

Internationalisation Monitor 2012

Explanation of symbols

.	data not available
*	provisional figure
**	revised provisional figure (but not definite)
x	publication prohibited (confidential figure)
–	nil
–	(between two figures) inclusive
0 (0.0)	less than half of unit concerned
empty cell	not applicable
2011–2012	2011 to 2012 inclusive
2011/2012	average for 2011 to 2012 inclusive
2011/'12	crop year, financial year, school year etc. beginning in 2011 and ending in 2012
2009/'10 –2011/'12	crop year, financial year, etc. 2009/'10 to 2011/'12 inclusive

Due to rounding, some totals may not correspond to the sum of the separate figures.

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Foreword

This fifth edition of the Internationalisation Monitor continues to build on our knowledge of the intricate process of economic globalisation and the interdependency of the Dutch economy with the rest of the world. Aspects of economic globalisation, such as increasing international trade, foreign investment, transport and traffic flows are presented in a range of connected and consistent articles and tables. More and more of these analyses are anchored in the standard statistical programme of Statistics Netherlands (CBS) and published on an annual or monthly basis.

In each Internationalisation Monitor a specific characteristic or consequence of internationalisation is analysed more in-depth. The central theme of this fifth edition is enterprise dynamics and the role of (increasing) internationalisation in this respect. Entry and exit of internationally active firms, the effect of such dynamics on the Dutch economy, and the role of the financial crisis of 2008 on these dynamics form the core of the four in-depth analyses in this publication.

For example, we found that almost 60 percent of all newly established enterprises in the Netherlands survive at least five years. The average new foreign controlled enterprise was considerably larger than the average new Dutch controlled enterprise. However, comparable new Dutch controlled firms grew faster on average. The results on firm survival show that international orientation and especially international trade activity had a positive impact on survival. Of all trading enterprises, the highest survival rate after five years was found for two-way traders. The partner country with which an enterprise trades also seems to play a role in survival. We found that the enterprises that mainly import from the EU-15 and North-America have a higher survival rate than firms that mainly import from Brazil, Russia, India and China (BRIC) and Asian countries. Compared to non-traders and Dutch controlled enterprises, internationally active enterprises were especially hit hard by the financial crisis of 2008, with substantial declines in turnover and trade. However, these enterprises were also among the fastest to recover.

A major aim of the Internationalisation Monitor is to answer questions of policymakers and the public about the determinants and economic consequences of globalisation. This year, our cooperation with policymakers has further deepened, which has materialised in the form of a chapter on foreign trade with BRIC countries, written by a guest author of the Ministry of Economic Affairs, Agriculture and Innovation. BRIC countries are gaining economic power, and since Dutch exports to BRIC are still modest, less than 4 percent, there is great growth potential for Dutch enterprises to further explore these markets.

These are just a few findings in this edition of the Internationalisation Monitor. More information can be found in the 'Globalisation' dossier on our website (www.cbs.nl).

Director General of Statistics

G. van der Veen

Heerlen/The Hague, November 2012

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Introduction: the Internationalisation Monitor 2012

Introduction

Globalisation is a topic that continues to dominate the economic and political debate in the Netherlands. The Netherlands is a small and open economy and to a great extent interwoven with the world economy. Almost a third of Dutch GDP is generated through international trade in goods and services, and around 15 percent of GDP is created by foreign controlled enterprises in the Netherlands. As the fifth largest exporter in the world, the seventh largest investor and seventeenth largest economy in the world, international developments can have important consequences for the Netherlands (Ministry of Economic Affairs, Agriculture and Innovation, 2012).

The financial crisis of 2009 and the following European Debt crisis continue to have a significant impact on the economy. GDP fell by almost 4 percent in 2009, recovered with slightly positive growth rates in 2010 and 2011, only to decrease with 1 percent again in the first quarter of 2012 (CBS, 2012). The main driver behind the recovery of the Dutch economy was the export (CBS, 2011a). After the crisis year, Dutch imports and exports grew strong in 2010, with 21 and 20 percent respectively. However, trade growth slowed down in 2011 and again the first quarter of 2012. Comparatively, trade of the EU-27 decreased in the first quarter of 2012.

Since international trade, international investment and other dimensions of globalisation influence the Dutch economy to a large degree, it is not surprising that policy makers, researchers and the public at large ask questions with respect to these phenomena. With our series of Internationalisation Monitors, CBS tries to answer such questions by looking at the determinants of globalisation and its consequences for employment, economic growth, enterprise performance and dynamics over time.

This publication is the fifth in a range of Internationalisation Monitors (2008, 2009, 2010 and 2011), which were preceded by an initial publication named *Key Figures Internationalisation* (2007). These publications – as well as this 2012 edition of the *Internationalisation Monitor* – serve a threefold goal:

- first, they allow for a monitoring of trends in international trade in goods and services, international investment, traffic and transport flows, the activities of Dutch enterprises abroad and the role of foreign controlled enterprises in the Netherlands (i.e. on turnover, employment, trade), keeping in mind the relationships between these determinants;

- secondly, they illustrate the consequences of these trends and developments for employment, economic growth and enterprise performance based on combining micro-data on enterprises;
- and finally they facilitate a well-balanced and factual debate on globalisation and its socio-economic consequences for the Netherlands.

Section 1.2 illustrates the statistical challenges and innovations that were necessary to describe a complex and vast phenomenon as globalisation. The main findings and conclusions of this publication are illustrated in section 1.3. Section 1.4 describes the structure of this Internationalisation Monitor. This introduction is concluded with a paragraph on further developments and plans with respect to studies on internationalisation at CBS.

Measuring internationalisation: statistical innovation

To be able to say something about globalisation and its consequences for the Dutch economy, enterprises and employees is a relatively new and great challenge for statistical authorities. Due to the interdependency of many economic dimensions, traditional statistical concepts and frameworks – for instance systems of national accounts or balance of payments principles – are increasingly difficult to construct. In addition, the complexity of the activities of (multi)national enterprises in and outside the Netherlands makes integrating statistics of such developments a vital function of statistical agencies. While restricted to a national mandate, it also is a great challenge to confront and integrate the many dimensions and effects of globalisation in such a way that justifies the intrinsic and methodological nuances of the individual indicators as well as the interconnectedness of the dimensions.

Statistical agencies have an obligation and a responsibility to prevent that, based on their data and analyses, partial or incorrect conclusions are drawn. In order to ensure a correct interpretation of the trends and analyses, each chapter provides a clear overview of which data is used, which limitations we encountered and which methods and empirical tools were implemented. As such, each table, statistic and analysis is presented within a context, in order to provide our findings in a well-balanced and exhaustive manner.

A key way to develop new indicators and analyses on globalisation is by integrating micro-data from various sources (surveys and registers) available at CBS. Data on international trade in goods, combined with information from the general business register (enterprise population) and supplemented with data on employment allowed us to explore some of the *social consequences* of globalisation in the monitor of last year. This year, we integrated information from the General Business Register with International Trade in goods, Foreign Affiliate statistics (FATS) in order to investigate the demography of the Dutch enterprise population, the dynamics in this population and the determinants and consequences of such dynamics for the economy.

In each edition of the Internationalisation Monitor, a comprehensive range of key figures and new statistics is presented. Many of the innovations made in previous editions can now be found as 'regular' output on StatLine and, in this publication, in the chapters with annotated key figures.

Results

This Internationalisation Monitor follows the same suit as in previous years. The first five chapters describe trends in internationalisation for the Netherlands, focusing on developments in trade in goods, services and foreign direct investment. New in the trend section, is a chapter written by a guest author from the Ministry of Economic Affairs, Agriculture and Innovation, on the characteristics of enterprises that trade with BRIC-countries. Another innovation is a chapter on the geographical location of internationally oriented enterprises in the Netherlands. New developments in our enterprise register make it possible to regionalise many economic statistics, of which international trade and foreign ownership are two examples (chapter 5).

The following four chapters (6–9) are focused papers, which dig deeper into the main theme of this edition, namely the relationship between internationalisation of enterprises (in terms of trade and foreign control) and enterprise dynamics. Enterprise demography and the determinants and consequences of enterprise dynamics, particularly entry and exit, are analysed in chapters 6 and 7. Chapter 8 zooms in on the dynamics of international traders and their survival, while chapter 9 illustrates how different types of enterprises fared during the past five turbulent years, with a strong focus on 2009, the year the financial crisis hit the Dutch economy.

The Internationalisation Monitor concludes with a set of chapters (10–14) containing key figures and annotated tables on the various international activities: trade in goods, trade in services, FDI, transport and the role of international enterprises on employment.

The main findings of these articles and annotated tables are laid down in this paragraph.

Trends

Even though Dutch international trade in goods recovered strongly from the financial crisis, growth rates diminished again in 2011. In 2010, imports and exports grew by a staggering 21 and 20 percent respectively, but in 2011 these growth rates slowed down to approximately 10 percent. (chapter 1 and 9). The first quarter of 2012 imports and exports grew by 7 and 5 percent respectively. Trade of the EU-27 as a whole even shows negative trade growth in this quarter.

Re-exporting is an important activity for the Netherlands. Around 43 percent of Dutch exports consists of re-exports. The exports to four of our five main trading partners, namely Germany, France, UK and Italy contain an above average level of re-exports. Looking

at the technology level of re-exported products, it turns out that Dutch re-exports mainly consist of high-tech products. This is the case for re-exports going to European countries, as well as re-exported products going to the US or BRIC (except China). Alternatively, the technology level of Dutch manufactured products is somewhat lower. The importance of agricultural products in Dutch exports plays an important role in this respect.

Although the majority of Dutch trade is with other European countries, imports coming from BRIC-countries continue to grow. Since 1996, imports from BRIC-countries quadrupled in size. In 2011, China was the third most important source of Dutch imports. BRIC countries are rapidly growing, also in terms of economic power, providing growth potential for Dutch exporters, which are somewhat lagging behind in entering these markets (compared to other EU-countries). By looking at the characteristics of enterprises that do trade with BRIC countries, chapter 2 makes apparent which enterprises fill such potential. It turns out that BRIC traders are often medium to large sized firms, active in two-way-trade, foreign owned and engaged in R&D. Also, BRIC-trade is associated with higher productivity, indicating that only the more productive firms are able to overcome trade barriers, costs and uncertainty.

Besides international trade in goods, trade in services are also an important part of international trade (see chapters 3 and 11). Services exports account for approximately 20 percent of total exports, which is a percentage that has remained stable since the mid-90s. Trade in services was less affected by the economic crisis than trade in goods, but still services exports declined significantly. Imports of services continued to grow during the crisis, although relatively modest.

In the 2004–2011 period, the category other business services was by far the largest in Dutch services imports and exports. Although this category is extremely diverse, approximately 50 percent could be ascribed to services trade between affiliated enterprises. For imports as well as exports of services, the second and third most important services traded were transportation, and royalties and license fees in 2011.

In 2011, the United States is the largest provider of services to the Netherlands, while Ireland was the most important destination for Dutch services exports. In terms of Dutch imports of services, Ireland was also an important partner country. Singapore is the largest upcoming trade partner in terms of imports and Poland in terms of services exports.

The share of foreign controlled enterprises in the private sector has continued to grow over the years. In 2010, foreign controlled enterprises generated 15 percent of Dutch GDP, employed 804 thousand people and accounted for almost a quarter of private sector investments (see chapter 4 and 12). But Dutch firms abroad were severely affected by the economic crisis and saw their turnover decrease by 25 percent in 2009. However, in 2010 this turnover returned to the level before the crisis. Despite the crisis, the number of employees at Dutch firms abroad did not decrease much. In spite of the economic downturn, the number of Dutch controlled enterprises increased substantially, which may

indicate that Dutch enterprises still see opportunities abroad. The highest turnover was realised by Dutch controlled firms in the US.

While the inflow of FDI was strongly affected by the economic crisis, around the second half of 2011 there were signs of recovery. Similar trends are observed in other EU countries. Dutch outward FDI, however, is still trailing behind.

New in this issue of the Internationalisation Monitor is a chapter on the spatial distribution of internationally oriented enterprises, such as international (goods) traders and foreign controlled enterprises (chapter 5). Obviously both types of internationally active enterprises are found throughout the Netherlands, although in certain areas the concentration of such firms is higher than in others. International traders are quite often located in the border regions of the Netherlands, as well as in the southern provinces. The same applies to foreign controlled enterprises, but they are especially prevalent in the largest cities and Randstad. German, American and British controlled firms are the most widespread type of foreign firm in the Netherlands, but there are differences between provinces and regions.

Limburg is the most international province, with the most international traders and foreign controlled enterprises relative to the enterprise population. The province of Friesland is the least internationalised in the Netherlands.

In terms of trade value, the bulk of trade enters and leaves the Netherlands via Rotterdam (with its port), Haarlemmermeer (located near Schiphol) and Amsterdam. Almost 30 percent of Dutch imports and a quarter of exports passed through these municipalities in 2009.

In 2011, international traffic and transport flows rose to a new high with a record number of travellers and air freight transport (see chapter 13). Schiphol airport ranks third on the world list of airports with most air travellers. It also handles the bulk of freight transport. Remarkable is the growing importance of freight to and from Asia.

Over three quarters of international transport flows to the Netherlands is carried out by foreign transporters. For transport flows leaving the Netherlands, this share is almost half. Transport through the Netherlands by road is still mostly carried out by Dutch firms. However, the share of Polish, Belgian and German transporters has increased to 43 percent in 2010.

Foreign controlled enterprises generate a significant amount of employment in the Netherlands. In 2009, roughly 12 percent of all Dutch jobs was at a foreign controlled enterprises (see chapter 14). Foreign controlled firms are, with on average 115 jobs per enterprise, larger than Dutch controlled enterprises. They also employed more high-paid workers (33 percent versus 17 percent) and more men (66 percent versus 52 percent) than Dutch controlled firms.

Internationalisation and enterprise dynamics— an in-depth analysis

An interesting issue, but thus far not yet explored is the relationship between internationalisation and enterprise dynamics. Foreign controlled enterprises and enterprises that engage in international trade play an integral part in the Dutch economy, generating growth and employment. But at this point we know little of the dynamics behind these enterprises, the determinants of these dynamics and their effects on the economy.

In chapter 6 we will explore the demography of enterprises in the Netherlands and the differences in enterprise dynamics of internationally active enterprises versus domestically oriented firms. Birth and death rates of various types of enterprises are distinguished by size class and sector. Survival analysis is carried out for a panel of enterprises to determine whether international orientation increases the life expectancy of an enterprise.

We found that, even though there are far more start-ups occur under Dutch control, they often start out very small, while the relatively few foreign start-ups are on average larger in size. Both Dutch controlled firms and foreign controlled firms increased in number between 2007 and 2010; foreign controlled firms mainly due to mergers and acquisitions. We also looked at survival rates among different types of enterprises. In general, almost three out of five new firms survive at least five years. Survival rates vary by industry with construction having the greatest and retail trade the smallest survival rates. Engaging in international trade has a positive impact on firm survival, especially when an enterprise is a two-way trader. Also, enterprises that start trading right after their birth, so-called born globals, are less likely to exit than non-traders.

Whether the start-up or exit of a foreign controlled firm has different implications for the Dutch economy, e.g. in terms of employment or turnover, compared to such an event for a Dutch controlled enterprises is the topic of chapter 7. When we compare a foreign controlled start-up to a similar Dutch start-up (in terms of size, economic activity, trade status and turnover) it turns out that they have on average similar growth paths. As far as exits are concerned, more employment was destroyed at foreign controlled enterprises than at similar domestic controlled enterprises four years before exit. Whereas average employment was comparable in the year before exit, four years before exit the average foreign controlled exiter employed 28 persons and its Dutch controlled counterpart 13.

Chapter 8 extends the analysis of chapter 6 on international traders by digging deeper into this specific population of enterprises, illustrating their economic development over time, the manner in which they grow (extensive versus intensive margin), and when they do not grow, factors that might have played a role in their survival.

Most traders start and stay small. Around two thirds of new traders start with one product from/to one country. After five years, still around 70 percent of importers and exporters (conditional on survival) trade with at most 5 countries and at most 5 products. Expanding to new countries or new products is costly and brings along risk, which only the most productive and profitable firms are able to do. As a result, most growth is achieved by

deepening already existing relationships (intensive margin), as is also the case for more experienced firms.

In terms of survival, two-way traders had the best papers. More than half of all new two-way traders in 2007 were still active traders after five years and only 10 percent had exited as an enterprise altogether. Of newly established importers and exporters respectively 25 and 20 percent still had trade after five years, and around 18 percent of both groups ceased to exist as an enterprise. Due to the costs involved with trade and the risks taken by an entrepreneur, we expect that survival of a trader might also depend on type of partner country. For two-way traders it is not that relevant where they import from. For other traders, trading with the EU-15 seems to have a beneficial impact on survival, compared to e.g. trading with BRIC/Asian countries.

Internationally oriented enterprises such as two-way traders and foreign controlled enterprises were among the enterprises that were hit hardest by the financial crisis in 2009 (see chapter 9). In this year, their turnover decreased at an unprecedented rate. However, recovery from the crisis was also strongest for enterprises with international ties. Turnover, trade and employment at these firms started growing again as of 2010.

This chapter also provides insight into which groups of enterprises were most affected by the crisis in 2009 and which enterprises fared best during the overall period between 2007 and 2011. Interestingly, being least influenced by the crisis did not prove to be predictive for the best overall 2007–2011 outcome. On the whole, internationally oriented enterprises were influenced greater by the financial crisis than Dutch oriented enterprises, but managed to come back stronger in 2010 and 2011. In sum, international orientated enterprises are the ones who most successfully came out of the crisis.

Structure of the publication

The Internationalisation Monitor 2012 follows the same setup that we have developed in previous years. It comprises 14 chapters, starting with five chapters on trends in internationalisation (Chapter 1 to 5), focused analytical papers on enterprise dynamics (chapter 6 to 9) and five chapters with key figures and annotated tables (chapters 10 to 14). The publication is a result of close cooperation with different researchers within CBS, and as such reflects the variety of available statistics present within the portfolio of our organisation.

The first five chapters aim to illustrate and monitor trends in several key areas of internationalisation. Chapter 1 focuses on international trade on goods, chapter 2 on trade with BRIC countries and the enterprises that engage in such trade, chapter 3 on international trade in services, chapter 4 on foreign direct investment and chapter 5 on internationally active enterprises in a regional perspective. Not all chapters describe a longitudinal trend, e.g. chapter 5 compares regions in the Netherlands.

The following four chapters are the papers that all focus on a common topic. In this edition we investigate enterprise dynamics, while distinguishing between internationally active firms and Dutch oriented firms. Chapter 6 shows birth and death rates for Dutch firms, by sector, size and international orientation. In addition, it provides a first insight into factors that influence firm survival, with a key focus on internationalisation. Chapter 7 deals with the consequences of enterprise dynamics. The start-up or exit of a Dutch controlled firm might have different implications for the Dutch economy than a similar start-up or exit of a foreign controlled firm. The dynamics and survival of international traders in goods is closely examined in chapter 8. Chapter 9 illustrates how the financial crisis impacted on the development of turnover, employment and trade for various types of firms, and illustrates which firms came out on top. Each chapter reports breakdowns by sectors (manufacturing, wholesale trade, services), size class and by locus of control (foreign versus domestic).

Finally, the last five chapters comprise key figures and annotated tables that will be regularly updated. Many of these statistics can already be found on StatLine, others are in the process of being made available through that channel. The tables are intended to give more detailed background information with respect to trends and involve trade in goods, trade in services, foreign direct investment, transport and employment.

Further developments

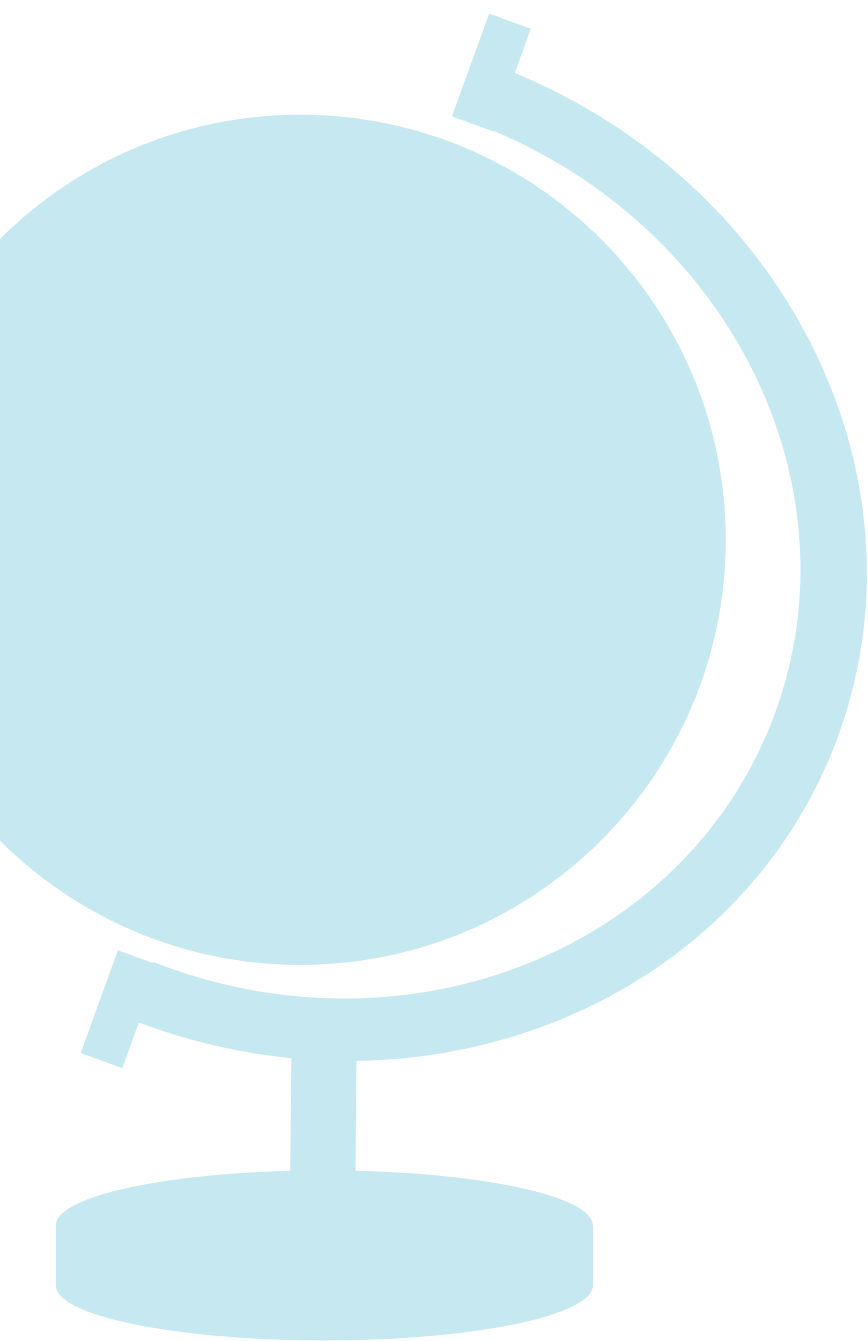
Although this fifth edition of the Internationalisation Monitor is yet another step in our aim to publish more detailed and more coherent data on globalisation and its consequences for the Netherlands, additional research remains necessary. While many determinants and consequences of globalisation are being addressed, other and more complex questions arise. The impact of globalisation on the regional distribution of employment, wellbeing and entrepreneurship, particularly in the context of international value chains and local clusters is one such topic. In this publication we will make a start with adding a regional dimension to our globalisation studies, by illustrating where internationally oriented enterprises are located in the Netherlands and what their relative importance is. In the near future, CBS will describe and analyse in more detail the regional impact of enterprise dynamics, international activity and value chains. This research will be carried out in close cooperation with strategic partners such as the Netherlands Environmental Assessment Agency (PBL) and the Vrije Universiteit (VU).

Within the framework of international co-operation, CBS is participating in a project on defining of economic globalisation indicators, and in a project on enhanced measurement of global value chain activities. These projects, defined and granted by Eurostat, aims to strengthen the European Statistical System capacity (conceptually and methodologically) to measure economic globalisation and the globalisation of business *and* to concretely establish statistical evidence on the increasingly globalised ways of doing business and organisation of the enterprises and the impacts on the possibilities for Europe to create

new jobs and sustainable growth. Results of these projects will feed in the forthcoming publications of the Internationalisation Monitor.

CBS has already started several new projects on the above-mentioned topics (or will start to do so in the near future). Many of these involve matching existing micro-level datasets and involve collaboration with strategic partners including e.g. the Ministry of Economic Affairs, the Dutch Central Bank (DNB), the Dutch Bureau for Economic Policy Analysis (CPB), EIM Business and Policy Research (on SMEs and Entrepreneurship), universities, and Eurostat. This allows for the pooling of expertise and knowledge, and ensures a broad dissemination of the research findings.

1



Trends in international trade in goods

- 1.1** Introduction
- 1.2** Trends in trade and the economic crisis
- 1.3** Geographical composition of Dutch international trade in commodities
- 1.4** Products traded
- 1.5** A closer look at re-exports
- 1.6** Conclusion
 - Annex

After the economic and financial crisis, in which the Dutch GDP volume contracted by 3.7 percent in 2009, the international trade flows started to pick up again in 2010. This recovery came faster for the Netherlands than for other EU countries. However, growth also stagnated faster. The bulk of Dutch trade still takes place with other EU countries. Through time, high-tech products have become more important in Dutch exports. In conjunction with this, re-exports have become more important, although this activity adds less to the Dutch GDP.

1.1 Introduction

The Netherlands has been renowned as a trading country for centuries. It was the fifth largest exporter in the world in 2011 (WTO), and is home to the largest seaport in Europe. The economic crisis, which started in 2008, had a major impact on Dutch economic growth and on its international trade in 2009. Still the Netherlands was able to recover quickly, and realise positive economic growth in 2010 mainly because of the upswing in its international trade. However, in 2011 the growth in international trade slowed down again in 2011.

Statistics on international trade in commodities describe the value and volume of goods crossing the Dutch border. In 2010, 9,452 commodities and 245 trading partners were distinguished. Figures are published on a regular and timely basis on the website of Statistics Netherlands. This chapter looks at the main developments in international trade in goods and places them into context by taking into account other statistics, data from partner countries, or by applying new ways of presenting the data. This chapter builds on trends and tables presented in the Internationalisation Monitor 2011 (CBS, 2011). In 2011, there was fear of a double dip, as there were signals for a slowdown of the economic growth. In 2012 there are still some worrisome developments, like the debt crises in southern Europe countries that result in major uncertainties for the financial and economical world.

Section 1.2 starts by providing a broad overview of the trends in international trade in goods. The focus is on the long-term consequences of the economic crisis for the Netherlands, in terms of trade and economic growth and also in comparison with other countries. Section 1.3 continues with a synopsis of the geographical composition of Dutch trade in goods over time. Section 1.4 analyses the most important products traded. The focus is on the degree of technology in the products and on the countries involved, and how this pattern evolved over time. In section 1.5 the focus will be on re-exports, which comprises a significant part of Dutch trade. The main conclusions and findings are summarized in section 1.6.

