

Enterprise  
dynamics  
during the  
financial crisis

9



# Enterprise dynamics during the financial crisis

## 9.1 Introduction

## 9.2 Data and methodology

- Construction of the dataset
- Analysis

## 9.3 Overall dynamics during the financial crisis

- Demographics

## 9.4 Economic impact of the financial crisis

- Economic activity
- Size class
- Ownership
- Type of trade

## 9.5 Statistical analysis

- Overall outcome

## 9.6 Conclusion

**The financial crisis that first hit the world economy in 2007 also had a strong impact on the Dutch business economy. Turnover and trade declined at an unprecedented rate and employment slumped. Although the economy as a whole took a major blow, some enterprises and sectors were less affected while others are still struggling to recover. This chapter illustrates the development of turnover, employment and trade between 2007 and 2011, focusing especially on the crisis year 2009, while distinguishing different sectors, enterprise sizes and types of international orientation. On the whole, internationally oriented enterprises were affected more by the financial crisis than Dutch oriented enterprises, but they managed to come back strong in 2010 and 2011. In sum, international orientated enterprises turned the crisis into success.**

## 9.1 Introduction

In recent years nothing dominated the news, public debate and politics as much as the financial crisis did. What started in 2007 as a shortfall of trust between American banks, as a result of the bursting housing bubble (e.g. European Commission 2009), has grown out to be a global financial crisis which hit the real economy at an almost unprecedented scale. Global trade flows dropped by more than 20 percent and the Eurozone lost 4.3 percent of its GDP in 2009 alone (IMF, 2012). While global trade had already returned to its pre-crisis level by 2011, the GDP of the Eurozone is still 1.1 percent short of the 2008 level. The economic instability caused by the European debt crisis has hampered a strong recovery in Europe.

The financial crisis hit the Dutch economy hard. In 2009, Dutch GDP dipped by almost 4 percent, the number of bankruptcies almost doubled and international trade contracted with almost 20 percent (CBS, 2012). Despite a modest recovery in 2010, increasing uncertainty about the financial solvency of southern European countries sent the Dutch economy into another recession halfway through 2011. Despite the vast number of books, articles, and television programs on the subject, the best way out of the crisis is still up for debate. However, that internationalisation and especially international trade will play a key role in the recovery process seems irrefutable, since the economic growth of the past 1.5 years is mainly due to international trade (FME, 2012; CBS, 2011).

These macro-economic trends hide a lot of dynamics at the meso and micro level. Even though overall trade and GDP plummeted in 2009, some sectors and enterprises suffered more than others. This chapter will shine some light on this and provide answers to such questions as: What effect did the economic crisis have on the business economy? Which enterprises were hit? Which enterprises were less affected by the crisis? And which enterprises boomed between 2007 and 2011? By looking at economic parameters such as employment, turnover and international trade broken down by the characteristics

economic activity, size, (foreign) ownership and type of international trade, this chapter describes trends in performance and population dynamics in the business economy. Specific attention will be paid to differences between internationally oriented enterprises and domestically oriented enterprises.

This chapter is arranged as follows. First, the compilation of the data and methodology is described in section 9.2. Section 9.3 reviews developments in turnover, trade and employment throughout the crisis combined with some demographics from chapter 6. Section 9.4 deepens this descriptive analysis by breaking down turnover, jobs and international trade values for sector of activity, size and foreign orientation. Section 9.5 consists of several statistical analyses on changes in turnover for the different characteristics, taking all different characteristics into account at the same time. In addition, it provides an overview of the main winners and losers of the financial crisis. Section 9.6 recaps the different analyses and results of this chapter.

## 9.2 Data and methodology

### Construction of the dataset

A broad dataset was created allowing insight into the dynamics of the crisis. The starting point of this dataset is the General Business Register for the years 2007 up to 2011. To this data we matched additional information from the international trade in goods statistics, data on turnover as obtained from the Dutch tax administration, number of jobs per enterprise from the Linked Employer-Employee Database (LEED), data on foreign ownership from the Foreign Affiliate Statistics (FATS) and last, the births and deaths as determined in chapter 6. Our analysis will include four characteristics of an enterprise: economic activity, size class, ultimate controlling institute and international trade status.

Economic activity and size class are variables from the General Business Register and are clustered in the same way as described in section 6.3. Locus of control is determined based on the location of the ultimate controlling institute (UCI) of an enterprise, which is the product of the foreign affiliate statistic. In this chapter we used only 2 categories of ownership, namely Dutch controlled versus foreign controlled. Unfortunately the sources of the UCI are not comprehensive and if no information is available Dutch ownership is assumed. Since the quality and number of sources have improved, some enterprises have been moved over time from Dutch to foreign ownership not due to a merger or acquisition but due to the improvements in the sources. Since these are not real mutations we decided to update earlier years with the improved information. Foreign ownership can

still change due to mergers and acquisitions. A preliminary locus of control was created for 2011, mainly based on the 2010 FATS.

Information on jobs per enterprise is obtained from the LEED database. Jobs are assumed to be exhaustive. If there is no information the enterprise has no employees (other than the owner). The LEED database provides data up to 2010. Since the other data in this chapter contain 2011, a preliminary 2011 total was created based on crude source material to complete the overview in 9.3.1.

The international trade status of an enterprise is derived from the international trade statistic and grouped in four categories: non-trader, importer only, exporter only and two-way trader. Since most analyses in this chapter follow clusters of enterprises over several years it is important that all characteristics are constructed in similar ways. In an effort to improve similarity and comparability over time, the decision was made to compose one status for all years for sector of activity and international trade. Many changes in sector of activity for enterprises are due to administrative changes and are not really changes in activity. Deciding on one sector of activity per enterprise (the sector of activity in 2011 or the last year prior to their exit) bypasses those administrative changes and improves the comparability between years.

