest foreign employers in the Netherlands (CBS, 2015).

Table 5: Employment growth/decline at multinationals by origin of parent, 2008-2013

	Africa	Asia	EU	Middle East	Middle and South America	The Netherlands	North America	Oceania	Eastern Europe (non EU)	Western Europe (Non EU)
Africa	-	-	-	-	-	-	-	-	-	-
Asia	-	-	-	-	-	-	-	-	-	-
EU		25	-	-	-	-	-	-	-	-
Middle East				-	-	-	-	-	-	-
Middle and South America					-	-	-	-	-	-
The Netherlands		42	13			-	-	-	-	-
North America		40	11				-	-	-	-
Oceania								-	-	-
Eastern Europe (non EU)									-	-
Western Europe (Non EU)							-16			-

NB: Percentage change only presented when results are significant at 0,05 level

Dutch multinational experienced significantly higher job growth than Asian and European enterprises, but not significantly different from North American multinationals. Enterprises with a parent company from an EU country have received a quarter of jobs in between 2008 and 2013 compared to Asian enterprises. Enterprises with a parent company located in Western Europe (non EU) saw their job numbers decline in the Netherlands (-16 percent) compared to Dutch multinationals. In sum we conclude that the location of the parent of a multinational is also a relevant factor in explaining employment growth during the crisis in the Netherlands.

To answer our third research question we analysed whether the number of high paid (low paid) jobs evolved differently in the three types of enterprises between 2008 and 2013. Since start-ups often involve (major) job growth and when exit implies termination of all jobs, this analysis seemed most relevant for continuing businesses. The two models are as follows and the results are shown in Table 6.

$$\ln\left(\frac{\text{high paid jobs 2013}}{\text{high paid jobs 2008}}\right) = \alpha + \beta_1 \text{Multinational} + \beta_2 \ln(\text{high paid jobs 2008}) + \beta_3 \text{Sector} + \beta_4 \text{Foreign investment} + \beta_5 \text{Importer} + \beta_6 \text{Exporter} + \epsilon$$

$$\ln\left(\frac{\text{low paid jobs 2013}}{\text{low paid jobs 2008}}\right) = \alpha + \beta_1 \text{Multinational} + \beta_2 \ln(\text{low paid jobs 2008}) + \beta_3 \text{Sector} + \beta_4 \text{Foreign investment} + \beta_5 \text{Importer} + \beta_6 \text{Exporter} + \epsilon$$

The ANOVA analysis shows that when we take into account relevant enterprise characteristics such as sector, international trade and company size, Dutch multinationals experienced the largest increase in the number of high paid jobs during the crisis years. Table 6 shows that at the average Dutch multinational the number of high paid jobs grew by 38 percent between 2008 and 2013. Foreign multinationals also experienced significant growth in high paid jobs. Even domestic enterprises saw an increase in their number of high paid jobs. As domestics often are small enterprises, the high percentage growth rates flatter the results somewhat since an increase from one to two high paid jobs amounts to 100 percent growth. Also, the explanatory power of this model (R^2 0,094) is very low, which implies that there are many other factors that play a role in the growth of high paid jobs. Nevertheless, the difference between the three types of businesses are significant. Again, this pattern remains intact as we exclude the smallest enterprises from the analysis. As of ten jobs the differences between Dutch and foreign multinationals become insignificant, but the growth of high paid jobs is still larger for Dutch firms. Especially enterprises in manufacturing and enterprises with international trade have experienced an increase in the number of high paid jobs between 2008-2013. With respect to the development of low paid jobs we see a different pattern. Again, the explanatory power of the model is not very large, but there are significant differences between the three types of enterprises. Low paid jobs have increased especially at foreign multinational enterprises (by 25 percent between 2008 and 2013), but also at Dutch multinationals (+ 16 percent) while domestics experienced a decline in the number of low paid jobs.

Table 6: ANOVA results

	High paid			Low paid		
	>= 1 job	>= 5 jobs	>= 10 jobs	>= 1 job	>= 5 jobs	>= 10 jobs
Foreign multinationals	29 ***	36 **	39	25 ***	20 ***	19 ***
Dutch multinationals	38 ***	42 **	42	16 ***	12 ***	10 ***
Domestics	20 ***	27 ***	33 ***	-18 ***	-18 ***	-16 ***
LN jobs 2008	***	***	***	***	***	***
Retail and hospitality	10	5 ***	2 ***	6 ***	4	8

Services	12		16		18		15		17	***	21	***
Wholesale	8		13		16		-3	***	-6		-8	
Manufacturing	57	***	72	***	77	***	2	***	-3		-6	
Transport	71	***	89	***	103	***	12		6		4	
Foreign investment = 0	25	***	31	***	34	***	-5	***	-7	***	-7	***
Foreign investment = 1	32	***	39	***	42	***	19	***	15	***	14	***
Importer=0	20	***	29	***	32	***	7	***	6	***	6	***
Importer =1	38	***	40	***	44	***	5	***	1	***	1	***
Exporter = 0	22	***	30	***	34	***	-3	***	-4	***	-2	***
Exporter =1	36	***	40	***	42	***	16	***	11	***	9	***
N	75174		42164		28473		81081		51133		31818	
R ²	0,094		0,134		0,17		0,142		0,146		0,153	

*** significant at the 0,01 level

** significant at the 0,05 level

* significant at the 0,1 level

6. Conclusions

From previous research at Statistics Netherlands as well as the academic literature it becomes increasingly clear that multinationals - regardless of where the parent company is based – behave and develop differently than enterprises without foreign parent or foreign affiliate. In this paper we continued this line of research by examining how employment has evolved during the crisis years while making a distinction between Dutch multinationals, foreign multinationals and domestics in the Dutch business economy.

Only 2 percent of all enterprises in the Dutch business economy is considered to be a multinational. These are for the most part large enterprises and create approximately 40 percent of all jobs in the business economy. At the macro level Dutch multinationals saw the largest decline in their number of jobs between 2008 and 2013 followed by domestics, while employment at foreign multinationals increased in total. This increase was mainly due to successful acquisitions of domestics and Dutch multinationals. We also saw that for foreign multinationals experienced the largest increase in the share of high paying jobs.

Corrected for relevant enterprise characteristics such as engagement in international trade in goods, foreign investment, the fact that multinationals larger to begin with and involved in a multitude of sectors, differences in employment growth became smaller. Especially when corrected for population dynamics (exit/entry) during the crisis years it turned out that the average domestic enterprise experienced lower job growth than foreign multinationals and Dutch multinationals. However, the difference in employment growth between the two types of multinational is insignificant.

Multinational enterprises with a North American, Dutch or European (EU) parent experienced larger job growth than multinationals with an Asian or non-European parent. With respect to growth (decline) in high paid and low paid jobs during the crisis a remarkable picture emerges. During the crisis, multinationals experienced the largest increase in high paying jobs, especially at Dutch multinationals. Significantly lower growth in the number of high paying jobs occurred at domestics. Low paid jobs however increased the most at foreign multinationals, namely 25 percent more than the average company in 2008.

Research has shown that Dutch and foreign multinationals behave similarly when it comes to turnover creation and productivity. This paper has provided evidence that also with respect to employment there was little difference between foreign and Dutch multinationals during the crisis years.

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