1.2 Trends in trade and the economic crisis

The economic and financial crisis of 2009 resulted in the largest decline in world trade in over 70 years (WTO, 2010). After growth in the value of world imports and exports in 2008, it contracted rapidly in 2009, as is shown in table 1.2.1. In 2010, world trade recovered quickly with strong growth rates, which became even stronger in 2011. In terms of value, world exports and imports surpassed the level of 2008 in 2011, but for the important trading partners, the growth seems to have stagnated in the first quarter of 2012.

1.2.1 Trade growth in percentages

	The Netherlands	US	EU-27	Germany	China	World
	%					
Imports						
2008	9.3	7.4	12.4	12.3	18.5	15.5
2009	-18.4	-26.0	-24.8	-21.9	-11.2	-23.0
2010	21.1	22.7	13.6	13.9	38.8	17.6
2011*	9.9	15.1	16.5	19.0	24.9	18.9
2012Q1*	6.6	8.3	-0.8	0.5	6.8	n.a.
Exports						
2008	6.6	12.1	10.9	9.6	17.4	15.1
2009	-16.5	-18.0	-22.6	-22.7	-16.0	-22.3
2010	20.1	21.0	12.3	12.3	31.3	17.9
2011*	10.2	15.8	17.4	17.0	20.3	19.4
2012Q1*	5.1	8.5	-0.1	1.3	7.6	n.a.

Source: Data on the Netherlands: CBS, Statline, International trade statistics, core figures (extracted: 2-9-2012), Data on other countries: WTO, http://www.wto.org/english/res_e/statis_e/daily_update_e/monthly_trade_e.xls.

Between the end of 2009 and 2012 the Netherlands has seen a period of growth in the international trade in goods. Both imports and exports fell sharply earlier on in 2009, imports by 18.4 and exports by 16.5 percent. Yet, Dutch trade already reached its pre-crisis level in 2010, showing a faster recovery than other European countries. But while the international trade in goods of other countries continued to grow, the growth rate did not increase for the Netherlands.

The development of the international trade in services shows a somewhat different pattern. Dutch *imports* of services did not decline at all in 2009, although the annual growth rates of 2009 and 2010 were more modest than in previous years, with 2.0 and 2.9 percent respectively. In 2011, the growth rate rose again to 6.2 percent for imports.

In contrast, Dutch *exports* of services fell by 4.7 percent in 2009. However, services exports bounced back strongly, with an 8.8 percent growth rate in 2010 and a 9.8 percent growth rate in 2011. As such, the economic crisis had a far more negative impact on the trade in commodities than on the trade in services (see Chapter 3 for trends in international trade in services).

The geographic location of the Netherlands makes it a logical gateway to the rest of Europe for goods arriving from all over the world. As such, re-exporting is an important activity for the Netherlands, amounting to over 44 percent of total Dutch exports in 2011.

The Netherlands still was the fifth largest exporter in the world in 2011

Table 1.2.2 shows that the developments for re-exports are very different than for domestically produced exports. Re-exports already almost stopped growing in 2008. This indicates that the European economy, receiving the bulk of these re-exports, was already slowing down either in terms of import demand, or because customers were supplied from stock. While the decline in re-exports in 2009 was less severe than that of domestically produced exports, and the increase in 2010 was higher. In 2011, the growth of re-exports slowed down, while the export value of domestic products kept growing.

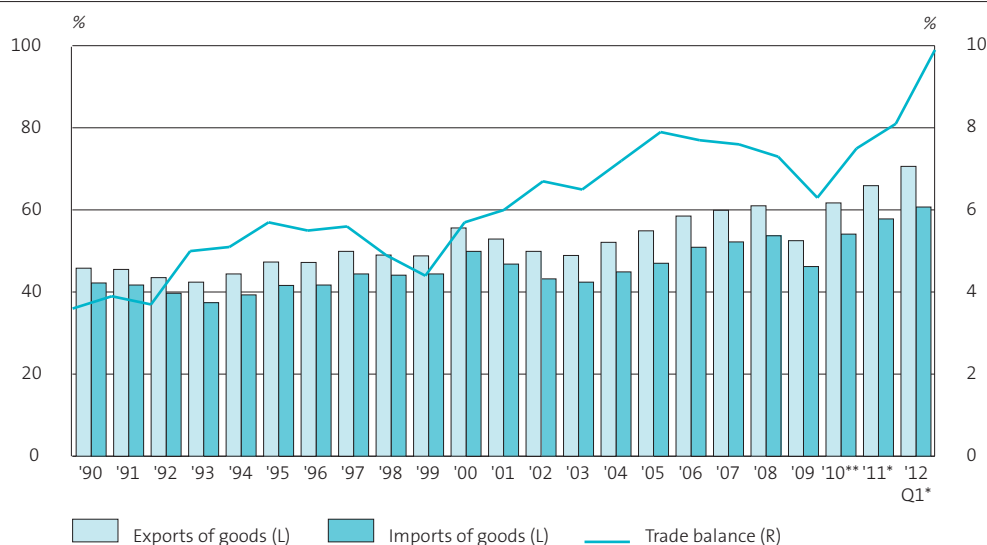
1.2.2 Dutch International trade in goods

	Imports		Exports		Of which			
					domestic exports		re-exports	
	<i>billion euro</i>	%	<i>billion euro</i>	%	<i>billion euro</i>	%	<i>billion euro</i>	%
2004	228.2	10	255.7	9	145.3	6	110.4	13
2005	249.8	9	281.3	10	159.4	10	121.9	10
2006	285.4	14	319.0	13	179.0	12	139.9	15
2007	307.3	8	347.5	9	192.3	7	155.2	11
2008	335.9	9	370.5	7	212.5	11	157.9	2
2009	274.0	-18	309.4	-16	169.4	-20	139.9	-11
2010	331.9	21	371.5	20	199.9	18	171.6	23
2011	364.9	10	409.4	9	231.1	16	178.3	4
2012Q1*	96.8	7	107.6	5	60.3	5	47.3	5

Source: CBS, Statline, International trade in goods statistics (extracted: 2-9-2012).

The international trade in goods is an important source of economic growth for the Netherlands. In graph 1.2.3 the importance of trade is illustrated by depicting trade flows against GDP over the past two decades. Between 2001 and the first quarter of 2012, the share of GDP for the exports of goods was on average 57 percent compared to 46 percent in the nineties. In fact, in the first quarter of 2012, this share had even increased to 70.6 percent. This is far more than for most other countries (Ramaekers and Daems, 2009). The net contribution of trade in goods to GDP, the trade in goods balance, has also risen from almost 3.6 percent of GDP during in 1990 to 9.9 percent in the first quarter of 2012.

1.2.3 Trade in goods as a share of Dutch GDP



Source: CBS, Statline, National Accounts (extracted: 16-7-2012).

The decline in trade also had a significant impact on Dutch economic growth. During the crisis the Dutch GDP volume contracted by 3.7 percent in 2009. In the first quarter of 2010, both Dutch GDP and trade started growing again. Growing exports have been the main driving force behind the economic growth of 1.6 percent in 2010 and 1 percent in 2011 (see table 1.2.4). However, in the fourth quarter of 2011 GDP contracted again by 0.8 percent. Household consumption started to show a decline in 2011, which continued in the first quarter of 2012. Government consumption was also slower in 2011, but grew somewhat in the first quarter of 2012. Investments grew in 2011. The strong recovery of China and other developing Asian countries, and their renewed demand for investments, resources and materials was a major cause of this upswing in 2011. However, the first quarter of 2012 shows a decrease in investments again.

1.2.4 Breakdown of Dutch economic growth (year-on-year % changes in volume)

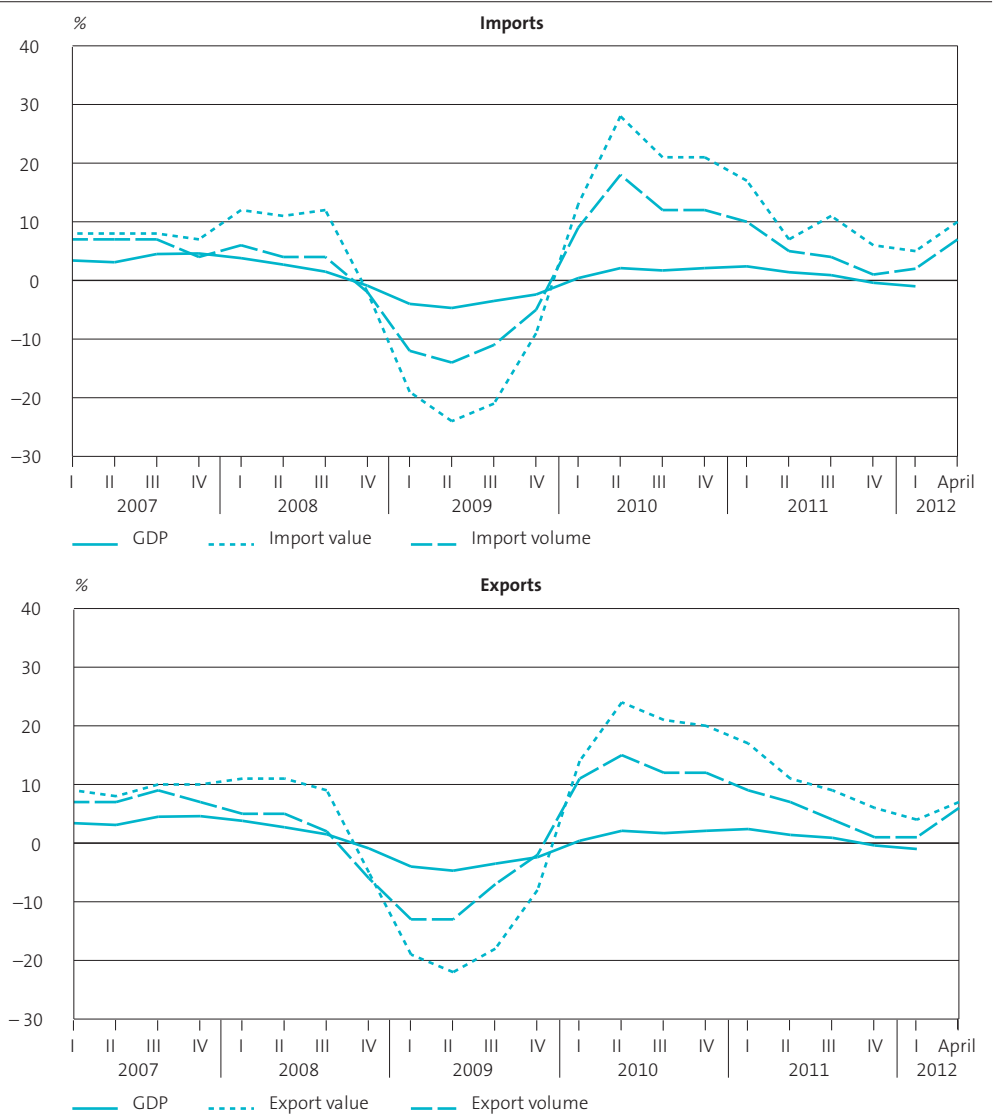
	2009	2010**	2011*	2012Q1*
	%			
Economic growth	-3.7	1.6	1.0	-0.8
Consumption households	-2.1	0.3	-1.0	-0.7
Consumption government	5.0	0.7	0.1	0.9
Investment	-12.0	-7.2	5.7	-5.2
Export	-7.7	11.2	3.9	2.6
Import	-7.1	10.2	3.6	1.6

Source: CBS, Statline, National Accounts (extracted: 16-7-2012).

The rapid growth of imports and exports of 2010, was followed by a slowdown in 2011. Although many economies were growing and international trade has returned to pre-crisis levels, Dutch economic growth seemed to be coming to a halt. Not only has the growth in trade value slowed down, trade volumes showed no further growth either (see graph 1.2.5). Much of the growth in value was due to higher import and export price levels. But in April 2012, the Dutch export volume had increased by 6 percent and imports by 7 percent compared to April 2011. However, the factors that influence Dutch exports were worsening in July 2012.¹⁾ Producer confidence in Germany and the Netherlands has dropped, and European manufacturers were more pessimistic about their foreign order positions. Also, the debt crises in several European countries are still causing uncertainty on the financial markets.

¹⁾ Statistics Netherlands, Exportradar of July 2011, <http://www.cbs.nl/nl-NL/menu/themas/dossiers/conjunctuur/cijfers/kern-cijfers/exportradar.htm>

1.2.5 Development of Dutch GDP; imports and exports (year-on-year % changes, adjusted for calendar effects)



Source: CBS, StatLine, National Accounts (extracted: 21-08-2012).

1.3 Geographical composition of Dutch international trade in commodities

Table 1.3.1 shows the Dutch trade pattern with its main trading partners for 2008–2011. The bulk of Dutch trade takes place with the other countries of the European Union. In 2011, more than half of the Dutch imports originated from EU countries, and almost 75 percent of Dutch exports were destined for an EU country. Germany is still the most important trading partner. Compared with 15 years ago, the role of the EU in Dutch exports has changed relatively little, but in terms of imports the picture has changed somewhat. In 1996, almost 65 percent of Dutch imports came from an EU country (and at that time the EU counted only 14 other Member States, compared with the 26 other member states in 2011). The main reason for the declining importance of the EU is still the rise of China and the other emerging markets such as Brazil and Russia. The share of imports coming from BRIC countries, most importantly China, has quadrupled since 1996, coming from 4 percent to almost 16 percent or 57.0 billion euros in 2011. Dutch exports to BRIC countries also increased, but at a much slower pace.

EU-members are still the most important trading partners for the Netherlands

A study on international trade data for the year 2010 showed that the value of trade between the Netherlands and its different trading partners can be predicted quite well by the GDP of the trading partner and the geographical distance from the trading partner (Ramaekers & De Wit, 2012). That is, a higher GDP correlates with a higher trade value, whereas distance is negatively correlated with trade value. For the Netherlands, these two factors account for 85 percent of the variability of the trade value between trading partners. The study also shows that, taking these factors into account, trade with Germany is not exceptionally high. Trade with the Netherlands is larger than expected for countries like Belgium, China and Taiwan. Factors like openness of an economy, re-exports and specific export products play a key role in this. However, trade value is lower than expected for most large economies, e.g. Canada. Here, the fact that large economies are more self-providing plays an important role. There is also less trade with politically instable countries.

1.3.1 International trade in goods by partner country

	Import value				Export value			
	2008	2009	2010	2011	2008	2009	2010	2011
<i>million euro</i>								
Total	335,927	274,025	331,914	364,922	370,489	309,369	371,549	409,358
EU	185,128	151,826	176,670	193,565	282,735	231,344	275,666	302,883
Belgium	33,896	27,452	31,864	36,420	42,967	34,620	41,265	48,678
Czech Republic	3,701	3,761	4,544	5,154	4,481	3,818	5,317	5,947
France	16,885	13,591	14,438	16,785	32,376	27,484	32,489	36,245
Germany	64,622	52,538	58,914	60,943	90,618	75,225	90,269	99,189
Italy	7,962	6,322	7,163	7,786	19,609	16,007	18,596	19,528
Poland	3,939	3,595	4,624	5,094	7,261	5,948	7,378	8,411
Spain	5,989	4,799	7,037	6,564	12,731	10,512	12,604	12,234
Sweden	5,737	3,993	5,282	6,238	6,463	5,185	6,650	7,194
United Kingdom	21,224	17,648	22,130	24,505	33,586	25,879	29,651	32,326
Other EU	21,169	18,126	20,675	24,076	32,640	26,659	31,447	33,131
BRIC	45,208	37,877	52,714	57,036	13,208	11,784	14,546	17,247
Brazil	4,854	3,893	4,397	5,612	1,231	1,109	1,797	2,282
China	25,000	21,967	31,001	30,874	3,852	4,589	5,391	6,696
India	2,318	2,390	3,293	3,591	1,565	1,668	1,717	1,864
Russia	13,036	9,628	14,023	16,959	6,559	4,419	5,641	6,405
Non-EU (excl. BRIC)	105,594	84,324	102,529	114,321	74,551	66,249	81,337	89,228
Japan	9,492	7,251	9,275	10,100	2,945	2,381	3,190	3,414
United States	27,043	22,995	25,055	23,541	16,472	13,928	16,875	19,632
Rest of world	69,059	54,078	68,200	80,680	55,134	49,939	61,273	66,182

Source: CBS, Statline, International trade in goods (extracted: 2-9-2012).

1.4 Products traded

Table 1.4.1 specifies which goods were imported, exported and re-exported between 2008 and the first quarter of 2012. With 103.0 billion euro, imports of machinery and transport equipment formed the bulk of Dutch imports in 2011, followed by mineral fuels (80.0 billion) and chemicals (47.0 billion euro). Combined, these three categories accounted for 63 percent of Dutch imports in 2011. Dutch export products quite resemble the imports, with machinery and transport equipment, chemicals and mineral fuels as the largest categories.

1.4.1 Imports and exports of commodities, by SITC classification

	Import value					Export value				
	2008	2009	2010	2011	2012Q1*	2008	2009	2010	2011	2012Q1*
<i>billion euro</i>										
Total	335.9	274.0	331.9	364.9	96.8	370.5	309.4	371.5	409.4	107.6
Food and live animals	27.0	25.7	28.3	32.1	8.5	42.1	40.2	45.2	48.0	12.0
Beverages and tobacco	3.1	3.2	3.3	3.7	1.0	6.1	5.9	6.2	7.0	1.6
Crude materials, inedible ex. fuels	13.9	9.8	13.3	15.9	3.8	18.1	15.4	19.1	20.8	5.9
Mineral fuels, lubricants, related materials	61.1	43.0	60.0	80.0	24.0	56.8	38.3	51.0	67.8	21.0
Animal and vegetable oils, fats and waxes	3.3	2.2	2.7	3.9	1.1	4.0	3.0	3.0	4.0	1.0
Chemicals and related products	48.5	44.0	51.0	47.0	12.4	66.0	59.3	70.6	73.5	19.0
Manufactured goods classified by materials	38.7	28.3	33.6	38.3	9.4	35.3	26.7	33.2	36.7	9.3
Machinery and transport equipment	102.0	83.0	100.1	103.0	26.1	107.4	88.3	106.5	111.8	27.3
Miscellaneous manufactured articles	37.3	33.8	37.8	38.4	10.1	32.7	30.5	34.6	36.9	9.7
Commodities not classified elsewhere	1.0	1.1	1.6	1.7	0.4	1.9	1.8	2.2	2.8	0.8

Source: CBS, Statline, International trade in goods (extracted: 2-9-2012).

1.4.2 Breakdown of Dutch trade in terms of technology

	Import value			Export value		
	1997	2010	2011	1997	2010	2011
<i>billion euro</i>						
Total	157.4	331.9	364.9	171.4	371.5	409.4
%						
High-tech products	27	31	26	25	31	28
Medium to high-tech products	23	18	18	25	19	20
Medium to low-tech products	25	33	36	21	27	30
Low-tech products	24	19	19	29	23	22
Unclassified	0	0	0	0	0	0

Source: CBS.

The Netherlands seeks to expand knowledge and innovation in its export product range (Innovatieplatform, 2004). To see if this shift is present in the trading range of the Netherlands, an insightful way of classifying goods traded is by the level of technology embodied in a product. This classification system was developed by Martins and Opromolla (2009) and is based on Loschky (2008). Table 1.4.2 shows the composition of Dutch trade in terms of technology level, and the developments over time. Table 1.1.1a in the annex shows which types of goods belong to which category.

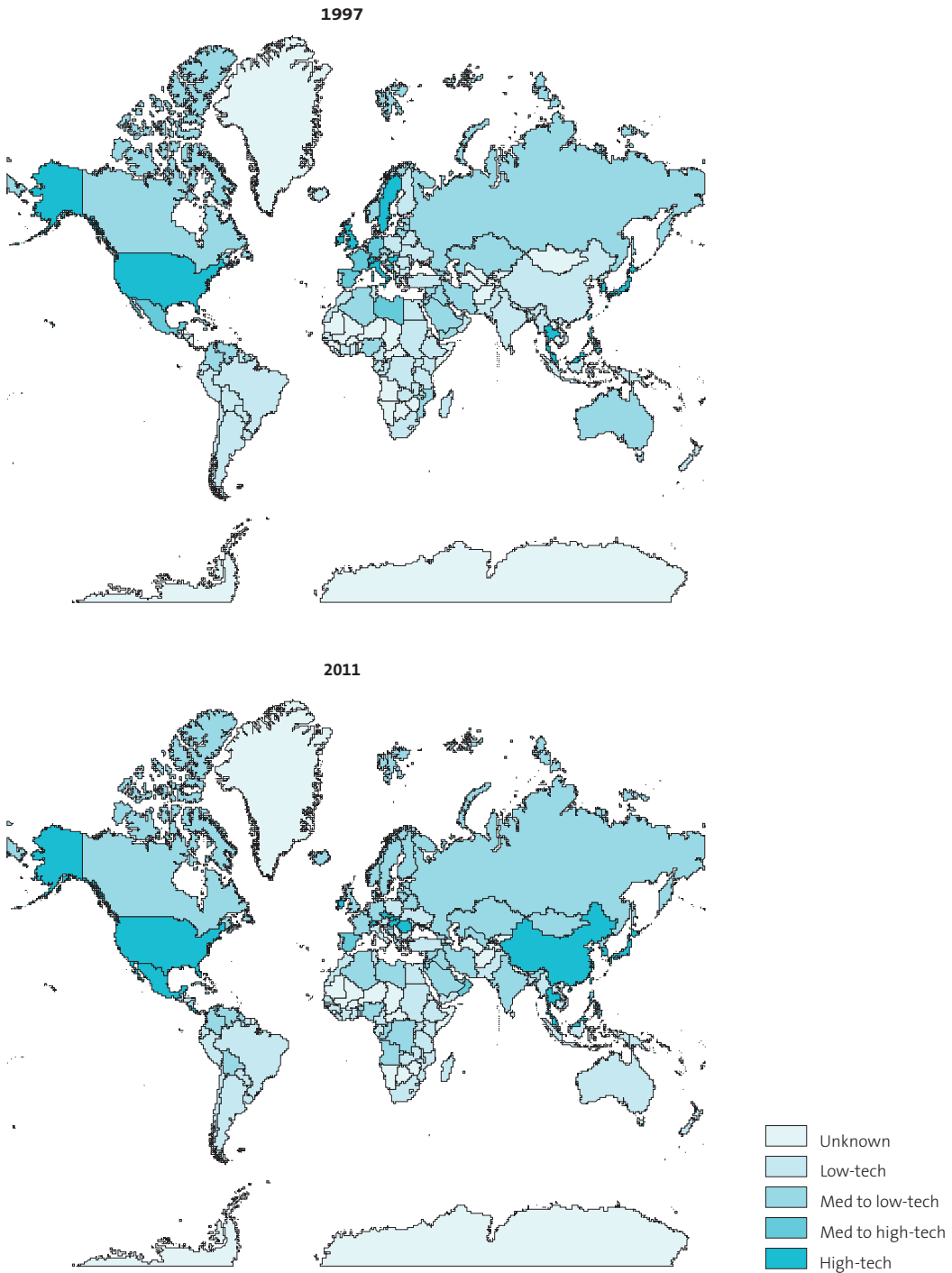
In 1997, the composition of Dutch imports was quite equally divided across the four categories, with high-tech products making up the highest share. By 2011, this balance had shifted mostly in favour of medium to low-tech products. Over a third of Dutch imports consisted of medium to low-tech products in 2011, even more than in 2010. This development can be related to the kinds of products involved. The Netherlands is an active trader in, and re-exporter of fossil fuels such as natural gas, crude oil and derivatives. The Netherlands is also specialised in storing and refining these products. Fossil fuels form a key component of medium to low-tech products. A quarter of the imports were high-tech.

In relative terms, the imports of medium to high-tech products and low-tech products have declined significantly since 1997. The key commodities involved in the decline of the first category are cars, motors and other transportation vehicles as well as electric machinery and (household) appliances. Low-tech imports that decreased in importance since 1997 were clothes and apparel, (recycled) paper, pulp, cardboard and cellulose. Low-tech products tend to be cheap products subject to heavy international competitive pressure. Therefore this decline might seem more dramatic while in terms of import volume, the decline is actually less pronounced.

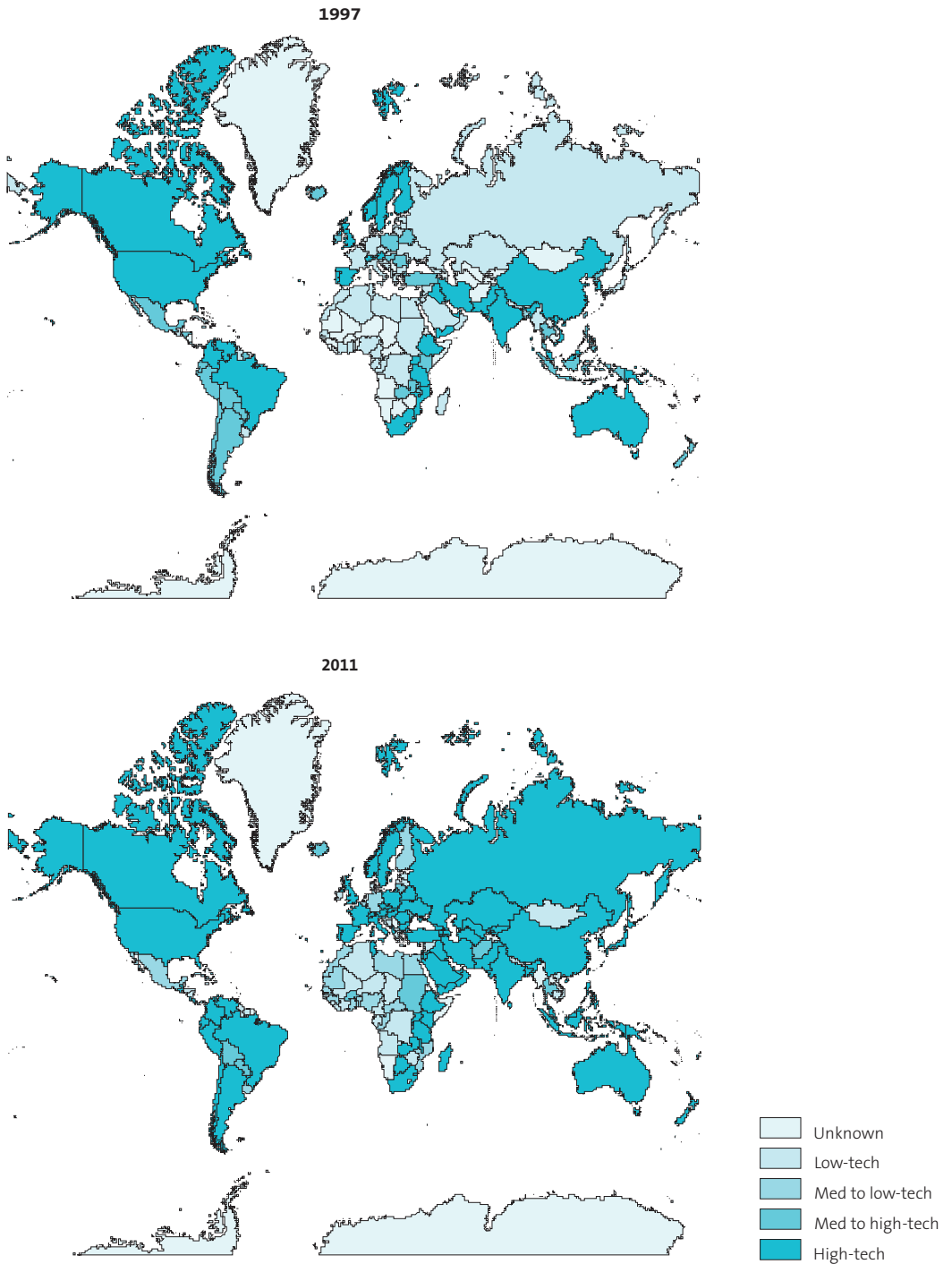
Low-tech products were the largest exports category in 1997. However, by 2011 exports consisted mostly of medium to low-tech products and high-tech products. The shares of medium to high-tech and of low-tech products were decreasing. High-tech exports that have become more important since 1997 are pharmaceuticals and 'new technology' items such as cell phones, video cameras, memory storage devices, (parts of) computers etc.