Enterprises with international trade are often large and generate large amounts of turnover. But some enterprises are two-way traders one year, import only the next year and do not trade at all in the following year. By creating one international trade status we can look at the dynamics of the target variable instead of looking at the dynamics of international traders. We decided to prefer the most complicated international trade activity over the years (1) two-way trade, 2) export only, 3) import only, 4) non-trader). An enterprise is a non-trader if no trade activities have been found for the 2007–2011 period. International trade and turnover, which are collected on VAT ID-number, are notoriously difficult to link to enterprises in the General Business Register. Having no international trade value for an enterprise could be due to a linking problem. Since there is no way of determining which of the missing values are due to linking problems, and because for almost all enterprises in the business economy their international trade value is linked we will treat the international trade data as if it is exhaustive.<sup>1)</sup>

Considerations are different for turnover. All enterprises in the General Business Register should have turnover. No turnover generally indicates a linking problem. Analyses on turnover therefore can only be successfully done when considering a panel of enterprises with turnover for each year of its existence. Accepting a five percent loss of turnover, a panel was constructed of 424,974 enterprises existing throughout 2007–2011 and linked turnover for each year. By excluding the births and deaths, this dataset can be used for our descriptive analyses as well as our in depth ANOVA analyses.

<sup>1)</sup> Chapter 10 in this edition of the Internationalisation Monitor provides more information on the international trade of Dutch enterprises and the linking problems encountered in the process.

Linking the information on jobs and trade resulted in a dataset of 2,032,373 enterprises for the 2007–2011 period. All the analyses in this chapter exclude government, education and health care. Thus they are based on enterprises in the business economy (NACE Rev. 2 section B to N, excluding K). The remaining dataset on jobs and trade contains 1,365,069 of those enterprises for the five year time period with an average of 895,752 active enterprises per year. Tables 9.2.1 and 9.2.2 provide a schematic overview of our dataset and panel.

### 9.2.1 Included economic parameters and relevant population

	Time period	Panel/whole population
<b>Parameter</b>		
Turnover	2007–2011	Panel
Jobs	2007–2010	Whole population
International trade	2007–2011	Whole population

### 9.2.2 Enterprise characteristics in the dataset and panel

	Can change over time
<b>Characteristics</b>	
Economic activity	No
Size	Yes
Ownership	Yes
Trade status	No

## Analysis

The analysis in this chapter consists of three parts. First, a descriptive overview of turnover, jobs, international trade value and demographics is presented and discussed. Second, we zoom in and tabulate turnover, jobs and international trade value by sector of activity, size, ownership and international trade status. Third, an ANOVA model is used to distinguish between growth of turnover for ownership and type of trade separately and growth due to interactions between all characteristics together.

In all analyses a total of 15 enterprises were excluded as they distorted the figures with dynamics caused by linking problems. For each of the ANOVA analyses half a percent of outliers was excluded.

## 9.3 Overall dynamics during the financial crisis

To gain more insight into the effects of the financial crisis on the business economy, we start by looking at the overall picture of the crisis. Figure 9.3.1 shows the growth (or decline) between 2007 and 2011 for the birth and death rate of enterprises as well as the three economic parameters under review: jobs, international trade value (divided into import and export value) and turnover. Although the crisis officially began in 2007 when the US housing bubble burst, Dutch turnover, international trade and employment did not seem affected by the crisis up until 2009. In fact, 2008 even seems to be a good year. Many new companies were founded, death rates lowered and import, export and turnover increased by over five percent. Dutch GDP rose by two percent, about one percent point more than the average of the Euro area. In fact, the crisis arrived later in the Netherlands than in other countries (European Commission, 2009), but recovery seems slower. A closer look at the international trade values reveal that the decline had already set in by the fourth quarter of 2008. Although signs of a changing economy were visible in 2008, the financial crisis did not turn growth into decline until 2009.

A comparison between 2009 and 2008 shows 23,000 fewer enterprises born and over 8,000 enterprises additionally terminated. Our panel of the Dutch business economy lost 11 percent of its turnover in one year. International trade declined by 16 percent of the export value and a staggering 19 percent of the import value. Such a sharper decrease in the commodity trade than in turnover or GDP could be observed worldwide. Baldwin and Evenett (2009) point to the role of international supply chains as an explanation. They argue that if production is fragmented, intermediate products and eventually the final product will cross borders many times and thus be counted many times in trade statistics, while its value added is limited. So when demand for such a product falls, value added (GDP) falls a little, but every trade flow within the supply chain is affected and as a result total trade drops more.

The recovery of international trade is almost as fast and extensive as the fall was for 2009.

The odd duck of our economic variables appears to be the jobs. They show little fluctuation besides a steady decline from 2009 on with no sign of recuperation. This suggests that enterprises try to keep their personnel employed. This so called labour hoarding was described by The Dutch Bureau for Economic Policy Analysis (CPB). De Jong (2011) wrote that it is expensive to fire employees and that Dutch enterprises were afraid it would be difficult to hire qualified personnel again after a quick recovery of the economy. Although the decline in jobs seems small compared to the considerable dynamics in turnover and international trade value, still 185,000 jobs were lost from 2008 on.



The birth and death rates as presented in chapter 6 partly explain the patterns we see in our economic variables, and also tell something about the aftermath of the crisis. As for the explanatory part, it is clear that as fewer enterprises were born in 2009 and many more died, some part of the fall in turnover and international trade will be due to this dynamic. But whereas turnover and international trade are bouncing back from their 2009 dip, the birth rate is not. Apparently the economic conditions in 2010 and 2011 are well enough for existing enterprises to recuperate, but do not inspire as many people as before to start their own business. Maybe they have found it riskier than before to leave the relative safety of a job for a more uncertain own business. Furthermore, limited access to credit may play a role as well. In general it was more difficult for small and medium enterprises to obtain bank loans (Kessels, 2011).