Visualisation 1.4.3 shows how Dutch imports from different countries has shifted in terms of dominant product technology between 1997 and 2011. Strikingly, most imports from EU countries seem to shift towards a lower degree of technology. Dutch imports from the United Kingdom and Sweden have shifted from a concentration of high-tech to medium to high-tech products. However, imports from non-EU countries show a shift in concentration of low-tech to higher technological products. In 1997, only non-EU imports from the US, Japan, South-Korea, Thailand, Malaysia, and Singapore were dominated by high-tech products. In 2011 more countries shifted towards high-tech products, for example imports from Mexico, Costa Rica and China were now dominated by them. Some non-EU countries, like Australia, show the opposite development.

1.4.3 Geographical composition of imports in terms of dominant technology



1.4.4 Geographical composition of exports in terms of dominant technology



Visualisation 1.4.4 shows how Dutch export products to different countries also shifted in terms of technology level between 1997 and 2011. Although exports to many countries were already dominated by high-tech products in 1997, more countries had shifted towards higher tech products in 2011, including important trading partners like Russia, France, Italy and Southern America. However, only countries like Finland and some African countries show an opposite development, receiving less technologically advanced products.

1.5 A closer look at re-exports

As mentioned earlier, the Netherlands has always been a gateway to the rest of Europe due to its location. Therefore, many goods enter the Netherlands to be distributed to other countries. Re-exporting goods is an important activity for the Netherlands, comprising almost 44 percent of total Dutch exports in 2011. However, it does not add as much to the Dutch economy as products produced in the Netherlands. A study by Kuypers, Lejour, Lemmers and Ramaekers (2012) showed that every euro re-export only adds 7.5 cents to the Dutch economy. This is 59 cents for every euro in the export of Dutch-manufactured products. Table 1.5.1 shows that the share of re-exports was highest for machinery and transport equipment and for miscellaneous manufactured articles. There has been a remarkable increase in the share of re-exports in mineral fuels, lubricants, related materials chemicals and related products, which rose from 19 percent in 2008 to 32 percent in the first quarter of 2012.

1.5.1 Re-exports of commodities, by SITC classification

	Re-export value					Re-exports as a share of exports				
	2008	2009	2010	2011	2012Q1*	2008	2009	2010	2011	2012Q1*
	<i>billion euro</i>					<i>%</i>				
Total	157.9	139.9	171.6	178.3	47.3	43	45	46	44	44
Food and live animals	10.5	10.1	11.5	12.4	3.2	25	25	25	26	26
Beverages and tobacco	0.8	0.7	0.7	1.1	0.3	14	12	11	15	16
Crude materials, inedible ex. fuels	5.7	4.1	6.6	6.7	1.9	32	27	34	32	32
Mineral fuels, lubricants, related materials	10.7	9.2	13.4	20.6	6.8	19	24	26	30	32
Animal and vegetable oils, fats and waxes	1.0	0.6	0.6	0.8	0.3	26	20	20	21	28
Chemicals and related products	26.7	26.3	29.7	26.6	6.9	41	44	42	36	36
Manufactured goods classified by materials	13.4	9.9	13.7	15.3	3.9	38	37	41	42	42
Machinery and transport equipment	66.5	57.4	69.7	67.7	16.9	62	65	66	61	62
Miscellaneous manufactured articles	22.4	21.1	24.5	25.6	6.8	68	69	71	69	70
Commodities not classified elsewhere	0.2	0.4	1.2	1.4	0.4	9	20	55	50	48

Source: CBS, Statline, International trade in goods (extracted: 2-9-2012).

Table 1.5.2 shows the five main trading partners of the Netherlands in terms of exports of Dutch-manufactured products and re-exports for 2011. Germany and Belgium are and have traditionally been our most important trading partners. In 2011, almost half of the products exported to Germany consisted of re-export products. The same was true for France, UK and Italy. For Belgium re-exports made up for almost 40 percent of the export.

1.5.2 Dutch exports and re-exports to top-trading partners for the Netherlands (2011)

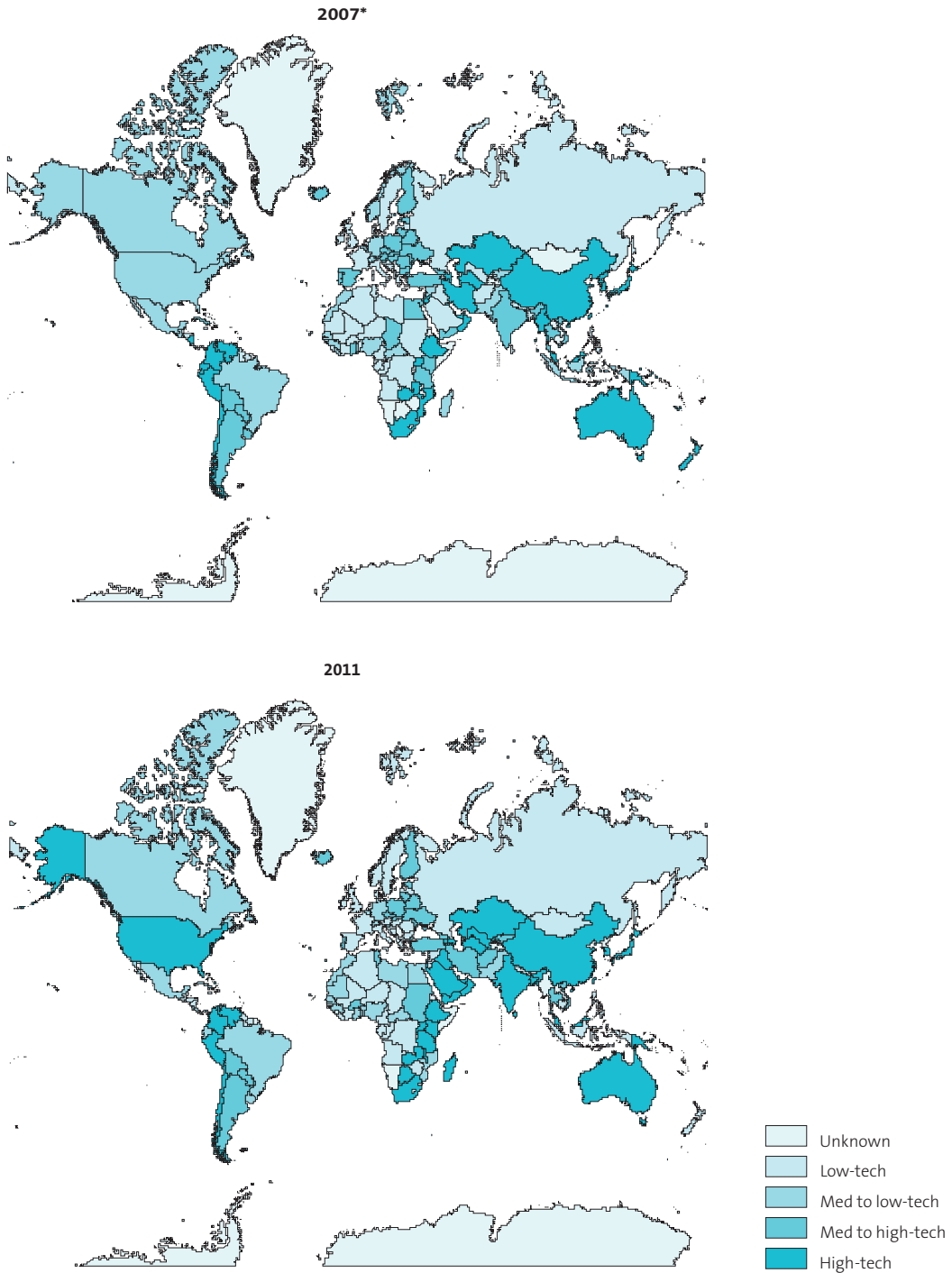
	Total exports	Share in Dutch exports	Export Dutch product	Re-exports	Share Dutch product in total exports	Share re-exports in total exports
	<i>bln euro</i>	%	<i>bln euro</i>		%	
Germany	99.2	24.2	53.2	46.0	53.6	46.4
Belgium	48.7	11.9	29.6	19.1	60.8	39.2
France	36.2	8.8	19.5	16.8	53.8	46.2
UK	32.3	7.9	17.2	15.1	53.3	46.7
Italy	19.5	4.8	9.9	9.7	50.5	49.5
Total EU	302.9	74.0	160.6	142.3	53.0	47.0
Total non-EU	106.5	26.0	70.4	36.0	66.2	33.8

Source: CBS.

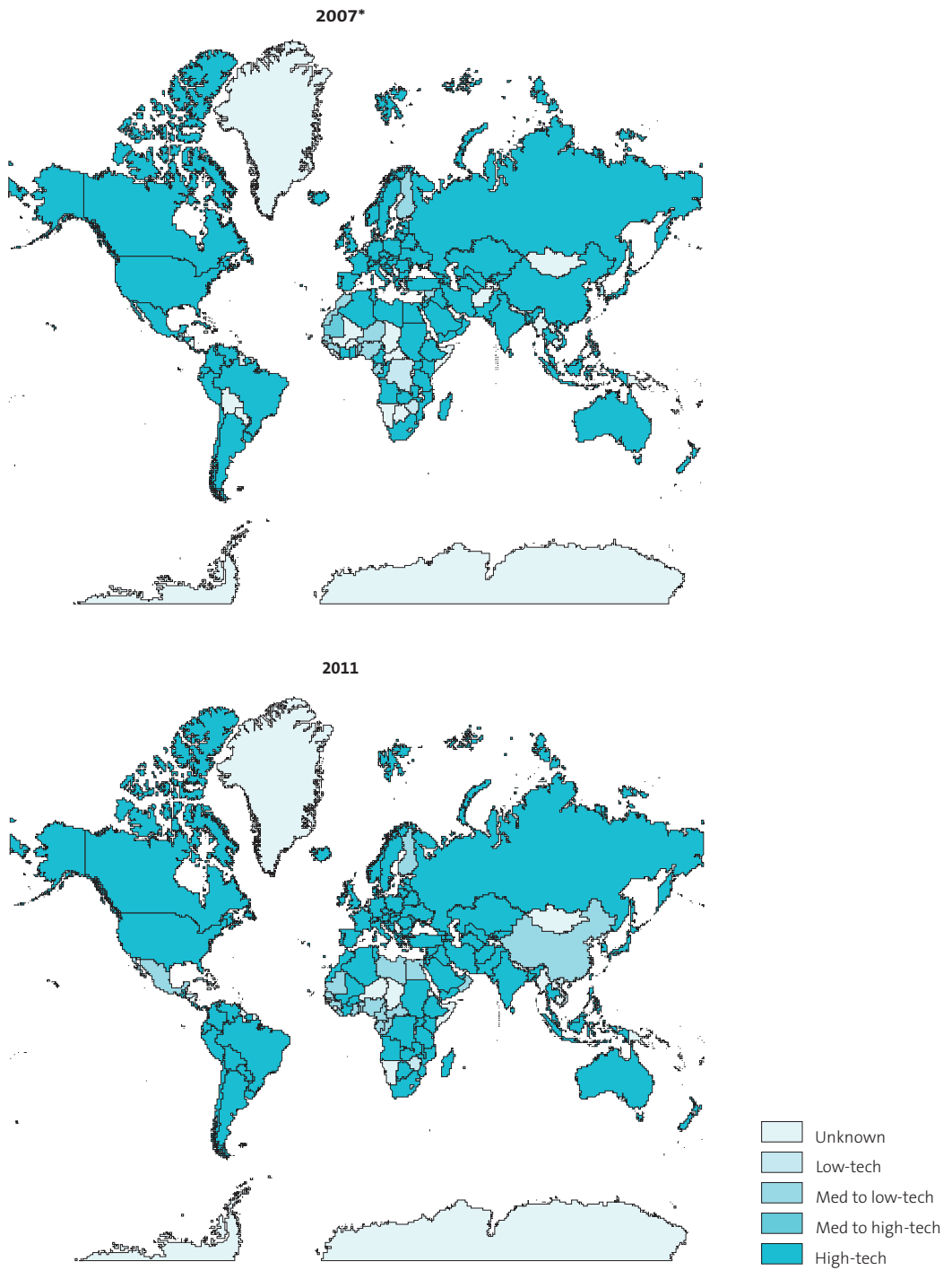
Visualisation 1.5.3 shows how exports of Dutch-manufactured products differ in terms of dominant product technology for 2007 and 2011. In 2011, for a limited number of countries like the United States, China, India, Australia and Japan the exports of Dutch manufactured products were dominated by high-tech products. This was not the case for export to countries within the European Union, for these countries there was no dominance of high-technology products. What is even more, for countries within the European Union there is a tendency towards a decrease in technology. Countries, such as Spain, show a dominance of low-tech products in 2011.

Visualisation 1.5.4 shows how Dutch re-exported products differ in terms of dominant product technology for 2007 and 2011. Strikingly, most re-exports consist of high-tech products. This is the case for countries within the European Union, for BRIC countries (except for China), as well for other countries. This dominance of high-tech products was however somewhat less strong in 2011, compared to 2007. For example, in 2011, re-exports to Mexico and China were dominated by medium to low-tech products. Nevertheless, Dutch re-exports are still much more high-tech intensive than Dutch-manufactured products.

1.5.3 Geographical composition of Dutch-manufactured exports in terms of dominant technology



1.5.4 Geographical composition of re-exports in terms of dominant technology



1.6 Conclusion

The Dutch international trade in goods recovered strongly in 2010 from the economic crisis, but slowed down in 2011. In 2011, both imports and export grew by 10 percent. The first quarter of 2012 shows even lower growth rates. Other European countries were growing faster than the Netherlands in 2011, but they actually showed a negative development in the first quarter of 2012. Additionally, import and export prices have risen significantly, indicating that the trade volume is not expanding as much. There are signs of a double dip, yet there are also signs of improvement.

The bulk of Dutch trade takes place with the other countries of the European Union with re-exports in particular as an important activity. In terms of imports, BRIC countries are making headway at the expense of European partners. China has become very important position in Dutch imports, and ranks third on the Dutch import top 5. Germany and Belgium, however, remain the top-trading partners as does the Netherlands for them.

Machinery and transport equipment, chemical products and mineral fuels form the bulk of Dutch trade. These three commodity categories combined accounted for 63 percent of Dutch imports and 62 percent of the exports in 2011. The share of re-exports is also quite high, especially for machinery and transport equipment, indicating that the majority of this trade is not produced in the Netherlands.

Classifying goods by their level of technology shows that imports and exports used to be quite balanced (i.e. almost as much trade in high-tech as in low-tech goods). In 2011, this balance had shifted in favour of high-tech products for all exports, and for imports from non-European countries. However, imports from the other EU countries seem to be shifting towards a lower degree of technology. Re-exports play a major role in Dutch trading activities, although this adds less to the national economy. Especially re-exports primarily consist of high-tech products.

Annex

1.1.1a Annex

Level	Description	HS 2002 code
High	Medical, precision and optical instruments	37, 90, 91
	Pharmaceuticals	30
	Radio, television and communication equipment	8517–8529
	Office, accounting and computing machinery	84
	Aircraft and spacecraft	88
Medium-high	Railroad equipment and transport equipment	86
	Motor vehicles, trailers and semi-trailers	87
	Electrical machinery and apparatus n.e.c.	8501–8508, 8511–8513, 8530–8548
	Machinery and equipment n.e.c.	8509–8510, 8514–8516
	Chemicals ex. pharmaceuticals	29, 31–36, 38, 3901–3914, 4001–4003, 54–55
Medium-low	Rubber and plastics products	3915–3926, 4004–4017
	Building and repairing of ships and boats	89
	Non-ferrous metals	28, 71, 74–76, 78–81
	Other non-metallic mineral products	25, 26, 68–70
	Manufacturing n.e.c.; recycling	83, 92–95, 97
	Fabricated metal products ex machinery and equipment	73, 82, 96
	Iron and steel	72
	Coke, refined petroleum products and nuclear fuel	27
	Pulp, paper, paper products, printing and publishing	47–49
Low	Textiles, textile products, leather and footwear	41–43, 50–53, 56–67
	Food products, beverages, tobacco	1–24
	Wood and products of wood and cork	44–46

Source: Martins and Opromolla (2009) and Loschky (2008).

A closer look
at BRIC traders

2



A closer look at BRIC traders

2.1 Introduction

2.2 Data and methodology

2.3 Descriptive statistics

- Dutch imports from the BRIC countries
- Dutch exports to the BRIC countries
- Comparing BRIC traders to the average trader

2.4 Regression results

- Firm size
- Wages
- Productivity
- R&D activity
- Likelihood of BRIC trade

2.5 Conclusions

Economic growth is predominantly concentrated in the developing countries. China, India, Brazil and Russia are rapidly gaining economic power. Their current and future growth opens up a huge potential for the trade and investment relations of Dutch firms. This chapter provides an overview of trade relations with the BRIC countries, and illustrates factors that may contribute or hamper trade with these fast-growing economies. It turns out that trade with BRIC is often carried out by large and medium-sized enterprises. BRIC traders are also characterised by higher productivity, foreign ownership and two-way trade.

2.1 Introduction

BRIC countries are increasingly important for the Dutch economy. The term BRIC is an acronym for the economies of Brazil, Russia, India and China, and it is used as a symbol of the shift in global economic power towards developing fast-growing countries.¹⁾ Approximately 16 percent of Dutch imports originate from the BRIC countries. These imports are an important source for re-exports. Although exports to the BRICs are still at a modest level, the fast growth in the BRIC countries and the slow growth in Europe make it likely that the BRIC countries will become a more important market for exporting firms in years to come. This makes it relevant to gain insight in the enterprise characteristic of firms that are actively trading with the BRIC countries and to determine which factors or firm characteristics are crucial for success on the BRIC markets.

Previous editions of the Internationalisation Monitor (CBS 2009, 2010, 2011) have shown that Dutch traders are larger firms than non-traders, that they pay higher wages, are more productive, and spend more on research and development. This is in line with current literature (Bernard and Jensen, 1997; Wagner, 2005). However, there is heterogeneity within trading firms. Two-way traders, who import as well as export, are more productive and pay higher wages than exporters or importers alone. Also, foreign owned enterprises are more productive than Dutch owned firms. The most recent research shows that the choice of destination markets is influenced by firm characteristics. Firms that *mainly* import from China/BRIC countries are on average the smallest, paying the lowest salaries (CBS, 2011).

What are the other enterprise characteristics of BRIC traders? Which firm characteristics determine trade relations with BRIC? This chapter will fill the knowledge gap on

¹⁾ The term BRIC was first used in a Goldman Sachs report from 2003 which speculated that by 2050 these four economies would be wealthier than most of the current major economic powers.

the characteristics of firms active in BRIC markets. In section 2.3 we briefly describe BRIC trade and BRIC traders. In order to see which firm characteristics determine BRIC market presence, we will analyse the success and failure factors of firms that export to or import from the BRIC countries in section 2.4. Section 2.5 concludes with a brief summary.

2.2 Data and methodology

In order to investigate the characteristics of firms trading with the BRIC markets, the employer-employee dataset (LEED) for 2010 was linked to the International Trade in Goods Statistics database at the micro level, using the unique enterprise identifier as key variable. The dataset contains 200,671 firms, of whom 104,070 exporters and 165,337 importers. Of these, 68,736 enterprises could be characterised as two-way traders, who export as well as import. The share of high/low paid employees per enterprise was taken from the employer-employee database. Enterprise characteristics such as size and economic activity were added to the dataset, both of which are standard information from the General Business Register. International trade status per enterprise was obtained from the International Trade Department. Locus of control, i.e. the nationality of the ultimate controlling institutional unit (UCI) was obtained from the FATS statistics, and R&D from the community innovation survey (CIS). Labour productivity was constructed by dividing the value added (SBS data) by the number of employees. Following the methodology used in chapter 7 of the Internationalisation Monitor 2011, the dataset was extended with types of product traded according to their factor intensity (Van Marrewijk, 2002). Five main groups of products are distinguished at the 3-digit SITC level, namely primary products, natural resource intensive products, unskilled labour intensive products, technology intensive products and human-capital intensive products.

The next section presents a number of descriptive tables to provide insight in the size, value, and composition of Dutch trade flows from and to the BRIC countries and show characteristics of firms trading with BRIC. We will run several regression models in order to investigate the success and failure factors of traders with the BRIC countries. Within this analysis, we will cluster several sorts of firm heterogeneity. Aside from BRIC exporters and BRIC importers as a total group we will also analyse firms that are active in the individual BRIC countries. Additionally we will analyse the effect of different levels of BRIC orientation. Some firms export almost exclusively to the BRIC countries while others export only a fraction. We expect to see different effects/characteristics.

2.3 Descriptive statistics

Dutch imports from the BRIC countries

Table 2.3.1 summarises the trade between the Netherlands and the BRIC countries. BRIC products form an important part of Dutch imports. Their value is 42 billion euro³⁾, almost 16 percent of total Dutch imports. Most of these products come from China. Table 2.3.1 shows that more than 25 thousand firms in the Netherlands imported from the BRIC countries in 2010. Almost 90 percent of them imported from China, which represents approximately 60 percent of the total BRIC import value.

2.3.1 Importance of trade with the BRICs for Dutch firms (2010)

	Total		BRIC		Brazil		Russia		India		China	
	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports
Firms												
Total	165,337	104,070	25,405	6,613	2,018	1,543	1,361	3,295	5,400	2,304	22,474	3,558
% Total			15.4	6.6	1.2	1.5	0.8	3.2	3.3	2.2	13.6	3.4
% BRIC					7.9	23.3	5.4	49.8	21.3	34.8	88.5	53.8
Group 1 (>0%–25%)			12,990	5,538	1,482	1,482	1,202	2,915	4,219	2,163	11,935	3,131
Group 2 (>25%–50%)			2,903	469	193	32	49	152	339	68	2,501	176
Group 3 (>50%–<75%)			2,186	178	70	12	18	64	203	28	1,927	62
Group 4 (75%–<100%)			3,040	179	71	9	30	50	238	18	2,615	91
Group 5 (100%)			4,286	249	202	8	62	114	401	27	3,496	98
Value												
euro (bln)	274.0	278.6	42.2	10.0	4.0	1.4	11.0	3.3	3.0	1.1	24.0	4.0
% Total			15.4	3.6	1.4	0.5	4.1	1.2	1.1	0.4	8.8	1.5
% BRIC					9.3	14.3	26.8	33.2	7.0	12.0	56.9	40.7
Average value (mln €)												
Total	1.7	2.7	1.7	1.5	1.9	0.9	8.3	1.0	0.5	0.5	1.1	1.1
Group 1 (>0%–25%)			0.7	1.3	1.2	0.9	3.6	0.9	0.6	0.5	0.4	0.9
Group 2 (>25%–50%)			5.7	2.6	7.6	3.1	138.1	2.7	1.0	0.9	2.3	2.1
Group 3 (>50%–<75%)			2.5	3.6	1.4	0.6	3.1	1.6	0.5	0.2	2.5	5.3
Group 4 (75%–<100%)			3.3	4.0	8.4	0.5	3.2	3.2	0.5	0.8	3.4	5.5
Group 5 (100%)			0.1	0.3	0.1	0.1	0.2	0.5	0.1	0.1	0.1	0.1
BRIC activity (%)												
No BRIC	84.6	93.6										
1 BRIC country	12.6	4.1	81.9	63.7	38.5	19.9	26.7	50.1	31.1	28.3	80.0	45.1
2 BRIC countries	2.2	1.2	14.1	18.9	23.6	21.5	30.1	20.8	51.8	26.2	15.5	24.6
3 BRIC countries	0.5	0.6	3.2	9.2	27.5	23.7	27.8	12.8	13.2	22.1	3.6	15.1
All the BRICs	0.1	0.5	0.8	8.2	10.4	34.9	15.4	16.4	3.9	23.4	0.9	15.1

³⁾ The numbers from the dataset differ from the official Statline numbers due to the fact that not all official trade flows could be linked to a firm located in the Netherlands. Some trade flows are linked-mismatches, others are from foreigners without an establishment in the Netherlands. See chapter 10 for further information on the matching of trade flows to enterprises.

About 80 percent of the importers in our sample are active in China only. Importers from the other three BRIC countries tend to be active in multiple BRIC countries. The different groups indicated in the table represent the share of BRIC trade or of the individual BRIC countries in the total trade for every BRIC trader. It explains the importance of BRIC trade for the individual firms. To be more precise, importers in group 1 import between 1 en 25 percent of their total imports from the BRIC countries. As table 2.3.1 shows, for more than half of the firms that import from the BRIC countries, the BRIC imports are just a fraction (>0–25 percent) of the firm's total imports. The much smaller group of importers in group 2 import between 25 and 50 percent of their total imports from the BRIC countries. For almost 30 percent of all BRIC importers the BRIC imports make up more than 75 percent of their total imports. This is most common for importers trading with China. Because most BRIC importers are exclusively active in China, this affects the total BRIC import numbers.

The average import value of BRIC importers does not differ from that of importers in general. There are, however, substantial differences between the BRIC traders. Traders with India, for example, trade a smaller average value per firm than the other BRIC traders. The trade value of firms importing from India is very different from that of Russian import traders who have the highest average trade value per firm. One explanation is that Dutch-Russian trade is concentrated on raw material transactions due to Russia's resource richness. These are products that are usually traded in bulk and as such provide a high average trade value per firm. Firms that are fully specialised in BRIC imports have the lowest average value per firm.

2.3.2 Products traded between the Netherlands and the BRICs (in percentages of total value, 2010)

	BRIC		Brazil		Russia		India		China	
	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports
Primary products	38.2	33.7	83.6	30.0	93.1	32.5	49.0	27.0	3.8	38.0
Natural resource intensive products	3.0	1.2	2.7	4.5	5.5	0.6	2.0	1.0	1.9	0.6
Unskilled labour intensive products	13.5	2.3	0.9	2.3	0.1	3.4	17.0	1.9	21.4	1.5
Technology-intensive products	35.3	53.2	10.7	54.8	0.8	49.9	19.8	57.1	57.3	54.3
Human-capital intensive products	10.1	9.5	2.1	8.4	0.4	13.6	12.3	13.0	15.7	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.3.2 shows which types of products are traded between the Netherlands and the BRIC countries. The Netherlands imports quite different products from each BRIC country. Imports from India are relatively diverse in that all types of products play a substantial role, except for natural resource intensive products. Imports from Brazil and Russia concentrate on primary products. Imports from China focus more on technology intensive products

(almost 60 percent), although unskilled labour intensive and human-capital intensive products also play a substantial part.