### 9.3.1 Indexed growth for births, deaths, jobs, imports, exports and turnover



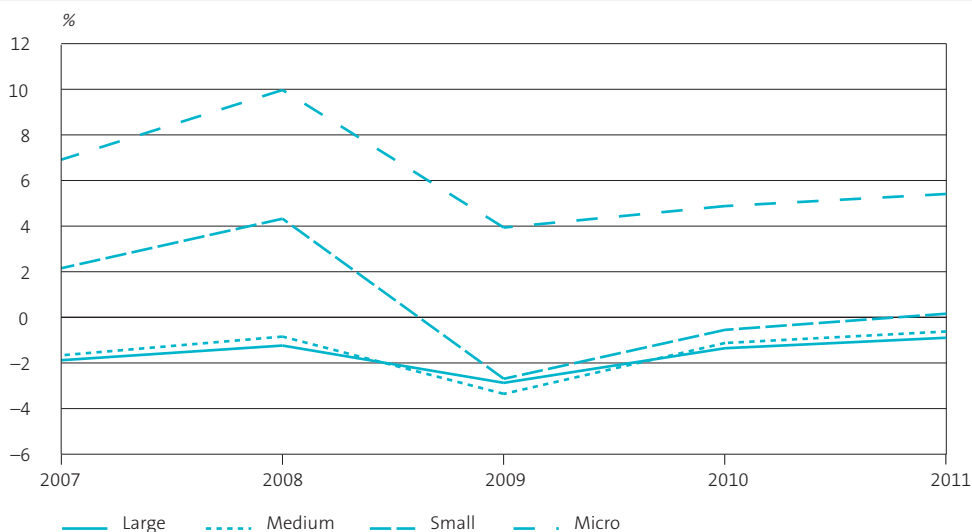
#### Demographics

Births and deaths as analysed in chapter 6 are useful to take into account when looking at growth rates of economic variables. Growth can be a result of more or improved activity, but it could also mean that the number of enterprises in the group increased. We will briefly recap some useful demographic trends from chapter 6 to keep in mind.

All sectors of activity saw an increase in the number of enterprises in 2008, a decrease in birth surplus growth in 2009 and somewhat of a recovery in the following years. The only exception is the construction sector. In 2008 construction had the largest birth surplus of

all sectors of activity with an 11 percent increase in the number of enterprises. The crisis greatly affected the births in construction and so the birth surplus plummeted in 2009 to less than 2 percent and has, to date, not recovered. Graph 9.4.1 shows that the sector is still suffering the consequences of the crisis. This is confirmed by Duijkers (2012). Besides construction, there was only one other sector with a positive birth surplus in 2009, namely services. All other sectors and the wholesale trade in particular saw their number of enterprises decrease in 2009.

### 9.3.2 Birth surplus per size class



We will expand the chapter 6 analyses on births and deaths per size class by looking at the birth surplus for the years 2007–2011 (Figure 9.3.2). What immediately catches the eye is the difference between the smaller and more dynamic size classes and the two larger less dynamic size classes. Looking closer, small enterprises lost more birth surplus by the crisis than micro enterprises and medium enterprises were more influenced than larger enterprises. Interestingly these two middle size classes appear more susceptible to the crisis. In its aftermath, the larger size classes recovered fully and exceeded their 2008 birth surplus. The smaller size classes did not see the same recovery and are responsible for the lower overall birth rate shown in 9.3.1.

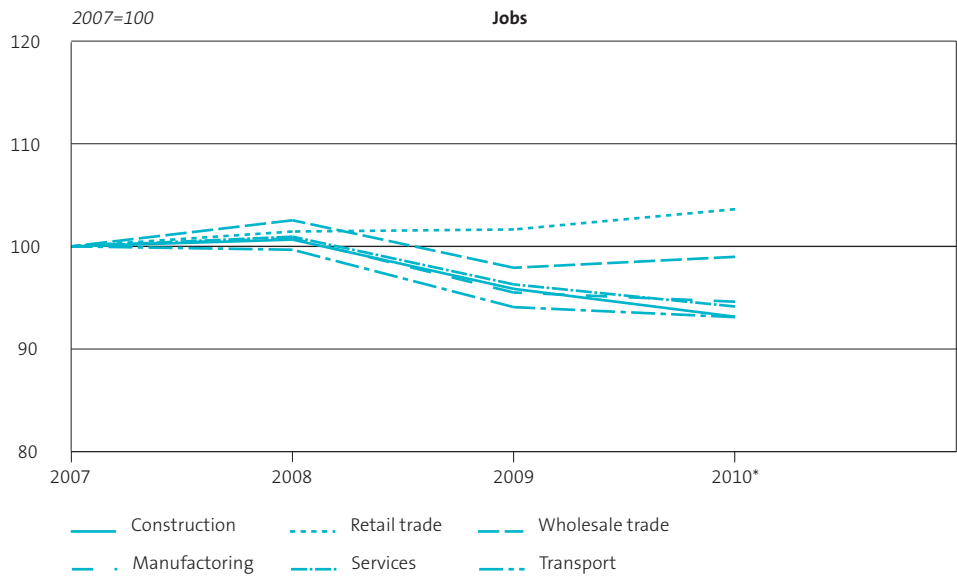
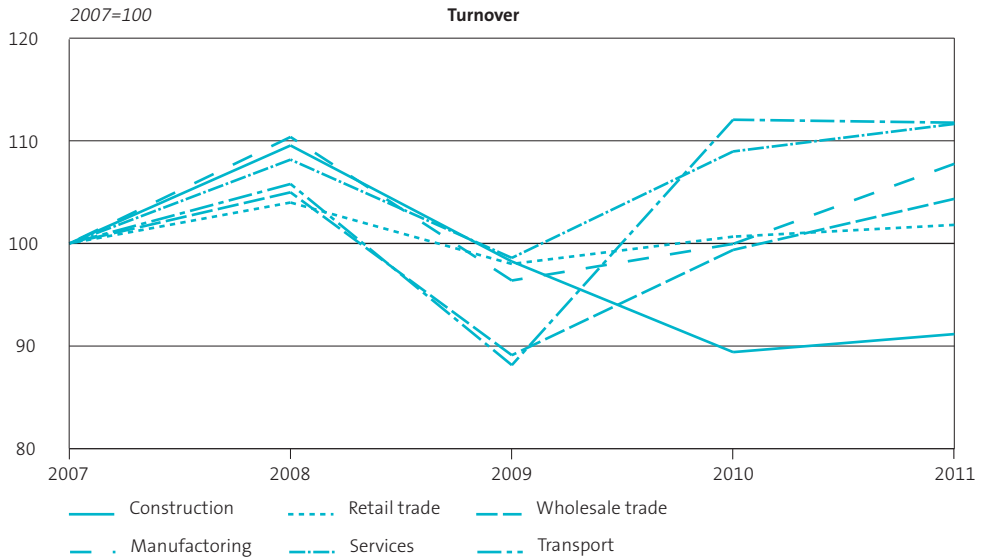
## 9.4 Economic impact of the financial crisis

This section digs deeper into the development of some of the parameters that were shown in the overall graph 9.3.1 in the previous section. As the main focus of this publication is internationalisation, we are primarily interested in differences between internationally oriented enterprises (either by trade or in terms of ownership) versus enterprises that are domestically oriented. Since the financial crisis has had an impact on many areas of the economy, we will look at other breakdowns as well, as they help determine which type of enterprises performed best and worst during the financial crisis. In short, we take the turnover, jobs and international trade values from 9.3.1 and break them down by sector of activity, size class, ownership and type of trade. This allows us to further investigate the underlying mechanisms of growth or decline. As stated in section 9.2, a panel was used to describe the dynamics for turnover between 2007 and 2010. Dynamics in jobs and international trade values in this section refer to all enterprises in the business economy.

### **Economic activity**

All sectors of economic activity show a decline in turnover, jobs and international trade in 2009 (figure 9.4.1). As we have seen in our overview, the import and export values declined most as a result of the financial crisis, but recuperated best and fastest as well. This pattern is also visible per sector of activity as international trade values show more dynamics than turnover or jobs (note that the scales are adjusted). Although international trade on the whole shows a faster recuperation rate, this does not seem to apply to the international trade in commodities carried out by service enterprises. Although responsible for only a small portion of total trade (see table 10.4.1), their international trade did not recuperate in 2010 in contrast with all other sectors. Another very notable dynamic in the international trade is the substantial increase in export value for construction enterprises. Their turnover does decrease, which is in line with the decrease in birth surplus shown in figure 9.3.2. None the less, the export value of construction enterprises grew by a staggering 40 percent due to large growth of a few enterprises. Although this is a vast result, it is wise to keep in mind that construction is the smallest sector with regards to international trade value. In comparison, a 40 percent increase in value for the construction sector is equivalent to a 0.2 percent increase in the international trade of manufacturing.

### 9.4.1 Turnover, jobs, import and export value for the six sectors of activity



### 9.4.1 Turnover, jobs, import and export value for the six sectors of activity (end)

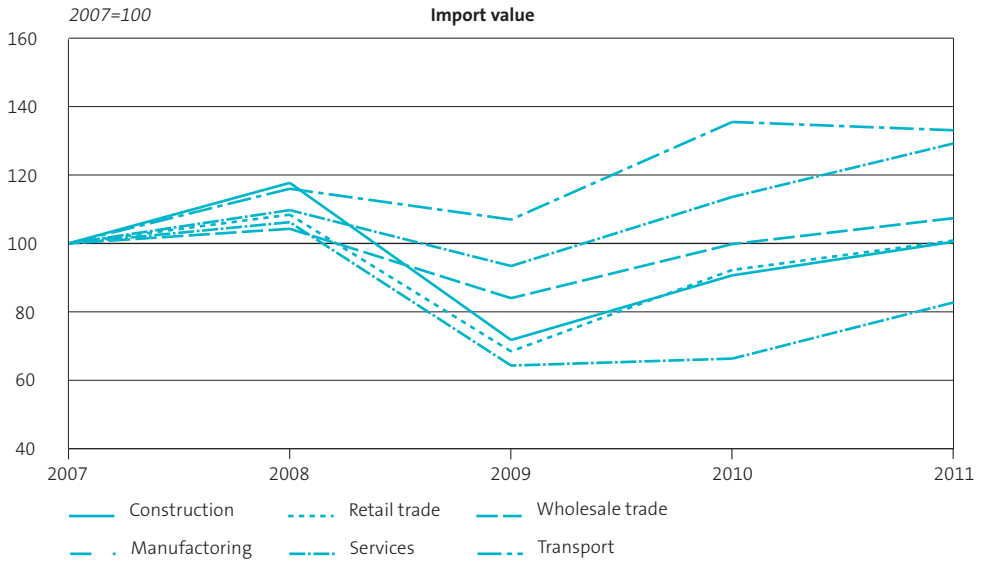


Figure 9.4.1 also shows that the crisis had the largest effect on the turnover of transport enterprises, but we also see them recuperate with a 24 percent increase in turnover from 2009 to 2010. Until 2011 the transport sector lost the most jobs, over 20,000, which is 7 percent of its 2007 total. This provides some merit to the reports that transport enterprises no longer employ their own Dutch drivers but use East-European drivers instead, often on a temporary basis (Ten Have and Meester, 2011; Lemmens-Dirix and Van Berkel, 2012). After 2009, the transport sector also shows a rise in the import value, indicating more international contacts.

Finally the retail trade (including hotels and restaurants) is the only sector of activity which experienced an increase in the number of employees from 2007 on. Exploring the underlying data, the growth in jobs originates in restaurants. The retail and the wholesale trade were the only two sectors where the number of jobs grew in 2010.

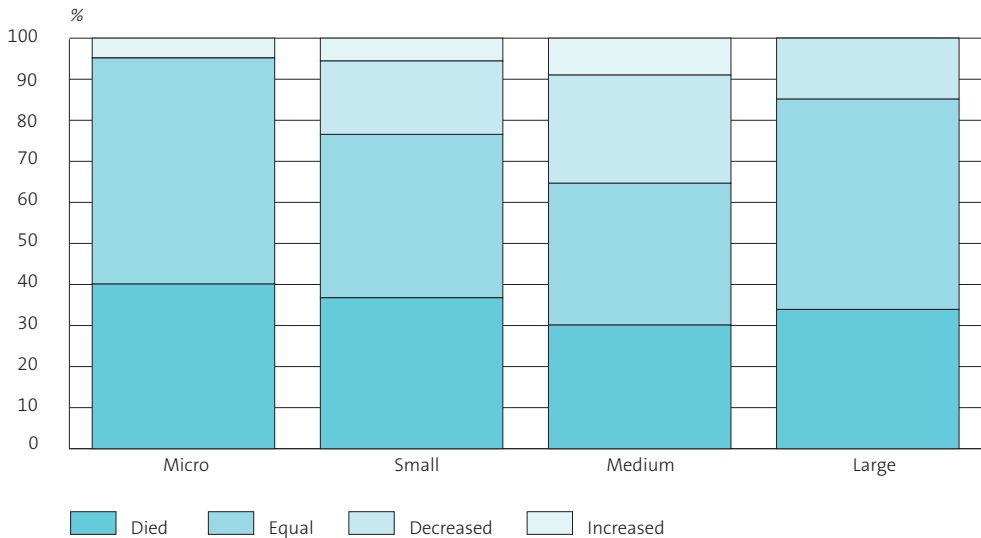
## The retail and wholesale trade were the only two sectors where the number of jobs grew in 2010

### Size class

The size class of an enterprise can change from year to year. In rough years many enterprises have to let people go and subsequently fall into a smaller size class. On the other hand some successful enterprises grow and move on to a higher size class. This makes comparing the different parameters over time by size class very difficult. Figure 9.4.2 shows how size classes changed over the 2007–2011 period for existing enterprises in 2007. Micro and large enterprises have the best chance of staying in the same size class for the entire five year period. Small and medium enterprises show more dynamics. Next to exits or survival, they both are more likely to shrink into a smaller size class as only a lucky few grow.