Table 2.3.3 shows to what extent firms are specialised in the different type of products they trade. It reveals that many import firms are specialised in technology-intensive products. This picture is relatively consistent for all countries except Brazil. Here imports are dominated by primary products. The reason why fewer firms that import from Russia are highly specialised in primary products, even though most imports are primary products, is because these firms trade in bulk. A reasonable share of firms that import from India and China are also specialised in unskilled labour intensive and human-capital intensive products.

2.3.3 Product specialization by firms in trade with the BRICs (percentages of firms)

	BRIC		Brazil		Russia		India		China	
	importers	exporters	importers	exporters	importers	exporters	importers	exporters	importers	exporters
Share primary products in BRIC										
0	88.9	79.1	48.8	78.0	82.1	73.8	85.3	82.1	92.9	82.2
>0%–25%	3.0	3.7	1.7	6.2	2.4	4.1	3.9	3.8	2.3	2.7
>25%–75%	0.8	1.2	1.6	1.3	1.5	0.8	1.1	3.2	0.6	3.1
>75%–100%	7.3	15.9	47.9	14.5	14.0	21.3	9.7	11.0	4.2	11.9
Share natural resource intensive products in BRIC										
0	87.7	94.3	91.3	95.0	92.4	95.0	89.1	94.9	88.3	95.2
>0%–25%	7.9	3.7	1.5	2.9	1.2	3.2	5.3	2.5	7.7	2.5
>25%–75%	1.5	0.6	1.0	0.6	1.4	0.6	1.4	0.7	1.5	0.4
>75%–100%	2.9	1.5	6.1	1.5	5.0	1.2	4.1	1.9	2.5	1.8
Share unskilled labour intensive products in BRIC										
0	57.3	83.1	89.6	90.0	86.3	82.4	62.1	89.5	56.1	85.6
>0%–25%	12.9	6.7	2.7	3.8	3.2	6.8	4.6	3.2	13.3	5.1
>25%–75%	8.2	1.8	0.7	1.3	1.9	1.8	4.6	1.6	8.7	1.1
>75%–100%	21.6	8.4	6.9	4.9	8.7	9.1	28.7	5.6	21.9	8.2
Share technology-intensive products in BRIC										
0	40.8	38.0	68.5	28.6	51.5	46.6	59.3	29.1	37.3	32.3
>0%–25%	14.9	8.4	5.4	8.1	3.2	8.3	7.4	6.3	15.3	7.6
>25%–75%	10.0	6.6	2.8	9.9	4.5	6.1	4.9	6.9	10.3	5.3
>75%–100%	34.2	47.0	23.3	53.3	40.9	39.0	28.5	57.8	37.1	54.8
Share human-capital intensive products in BRIC										
0	53.1	61.9	76.7	66.4	64.1	59.7	62.3	70.3	52.7	68.0
>0%–25%	19.4	13.7	9.3	10.8	6.8	13.0	11.7	10.5	19.9	12.7
>25%–75%	9.8	5.6	3.1	8.3	4.6	5.8	7.3	3.7	9.7	3.4
>75%–100%	17.7	18.9	10.9	14.5	24.5	21.5	18.6	15.5	17.7	15.8

Table 2.3.4 shows BRIC trade by sector. The wholesale and retail trade sector dominate BRIC imports, with more than half of the BRIC importers and almost 40 percent of the total BRIC import value. Also many BRIC imports enter the Netherlands via transport and storage enterprises. This is not surprising, because a large part of the imports from China is destined for re-exports. There are, however, considerable differences between the BRIC countries. For example, for importers from Russia, the total import value of the manufacturing sector is more than double the value of the wholesale and retail trade sector. The manufacturing sector imports just about half of the total Russian import value. Transportation and storage, on the other hand, is quite important for the imports from China and India. While only 3 to 4 percent of these firms are active in this sector, their import value is around 40 percent of the total import value from these countries.

2.3.4 Traders and trade value by sector (in percentages, 2010)

		Total		BRIC		Brazil		Russia		India		China	
		firms	value	firms	value	firms	value	firms	value	firms	value	firms	value
Import													
A	Agriculture, forestry and fishing	4.2	0.5	0.8	0.1	1.8	0.2	0.3	0.0	0.9	0.2	0.7	0.2
B	Mining and quarrying	0.1	0.9	0.1	0.2	0.4	0.0	0.7	0.1	0.4	2.6	0.1	0.1
C	Manufacturing	11.4	27.9	15.5	23.3	21.1	37.9	28.9	51.6	21.0	14.9	15.5	8.6
D	Electricity and gas supply	0.1	2.0	0.2	2.3	0.1	0.0	0.4	8.4	0.2	0.0	0.2	0.0
E	Water supply and waste management	0.2	0.2	0.2	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.1	0.0
F	Construction	6.2	0.5	1.9	0.1	1.2	0.0	1.2	0.0	1.1	0.0	2.0	0.1
G	Wholesale and retail trade	46.5	46.6	55.3	37.3	54.0	38.0	36.7	23.1	54.5	34.3	54.8	44.2
H	Transportation and storage	2.5	15.7	3.1	30.1	6.9	15.4	7.7	16.0	4.0	45.5	3.0	37.2
I	Accommodation and food serving	2.2	0.1	0.6	0.1	0.2	0.0	0.4	0.0	0.3	0.2	0.6	0.1
J–U	Services&other sectors	26.6	5.8	22.4	6.5	13.8	8.3	23.4	0.6	17.7	2.3	23.0	9.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Export													
A	Agriculture, forestry and fishing	5.1	1.2	2.0	1.0	3.0	0.7	2.2	1.5	1.3	0.5	1.8	0.9
B	Mining and quarrying	0.1	2.3	0.4	0.6	1.0	3.1	0.5	0.3	0.7	0.3	0.4	0.1
C	Manufacturing	14.1	37.3	32.1	48.2	44.4	48.5	31.1	40.9	40.4	50.1	37.8	53.4
D	Electricity and gas supply	0.1	4.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Water supply and waste management	0.3	0.3	0.4	0.3	0.2	0.1	0.1	0.0	0.6	1.1	0.4	0.4
F	Construction	3.9	0.2	1.8	0.3	1.2	0.2	0.9	0.4	1.4	0.3	1.9	0.3
G	Wholesale and retail trade	39.1	41.9	45.8	37.0	31.6	24.5	49.9	48.3	36.1	35.0	38.4	32.8
H	Transportation and storage	4.5	6.6	4.2	9.0	4.0	20.6	4.4	4.8	4.8	7.3	4.6	8.9
I	Accommodation and food serving	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
J–U	Services&other sectors	32.5	5.8	13.2	3.4	14.4	2.3	10.8	3.8	14.8	5.5	14.6	3.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Dutch exports to the BRIC countries

Dutch exports to the BRIC countries are at much more modest scale than Dutch imports. Only 4 percent of Dutch exports (10 billion euro) found its way into the BRIC countries in 2010. Dutch exports mostly focus on the European market. The most important BRIC destination markets are China and Russia. Two thirds of the export value to the BRIC market is realised in the Chinese and Russian markets. The average export value per firm for BRIC exporters is considerable lower than for the total group of exporters. Firms that export to India have compared to the other three BRIC countries again the lowest average export value per firm. Firms that are fully specialised in exports to the BRIC countries, however, have an even lower average value per firm.

For most firms (84 percent) exporting to the BRIC countries forms only a fraction of their total exports. This share is higher than for BRIC imports. Barely 7 percent of the BRIC traders export more than 75 percent of their total exports to the BRIC countries. It is interesting to see that although half of the exporters to China and India are active in only one BRIC country, Brazil exporters are often active in multiple BRIC countries. Roughly 35 percent of the firms that export to Brazil are even active in all the other three BRIC countries as well.

The types of products exported to the individual BRIC countries are far more similar than those imported. All BRIC countries export mostly technology-intensive products, but primary products also play an important role, followed by human-capital intensive products. As with imports, most firms that export to the BRIC countries (Brazil included) are specialised in technology-intensive products. A less substantial but still relatively important share of the firms is specialised in primary and human-capital intensive products, especially firms that export to Russia.

The sector breakdown shows that BRIC exporters are mainly found in the wholesale and retail trade and in manufacturing. Almost half of the BRIC exporters are active in wholesale and retail. They account for more than a third of total BRIC exports. This is in line with research by Bernard et al. (2010) who indicate that when trade barriers are high firms, export indirectly through domestic wholesalers. Over a third of the BRIC exporters are active in manufacturing. They account for almost half of total BRIC exports. The transportation and storage sector is relatively important for the exports to Brazil. Few firms export a high share to Brazil. Even though only 4 percent of the firms that export to Brazil are active in transportation and storage, it generates over a fifth of the total export value to Brazil.

Comparing BRIC traders to the average trader

Smeets et al. (2010) noted that distance and market size are important factors determining the Dutch trade pattern. They also pointed out that market entry costs also play a prominent role: “low levels of institutional and regulatory quality, corruption and cultural dissimilarity are important barriers for entering export markets”. It is therefore not surprising that table 2.3.5 shows that BRIC traders are different from the average trader. A larger share of BRIC traders are under foreign control than the total group of traders. Though still higher, this is less strong for importers from India and China. Foreign investors are better equipped to deal with trading barriers because they are already more productive firms (Fortanier and Moons, 2011). The same can be said of firm size. Traders with the BRIC countries are more often large or medium size firms than the total group of traders. Additionally they are more often two-way traders and invest more often in R&D. This is stronger for BRIC exporters and importers from Russia and Brazil than for importers from China and India. To see to what extent the BRIC trade itself and the degree of specialisation in the BRIC trade are associated with differences in firm size, wages, productivity and R&D expenditure, we estimated several regressions which are presented in the next paragraph.

2.3.5 Enterprise characteristics of BRIC traders in comparison (2010)

	Total		BRIC		Brazil		Russia		India		China	
	importers	exporters	importers	exporters	importers	exporters	importers	exporters	importers	exporters	importers	exporters
Foreign control (%)	4.2	5.7	11.4	22.7	21.3	36.4	32.2	26.3	16.1	30.9	11.6	26.2
2-way-trader (%)	41.6	66.0	69.1	95.2	83.6	98.0	90.6	94.1	82.3	97.4	69.2	97.5
R&D (%)	0.8	1.2	2.9	8.5	8.2	16.3	10.9	10.2	5.2	12.5	3.0	10.9
Size												
small	94.9	93.4	85.5	68.8	67.0	50.5	58.1	64.4	74.6	57.8	85.2	61.2
medium	4.0	5.2	10.6	23.8	19.9	33.6	25.1	26.6	17.3	30.1	10.7	28.2
large	1.2	1.3	3.9	7.4	13.1	15.9	16.8	9.0	8.1	12.1	4.1	10.5

2.4 Regression results

Firm size

In our first regression model, we analysed the relationship between BRIC trade and firm size in terms of log employees, while controlling for wages (share of high-paid workers), productivity and enterprise effects such as trading status, locus of control, type of product and economic activity. Although all firm effects are included in the model, only the coefficients of BRIC trade are reported in table 2.4.1. The first and fourth columns in table 2.4.1 show there is a positive and highly significant relation between firm size and trade with BRIC countries, both for imports and for exports. However, because China dominates the firm's import data, it is best to look at the four countries separately as well.

We ran the same regression again, but now for traders of the four BRIC countries individually. Columns 2 and 5 in table 2.4.1 show that there is a positive relation again between trade with all BRIC countries and firm size. Importers from Brazil employ 50 percent more people than firms with the same characteristics that do not import from Brazil. This is a considerable difference. For Brazil the effect of size is larger than for the other three BRIC countries, indicating that importers from Brazil in particular have more personnel. Nevertheless, the effect for the other three BRIC countries is also considerable. The positive effect is the smallest for exporters to Russia, i.e. they employ relatively fewer people than importers from Russia and traders with the other three countries. They are followed by traders with China.

Because we also want to see if there is a difference between the BRIC traders that predominantly trade with the BRIC countries and those for whom the BRIC trade forms only a small part of their total exports, the third regression adds the different BRIC groups as defined in table 2.3.1. The third column shows that the results for firms that mainly import from the BRIC countries differ from the total group. We now observe a negative relation with firm size. A higher degree of specialisation in BRIC imports is associated with smaller firm size in terms of employees. As such, the impact is largest for firms that import for 100 percent from the BRIC. These results support the conclusion that was drawn in the Internationalisation Monitor 2011 (IM2011) that enterprises that *mainly* import from China/BRIC countries are on average the smallest enterprises. Column 6 in table 2.4.1 shows that there is also a negative relation for firms with 100 percent BRIC exports, however it is not significant.

2.4.1 Relation of BRIC trade to firm size

	Importers		Exporters			
Log Employees OLS regression						
(Constant)	4.012*** (44.3)	4.120*** (46.1)	4.065*** (45.0)	4.007*** (32.3)	4.125*** (33.6)	4.030*** (32.5)
BRIC	0.360*** (14.9)			0.339*** (11.8)		
Brazil		0.509*** (10.2)			0.293*** (5.7)	
Russia		0.333*** (6.3)			0.163*** (4.3)	
India		0.374*** (10.9)			0.266*** (6.0)	
China		0.232*** (9.2)			0.249*** (6.6)	
BRIC Group 1			0.462*** (17.8)			0.356*** (11.9)
BRIC Group 2			0.313** (5.8)			0.232** (2.5)
BRIC Group 3			0.225*** (3.4)			0.31* (2.0)
BRIC Group 4			−0.133*** (−2.0)			0.132 (0.7)
BRIC Group 5			−0.44*** (−4.7)			−0.127 (−0.5)
F-value	193.3***	186.8***	159.3***	144.1***	132.6***	110.7***
N	12,029	12,029	12,029	8,514	8,514	8,514
R ²	0.173	0.199	0.184	0.181	0.2	0.181

*** p < 0.01; ** p < 0.05; * p < 0.1.

Included in the model but not shown in the table: wages, productivity, R&D, trading status, locus of control, type of product and economic activity.

Wages

We next analysed the relationship between BRIC trade and the share of high-paid jobs in an enterprise. Columns 1 and 4 in table 2.4.2 show a positive relation. However, only the results for exporters are significant. Columns 2 and 5 show that there is a negative relation between the share of high-paid jobs and firms that import from China and India. Table 2.3.4 already showed that importers from these two countries are mostly firms in wholesale, retail, transport and storage. Many of these imports, such as apparel and electronics, are destined for re-exports, so it is not surprising that these firms have a lower share of high-paid jobs than other firms. There is a positive relation between the share of high-paid jobs and firms that import from Brazil and Russia and firms that export to all four BRIC countries. However from the latter, only the relation between exporters to Brazil and India is significant. Columns 3 and 6 look again at the different BRIC trader groups.

There seems to be a significant negative relation between the share of high-paid jobs and firms that import between 25 and 75 percent of their trade from the BRIC countries. For the BRIC exporters only the group that exports exclusively to the BRIC countries has a negative relation with the share of high paid-jobs. This effect is not significant however.

2.4.2 Relation of BRIC trade to wages

	Importers			Exporters		
Share high-paid OLS regression						
(Constant)	-0.099*** (-7.1)	-0.095*** (-6.8)	-0.099*** (-7.1)	-0.064*** (-3.3)	-0.051*** (-2.6)	-0.063*** (-3.2)
BRIC	0.001 (0.3)			0.031*** (6.8)		
Brazil		0.059*** (7.3)			0.052*** (6.4)	
Russia		0.033*** (3.9)			0.009 (1.5)	
India		-0.012** (-2.2)			0.024*** (3.4)	
China		-0.007* (-1.7)			0.005 (0.9)	
BRIC Group 1			0.006 (1.4)			0.031*** (6.5)
BRIC Group 2			-0.024*** (-2.8)			0.02 (1.4)
BRIC Group 3			-0.023** (-2.1)			0.073*** (2.9)
BRIC Group 4			-0.002 (-0.2)			0.061** (2.1)
BRIC Group 5			0.014 (0.9)			-0.024 (-0.6)
F-value	323.2***	269.4***	248.5***	225.5***	189***	172.9***
N	12,029	12,029	12,029	8,514	8,514	8,514
R ²	0.259	0.264	0.26	0.256	0.262	0.257

*** p < 0.01; ** p < 0.05; * p < 0.1.

Included in the model but not shown in the table: firm size, productivity, R&D, trading status, locus of control, type of product and economic activity.

Productivity

After looking at firm size and the share of high-paid workers, we now ask whether the productivity of a trader is also related with the presence of and degree of specialisation in BRIC trade. We expect that BRIC traders are more productive, because only the most productive firms can explore these far away markets and deal with barriers posed by foreign laws, institutions and cultures (Smeets et al., 2010). Table 2.4.3 shows the same

regressions as in tables 2.4.1 and 2.4.2, only now we take productivity as the dependent variable. Columns 1 and 4 from table 2.4.3 show that BRIC traders are more productive than non-BRIC traders. The coefficient and the intercept of BRIC exporters are larger than for BRIC importers. BRIC exporters are thus more productive than BRIC importers. In columns 2 and 5 the results for the firms that trade with single BRIC countries are presented. Russian importers are the most productive. Firms that import from Russia are 13 percent more productive than firms with the same characteristics that do not import from Russia. Firms that import from China are the least productive of the importers from the four BRIC countries. The latter is nevertheless not significant. The degree of specialisation in imports from BRIC has a negative relation with productivity. Complete import specialisation seems to be negatively related with productivity, while no specialisation is associated with higher productivity. For exporters, the same relation with productivity is found only for rather non-specialised traders.

2.4.3 Relation BRIC trade to productivity

	Importers		Exporters			
Log Labour productivity OLS regression						
(Constant)	3.896*** (115.7)	3.905*** (116.2)	3.904*** (115.4)	3.927*** (74.0)	3.944*** (74.4)	3.929*** (73.8)
BRIC	0.037*** (2.8)			0.088*** (5.5)		
Brazil		0.083*** (3.1)			0.073** (2.6)	
Russia		0.13*** (4.5)			0.034* (1.7)	
India		0.078*** (4.1)			0.044* (1.8)	
China		0.007 (0.5)			0.087*** (4.2)	
BRIC Group 1			0.043*** (3.0)			0.09*** (5.5)
BRIC Group 2			0.052* (1.8)			0.093* (1.8)
BRIC Group 3			0.037 (1.0)			0.067 (0.8)
BRIC Group 4			0.028 (0.8)			−0.014 (−0.1)
BRIC Group 5			−0.101** (−2.0)			0.04 (0.3)
F-value	190.3***	161.4***	148.5***	122.7***	103.8***	95.5***
N	12,029	12,029	12,029	8,514	8,514	8,514
R ²	0.182	0.186	0.182	0.168	0.172	0.168

*** p < 0.01; ** p < 0.05; * p < 0.1.

Included in the model but not shown in the table: wages, firm size, R&D, trading status, locus of control, type of product and economic activity.

R&D activity

We also want to analyse the relation between BRIC trade and R&D activity. We therefore ran a logistic regression where the odds of conducting R&D are defined as the ratio of the probability of being an R&D firm over not being an R&D firm. Columns 1 and 4 in table 2.4.4 show a positive relation between being an R&D active firm and being a BRIC trader. Column 5 shows the same relation for the individual countries, except for exporters to India. We see a negative relation between being an exporter to India and being an R&D firm. The relation is not significant though. The same is true for groups 4 and 5 of the BRIC traders.

2.4.4 Relation of BRIC trade to R&D activity

	Importers		Exporters			
The odds of R&D activity						
Logistic regression						
Constant	0.016***	0.018***	0.017***	0.007***	0.009***	0.008***
BRIC	1.369*** (+)			1.809*** (+)		
Brazil		1.34** (+)			1.474*** (+)	
Russia		1.197 (+)			1.497*** (+)	
India		1.111 (+)			0.915 (-)	
China		1.22** (+)			1.302** (+)	
BRIC Group 1			1.416*** (+)			1.904*** (+)
BRIC Group 2			1.41** (+)			1.104 (+)
BRIC Group 3			1.001 (+)			0.663 (-)
BRIC Group 4			0.963 (-)			0.92 (-)
BRIC Group 5			0.738 (-)			0.738 (-)
N	12,029	12,029	12,029	8,514	8,514	8,514

*** p < 0.01; ** p < 0.05; * p < 0.1.

Included in the model but not shown in the table: wages, firm size, productivity, trading status, locus of control, type of product and economic activity.

Likelihood of BRIC trade

Finally, after running several separate regressions that measured the relation of BRIC trade with firm performance (employment, wages, R&D and productivity), we now want to reverse the analysis and gauge the impact of firm performance on the likelihood of BRIC imports/exports. We therefore ran a regression for each separate country, including all firm characteristics, to see what firm characteristics have the largest impact on the probability of becoming a BRIC trader. *Share A* in table 2.4.5 stands for the share of primary products traded in total BRIC trade. *Share B* stands for the share of natural resource intensive products, *C* for unskilled labour intensive products, *D* for technology-intensive products and *E* for human-capital intensive products.

Table 2.4.5 concurs with the first couple of regressions concluding that the firms with a higher productivity are more likely to become BRIC traders. Also firm size matters. All else being equal, the probability that medium and large firms are BRIC traders is higher than for small firms. Equally, firms that pay medium or high wages are more likely to become BRIC traders than firms that pay low wages. The exceptions are importers from China and India. The type of product traded with these countries is likely to play an important role in this.

Unlike the first regressions, table 2.4.5 also looks at the type of trader and products traded and the economic activity. Two-way traders, foreign owned firms and R&D firms are more likely to become BRIC traders. BRIC traders are relatively often active in manufacturing, trade and transport and less often active in the services sectors. With respect to the types of products traded, table 2.4.5 supports that traders in primary products are more likely to trade with Brazil and Russia than firms trading other types of products. Importers that trade unskilled-labour intensive product are more likely to import from India and China.

2.4.5 Impact of firm characteristics on probability of being a BRIC trader

	Brazil		Russia		India		China	
	importers	exporters	importers	exporters	importers	exporters	importers	exporters
Logistic regression								
Constant	0.004***	0.001***	0.002***	0.026***	0.008***	0.005***	0.087***	0.008***
Log Labour productivity	1.277*** (+)	1.338*** (+)	1.369*** (+)	1.211*** (+)	1.25*** (+)	1.291*** (+)	1.082*** (+)	1.332*** (+)
Medium (1)	2.063*** (+)	2.015*** (+)	1.97*** (+)	1.768*** (+)	1.741*** (+)	1.866*** (+)	1.421*** (+)	1.878*** (+)
Large (1)	5.378*** (+)	3.359*** (+)	4.305*** (+)	2.133*** (+)	3.537*** (+)	2.723*** (+)	2.756*** (+)	2.803*** (+)
Share low-paid (2)	0.783 (-)	0.11*** (-)	0.462 (-)	0.418** (-)	1.666* (+)	0.049*** (-)	1.815*** (+)	0.206*** (-)
Share high-paid (2)	3.618*** (+)	4.375*** (+)	2.308*** (+)	1.945*** (+)	1.025 (+)	2.386*** (+)	1.022 (+)	1.708*** (+)
2-way-trader (3)	4.139*** (+)	4.205*** (+)	2.879*** (+)	1.399* (+)	3.885*** (+)	2.527*** (+)	2.227*** (+)	2.536*** (+)
Foreign control (4)	1.041 (+)	1.404*** (+)	1.624*** (+)	1.35*** (+)	1.053 (+)	1.261*** (+)	1.175*** (+)	1.106 (+)
R&D (5)	1.528*** (+)	1.943*** (+)	1.44*** (+)	1.868*** (+)	1.367*** (+)	1.508*** (+)	1.36*** (+)	1.697*** (+)
Manuf&Prod. of goods (6)	1.636*** (+)	2.532*** (+)	1.448*** (+)	1.868*** (+)	1.406*** (+)	1.877*** (+)	0.91 (-)	1.828*** (+)
Trade&Transport (6)	1.985*** (+)	1.575*** (+)	1.295* (+)	1.786*** (+)	1.665*** (+)	1.201 (+)	1.327*** (+)	1.356*** (+)
ShareB (7)	0.996** (-)	0.993** (-)	0.996 (-)	0.991*** (-)	1 (+)	0.998 (-)	1.007*** (+)	0.997 (-)
ShareC (7)	0.984*** (-)	0.997 (-)	0.992*** (-)	0.999 (-)	1.009*** (+)	1.002 (+)	1.015*** (+)	1.003*** (+)
ShareD (7)	0.989*** (-)	1.004*** (+)	1 (+)	0.999* (-)	1.002** (+)	1.008*** (+)	1.01*** (+)	1.008*** (+)
ShareE (7)	0.982*** (-)	0.998 (-)	1 (+)	0.996*** (-)	0.999 (-)	1 (+)	1.007*** (+)	1 (+)
N	12,029	8,514	12,029	8,514	12,029	8,514	12,029	8,514

*** p < 0.01; ** p < 0.05; * p < 0.1.

Reference group 1: Small. Reference group 2: share medium-paid. Reference group 3: one-way-trader. Reference group 4: Dutch control. Reference group 5: No R&D. Reference group 6: Services and other sectors. Reference group 7: Share A.

2.5 Conclusions

This chapter analysed the role of BRIC trade in total trade and characteristics of BRIC traders. The differences between trade and traders with the individual BRIC countries are larger for imports than for exports. Primary products form an important trade product specifically for Brazil and Russia, while unskilled labour-intensive products are imported more from China and India. Technology-intensive products are most frequently exported to all the BRIC countries, followed by primary products.

Because BRIC exports form a small fraction of total exports, much attention in the public debate is currently being paid to how the share of Dutch exports to the BRIC countries can be increased. BRIC traders in general are often medium or large sized firms. Large firms play especially a major role in the trade with Brazil. Small firms presumably face too many trade barriers that are difficult for them to overcome. The probability that medium and large firms are BRIC traders is thus higher than for small firms. BRIC traders are additionally often found among the more productive firms. Firms with a higher productivity are therefore more likely to become BRIC traders. This is in line with previous research, which shows that the more productive firms are more likely to overcome trade barriers than less productive firms. This relation is stronger for BRIC exporters than for BRIC importers. Also firms that pay medium or high wages are more likely to become BRIC traders than firms that pay low wages. The exceptions are importers from China and India. The type of product traded with these countries is likely to play an important role in this. Other characteristics that are positively associated with BRIC traders are: being a two-way trader, a foreign owned firm and an R&D firm. The story is different though, for firms that are highly specialised in trade with BRIC. Firms that are fully specialised in BRIC trade have the lowest average value per firm. Additionally, they are smaller and less productive than other firms.

Trends in the international trade in services

3



Trends in the international trade in services

- 3.1** Introduction
- 3.2** Developments in the Dutch international trade in services
- 3.3** Composition of the Dutch international trade in services, specified per services category
- 3.4** The Dutch international trade in services broken down for the services category travel
- 3.5** The largest import and export services markets for the Netherlands by value
- 3.6** The top four largest upcoming trading partners by growth rate
- 3.7** The position of Dutch international trade
- 3.8** Summary and conclusions

In recent decades, services have grown to almost 75 percent of GDP in higher income countries. However, the share of services exports in total exports is relatively low (20 percent), which reflects the difficulties associated with transferring services. This chapter provides more information about recent trends in the Dutch international trade in services.