These patterns are also very visible in their turnover, jobs and international trade values (not shown here). The small enterprises suffered greatly from the crisis, while micro enterprises are rather successful (most likely because of increase from formally small enterprises). Large enterprises are the most stable in jobs, but show the largest loss of turnover in 2009. Similar results were found by Narjoko and Hill (2007) as well as by Forbes (2002). They also found that larger firms tend to perform worse during crises, while smaller firms are more adaptable. On average large enterprises have more international ties and therefore are hit harder by a decline in trade. As trade recuperates, so does the turnover for the larger enterprises.

## 9.4.2 Dynamics of size classes between 2007–2011



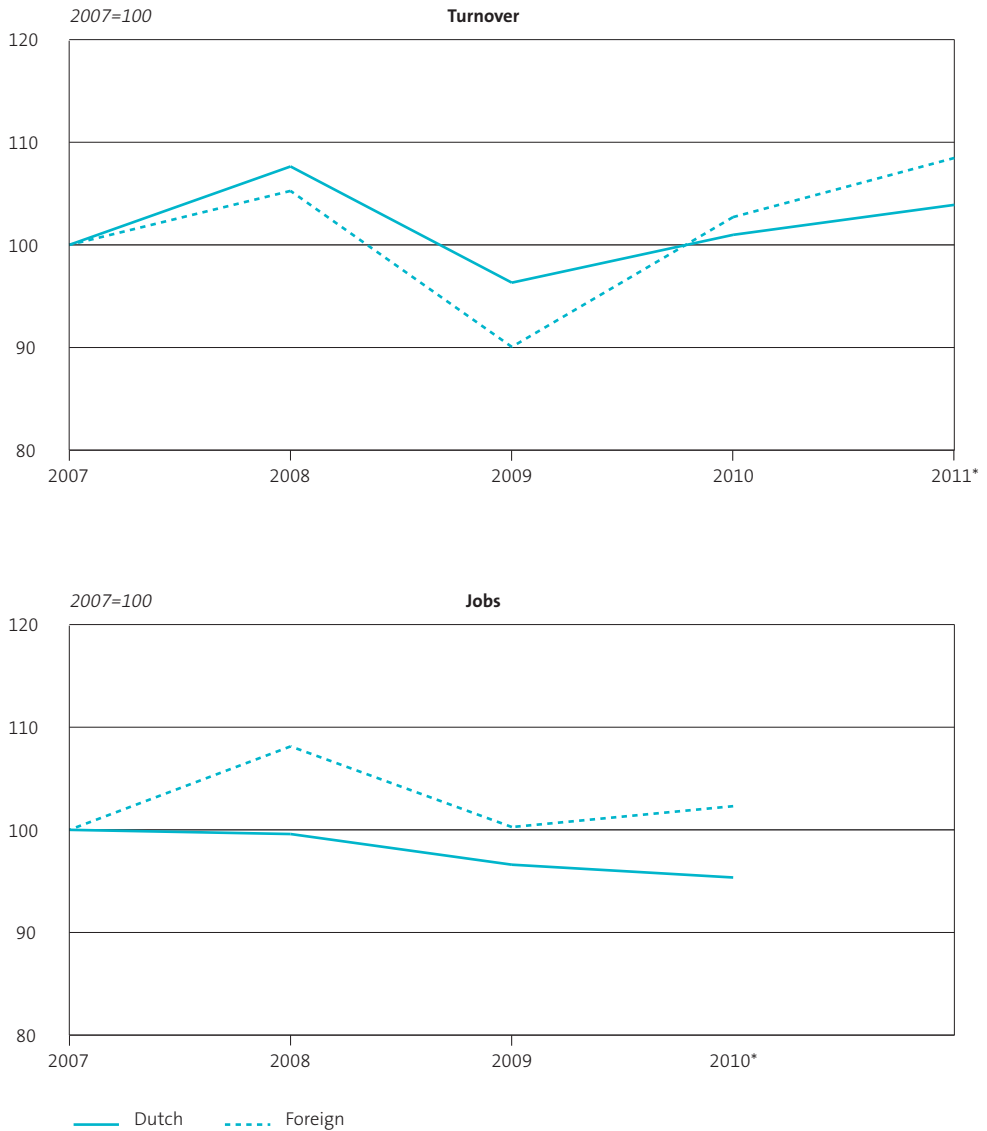
### Ownership

Figure 9.4.3 shows the development in turnover and jobs of Dutch and foreign controlled enterprises between 2007 and 2011. As ownership can change over time, this figure has to be interpreted with caution. It includes foreign or Dutch takeovers, so it shows the actual development of the two subpopulations. With these takeovers included, turnover for domestic enterprises increased slightly more in 2008 than that of foreign controlled enterprises. They also showed a somewhat smaller decline for the 2009 crisis year than foreign controlled enterprises. In jobs the reversed pattern is seen, jobs for foreign controlled enterprises rose by 8 percent as Dutch controlled enterprises decreased slightly. In the aftermath of the crisis foreign controlled enterprises made a better recovery. Turnover in 2010 was higher than it was in 2008, while Dutch enterprises were still almost 10 billion short of their 2008 turnover.