3.1 Introduction

Globalisation has affected many facets of the world economy, including services. Nowadays, modern economies are increasingly dominated by services. Over the last decades, services have grown to almost 75 percent of GDP in higher income countries (Francois and Hoekman, 2009). However, the share of services exports as a percentage of total exports is relatively low (20 percent), which reflects the difficulties associated with transferring services.

The aim of this chapter is to provide more information on recent trends in the Dutch international trade in services. We start with a broad overview of the developments in the Dutch international trade in services (Section 3.2). The breakdown of the Dutch international trade in services per services category can be found in Section 3.3, with a focus on travel in Section 3.4. Information on the largest import and export services markets and the upcoming trading partners for the Netherlands are presented in Sections 3.5 and 3.6. Section 3.7 examines the role of the Netherlands in the services trade of several major trading partners. Section 3.8 presents the summary and conclusions.

3.2 Developments in the Dutch international trade in services

International trade in services covers all services transactions between a country (i.e. its residents) and foreign countries or international organisations (i.e. the non-residents of that country) during a given period. The services are classified as follows: transportation, travel, communication services, construction services, insurance services, financial services, computer and information services, royalties and license fees, other business services, personal, cultural, and recreational services and government services (n.i.e.). Statistics Netherlands uses the business survey to collect data for a large part of the international trade in services. For some services categories (e.g. government services and travel) data are obtained by other collection methods.

The overall Dutch import and export of services for eight successive years are illustrated in 3.2.1.

The impact of the economic downturn is especially apparent for the export of services with a growth rate of minus 4.7 percent in 2009. The services category transportation was largely responsible for this decrease with a decline of 3.4 billion euro. The export of services recovered remarkably well in 2010, resulting in an annual growth rate of 8.8 percent. The recovery of exports continued in 2011, with a growth rate of 9.8 percent. The services category royalties and license fees contributed most to the overall increase between 2009 and 2011, both in absolute (6.3 billion euro) and relative (42.3 percent) terms.

Impact of the economic crisis and recovery less severe for the imports of services

The effects of the economic crisis and recovery were less severe for the import of services. They continued to grow each year, although the annual growth rates were relatively modest in 2009 (2.0 percent) and 2010 (2.9 percent) compared with previous years. However, in 2011 the growth rate more than doubled to 6.2 percent. This was mostly driven by the services category other business services, both in absolute (4.1 billion euro) and relative (16.7 percent) terms.

3.2.1 Dutch imports and exports of services

	Imports		Exports	
	<i>million euro</i>	<i>annual growth rate (%)</i>	<i>million euro</i>	<i>annual growth rate (%)</i>
2004	64,097		68,262	
2005	67,934	6.0	73,998	8.4
2006	69,199	1.9	77,020	4.1
2007	71,721	3.6	81,534	5.9
2008	76,470	6.6	85,935	5.4
2009	77,994	2.0	81,924	-4.7
2010	80,219	2.9	89,099	8.8
2011 ¹⁾	85,231	6.2	97,797	9.8

Source: CBS, International Trade in Services Statistics (extracted 25-5-2012).

¹⁾ Provisional figure.

3.3 Composition of the Dutch international trade in services, specified per services category

3.3.1 shows the import and export values for each services category. For 2011 the trade balance was also added to the table.

3.3.1 Composition of the Dutch international trade in services, specified per services category (billion euro)

	2004		2006		2008		2009		2010		2011 ¹⁾		TB
	I	E	I	E	I	E	I	E	I	E	I	E	
Total	64.1	68.3	69.2	77.0	76.5	85.9	78.0	81.9	80.2	89.1	85.2	97.8	12.6
Transportation	11.0	15.6	14.9	19.8	15.4	21.1	12.9	17.7	14.2	19.3	15.1	21.5	6.4
Travel	13.2	8.3	13.6	9.0	14.8	9.1	14.8	8.9	14.8	9.7	14.7	10.4	-4.4
Communication services	2.3	2.7	3.0	3.0	2.7	3.1	2.7	3.2	3.1	3.7	3.4	4.3	0.9
Construction services	0.9	1.7	0.9	1.8	1.2	2.2	1.5	2.1	1.5	2.1	1.7	2.1	0.4
Insurance services	0.6	0.3	0.7	0.4	0.8	0.5	0.7	0.4	0.8	0.5	0.9	0.5	-0.4
Financial services	1.0	0.8	1.5	1.2	1.5	1.1	1.2	1.1	1.2	1.1	1.3	1.2	-0.1
Computer and information services	2.5	3.0	3.5	3.9	3.9	4.6	4.1	4.4	4.0	4.8	3.7	4.5	0.8
Royalties and license fees	6.9	8.7	6.1	8.2	9.8	13.4	13.1	15.0	15.1	18.6	14.9	21.3	6.4
Other business services	24.3	24.9	23.7	27.4	25.4	28.5	25.7	26.9	24.4	27.0	28.4	29.5	1.1
Personal, cultural and recreational services	0.7	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.0
Government services n.i.e.	0.7	1.6	0.6	1.7	0.5	1.9	0.6	1.8	0.6	1.8	0.5	1.9	1.4

Source: CBS, International Trade in Services Statistics (extracted 25-5-2012). I = Import value; E = Export value; TB = Trade balance (E minus I).

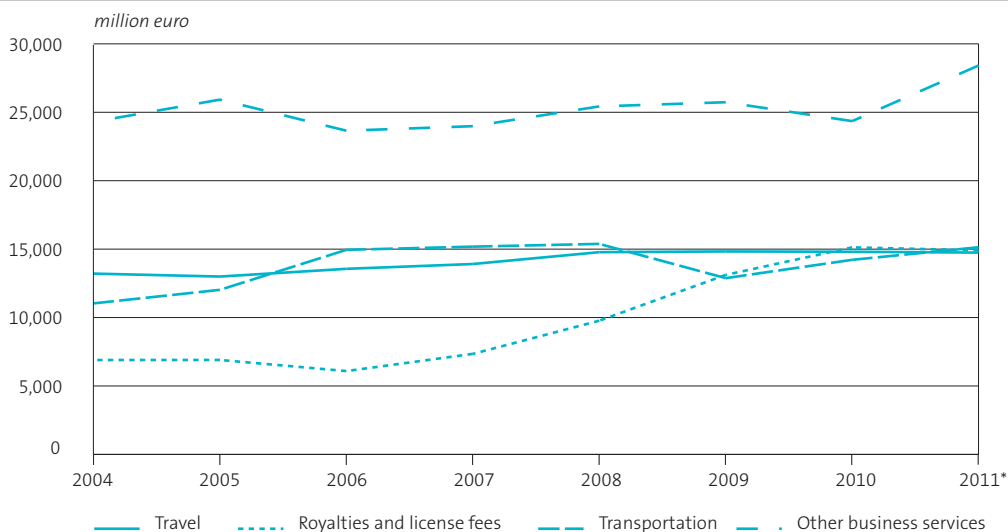
¹⁾ Provisional figure.

The Netherlands has had consistent services trade surpluses, from 4.2 billion euro in 2004 to 12.6 billion euro in 2011. The services categories transportation and royalties and license fees provided the largest contributions to the trade surplus in 2011, with a positive trade balance of 6.4 billion euro each. Travel, insurance services and financial services were the three categories with a trade deficit, of which travel had the largest deficit with 4.4 billion euro in 2011. This means that there were more services and goods obtained by Dutch travellers in foreign countries than by foreign travellers in the Netherlands. More information on the services category travel can be found in section 3.4.

3.3.2 (imports) and 3.3.3 (exports) illustrate the recent trends in trade of the four largest services categories: other business services; transportation; royalties and license fees and travel. The services category other business services was by far the largest group in imports as well as exports in the period 2004–2011. This category is extremely diverse and includes for example merchanting, operational leasing services, advertising and research and development. However, for imports as well as exports, approximately 50 percent of this category could be ascribed to the category ‘services between affiliated enterprises not included elsewhere (n.i.e)’.

For import as well as export, the services category transportation was the second largest service in 2011 with 15.1 and 21.5 billion euro respectively. This category can be broken down into sea transport, air transport and other transport. The other transport service is the largest category since 2007 and includes all transportation services involving the transport of passengers or freight by road, rail or inland waterway, and transport by pipeline and electricity transmission and other supporting and auxiliary transport services. The third most important services category in Dutch imports and exports in 2011 was royalties and license fees, which has grown remarkably since 2006.

3.3.2 Trends in total Dutch import values by the four largest services categories in 2011



Source: CBS, International Trade in Services Statistics (extracted 25-5-2012).

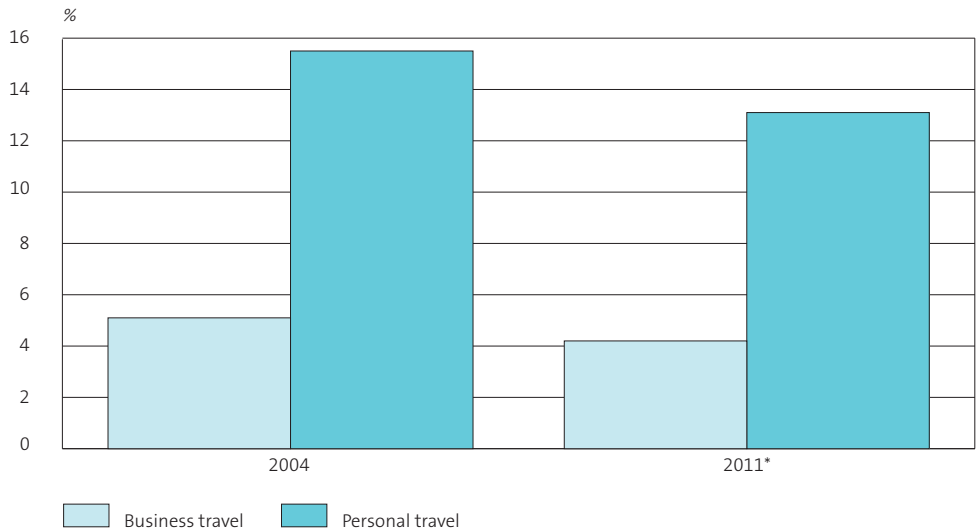
3.3.3 Trends in total Dutch export values by the four largest services categories in 2011



3.4 The Dutch international trade in services broken down for the services category travel

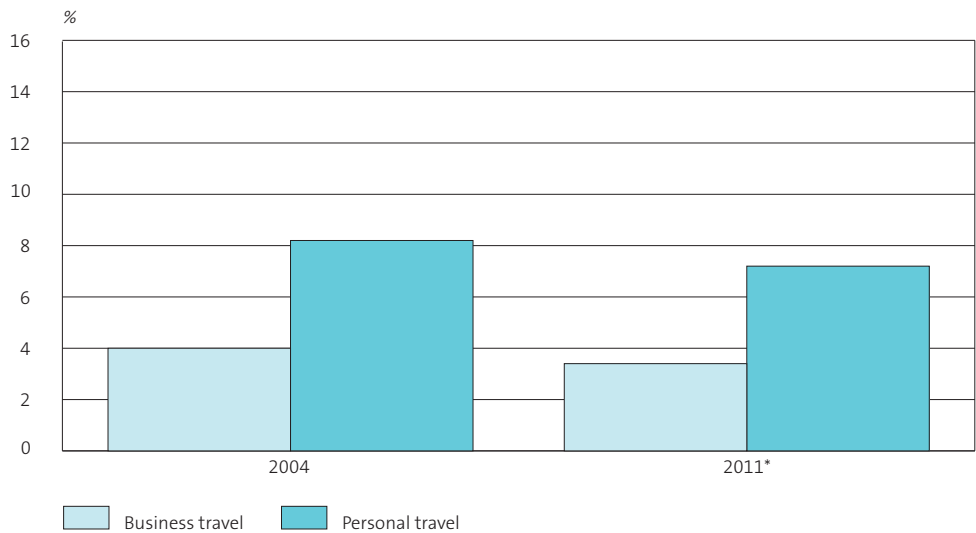
In 3.4.1 and 3.4.2, the services category travel is broken down into business and personal travel. Business travel includes the acquisition of goods and services by business travellers. It further includes the acquisition of goods and services for personal use by seasonal, border and other workers. Personal travel includes the acquisition of goods and services by travellers going abroad for purposes other than business, such as holidays, participation in recreational and cultural activities, visits to friends and relations, pilgrimage, and education and health related purposes.

3.4.1 Share of business and personal travel in total Dutch imports



Source: CBS, International Trade in Services Statistics (extracted 25-5-2012).

3.4.2 Share of business and personal travel in total Dutch exports



Source: CBS, International Trade in Services Statistics (extracted 25-5-2012).

In 2004, imports amounted to 3.2 billion euro for business and 10.0 billion euro for personal travel. In relative terms, business travel accounted for 5.1 percent of total Dutch services import and personal travel for 15.5 percent. In the period 2004–2011, it was observed that both shares decreased of which the business travellers showed the largest decline, relatively speaking. The exports of business and personal travel amounted 2.7 and 5.6 billion euro in 2004. In relative terms, business travel accounted for 4 percent of the total Dutch services exports and personal travel for 8.2 percent. These shares also decreased in 2004–2011. Like imports, the business travellers showed the largest decline relatively speaking.

3.5 The largest import and export services markets for the Netherlands by value

In 2011, the United States was the largest import services market for the Netherlands with a trade value of almost 12 billion euro (see 3.5.1). The services categories other business services and royalties and license fees were the two largest categories imported from the United States with 4.8 and 3.2 billion euro, respectively. With an import value of 9.1 billion euro, the United Kingdom was the second largest import services market for the Netherlands in 2011. It was closely followed by Bermuda, which showed a substantial increase from 2007 onwards. Germany and France were also present in the top five of main trading partners. The most important services imported from these two countries were travel and other business services.

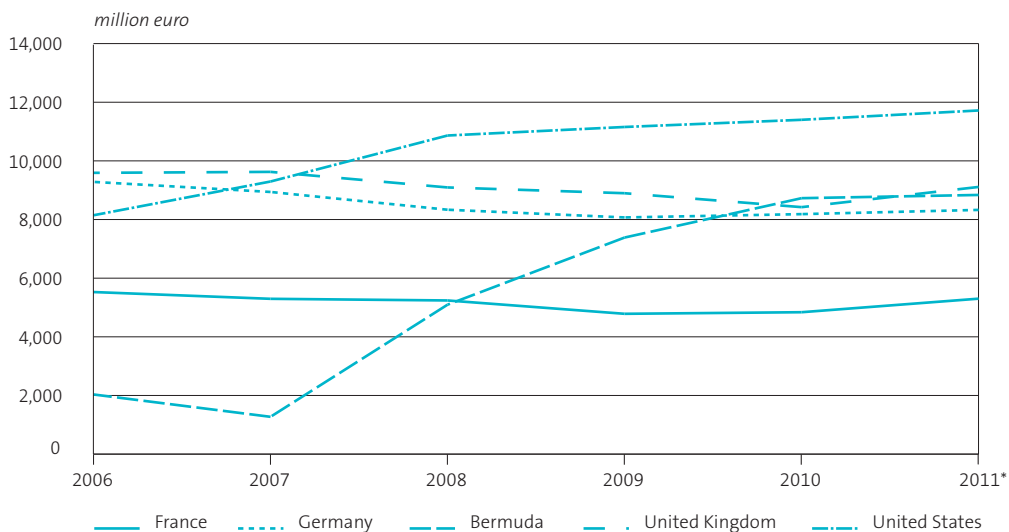
Ireland most important export destination for the Netherlands

Ireland was the most important export destination for the Netherlands with 13.2 billion euro in 2011 (see 3.5.2). This number one position was mainly the result of the increase in the export of royalties and license fees since 2007. Germany was the second largest export services market for the Netherlands in 2011, with an export value of 12.5 billion euro.

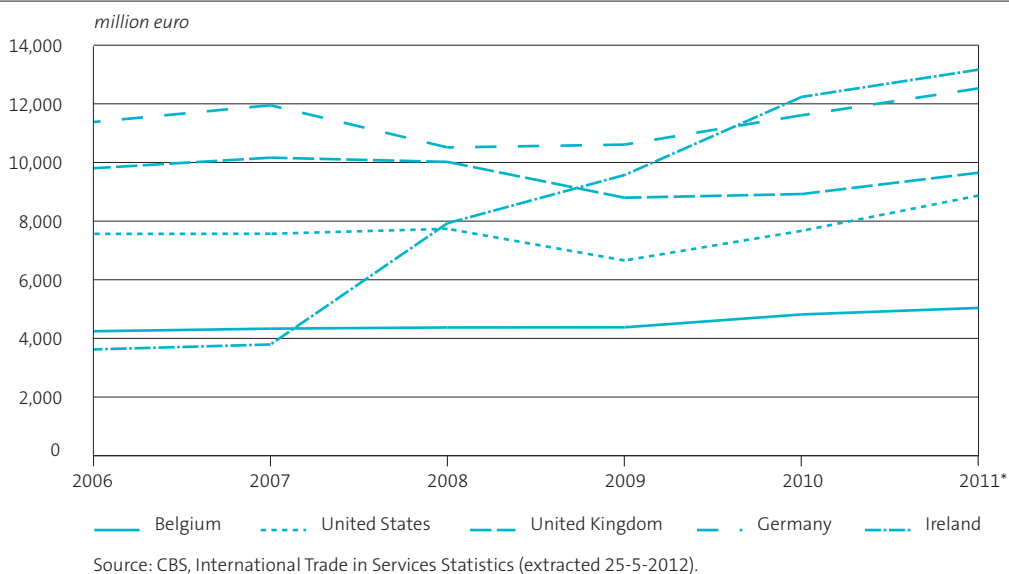
The United Kingdom and the United States were also in the top five, with a trade value of 9.7 and 8.9 billion euro respectively in 2011. Other business services was the most

exported service to these two countries. Belgium completed the top five, with a trade value of 5.0 billion euro in 2011. The most important services exported to Belgium were transportation and travel.

3.5.1 Trends in total Dutch import values of services from the largest markets in 2011



3.5.2 Trends in total Dutch export values of services to the largest markets in 2011



3.6 The top four largest upcoming trading partners by growth rate

We analysed which countries showed the largest growth rates in Dutch services imports and exports between 2010 and 2011, and labelled them as upcoming trading partners for the Netherlands. Only the countries with a minimum trade value of 0.5 percent of total Dutch services imports (401 million euro) or exports (445 million euro) in 2010 were included.

Singapore was the largest upcoming trading partner in services imports. This is due to an increase from 0.8 to 1.0 billion euro in the period 2010–2011, which represents a growth rate of 31 percent. The most important services imported from Singapore in 2011 were transportation and other business services. India, with a 17 percent growth rate, was the second largest upcoming trading partner, mainly due to an increase in other business services. India was closely followed by Poland and Russia, which had growth rates of 17 and 16 percent respectively. The overall growth rate of Dutch services imports was 6.2 percent between 2010 and 2011.

3.6.1 The four largest upcoming trading partners by growth rate

	Imports				Exports		
	2010	2011 ¹⁾			2010	2011 ¹⁾	
	<i>million euro</i>		<i>growth rate (%)</i>		<i>million euro</i>		<i>growth rate (%)</i>
Singapore	771	1,009	31	Poland	863	1,138	32
India	646	759	17	South-Africa	470	617	31
Poland	937	1,099	17	Brazil	1,163	1,512	30
Russia	811	938	16	Australia	938	1,194	27

Source: CBS, International Trade in Services Statistics (extracted 25-5-2012).

¹⁾ Provisional figure.

Threshold for countries: only the countries with a minimum trade value of 0.5 percent of total Dutch services imports (401 million euro) or exports (445 million euro) in 2010 were included.

Poland was the largest upcoming trading partner in services exports, with a 32 percent growth rate in the period 2010–2011. The computer and information services contributed the most to this growth. South-Africa, with a 31 percent growth rate, was the second largest upcoming trading partner. This was mainly due to the category other business

services. For Brazil and Australia growth rates of respectively 30 and 27 percent were observed between 2010 and 2011. Other business services contributed most to Brazil's growth, whereas royalties and license fees was the largest contributor for Australia. The overall growth of the Dutch services exports in this period was almost 10 percent.

Dutch services imports from and exports to the upcoming BRIC countries (Brazil, Russia, India and China) increased tremendously between 2004 and 2008. In addition, the share of the Dutch services import value from BRIC countries amounted to 5.8 percent in 2008, whereas the share of the Dutch export value to BRIC countries rose to 6.3 percent in 2008. However, both shares declined to approximately 4.6 percent in 2010, mainly due to falling imports and exports of other business services from and to Brazil. In 2011, the Dutch services import and export shares from and to BRIC countries recovered to around 5 percent.

3.7 The position of Dutch international trade

3.7.1 and 3.7.2 give an overview of the Dutch share in services exports for Germany, the United States, the United Kingdom and France. These four countries were important for the Dutch import of services in 2011.¹⁾ For all four countries the export of services to the world increased between 2004 and 2010. In the same period, the export of services to the Netherlands by Germany, the United States and the United Kingdom also increased. However, the Dutch share in the total services exports of France decreased by 1.3 percentage point.

In 2010, Germany exported the most to the Netherlands with 11.2 billion euro. This represents 6.3 percent of the total German services exports, making the Netherlands its fourth most important services export destination, after the United States (12 percent), the United Kingdom (11 percent) and Switzerland (9 percent). The United Kingdom exported more than 11 billion euro to the Netherlands in 2010, putting the Netherlands in third position of its top services export markets with a share of 5.8 percent.

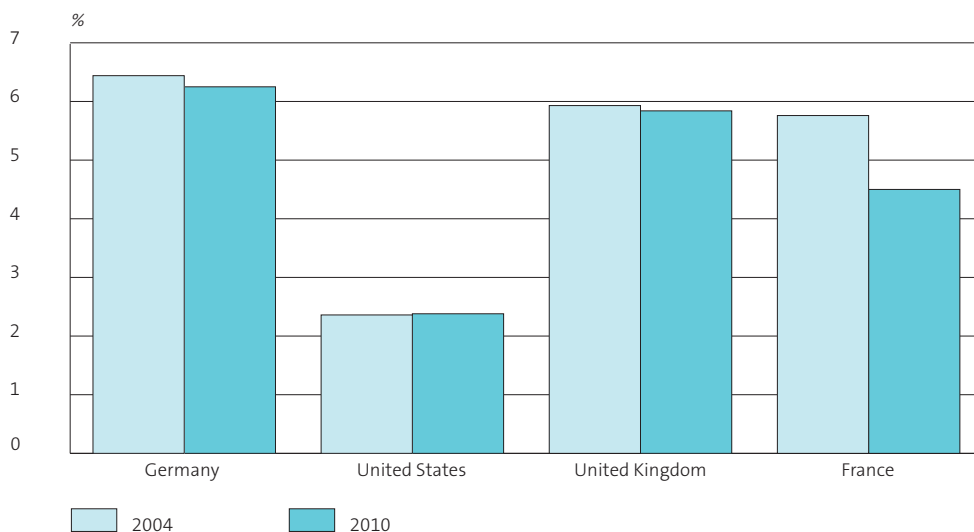
¹⁾ All the data for this section are from Eurostat, for the latest year available (2010). Since no detailed country information was available for Bermuda, this country was excluded from the analyses in this section.

3.7.1 Total export values of services to the Netherlands and the world for several important foreign markets

Country	Export to	2004	2010
<i>million euro</i>			
Germany	World	118,670	179,379
	The Netherlands	7,646	11,219
United Kingdom	World	159,106	188,640
	The Netherlands	9,441	11,014
United States	World	272,817	412,028
	The Netherlands	6,439	9,811
France	World	92,422	109,852
	The Netherlands	5,325	4,939

Data derived from Eurostat (extracted 25-5-2012), reporting country is the source.

3.7.2 Services export market shares of the Netherlands on several major foreign markets



Data derived from Eurostat (extracted 25-5-2012), reporting country is the source.

3.7.3 and 3.7.4 give an overview of the Dutch share in the services imports of several major trading partners. For all of these countries, the total imports of services from the world increased between 2004 and 2010. In the same period, the imports from the Netherlands increased for all except for the United Kingdom. As a result, the services import market shares of the Netherlands for the United Kingdom decreased slightly by 0.6 percentage point from 2004 through 2010.

3.7.3 Total import values of services from the Netherlands and the world for several major foreign markets

Country	Import from	2004	2010
<i>million euro</i>			
Germany	World	158,384	199,041
	The Netherlands	9,584	11,981
Ireland	World	52,625	80,931
	The Netherlands	5,403	10,243
Belgium	World	39,475	59,317
	The Netherlands	3,975	7,065
United States	World	228,213	304,668
	The Netherlands	5,517	6,340
United Kingdom	World	120,658	125,787
	The Netherlands	4,804	4,293

Data derived from Eurostat (extracted 25-5-2012), reporting country is the source.

3.7.4 Services import market shares of the Netherlands on several major foreign markets



Data derived from Eurostat (extracted 25-5-2012), reporting country is the source.

In 2010, Germany imported the most from the Netherlands (12.0 billion euro, or a market share of 6 percent of total German services imports) compared with the other selected countries. For Germany, the Netherlands was the fifth largest country for imports of services.

Ireland imported more than 10 billion euro from the Netherlands in 2010, resulting in a Dutch market share of 12.7 percent in its total services imports. Section 3.5 already showed that Ireland became the most important export destination for the Netherlands in 2010. After the United States (30 percent) and the United Kingdom (13 percent) the Netherlands was also in the Irish top three in services import origins.

3.8 Summary and conclusions

The aim of this chapter was to provide information about recent trends in the Dutch international trade in services. It was shown that the impact of the economic downturn and subsequent recovery was particularly apparent for the export of services, which decreased tremendously between 2008 and 2009. However, the export of services recovered remarkably in 2010 and 2011.

The effects of the economic crisis and recovery were less severe for the imports of services. They continued to grow each year, although the annual growth rates were relatively modest in 2009 and 2010 compared with previous years. However, in 2011 the growth rate for services imports doubled to 6.2 percent.

In the period 2004–2011, the category other business services was by far the largest in Dutch services imports and exports. Although this category is extremely diverse, including amongst others merchanting and operational leasing services, approximately 50 percent could be ascribed to services between affiliated enterprises not included elsewhere (n.i.e). For imports as well as exports, the second and third most important services categories in 2011 were transportation, and royalties and license fees.

In 2011, the United States was the largest market for services imports for the Netherlands with a trade value of almost 12 billion euro. Ireland was the most important destination for Dutch services exports with 13.2 billion euro in 2011. In addition, the Netherlands was also a very important services import country for Ireland.

In the period 2010–2011, Singapore was the largest upcoming trading partner for the Netherlands in services imports. Poland was the largest upcoming trading partner in services exports with a growth rate of 32 percent between 2010 and 2011.

Trends in foreign investments

4



Trends in foreign investments

4.1 **Introduction**

4.2 **Dutch Foreign Direct Investments**

- Definitions and methodology FDI
- Development of Dutch FDI flows and stocks
- The knowledge intensity of Dutch FDI

4.3 **Foreign controlled enterprises in the Netherlands**

- Methodology inward FATS, differences FATS and FDI

4.4 **Dutch controlled enterprises outside the European Union**

- Methodology Outward FATS

4.5 **Conclusions and further research**

This chapter presents the latest data and insights about Dutch Foreign Direct Investments, foreign controlled enterprises in the Netherlands, and Dutch controlled enterprises outside the European Union. Dutch Inward FDI is now recovering from the economic crisis, but Outward FDI is still trailing behind. The share of foreign controlled enterprises in the Dutch economy continues to grow. Compared to enterprises in Belgium, Germany or France, Dutch enterprises are very active outside the European Union.