Excluding the foreign takeovers does not change the turnover pattern for foreign and Dutch firms. Job dynamics, on the other hand, are greatly influenced by foreign takeovers. The entire growth in jobs for foreign controlled enterprises in 2008 and 2010 was caused by takeovers. When we exclude takeovers jobs for domestic enterprises in 2008 would have increased and the 2010 dip in jobs would be cancelled out. The autonomous job growth over the 2007–2010 period is minus 2.5 percent for Dutch controlled enterprises and minus 4.6 percent for foreign controlled enterprises. The only reason foreign controlled enterprises *as a group* show growth in jobs in figure 9.4.3 is due to acquisitions

of Dutch enterprises. A similar observation was made by Urlings et al. (2011), who studied the developments of jobs at foreign and Dutch controlled enterprises during 2000–2007. They found a 200 thousand job increase at foreign controlled enterprises (considered as a group) which equals the net number of jobs transferred by takeovers from Dutch to foreign controlled enterprises.

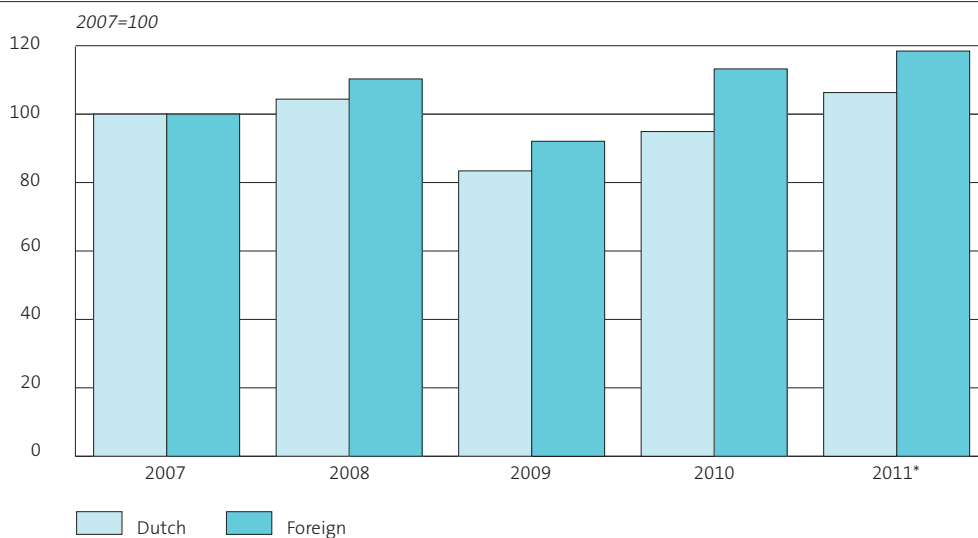
### 9.4.3 Turnover and jobs for domestic and foreign owned enterprises





International trade patterns of foreign or domestic owned enterprises show no difference between import or export patterns (sum of imports and exports shown in figure 9.4.4). Foreign owned enterprises performed better throughout the crisis. They saw their trade values decrease by “only” 18 percent as international trade values for Dutch owned enterprises were down by 21 percent. Similar developments in trade of foreign controlled enterprises are reported in chapter 10. Dutch firms are recovering but at a slower pace than foreign owned enterprises. By 2010 foreign controlled enterprises had completely recovered, with an increase in international trade value of 21 percent in 2010 and 5 percent in 2011. Dutch firms only recovered 11 percent in 2010 but saw their international trade value increase with another 12 percent for 2011.

#### 9.4.4 International trade value for domestic and foreign enterprises

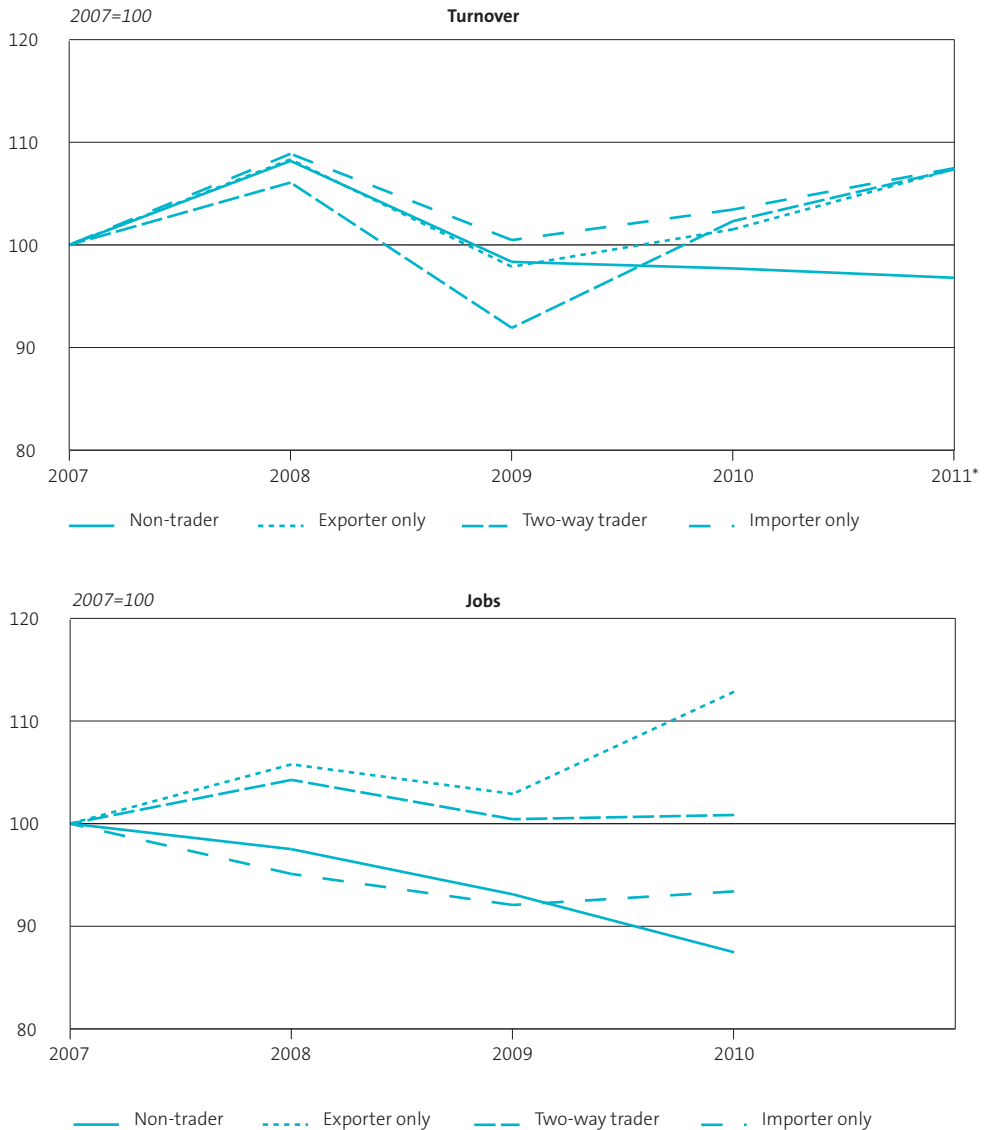


#### Type of trade

The turnover and jobs for non-traders were hit worse by the crisis than those of international traders. This follows from figure 9.4.5. Non-traders experienced job losses in 2008 and this downturn continues to date. Note that this is not caused by a switch of several non-traders to traders, thus diminishing the pool of non-traders and turnover, since we constructed trade status such that it is fixed through time. Jobs for exporters increased sharply and appear to not have suffered from the crisis. It is worth mentioning that exporters represent the smallest job number. To put this in into perspective, the increase of 20,000 jobs at export only enterprises was not enough to offset the loss of over 150,000 jobs at non-trader enterprises during the 2007 to 2011 period. Two-way traders,

as expected, suffer most from an international crisis as their turnover is closely tied to international trade. In 2011 their export value constituted about a third of their turnover, whereas for exporters only this was one fifth. As international trade values recovered in 2010, so did the turnover for two-way traders. Also the jobs are most stable for two-way traders. It seems that two-way traders are resilient and well equipped to deal with the dynamic international environment, even though they were hit hard by the crisis.

#### 9.4.5 Turnover and jobs by type of international trade



## 9.5 Statistical analysis

Our analysis so far has looked at growth of and decline in jobs, turnover and international trade value before, during and after the crisis. Although these numbers represent the real development per characteristic, they do not take correlations between variables into account. For instance many enterprises under foreign control are large, so some turnover differences seen in 9.4 between foreign and Dutch controlled enterprises may not be due to differences in ultimate controlling institute but due to their difference in size. In order to investigate these correlations, and to see whether the differences are significant, this section compares the mean turnover growth rate for the different categories per variable.

### 9.5.1 Year-on-year (corrected) mean turnover growth for type of trade

	2008	2009	2010	2011
	%			
<b>Type of trade</b>				
Non trader	15.2	-5.3	-1.8	0.0
Importer only	14.8	-4.3	-0.4	-0.8
Exporter only	16.7	-7.2	4.0	3.0
Two-way trader	14.2	-7.4	5.3	3.0
	<i>F-value</i>			
<b>Corrected Model</b>	10 ***	64 ***	412 ***	92 ***
Intercept	14250 ***	3896 ***	278 ***	145 ***
TypeTrade	10 ***	64 ***	412 ***	92 ***
	%			
<b>Ownership</b>				
Dutch	15.1	-5.5	-0.6	0.3
Foreign	11.8	-9.8	8.5	4.5
	<i>F-value</i>			
<b>Corrected Model</b>	12 ***	41 ***	138 ***	28 ***
Intercept	868 ***	481 ***	103 ***	38 ***
Ownership	12 ***	41 ***	138 ***	28 ***

Before looking at the corrected model which takes all characteristics into account, table 9.5.1 shows the outcome of an ANOVA analysis of turnover growth rate for the enterprises that existed throughout 2007–2011. The first table shows the results by type of trade and the second one by ownership. The table shows the year-on-year growth rate, so the 2009 column represents the corrected mean growth between 2008 and 2009. For example, the average turnover of a non-trader in 2009 was 5.3 percent lower than in 2008. Since the mean turnover growth rate does not take turnover size into account but only the year-on-year growth in percentages, the development in mean turnover for some characteristics differs from the turnover development in general. A few large enterprises with a different turnover development than that of small enterprises cause a difference between absolute developments and mean growth rate.

In each year, turnover growth differences are significant for the various types of traders as well as between foreign controlled and Dutch firms. Mean turnover declined the most for two-way-traders and exporters (7.4 and 7.2 percent respectively), but recovered quickly. Importers only and non-traders on the whole did not recover, while the importers only on an aggregated level (Figure 9.4.5) did. Mean turnover of foreign controlled firms declined and recovered faster than that of Dutch firms, which is in accordance with 9.4.3.

## Turnover for two-way traders and exporters declined the most but recovered quickly

Table 9.5.2 displays the mean turnover growth for each of our four characteristics corrected for the other three. For example, the average turnover growth of an enterprise with 0–1 employees was 6.4 percent higher in 2010 than in 2009 when we correct for sector of activity, type of trade and ownership. Looking at the corrected model enables us to see which part of the growth (or decline) is actually due to a certain characteristic. This information will help in determining which characteristics were protective and which ones exposed enterprises to larger turnover loss as a result of the financial crisis.

Compared to 9.5.1 the signs of the turnover growth for some categories have changed. For instance for 2010 importers show an average 0.4 percent decrease in growth in table 5.4.1. But a positive growth of 2.1 percent remains after correcting for sector of activity, size class and ownership. This is a direct consequence of skewed data for the different trade categories as well as the nature of the analysis. Enterprises that only import are on average small and often active in the retail. These two characteristics are (before correction) correlated with a large loss of turnover. Therefore the result for only importers will be higher after correction for size class and sector of activity.