4.1 Introduction

Worldwide foreign investments are growing faster than GDP. They influence the Dutch economy as Dutch enterprises buy foreign enterprises and vice versa. Foreign investments in the Netherlands may introduce new organisational skills, new products and new production processes. These can be transferred to local firms, for example by labour migration (Fortanier 2008). Furthermore, multinationals may drive competition which leads to the survival of only the most productive firms (Alfaro and Chen, 2012). Foreign investments abroad generate possibilities for Dutch multinationals, because the turnover of multinationals in developing and transition economies grows faster than in developed countries (UNCTAD 2012).

In 2010 the Netherlands continued to be the country with most inward and outward FDI in the world (IMF 2012). However, DNB (2011) already noted that “only part of the total amount reflects foreign direct investment that affects the Dutch real economy”. Special Purpose Entities (SPEs, see below) account for around 75 percent of the total of Dutch direct investment (DNB 2011), but they do not affect the Dutch real economy. Part of the remaining 25 percent is channelled through the Netherlands without any relation with the Dutch real economy either. Note that the Netherlands would be in the top ten of worldwide FDI even without the SPEs.

The information about foreign investments can be divided into two parts: foreign direct investments (FDI) and foreign affiliates statistics (FATS). FDI describes the financial flows to and from countries, the financial relations. FATS describe their effects on the real economy, the economic relations. However, there are important differences between FDI and FATS. For example, part of FDI is channelled through countries without having an effect on their real economies.

This chapter deals with both FDI and FATS. It starts with developments in Dutch FDI. In section 4.3 we focus on statistics that describe the activities of foreign controlled enterprises residing in the Netherlands and the activities of Dutch controlled enterprises

in foreign countries. In section 4.4 we discuss the activities of Dutch controlled enterprises in foreign countries. These sections pay special attention to the BRIC countries: Brazil, Russia, India and China. In section 4.5 we present our conclusions and suggestions for further research.

4.2 Dutch Foreign Direct Investments

Definitions and methodology FDI

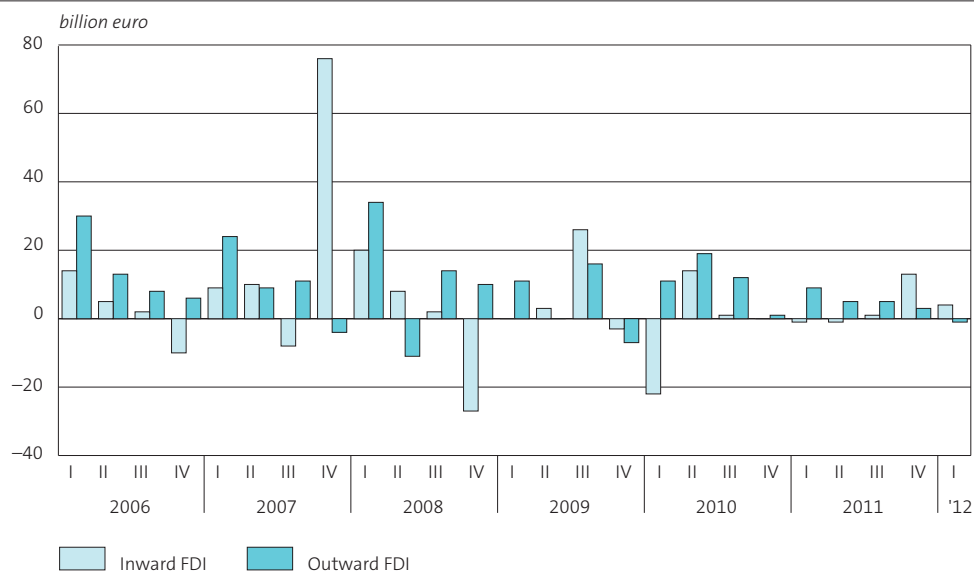
The leading authority on FDI in the Netherlands is De Nederlandsche Bank (DNB). It collects, compiles and publishes the data on incoming and outgoing FDI as a part of the Balance of Payments according to the IMF Balance of Payments Manual (IMF, 1993). DNB divides FDI into manufacturing (the sectors A-F in NACE Rev. 2, which includes for example mining and the metal industry) and services (the sectors G-S minus O, which includes for example trade and the financial sector). For inward and outward FDI, the economic sector is that part of the enterprise in the Netherlands that receives or makes investments.

Special Purpose Entities (SPEs). According to De Nederlandsche Bank, SPEs, sometimes also referred to as special financial institutions (SFIs), are Dutch-based subsidiaries of foreign parent companies that “function as financial turntables for foreign components of the group to which they belong. (...) With its favourable tax climate and infrastructure, the Netherlands has always been a popular domicile for SPEs.” (DNB 2008–9, pages 195 and 7). De Nederlandsche Bank publishes detailed FDI statistics in two versions, one excluding and one including the SPEs.

For more definitions and methodology see the introduction of chapter 12.

Development of Dutch FDI flows and stocks

4.2.1 Quarterly Dutch FDI flows



Source: De Nederlandsche Bank.

Graph 4.2.1 shows that FDI flows fluctuated greatly in recent years, mostly due to one-off factors such as a major transaction. So the figures should be interpreted with caution. For example, inward FDI rose substantially in 2007, largely due to the takeover of ABN AMRO by foreign banks. But in the fourth quarter of 2008 it fell sharply because the Dutch government acquired the Dutch part of the Belgian Fortis company.

Whereas 2010 showed negative inward FDI flows because many countries disinvested, investments were the overall trend again in 2011 and in the first quarter of 2012. Dutch FDI follows the general trend in the European Union, with lower investments in 2010 but improvement in 2011 (Nowak 2012). Enterprises mainly from Germany and Switzerland invested in the Netherlands in 2011. The Netherlands has never attracted so many foreign investment projects within one year as in 2011 (Ernst & Young 2012, IBM 2012).

Outward FDI flows are still trailing a little behind, with lower levels than before the crisis began. But again, one-off factors cause the flows to fluctuate. The largest investments of Dutch enterprises were in the United Kingdom and in Switzerland.

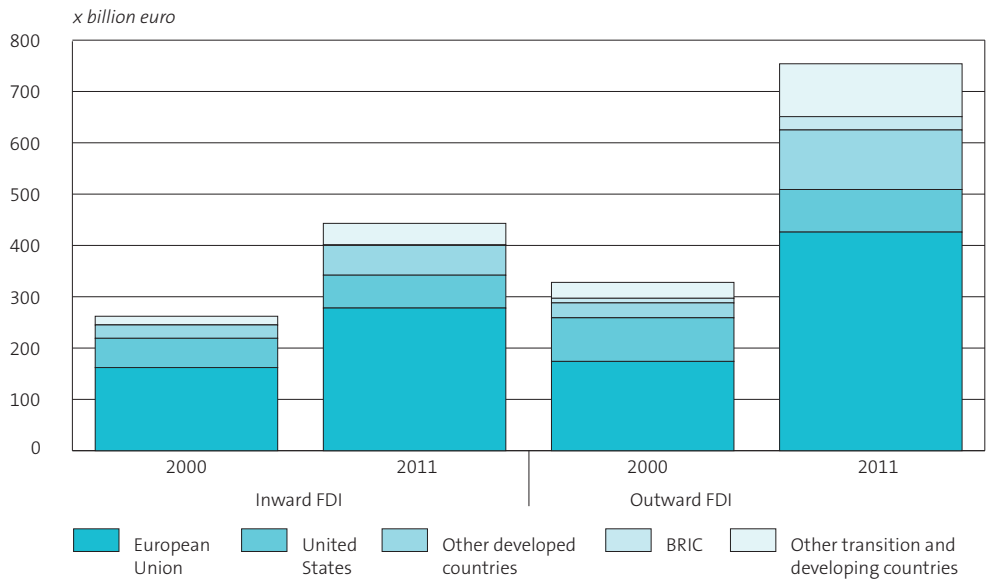
Investment worldwide shows growth and recovery. FDI was growing before the economic crisis of 2009, and then declined. This was mainly because international investors had less access to credit, which made investing more difficult. They withdrew funds from foreign markets to mitigate this and because they wanted to reduce exposure there (Nowak 2012). UNCTAD (2012) observed that FDI flows expanded in 2011 in developed¹⁾, transition and developing countries. The flows even surpassed the pre-crisis levels of 2004–2006. But the levels of inward and outward FDI have not yet returned to the peak values of 2007. UNCTAD expects continuous, albeit slower, growth in 2012. It reports that multinationals now have record holdings of cash, but that risks and uncertainties such as sovereign debts and the euro crisis are slowing down investments.

As far as the distribution of Dutch inward FDI among countries is concerned, developed countries have by far the largest amount. There was a major change in the distribution. The value of inward stocks from the United States only increased slightly between 2000 and 2011. That of other regions doubled. Investment from the BRIC countries grew in this period, amounting to 938 million euro in 2010.

Dutch outward FDI relates more often to developing countries than Dutch inward FDI. Also, FDI to developing countries is growing faster than to developed countries. For example, Dutch FDI in the BRIC countries tripled from 2000 to 2011 to a total value of 26 billion. At the same time Dutch FDI in the United States decreased.

¹⁾ UNCTAD discerns developed countries (the OECD members other than Chile, Mexico, the Republic of Korea and Turkey), plus the new European Union member states that are not OECD members (Bulgaria, Cyprus, Latvia, Lithuania, Malta and Romania), plus Andorra, Bermuda, Liechtenstein, Monaco and San Marino), transition economies (South-East Europe and the Commonwealth of Independent States) and developing countries (the remaining countries).

4.2.2 Dutch inward and outward FDI stocks, by region of origin/destination



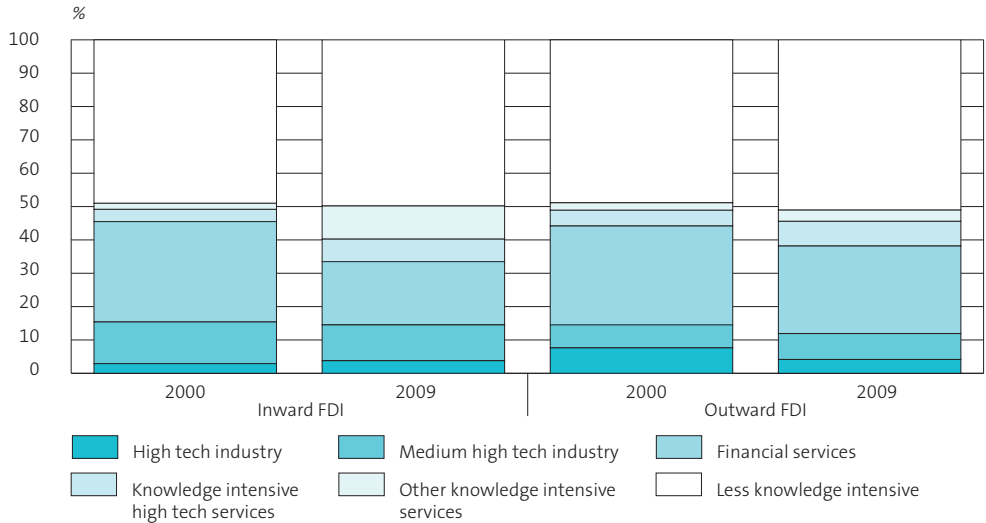
Source: De Nederlandsche Bank, calculated by Statistics Netherlands.

More detailed information about inward and outward FDI on country level can be found in chapter 12 “Foreign direct investments” of this edition.

The knowledge intensity of Dutch FDI

We now turn to the knowledge intensity of FDI, following Weterings et al. (2011). They used a classification of Eurostat (2009) that assigns a knowledge intensity to every economic sector. Graph 4.2.3 shows that about half of inward FDI is in the knowledge intensive sector. It contains the high tech industry, the medium high tech industry, financial services, knowledge intensive high tech services and other knowledge intensive services such as publishing activities. The other half consists of less knowledge intensive sectors such as the food industry or the production of furniture. During 2000–2009, the share of FDI stocks in knowledge intensive sectors remained the same. The share of financial services declined, because FDI in this sector remained the same while it grew in other sectors. But the share of other knowledge intensive services, such as business and management consultancy, increased.

4.2.3 Inward and outward FDI, by knowledge intensity of economic sector¹⁾



¹⁾ Due to a break in the classification of economic activities (NACE Rev. 1.1 to NACE Rev. 2) it was not possible to compare 2000 with 2010.

Source: De Nederlandsche Bank, calculated by Statistics Netherlands.

Half of Inward FDI is knowledge intensive

Of course there is much heterogeneity in the investments of countries. Lejour and Lemmers (2012) point out that investments from the United States and Japan are on average much more knowledge intensive than those from Europe. The United States are specialised more in knowledge intensive financial services and Japan more in medium high tech industry, especially the chemical industry. European countries are far less represented in high tech and medium high tech industry, but they are more diverse than FDI from the United States or Japan. Only one fifth of the incoming FDI from the BRIC countries, about 1 billion worth, was in knowledge intensive sectors.

There were no major shifts in knowledge intensity for outward FDI. The share of high tech industry and financial services declined somewhat, but that of other knowledge intensive services grew. The distribution of knowledge intensive/extensive was about fifty-fifty,

just like for inward FDI. The knowledge intensity of outward Dutch FDI is not the same in each country. For example, Dutch FDI in the United States is more knowledge intensive than average, because about half of the investments are by the knowledge intensive financial sector. On the other hand, Dutch investments in the BRIC countries are less knowledge intensive. Here the major Dutch investors are involved in manufacturing food and beverages, or in manufacturing coke and refined petroleum products. Eurostat has classified these activities as less knowledge intensive.

More detailed information about FDI stocks broken down by economic sector can be found in chapter 12 “Foreign direct investments” of this publication.

As mentioned in the text box, FDI measures financial cross border flows, but some might only be channelled through the Netherlands without having a sizeable effect on the real economy. This is confirmed by UNCTAD (2012), which introduces an FDI contribution index in the World Investment Report 2012. It ranks economies on the basis of the significance of FDI and foreign affiliates in their economy, in terms of value added, employment, R&D and so on. UNCTAD also publishes an FDI attraction index, which measures the success of economies in attracting FDI. The score of the Netherlands on the FDI contribution index is lower than that on the FDI attraction index. UNCTAD suggests that this might have to do with favourable fiscal or corporate governance regimes in the Netherlands.

It would be great to capture the real contribution of FDI to the Dutch economy and that of Dutch FDI to foreign economies. That is, after deducting funds which transit the country without having any durable economic impact. DNB (2008) already made concrete proposals to do so. And the OECD (2011) works to achieve this goal by integrating financial (FDI) and economic (FATS) measures. This would show the real interdependency between countries as far as investment flows are concerned.

4.3 Foreign controlled enterprises in the Netherlands

Table 4.3.1 describes the activities of enterprises that reside in the Netherlands and have a foreign Ultimate Controlling Institutional Unit (UCI). In this context, enterprise A is deemed to be controlled by an institutional unit B when B controls, directly or indirectly, more than half of the shareholders' voting power or more than half of the shares. These statistics are part of the Inward Foreign Affiliate Statistics (inward FATS).

4.3.1 Share of foreign controlled enterprises in total private Dutch sector (excluding financial sector)

	2001	2002	2003	2004	2005	2006 ¹⁾	2007	2008 ¹⁾	2009	2010
	%									
Number of enterprises	0.7	0.8	0.7	0.7	1.2	1.1	1.0	1.0	1.0	1.0
Number of persons employed	11.9	13.5	12.9	14.0	14.5	13.9	13.4	14.0	15.5	15.1
Turnover	23.7	25.1	25.3	27.1	26.7	29.9	29.4	31.4	32.4	34.1
Value added at factor costs	17.5	20.5	19.2	20.9	20.5	23.4	22.3	24.4	24.4	25.7
Gross fixed capital formation	16.9	19.2	15.4	17.6	17.8	20.0	20.6	21.8	22.8	24.2

Source: Statistics Netherlands, Inward FATS.

¹⁾ Between 2005 and 2006, 2007 and 2008, there are breaks in the time series due to changes in the definitions.

Foreign controlled enterprises steadily increase their share in the Dutch private sector, even though there are relatively few of them. In 2010, they generated more a quarter of the value added in the private sector, which amounts to 14.6 percent of GDP against factor costs. Furthermore, they employed around 804 thousand people. And foreign controlled enterprises accounted for almost a quarter of private sector investments. In general, these enterprises are larger than Dutch controlled enterprises, they are more productive (Fortanier and Van de Ven, 2009), they pay higher wages (Fortanier and Korvorst, 2009) and they are more often involved in international trade (Jaarsma and Lemmens-Dirix, 2011). This is observed for different countries. Theory suggests (Melitz 2003, Helpman et al. 2004) that the underlying cause is the higher productivity of foreign controlled enterprises.

Methodology inward FATS, differences FATS and FDI

The foreign affiliate statistics (FATS) present detailed data on the activities of foreign affiliates, e.g. employment levels, turnover and value added. The inward FATS cover the private sector excluding the financial sector, the outward FATS cover the whole private sector. Detailed information on the level of country and economic sector can be found on StatLine, the free online database of Statistics Netherlands.

FATS data only concern a sub-set of the entities involved in FDI. Inward FATS only consider enterprises that are controlled by a foreign enterprise with over 50 percent of the voting power, whereas inward FDI considers enterprises where a foreign enterprise has 10 percent or more of the voting power. Therefore there are fewer

enterprises engaged in Inward FATS than in inward FDI, generating less employment, value added and so on.

Another important difference between FATS and FDI statistics is that FATS use the concept of ultimate controlling institute (UCI), whereas FDI uses the concept of direct investor. For example, suppose a Dutch enterprise controls a German enterprise, which in turn controls a second Dutch enterprise. Then the UCI of the second Dutch enterprise is Dutch, hence it is not counted in the FATS. However, the direct investor is German so it is counted in the FDI.

See the IMF Balance of Payments Manual and the FATS Regulation for other methodological differences.

Turnover of foreign controlled enterprises is mainly generated in manufacturing and trade. These two sectors account for three quarters of total turnover by foreign controlled enterprises. Bruls and Leufkens (2011) already pointed out that the share of these enterprises differs greatly by sector. For example, 58 percent of turnover in the sector production and distribution of water, gas and electricity is created by foreign controlled enterprises, but only 2 percent in the sector real estate. This share is also high for manufacturing, but small for building and construction.

The United States, Germany, France and the United Kingdom are the main controlling countries (UCIs) of the enterprises. Together they have a 23 percent share in total turnover by the private sector or 67 percent share of the total turnover by foreign controlled enterprises. The share of the BRIC countries in the private sector is still very small, about 3 pro mille.

There can be many different reasons to invest in the Netherlands. Interviewed decision makers of foreign enterprises (Ernst & Young, 2012) remarked that they are very satisfied with the presence of high-grade knowledge and technology, stable social environment, favourable tax climate, good infrastructure and highly educated employees. They are less satisfied with cost of labour and real estate. Furthermore, labour laws concerning hiring and firing are considered unfavourably by many investors.

Depending on their ultimate controlling institute (UCI), foreign controlled enterprises in the Netherlands have noticeable differences in productivity levels. These differences are partly caused by a composition effect. For example, Dutch enterprises with French UCI have relatively more employment in trade and storage, with a lower productivity level. But the enterprises that are controlled by the United States have relatively much employment in manufacturing, with a higher productivity level. Fortanier and Moons (2011) took such heterogeneous factors at the enterprise level into account. They found that enterprises controlled by the United States and Japan have high productivity levels. Their explanation is that these countries have much experience with internationalisation and that they are at the technological frontier. They also found that enterprises controlled by China are less productive. As possible causes they suggest less experience with international expansion and a different investment strategy, namely not seeking productivity but technologies and knowledge. However, the low share of Chinese FDI in knowledge intensive Dutch sectors suggests that this last explanation does not hold.

4.4 Dutch controlled enterprises outside the European Union

This paragraph will address the following questions about presence of Dutch controlled enterprises outside the EU:

- What are the main activities of these enterprises?
- In which countries are they located?
- How does the size of these activities compare to that of other countries?

It is the first time that statistics of these enterprises are described in more detail. The name of these statistics is Outward Foreign Affiliate Statistics (Outward FATS).

Methodology Outward FATS

Statistics about the activities of Dutch controlled enterprises abroad are limited. They are available only for Dutch daughter enterprises in countries outside the European Union. Data collection for the Outward FATS started for reporting year 2007, and only for the variables sector of activity, number of enterprises, turnover and number of employees. It is theoretically possible to construct the same statistics about the presence of Dutch controlled enterprises

in EU countries by using the statistics of other countries about activities in their country. However, such data are often confidential because so few enterprises are involved.

Detailed information on the country and economic sector level can be found on StatLine, the free online database of Statistics Netherlands.

4.4.1 Key figures on the presence of Dutch controlled enterprises outside the EU

	Unit	2008	2009	2010
Daughter enterprises		6,125	8,055	8,225
Employees	<i>x 1,000 fte</i>	784	761	796
Turnover	<i>billion euro</i>	493	363	485

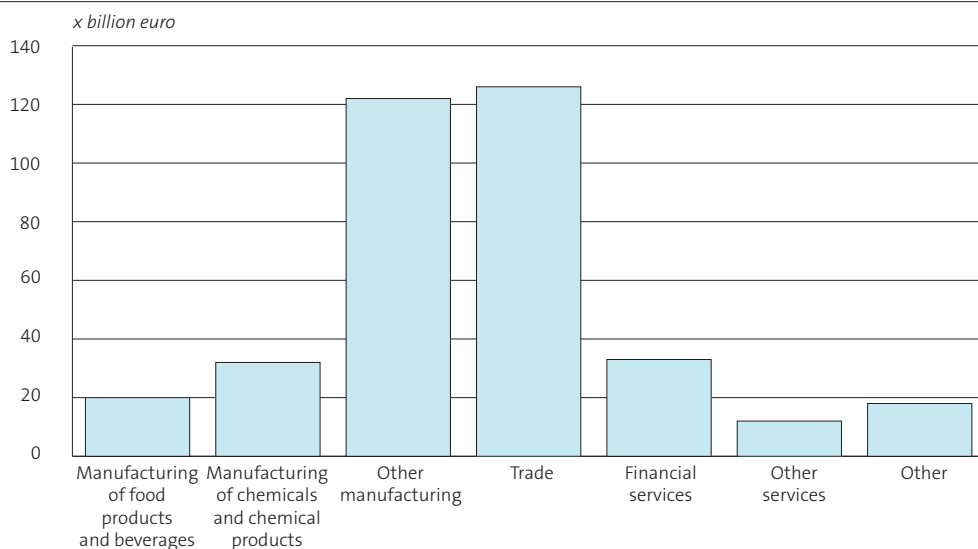
Source: Statistics Netherlands, Outward FATS.

The economic crisis greatly affected the turnover of Dutch controlled enterprises outside the European Union. Between 2008 and 2009 it fell by more than a quarter. It fell across the board in almost all subsectors of manufacturing and services. This turnover recovered in 2010 to return to the level of two years earlier. The number of employees did not decrease much in 2009, suggesting that enterprises chose to keep their personnel employed. This labour hoarding took place in the Netherlands as well. The Dutch Bureau for Economic Policy Analysis (CPB) 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 (De Jong, 2011). Despite the economic downturn, the number of Dutch controlled enterprises increased substantially, which may indicate that Dutch enterprises still see opportunities abroad.

Activities of the daughter enterprises in the economic sectors abroad are evenly spread among manufacturing and services. In 2009, about 35 percent of turnover was realised in trading. However, it is important to realise that the value added of trade is less than that of other services activities or manufacturing. Chemicals and financial services were the other major active sectors, with a turnover of about 30 billion euro, about ten percent of total turnover.

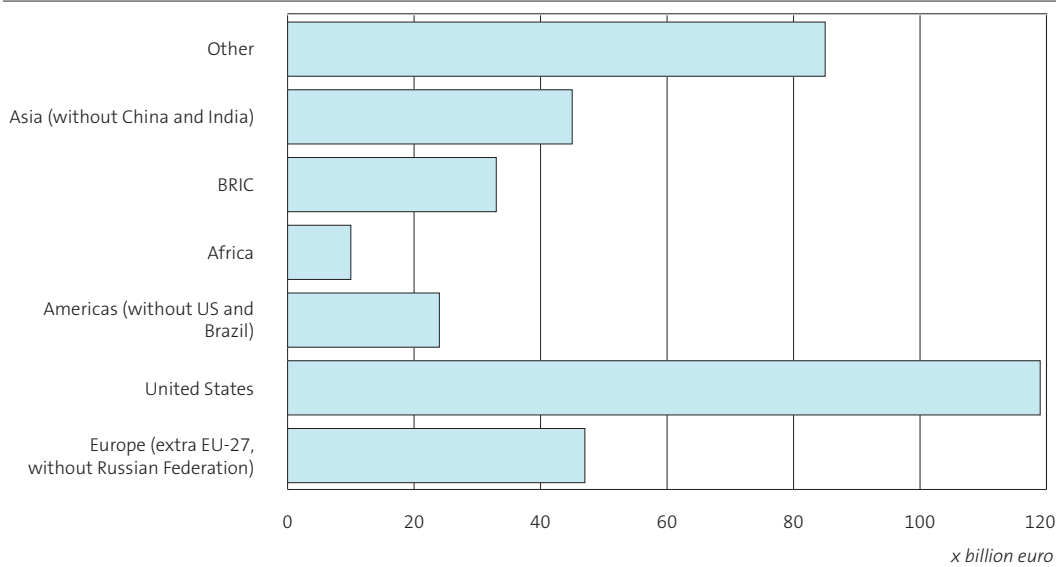
4.4.2 Turnover Dutch controlled enterprises outside EU, by economic sector, 2009



Source: Statistics Netherlands, Outward FATS.

In 2009 Dutch controlled enterprises generated the highest turnover in the United States. They had a joint turnover of 119 billion, which is almost a third of total turnover created by Dutch controlled firms active outside the EU. Dutch daughter enterprises active in BRIC countries had a 9 percent share in total turnover. This is still less than that of European countries (EU and Russia excluded), but more than in countries on the American continent (United States and Brazil excluded). However, the share of the BRIC countries is increasing. Not because turnover in these countries is increasing, but because turnover decreased less than in the other non-EU countries. Turnover in China was not greatly affected by the economic downturn.