### 9.5.2 Year-on-year (corrected) mean turnover growth

	2008	2009	2010	2011
	%			
<b>Size class</b>				
0–1 employees	23.7	–6.2	6.4	4.3
2–4 employees	13.5	–8.3	4.0	2.7
5–9 employees	7.1	–10.2	2.9	2.5
> 10 employees	6.6	–10.4	2.2	2.8
<b>Sector of activity</b>				
Manufacturing	10.9	–10.3	2.5	3.7
Construction	14.9	–9.4	–0.5	7.6
Wholesale trade	9.4	–9.0	3.6	1.1
Transport and storage	14.2	–13.3	10.7	5.2
Retail trade and hotels and restaurants	9.9	–4.4	3.3	–0.3
Services	16.3	–6.1	4.0	1.4
<b>Type of trade</b>				
Non trader	9.4	–8.7	0.2	1.0
Importer only	13.2	–7.8	2.1	1.5
Exporter only	12.4	–9.9	5.5	4.6
Two-way trader	15.3	–8.7	7.8	5.3
<b>Ownership</b>				
Dutch	10.5	–8.7	1.1	1.9
Foreign	14.7	–8.9	6.7	4.3
	<i>F-value</i>			
<b>Corrected Model</b>	518 ***	174 ***	215 ***	156 ***
Intercept	722 ***	605 ***	98 ***	58 ***
Size	1438 ***	169 ***	127 ***	38 ***
Sector	181 ***	287 ***	198 ***	267 ***
TypeTrade	152 ***	16 ***	329 ***	111 ***
Ownership	18 ***	0	48 ***	9 ***

The F-values reported in the lower part of table 9.5.2 show that all characteristics have a significant effect on explaining the differences in turnover growth in 2009, except for the ownership variable. Apparently, when controlling for sector of economic activity, size and trade status, turnover declined at a similar rate for Dutch and foreign controlled enterprises in 2009.

A few developments stand out in table 9.5.2. Foreign enterprises performed better than Dutch enterprises in 2008 after controlling for sector of activity, size class and type of trade. Although foreign controlled enterprises did lose a little more turnover in 2009 (0.26 percent), over the 2007–2011 period they outperformed Dutch controlled enterprises. This confirms Narjoko and Hill (2007), as well as Forbes (2002) who also found that foreign

sales exposure, foreign ownership and exports have beneficial impact on survival and recovery in crises.

The patterns for the different sectors of activity also change in comparison to graph 9.4.1. Now construction enterprises only show a slight decrease in turnover for 2010 and even show a large growth for 2011. A partial explanation is that the graph shows the development of the sector as a whole, whereas this analysis focuses on individual enterprises that exist throughout the period, i.e. conditional on survival. The results of the sector are negatively influenced by the exits, which have worse results than the survivors shown here. As for type of trade the patterns are similar to figure 9.4.5. The recovery for two-way traders remains the best of all trade types.

### Overall outcome

Combining all results from the corrected ANOVA we can deduct which types of enterprises were affected most and least during the crisis in terms of turnover development, and which enterprises fared best/worst during the entire period (2007–2011). This is shown in table 9.5.3. Since the results for the ‘overall outcome’ are identical to the enterprises that recovered well/badly from the crisis, we only show the overall outcome. The results in this table are conditional on enterprise survival between 2007 and 2011.

### 9.5.3 Most and least successful characteristics for turnover growth

	Affected by crisis (2008–2009)		Overall outcome (2007–2011)	
	least affected	most affected	best outcome	worst outcome
Size class	Micro	Large	Micro	Large
Sector of activity	Retail trade	Transport	Transport	Wholesale trade
Type of trade	Import only	Export only	Two-way trader	Non-trader
Ownership	Dutch	Foreign	Foreign	Dutch

Relative to other size classes, micro enterprises (0–1 employees) experienced the smallest decline in turnover caused by the crisis. Large enterprises were most affected, experiencing the largest declines. Of all economic sectors under consideration, enterprises in retail fared best during the crisis, while transporters were hardest hit. Foreign controlled firms were somewhat worse off in terms of turnover than Dutch controlled firms. Enterprises that only exported were hit the hardest of all traders.

Results change when we consider the whole period between 2007 and 2011. Several types of enterprises that were hardest hit by the crisis, still managed to have the highest

turnover growth over the five years under consideration. For instance, foreign controlled enterprises came out on top in terms of turnover growth. Enterprises active in transport were hit hardest by the crisis in 2009 but recovered better than the other sectors. Wholesalers had the worst overall outcome in terms of turnover growth in this period. Turnover of two-way traders declined at a similar rate as that of non-traders (9.5.2), but two-way traders generated the largest turnover growth after the crisis.

From these results it follows that a good 2009–2011 recovery is more important than being affected the least by the crisis (2008–2009). For example, during the peak of the financial crisis it was best to be a Dutch enterprise and to be in retail, since they were least affected in terms of turnover decline. This, however, did not provide a better outlook over the entire period 2007–2011. Most successful over this entire period are foreign controlled enterprises, micro enterprises, enterprises in the transport sector and two-way traders.

## 9.6 Conclusion

This chapter created new insight into the recent financial crisis and its great influence on the Dutch business economy. As the financial crisis unfolded in 2009, our panel of the Dutch business economy lost 11 percent of its turnover. International trade declined with 16 percent of the export value and 19 percent of the import value. Employment showed a steady decline as of 2009. Turnover and jobs decreased strongest for enterprises active in transport. International trade declined most for enterprises in the services sectors. Of the internationally active firms, two-way traders and foreign controlled enterprises experienced the largest decrease in turnover.

From 2010 on, trade value and turnover recovered for most enterprises. This recovery is especially apparent for enterprises with international ties, as domestically oriented enterprise groups showed less recovery. Total employment did not recover at all and continued to decline from 2008 on. However, for foreign controlled enterprises, two-way traders and exporters this is not the case, as employment at these firms started growing again after 2009.

In the complete ANOVA model, including sector of activity, size, type of trade and ownership, the year-on-year turnover growth rate was presented. Internationally oriented enterprises suffered more in the 2009 crisis year but came back strong in 2010 and 2011. Foreign controlled enterprises outperformed domestically oriented enterprises in turnover growth. Traders, especially exporters and two-way traders made a full recovery. These differences were statistically and economically significant.

Based on this complete ANOVA model we can determine which groups of enterprises were most and least affected by the crisis, and which enterprises fared best during the 2007–2011

period. Interestingly, being least affected by the crisis did not prove to be predictive for the best overall 2007–2011 outcome. Foreign controlled enterprises and enterprises in the transport sector were hit hardest in the crisis, but also had the best recovery rate and the best overall outcome. The worst overall outcome was for large and for Dutch enterprises, wholesalers and for non-traders. Their turnover growth was comparatively low.

On the whole, internationally oriented enterprises were affected more by the financial crisis than Dutch oriented enterprises, but they managed to come back strong in 2010 and 2011. In sum, international orientated enterprises turned crisis into success.