4.4.3 Turnover of Dutch controlled enterprises outside the EU, 2009



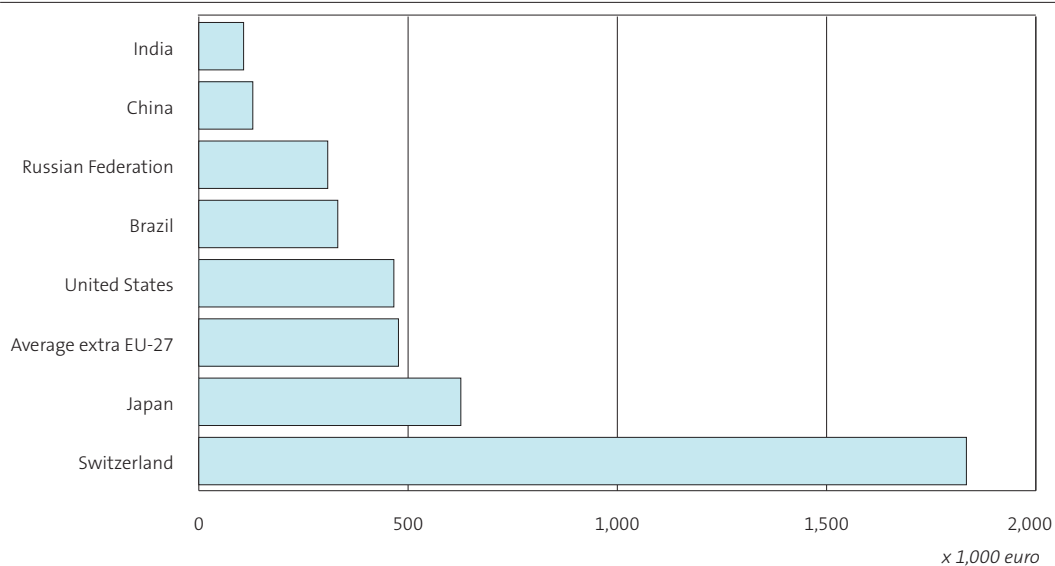
Source: Statistics Netherlands, Outward FATS.

Dutch enterprises have daughter enterprises in highly developed as well as in developing countries. This is not surprising, because enterprises have other reasons besides seeking cost efficiency though lower wages when they transfer activities abroad. In a survey conducted by Statistics Netherlands in 2008 (Van Gessel-Dabekaussen et al.), enterprises indicated that following clients and rivals, access to specialised knowledge, access to new markets and an improvement of logistics also played major roles in their decision to venture abroad.

There are large differences in terms of turnover per employee by country of destination. This is reflected by graph 4.4.4, that shows the average turnover per employee for several host countries. The average turnover per employee is 477 thousand euro, but an employee at a Dutch controlled enterprise in Switzerland generates about four times as much turnover. Many work in the Swiss services sector, especially financial services, which generally creates more turnover than manufacturing. On the other hand, the average employee at a Dutch controlled enterprise in China or India works in manufacturing where the general price level is far lower, explaining the below average turnover per employee.

Dutch controlled enterprises are very active outside the European Union

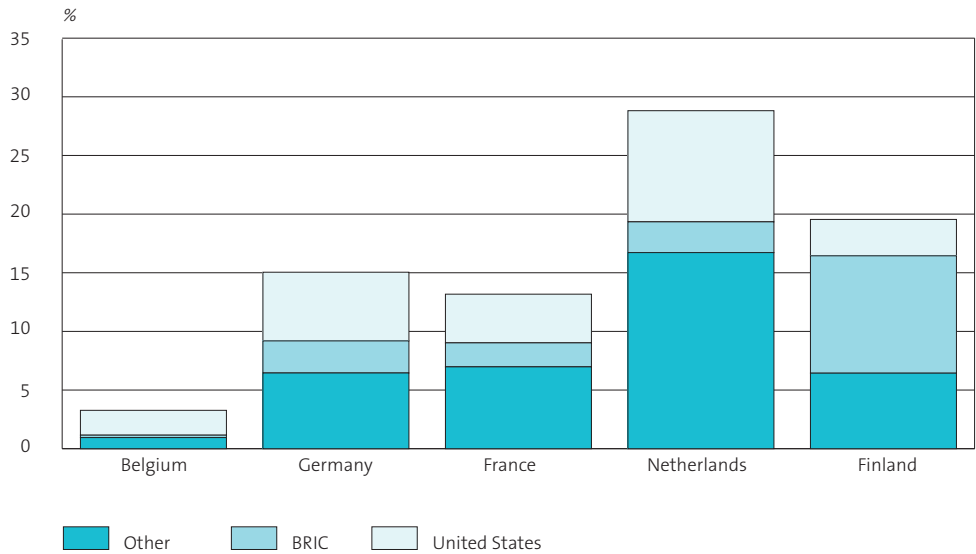
4.4.4 Average turnover per employee at Dutch controlled enterprises outside the EU, by country, 2009



Source: Statistics Netherlands, Outward FATS.

The Dutch economy is very internationally oriented as far as trade and FDI are concerned. The Netherlands is the fifth exporter of goods in the world (WTO 2012) and is in the top ten for FDI even after correction for the SPEs (DNB 2011). The Netherlands is also very internationally oriented when it comes to turnover of Dutch controlled enterprises outside the EU. Graph 4.4.5 shows that turnover generated by Dutch controlled enterprises outside the EU equals almost 30 percent of turnover of all enterprises in the Netherlands. The graph also shows that the Netherlands generates twice as much turnover outside the EU than Germany and France, and almost nine times as much as Belgium, relatively speaking. To correct for the different sizes of the economies, the ratio of turnover outside the EU is divided by the turnover in the business economy of the country itself.

4.4.5 Ratio of turnover outside the European Union and national turnover, 2009



Source: Eurostat, calculated by Statistics Netherlands.

The graph suggests that Dutch enterprises use the possibilities of producing and selling in emerging markets just as well as German and French enterprises. Different sources (OECD 2012, Groot et al. 2011a, Groot et al. 2011b) noted that this might be different for exports and FDI. Dutch enterprises export and invest relatively less in the BRIC countries than enterprises from other countries. This has led to concerns that Dutch enterprises do not seize the opportunities in emerging markets as much as other countries, leading to less GDP growth and less of a competitive edge. For example, OECD (2012) wrote that “However, a concern is that exports of domestically produced goods remain focused on slow-growing traditional European markets and not sufficiently on emerging countries.”

Turnover in the BRIC countries is far higher for Finnish than for Dutch, German and French controlled enterprises. Half of this turnover is in the sector radio, television and communication equipments” probably related to the strong Finnish mobile phone industry. But Finnish controlled enterprises also generated substantial turnover in the sectors business and management consultancy, wholesale, and trade and repairs.

Still, graph 4.4.5 does not paint a complete picture. First of all, the composition of the population of foreign controlled enterprises differs by country. For example, if a country has relatively more daughter enterprises in the manufacturing sector of developing countries, these enterprises will generate less turnover than daughter enterprises active

in high level services in developed countries. Another explanation is that distribution of daughter enterprises among countries may differ: Belgian controlled enterprises may be more concentrated inside the EU (not shown) than outside the EU (shown in graph 4.4.5).

4.5 Conclusions and further research

Whereas Dutch inward FDI in 2010 and the beginning of 2011 was affected by the economic crisis, it showed signs of recovery in the second half of 2011 and the beginning of 2012. Similar trends can be observed in other EU countries. Dutch outward FDI, however, is still trailing a little behind. Knowledge intensity of inward FDI did not change much between 2000 and 2009, whereas that of outward FDI decreased slightly during the same time period.

The share of foreign controlled enterprises in the Dutch economy continues to grow. Dutch controlled enterprises outside the EU were severely affected by the economic crisis in 2009 and had much less turnover than the year before. However, it recovered during the next year and returned to the level before the crisis. This turnover outside the EU27 as a share of domestically generated turnover was higher than that of enterprises controlled by other countries. Turnover of Dutch affiliates in the BRIC countries was much higher than that of Belgian controlled enterprises in these countries, but similar to that of German or French controlled enterprises.

Further research is necessary to divide FDI into two parts: the amount that is really invested in the Netherlands and the part that passes through the country without having any durable economic impact. This would add an extra dimension to the currently available numbers, namely that of the interdependency between countries. DNB (2008) has already described how to achieve this goal.

International enterprises in a regional context

5



International enterprises in a regional context

5.1

Introduction

5.2

Data and methodology

5.3

International enterprises in a regional dimension

5.4

International traders in a regional dimension

5.5

A closer look at the five major towns in the Netherlands

5.6

Summary and conclusions

- Annex

Internationally active enterprises, such as foreign controlled enterprises and international traders, are located throughout the Netherlands. However in certain areas their concentration is higher than in others. International traders are often found in the border regions and in the south. As far as trade value is concerned, establishments located near the Dutch mainports are most important. Foreign controlled enterprises are also often found close to the Dutch borders and major Dutch towns. German, American and British foreign controlled firms are dominant but there are interesting differences between the regions.

5.1 Introduction

International trade is essential for Dutch economic growth. As Lemmers et al (2012) have shown, almost a third of Dutch GDP is created through trade in goods and services. In addition, international trade often also functions as the motor of the Dutch economy, leading the way out of economic crises or recessions (CBS, 2011a; FME, 2012). In this regard, the Port of Rotterdam and Schiphol International Airport are often credited as crucial mainports, through which not only the Netherlands but also the European mainland is supplied with goods.

In 2011, enterprises in the Netherlands jointly imported around 364 billion euro and exported 405 billion euro worth in commodities. Previous editions of the Internationalisation Monitor (CBS, 2011b) as well as chapter 10 of this edition, show that foreign controlled enterprises are important actors in this regard. Roughly half of total Dutch international trade is generated by foreign controlled enterprises.

What was also shown is that trade is concentrated: only a small section of the total enterprise population engages in international trade (CBS, 2011b). An even smaller section, consisting of the largest, most productive and often foreign controlled enterprises, is highly active and trades with a multitude of partner countries, buying/selling many products. It is interesting to analyse whether international trade activities are also concentrated regionally.

Investigating whether internationally oriented enterprises are concentrated in certain Dutch regions is part of a new area of research for Statistics Netherlands. The availability of a new micro-dataset that regionalises the General Business Register (GBR) makes it possible to pinpoint local establishments with foreign trade and identify the nationality of their parent company. This dataset is described in section 5.2. In section 5.3 we will take a closer look at the spatial distribution of foreign controlled enterprises and focus on some specific regions. Section 5.4 will focus on the location of international traders and show where the bulk of international trade is generated. Section 5.5 will dig deeper into the role of the five major towns in the Netherlands in terms of internationalisation. The chapter concludes with a short summary of the main findings.

5.2 Data and methodology

In order to be able to say something about enterprises in a regional perspective, it is necessary to analyse at the level of the local unit. A local unit (the official Eurostat definition is 'Kind-of-activity unit') corresponds to one or more operational subdivisions of an enterprise, which is situated in a geographically identified place. As such, an enterprise can consist of one or more local units, and in the latter case, each of these local units can have a different economic activity. In most cases, an enterprise consists of only one local unit. Large enterprises, however, can consist of many local units located throughout the Netherlands (e.g. retail enterprises or chains of restaurants or hotels). Most tables and graphs in this chapter focus on the role of internationally oriented enterprises in municipalities, COROP regions and provinces relative to the Netherlands in total. The COROP classification involves a regional level between municipalities and provinces. The Netherlands consists of 40 COROP regions.

The General Business Register (GBR) is the register of all active enterprises in the Netherlands, and includes several characteristics of the enterprises such as economic activity and size class. Recent developments in the GBR allow us to identify almost each local unit of all active enterprises in the Netherlands. We know its address, zip code, economic activity code and size in terms of employees.

Whether a local unit is ultimately owned by a foreign enterprise is based on the concept of Ultimate Controlling Institute (UCI). When the control further up the chain of command is located outside the Netherlands, the local unit is characterised as being 'under foreign control'. The country of ultimate control is the one where the actual operational and financial decisions are made.

In order to analyse the role of local establishments in foreign trade, the international trade in goods of an enterprise can be distributed over its underlying local units (see also chapter 10, on how international trade flows are matched to enterprises). Trade is distributed proportionately, based on the number of employees in each of the local units of an enterprise. The international trade in services of an enterprise is not analysed in this chapter.

Not all local business units are included in these analyses. Local establishments that are active in agriculture, financial intermediation, public governance, education and health care are excluded from this chapter (NACE Rev. 2, sections A, K and O–U). The remaining, corporate part of the economy will be discussed from a regional perspective.

5.3 International enterprises in a regional dimension

The first column of table 5.3.1 shows the total number of local business units per region in 2009. Such local business units can either be Dutch or foreign controlled. The percentage of local business units that are owned by a foreign parent company is shown in the second column of table 5.3.1. On average, 2 percent of all local units in the Netherlands is foreign controlled. The share of local units under foreign control per province ranges from 1.3 percent in Friesland to 2.5 percent in Limburg. Looking at the level of COROP regions, West-Noord-Brabant, Groot-Amsterdam, Zeeuws-Vlaanderen, Noord- en Zuid-Limburg have the highest shares, with percentages above 2.6 percent.

The last three columns show the share of establishments engaged in exports (only), imports (only) and two-way-trade (both exports and imports). In this section we take a closer look at local units under foreign control. Paragraph 5.4 focuses on local units engaged in trade.

5.3.1 Local business units per region and their international orientation, 2009

	Local business units	Foreign controlled	Exporters	Importers	Two-way traders
	<i>N</i>	%			
Corop-regions					
Oost-Groningen	7,240	1.9	1.8	8.3	7.9
Delfzijl en omgeving	2,260	2.1	1.1	5.6	8.2
Overig Groningen	20,170	1.7	1.4	6.7	6.4
Noord-Friesland	18,870	1.2	1.3	6.8	4.9
Zuidwest-Friesland	7,690	0.8	1.3	6.2	5.4
Zuidoost-Friesland	12,720	1.8	1.6	7.2	7.1
Noord-Drenthe	9,640	1.7	1.4	7.7	6.1
Zuidoost-Drenthe	9,390	2.0	1.9	8.7	8.4
Zuidwest-Drenthe	7,770	1.7	1.6	8.5	7.9
Noord-Overijssel	19,570	1.6	1.8	8.4	8.3
Zuidwest-Overijssel	7,420	2.2	1.7	8.3	8.9
Twente	33,010	1.8	2.6	9.9	11.2
Veluwe	40,320	1.6	2.1	7.3	7.8
Achterhoek	22,710	1.7	2.6	9.5	10.8
Arnhem/Nijmegen	40,100	2.0	1.9	7.8	8.3
Zuidwest-Gelderland	17,820	1.5	2.0	6.7	9.1
Utrecht	85,770	2.0	1.5	6.3	7.4
Kop van Noord-Holland	23,060	1.1	1.5	7.2	5.7
Alkmaar en omgeving	14,360	1.5	1.4	7.7	7.2
IJmond	11,490	1.5	1.4	7.7	6.4
Agglomeratie Haarlem	16,380	1.3	1.4	6.7	5.4
Zaanstreek	9,680	2.0	1.4	6.6	7.3
Groot-Amsterdam	108,450	2.8	1.5	6.1	6.4
Het Gooi en Vechtstreek	22,640	1.7	1.6	6.5	5.9
Agglomeratie Leiden en Bollenstreek	24,430	1.4	2.9	7.5	7.2

5.3.1 Local business units per region and their international orientation, 2009 (end)

	Local business units	Foreign controlled	Exporters	Importers	Two-way traders
	<i>N</i>	%			
Agglomeratie 's-Gravenhage	51,470	1.7	1.1	6.3	4.9
Delft en Westland	14,670	1.6	2.7	6.5	7.9
Oost-Zuid-Holland	20,280	1.4	1.7	7.1	7.7
Groot-Rijnmond	83,060	2.5	1.8	6.9	8.0
Zuidoost-Zuid-Holland	24,260	1.9	1.9	6.9	9.0
Zeeuwsch-Vlaanderen	5,590	2.8	3.0	21.7	15.4
Overig Zeeland	15,460	1.5	1.9	9.7	8.2
West-Noord-Brabant	40,020	2.9	2.6	8.6	11.2
Midden-Noord-Brabant	30,840	1.4	2.6	8.5	10.8
Noordoost-Noord-Brabant	43,520	1.8	2.0	9.0	9.4
Zuidoost-Noord-Brabant	48,920	2.2	2.7	9.7	11.1
Noord-Limburg	14,130	2.6	2.6	11.8	14.4
Midden-Limburg	13,580	2.4	3.2	13.4	13.1
Zuid-Limburg	31,910	2.6	2.4	15.0	11.6
Flevoland	23,080	1.9	1.7	6.7	8.9
Provinces					
Groningen	29,670	1.7	1.5	7.0	6.9
Friesland	39,280	1.3	1.4	6.8	5.7
Drenthe	26,800	1.8	1.6	8.3	7.4
Overijssel	60,000	1.8	2.2	9.2	10.0
Flevoland	23,080	1.9	1.7	6.7	8.9
Gelderland	120,950	1.7	2.1	7.8	8.7
Utrecht	85,770	2.0	1.5	6.3	7.4
Noord-Holland	206,060	2.2	1.5	6.6	6.3
Zuid-Holland	218,170	2.0	1.8	6.8	7.2
Zeeland	21,050	1.8	2.2	12.9	10.1
Noord-Brabant	163,300	2.1	2.5	9.0	10.6
Limburg	59,620	2.5	2.6	13.9	12.6
Netherlands	1,053,750	2.0	1.9	7.9	8.3

Source: CBS.

In 2009, relatively the most internationally oriented enterprises were located in Limburg

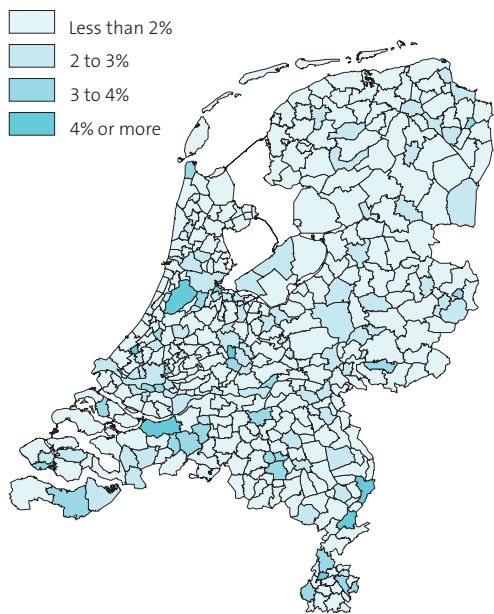
Local business units owned by a foreign parent are located throughout the Netherlands. Graph 5.3.2 shows that some areas have a higher number of foreign controlled establishments (each dot represents 5 establishments). There are dense areas around Amsterdam, The Hague and Rotterdam and to a lesser degree Utrecht and Eindhoven with a high number of local business units owned by foreign companies. This is obviously related to the relatively high level of economic activity in the Randstad and the concentration of inhabitants. All five areas will be discussed in more depth in section 5.5.

5.3.2 Local business units with foreign UCI, 2009

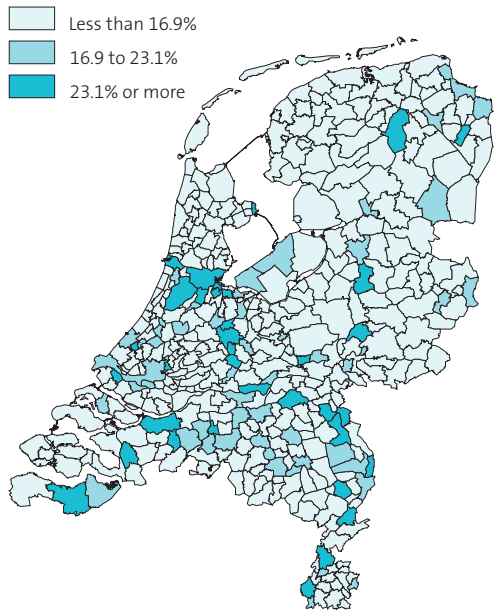
- 1 Dot = 5 local units



5.3.3 Share of local business units with foreign UCI per municipality, 2009



5.3.4 Share of foreign business units in employment per municipality, 2009

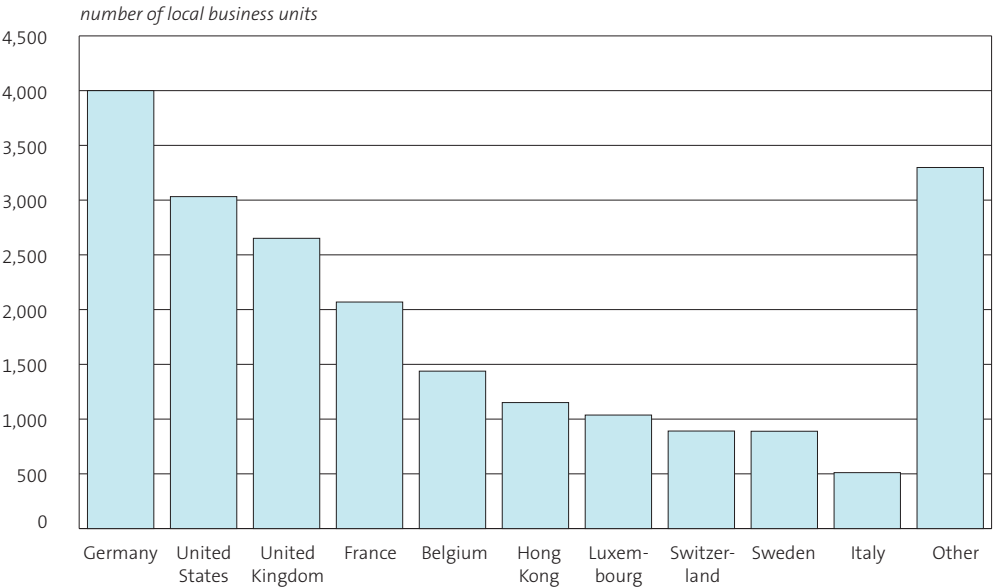


Graph 5.3.3 shows the share of foreign controlled local business units in the total number local business units per municipality. As table 5.3.1 showed, the average share of foreign controlled establishments in the Netherlands is about 2 percent. The lightest areas are communities with a below average share of foreign controlled units. The highest shares are found in Haarlemmermeer and Amstelveen (both near Schiphol Airport), Beek (near Maastricht-Aachen Airport), Nieuwegein, Roermond, Moerdijk (industrial areas), Rijswijk and Venlo (important border-crossing with Germany).

From graph 5.3.3 we can conclude that foreign controlled local business units are relatively often found in major Dutch cities, near important border crossings with Germany and Belgium as well as near airports and sea ports.

The impact that foreign controlled units have on employment in a region is shown in graph 5.3.4. In the Netherlands as a whole, foreign controlled local units provide 16.8 percent of employment. Municipalities with a below average share are light in graph 5.3.4. A similar pattern emerges as before, namely that foreign owned enterprises have a high share in employment in Haarlemmermeer, Amstelveen, Velzen, Beek, Maastricht and several other municipalities in Limburg and Noord-Brabant. Foreign owned local business units are relatively larger than the average local business unit, which implies that areas that sustain a greater share of foreign controlled establishments also have a relatively higher share of their workforce employed at a foreign controlled firm.

5.3.5 Local business units under foreign control by nationality, 2009



5.3.6 Local business units under foreign control per province, 2009

	Local business units under foreign control	Country with highest share	Share of this country in the number of local units under foreign control
	<i>N</i>		%
Groningen	519	Germany	26
Friesland	505	Germany	23
Drenthe	482	Germany	25
Overijssel	1,092	Germany	24
Flevoland	448	Germany	17
Gelderland	2,095	Germany	25
Utrecht	1,731	Germany	18
Noord-Holland	4,504	United States	20
Zuid-Holland	4,274	Germany	18
Zeeland	382	Germany	25
Noord-Brabant	3,416	Germany	20
Limburg	1,518	Germany	21

Source: CBS.

Graph 5.3.5 shows the number of local business units under foreign control per nationality. Roughly 4000 local units or about 19 percent of all local units under foreign control are German, followed by 14 percent American. As a result, in nearly all provinces the share of German control is the highest. Only Noord-Holland has more local units under American control, as is shown in table 5.3.6.

5.4 International traders in a regional dimension

Table 5.3.1 shows the share of local units that were active in the international trade in goods in 2009. This is done for the Netherlands as a whole as well as per province and COROP region. In 2009, 18 percent of the local business units in the Netherlands either imported or exported goods or did both. In the latter group of trading establishments there is a high incidence of two-way traders. In fact over 8 percent of all local units in the Netherlands imported as well as exported goods in 2009. Establishments that only import are also quite prevalent, namely 8 percent of all local units. Establishments that only export are less common (2 percent).

The contrast between regions is sharp. Border regions have a high proportion of traders among their local business units. The COROP region with the largest share of traders is

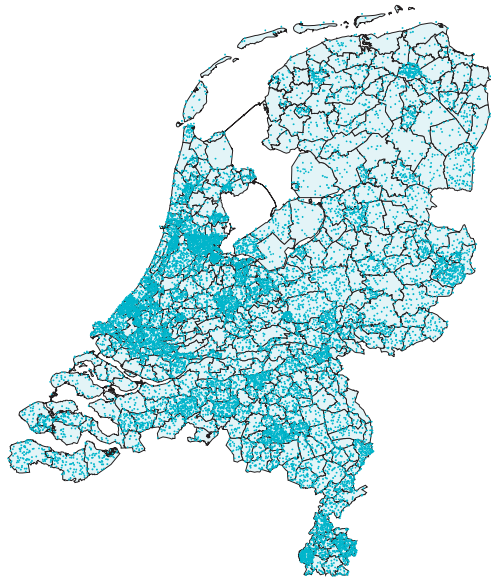
Zeeuws-Vlaanderen with 40 percent, followed by the three regions in Limburg with nearly 30 percent. Limburg is the province with the largest share of traders: 29 percent of all local business units. COROP region The Hague with 12 percent traders is last on the list.

Graphs 5.4.1, 5.4.2 and 5.4.3 show the geographical pattern of the various types of traders in the Netherlands for 2009. Graph 5.4.1 shows where local business units with only imports are mainly located (each dot represents 5 establishments). Graph 5.4.2 shows the location of establishments that only export and graph 5.4.3 shows where two-way traders are situated.

Trading establishments tend to be concentrated in certain areas of the Netherlands, ranging from cities in the Randstad to Noord-Brabant, the south of Limburg and Twente. At a first glance there just seems to be a striking similarity between importers and two-way-traders. However, enterprises that only export are similar in terms of location, but they are less visible because there are fewer.

5.4.1 Local business units with only imports, 2009

- 1 Dot = 5 importers



5.4.2 Local business units with only exports, 2009

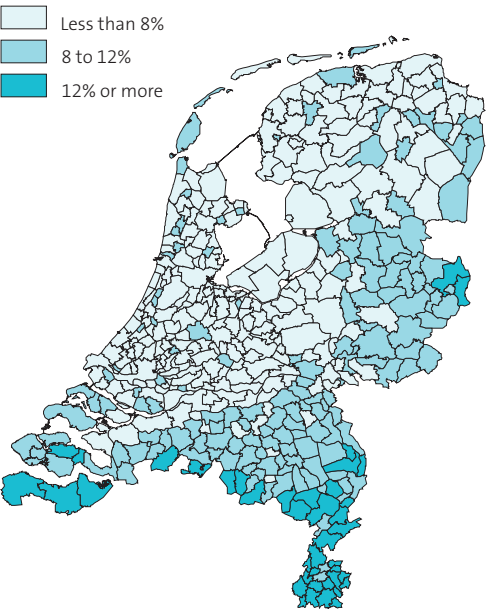
- 1 Dot = 5 exporters



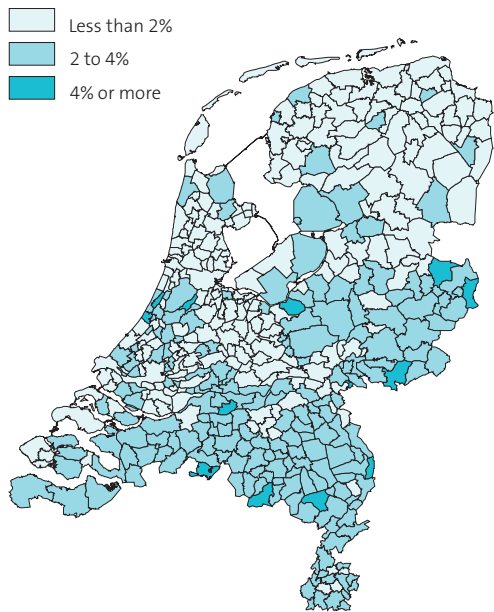
5.4.3 Local business units of two-way-traders, 2009



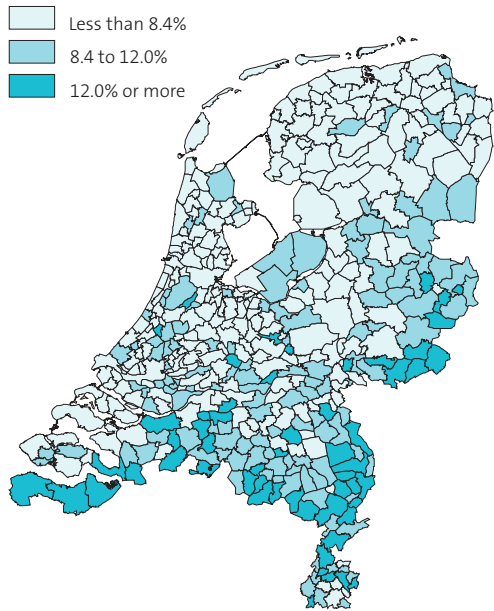
5.4.4 Share of importing local business units per municipality, 2009



5.4.5 Share of exporting local business units per municipality, 2009



5.4.6 Share of two-way-trading local business units per municipality, 2009



However, in relative terms, the distribution of traders in the Netherlands is completely different. Graph 5.4.5 shows the share of establishments with only exports in the total number of local business units for each municipality in the Netherlands in 2009. On average 1.9 percent of the local business units belong to the exporters. The light areas represent municipalities with a below average share. The municipalities with the highest share of exporting local units are concentrated near the borders with Germany and Belgium, and in parts of the Randstad.

Firms that only import are even more concentrated. On average 7.9 percent of local business units belong to this group. The southern provinces and the eastern part of the Netherlands have a higher share, as is shown in graph 5.4.4. Seven COROP regions have a share of more than 10 percent. These are all border regions.

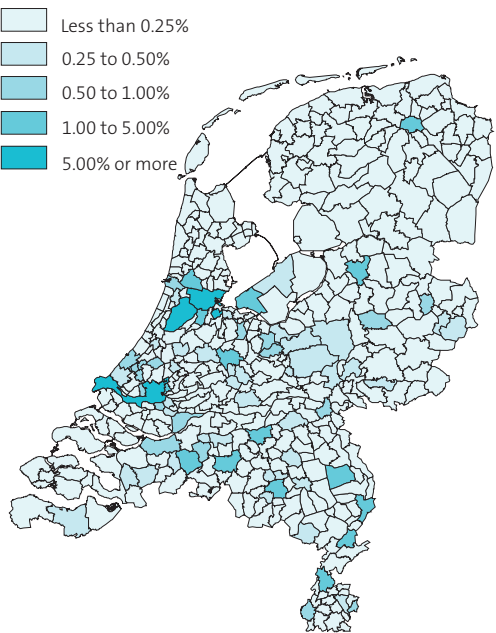
Both maps show that the share of local business units that only import or export is highest near the borders with Germany and Belgium. It probably is either important or convenient to locate near the border when an enterprise is active in trade. It is also possible that international trade emerges as a result of location, for instance when it is easier or more convenient to do business with a close but foreign partner than with a Dutch partner across the country.

For two-way traders, the picture resembles that of exporters; the largest concentrations are found in the border regions, but also some in the Randstad (graph 5.4.6). On average 8.3 percent of the local business units are two-way traders. It is interesting to see is that the province of Limburg has a relatively high number of two-way traders. In all three COROP regions in Limburg this share is more than 10 percent. The only other COROP regions with more than a 10 percent share are Overig Zeeland, Twente, Zeeuwsch-Vlaanderen and Zuidoost-Noord-Brabant.

Two-way traders are also relatively well represented in the Haarlemmermeer (Schiphol Airport) and Moerdijk.

Graphs 5.4.7 and 5.4.8 show the share per municipality in the total imports and exports (two-way traders, importers and exporters). Although the share of international traders is highest in the border regions, the import and export values of firms in the West of the Netherlands is much higher. So the relatively smaller number of business units in the West accounts for a much larger share in total exports and imports than the business units close to Germany and Belgium. This implies that the bigger traders (in terms of trade value) are located in the West. A few municipalities stand out in terms of trade share. Rotterdam by itself is responsible for 15 percent of total Dutch imports and over 10 percent of the exports. About 7 percent of Dutch imports and 5 percent of the exports enter/leave the country through Haarlemmermeer (where Schiphol Airport is located). Amsterdam has the third largest municipal trade share with 6 percent of the imports and 8 percent of the exports. Proximity to an airport or the port has a positive influence on the amount of exports and imports an establishment generates.

5.4.7 Share per municipality in import value, 2009



5.4.8 Share per municipality in export value, 2009

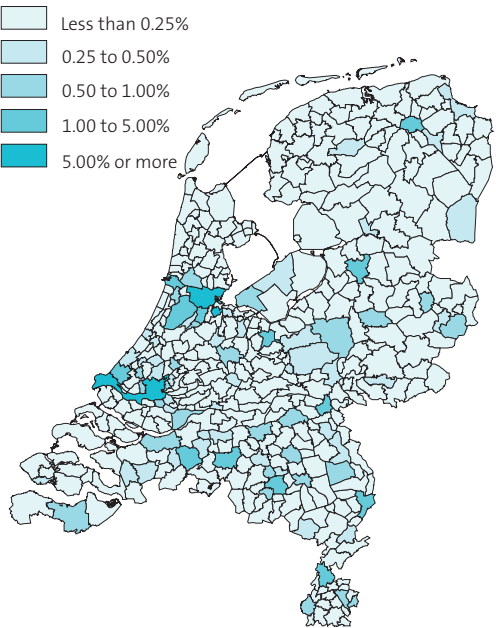


Table 5.4.9 and 5.4.10 show the international trade of Dutch and foreign controlled local business units by province. Just over half of all trade in 2009 was carried out by Dutch controlled establishments. The import and export value of foreign controlled establishments is dominated by US firms, namely 23 and 22 percent respectively. The role of local business units owned by controlling units in BRIC countries in Dutch trade is relatively low, namely around 1 percent. The majority of these BRIC-owned local units are found in Noord-Holland.

Around 22 percent of imports and only 14 percent of exports are carried out by European controlled establishments. These are mainly located in Noord- and Zuid-Holland.

Dutch local business units in Noord-Brabant and Zuid-Holland have the highest share in imports and exports. Foreign controlled units in Noord-Holland are by far the largest exporters. In terms of imports, foreign controlled establishments in Noord- and Zuid-Holland are of similar importance.

5.4.9 Import value of local units by province and UCI, 2009

	UCI ⁽¹⁾							Total
	Netherlands	Belgium	Germany	rest EU-27	BRIC	US	rest not EU-27	
<i>x 1.000.000 euro</i>								
Groningen	4,710	6	169	294	0	57	123	5,236
Friesland	1,686	21	212	288	7	42	134	2,257
Drenthe	1,259	51	152	262	4	51	125	1,778
Overijssel	5,340	71	699	1,380	4	7,457	180	14,954
Flevoland	1,760	33	122	244	19	354	1,442	2,533
Gelderland	9,349	147	2,015	1,664	29	1,623	1,157	14,892
Utrecht	7,222	171	1,375	1,465	284	3,015	1,163	13,584
Noord-Holland	14,913	1,110	1,532	5,825	1,473	12,502	5,466	37,425
Zuid-Holland	33,073	963	2,901	10,129	336	7,568	5,948	55,011
Zeeland	1,701	108	92	268	0	575	305	2,745
Noord-Brabant	18,550	634	3,323	2,993	127	6,449	3,842	32,179
Limburg	5,878	164	881	1,115	71	6,361	3,167	14,495
Total	105,441	3,479	13,472	25,930	2,354	46,055	23,052	197,088
<i>%</i>								
Share in total	53	2	7	13	1	23	12	100

Source: CBS.

¹⁾ See annex for full description of country aggregates.

5.4.10 Export value of local units by province and UCI, 2009

	UCI ¹⁾							Total
	Netherlands	Belgium	Germany	rest EU-27	BRIC	US	rest not EU-27	
<i>x 1.000.000 euro</i>								
Province								
Groningen	9,616	1	145	413	0	212	234	10,622
Friesland	2,886	18	184	283	15	53	88	3,526
Drenthe	1,995	26	166	379	8	143	378	3,095
Overijssel	7,227	81	373	1,589	1	9,206	264	18,741
Flevoland	1,940	1	36	185	6	388	1,405	3,962
Gelderland	12,459	106	911	1,598	95	2,109	649	17,926
Utrecht	4,924	35	286	535	67	3,892	817	10,557
Noord-Holland	17,149	1,131	3,533	3,154	2,139	14,076	7,388	48,571
Zuid-Holland	31,077	918	1,441	8,447	151	6,796	6,036	54,866
Zeeland	2,480	120	69	286	0	1,169	1,001	5,125
Noord-Brabant	22,605	472	1,427	2,425	130	8,414	3,417	38,891
Limburg	9,218	190	634	1,280	181	5,765	2,565	19,832
Total	123,576	3,097	9,206	20,576	2,794	52,224	24,241	235,713
 %								
Share in total	52	1	4	9	1	22	10	100

Source: CBS.

¹⁾ See annex for full description of country aggregates.

5.5 A closer look at the five major towns in the Netherlands

In 2009, the Netherlands had 441 municipalities and the largest municipality is Amsterdam with 755 thousand inhabitants and 74 thousand local business units. The most frequent business activities are retail and holdings. Amsterdam is followed by Rotterdam, The Hague, Utrecht and Eindhoven. This section will take a closer look at the international activities of all five municipalities and discuss the differences.

Schiphol Airport is situated 15 kilometres southwest of Amsterdam and gives Amsterdam easy access to the rest of the world. It is also the municipality with most foreign owned local business units, namely 1930. This is 2.6 percent of the total number of business units.

Two third of these foreign controlled establishment is owned by a controlling unit in the United States, United Kingdom, Germany, France or Belgium.

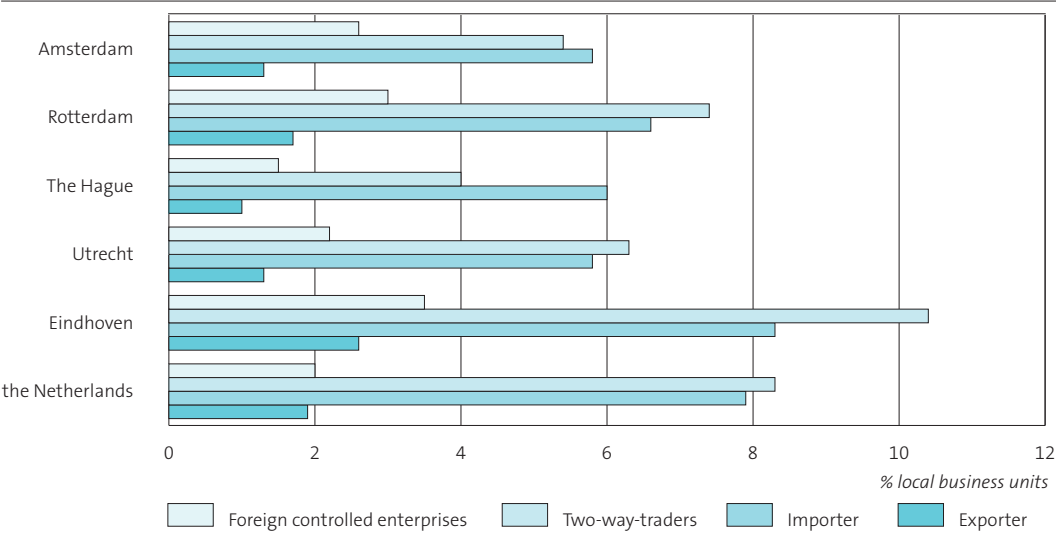
Rotterdam is the second largest municipality with over 580 thousand inhabitants and 39 thousand local business units. The port of Rotterdam is a hotspot when it comes to international trade. Rotterdam has about 1170 local business units that are part of a company with a foreign parent. This is 3 percent of the total number of local business units in Rotterdam. German controlled firms are the most common, followed by firms owned by the United States and the United Kingdom. About 97 percent of the local business units, however, are Dutch controlled. Local business units in the sectors retail, wholesale and storage are most common in Rotterdam, when it comes to local business units from a foreign UCI. The fact that there are many foreign controlled business units in the sector storage is to be expected, because of the location near the port.

The third municipality of the Netherlands is The Hague, the seat of government. The Hague has 480 thousand inhabitants and almost 34 thousand local business units. About 1.5 percent of these are controlled by a foreign owner. Apart from Germany, United States and the United Kingdom, also companies in Hong Kong own local business units in The Hague. All local business units owned by a controlling unit in Hong Kong, are small retail units.

Utrecht has 300 thousand inhabitants and almost 21 thousand local business units. Compared to Amsterdam, Rotterdam and The Hague, Utrecht is a bit smaller. More than 2 percent of the local business units is part of a company owned by a foreign owner. Often the foreign owners are located in Luxembourg.

Eindhoven is the fifth largest municipality, with 14.5 thousand local business units and 212 thousand inhabitants. More than 3.5 percent of the local business units are part of an enterprise owned by a foreign company. Approximately 72 percent of these foreign owned local business units are controlled by companies in Germany, the United States, the UK, France and Belgium.

5.5.1 International orientation of the big cities, 2009



Graph 5.5.1 shows that Eindhoven, Rotterdam and Amsterdam and to a lesser extent Utrecht are interesting seats for foreign controlled enterprises. The Hague counts relatively few enterprises under foreign control. Eindhoven is also very attractive for traders. Importers, exporters and two-way traders are well represented in Eindhoven. This is in contrast with the other four towns which all have relatively fewer traders than the national average. So Eindhoven is the most internationally oriented of the five largest towns.

5.6 Summary and conclusions

Approximately 2 percent of Dutch local establishments were ultimately foreign controlled in 2009. Per province, the share of local units under foreign control differs significantly, from 1.3 percent in Friesland to 2.5 percent in Limburg. In absolute numbers, the areas around Amsterdam, The Hague and Rotterdam and to a lesser degree Utrecht and Eindhoven sustain the highest numbers of foreign controlled local business units. However, in relative terms, other areas are up and coming. The highest shares are found near Schiphol Airport, Beek (near Maastricht-Aachen Airport), Nieuwegein, Roermond, Moerdijk (near Rotterdam), Rijswijk and Venlo (important border-crossings with Germany). Although foreign controlled establishments are relatively small in number, this is compensated by their role as employers. In 2009, an average 16.8 percent of employment

is at foreign controlled local units. Municipalities in which foreign controlled units have an above average share in employment are Haarlemmermeer, Amstelveen, Velzen, Beek, Maastricht and several other municipalities in Limburg and Noord-Brabant.

In 2009, 18 percent of the local business units in the Netherlands either imported or exported goods or did both. There is a sharp contrast between regions. In the border regions a high percentage of the local business units are traders. The COROP region with the largest share of traders is Zeeuws-Vlaanderen with 40 percent, followed by the three COROP regions in Limburg with nearly 30 percent. Combined with the information on foreign controlled establishments, this makes Limburg the province with relatively the most international firms.

Although the number of traders is relatively high in the border regions, the picture changes when we look at trade value. Rotterdam, Amsterdam and Haarlemmermeer (Schiphol Airport) account for almost a quarter of total Dutch trade.

Almost half of all Dutch trade in 2009 was carried out by foreign controlled establishments, of which those owned by the US are the most important. The role of local business units owned by controlling units in BRIC countries in Dutch trade is relatively low, namely around 1 percent. Around 22 percent of Dutch imports and 14 percent of Dutch exports are carried out by European controlled establishments.

Eindhoven, Rotterdam and Amsterdam and to a smaller extent Utrecht are interesting seats for foreign controlled enterprises. The Hague counts relatively fewer enterprises under foreign control. Eindhoven is also very attractive for traders. Importers, exporters and two-way traders are well represented in Eindhoven. This is in contrast with the other four towns which all have relatively fewer traders than the national average. So Eindhoven is the most internationally oriented of the five largest towns.

Annex

Composition of country aggregations in tables 5.4.9 and 5.4.10

Rest of EU 27:

Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

Rest not EU 27:

Australia, Bahamas, Bermuda, Botswana, Canada, Cayman Islands, Chile, Colombia, Croatia, Dominican Republic, Gibraltar, Hong

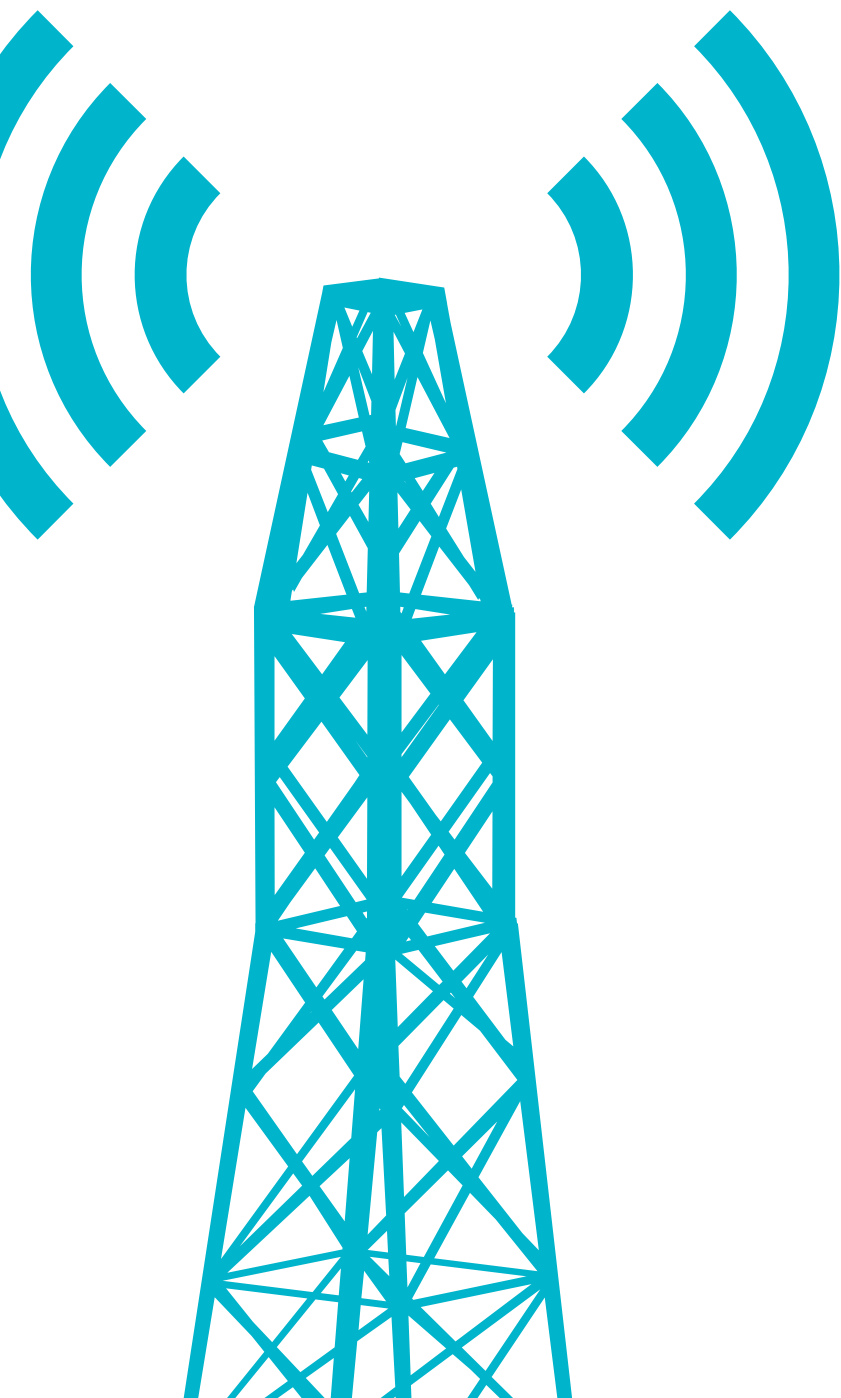
Kong, Iceland, Indonesia, Isle of Man, Israel, Jamaica, Japan, Korea, Kuwait, Libya, Liechtenstein, Malaysia, Mexico, New Zealand, Norway, Panama, Saudi Arabia, Singapore, South Africa, Sri Lanka, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, Uruguay, Venezuela and Virgin Islands

BRIC:

Brazil, Russia, India and China

Enterprise demography of international and domestic firms

6



Enterprise demography of international and domestic firms

- 6.1** Introduction
- 6.2** Theory and background
- 6.3** Data and methodology
- 6.4** Descriptive statistics
- 6.5** Born globals
- 6.6** Survival rates
- 6.7** Regression analysis
- 6.8** Conclusions

This chapter presents the differences between Dutch and foreign controlled enterprises in enterprise dynamics, especially the birth, death and survival rates and the role of international trade. This study found that there were differences in the birth and death rates of foreign and Dutch firms, where firms under Dutch control show the highest births and deaths. At the same time, internationalisation has a positive impact on firm survival.

6.1 Introduction

Economic, social and technological conditions are constantly changing. This offers enterprises opportunities and threats and leads to a great deal of dynamics (births, deaths, mergers and acquisitions). This has an impact on different parameters of the national economy, such as business structure, employment, economic growth and innovation. Therefore the 'Lisbon strategy' was re-launched in 2005 with a particular focus on growth and jobs. New enterprises and their survival in the market are often described as stimulating economic growth and employment creation. They have a positive impact on labour productivity as well. New firms increase the competitive pressure on incumbents, therefore increasing efficiency (Gibcus et al, 2005).

Exiting firms not only lead to the destruction of capital and jobs. There could be economic benefits as well if they exit as a result of market competitiveness. Competition from multinationals leads to market reallocation and survival of only the most productive domestic firms (Alfaro and X. Chen, 2012).

The main research question of this chapter is whether internationally active enterprises experience different dynamics in terms of birth and death rates than enterprises that focus on the domestic market. Internationally active enterprises can either be enterprises under foreign control or enterprises that engage in the international trade in goods.

The analysis provides a first gauge of the differences in survival rates of international and domestic firms. Defining different enterprise events helps to gain insight in enterprise dynamics and their characteristics. The key variables we include in our analysis are size class, economic activity and trade status.

In the next few chapters, we will further analyse the factors influencing enterprise survival and success. Chapter 7 focuses on the effects of enterprise dynamics on the economy. We will investigate whether survival and economic performance is significantly different for foreign controlled starters than for Dutch enterprises. Similarly, do foreign and Dutch controlled enterprises that exit differ in terms of economic performance? Chapter 8 will dig deeper into the population of international traders and their dynamics. In this chapter we will look at the way a new trader grows, i.e. by adding new products or new countries

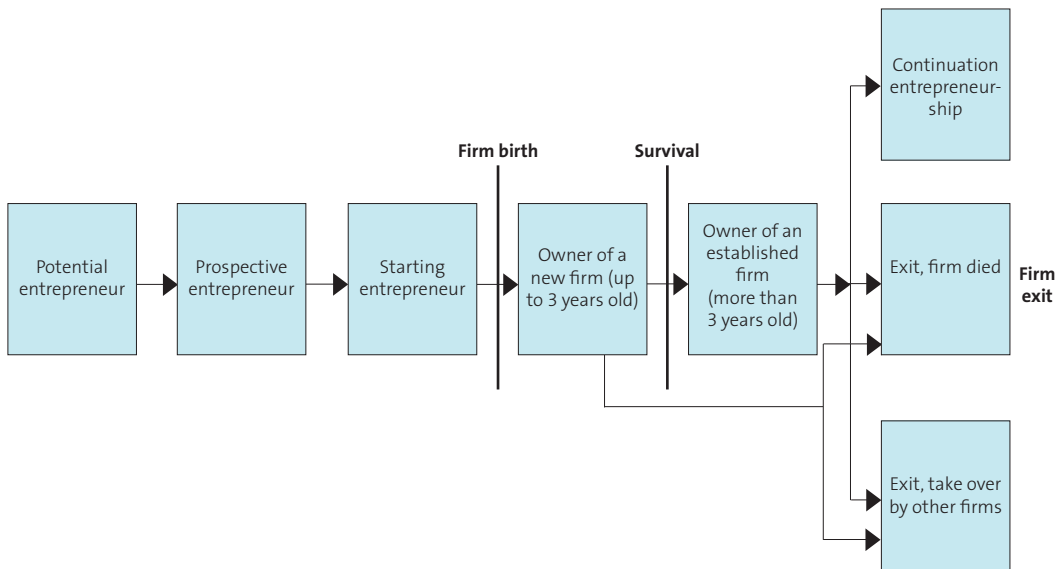
to its trade portfolio, or by increasing the scale of sales. We will also analyse whether the type of trade has an impact on its survival as a trader and as an enterprise. Chapter 9 deals with the economic turmoil caused by the 2008 financial crisis. We will illustrate how the crisis effects the performance of different groups of enterprises in the Dutch economy, in terms of turnover, employment and international trade performance. This chapter tries to determine which enterprises and sectors were struck the most by the crisis, which were least affected and who recovered the most, after the downfall in 2009.

This chapter is arranged as follows. First, we briefly review some of the current literature on enterprise demography (section 6.2). Then we describe the data and methodology used (section 6.3). The results are presented in section 6.4, displaying descriptive statistics on birth and death rates. Section 6.5 presents the *born global* phenomenon. After that we present survival rates (section 6.6). We use a regression analysis to explore the relationship between the survival of a firm and several explanatory variables (section 6.7). Section 6.8 concludes this chapter.

6.2 Theory and background

Enterprise demography is the study of the age structure and growth of enterprise populations, especially as it relates to the births and deaths of enterprises. Many studies have already researched the development of entrepreneurial activity in the Netherlands. Various phases can be distinguished in the entrepreneurial process. Figure 6.2.1 displays the various stages of the entrepreneurial process. In this chapter we will not focus on the entrepreneur but on the enterprise, and describe the births, survival and exits of firms.

6.2.1 The entrepreneurial process



Source: EIM/GEM, 2009.

The survival rates of new firms are dependent upon the initial conditions at the entry. For example, Geroski et al. (2007), reviewing the literature about founding conditions on exit rates, found that initial stocks of financial and human capital are good predictors of a firm's survival. Large firms are more likely to survive as they benefit from economies of scale, have better access to finance and have different managerial capabilities than smaller firms. Hence, if foreign firms are indeed larger at entry, we may expect that their survival rates are higher than those of Dutch entrants.

The age of an enterprise is also an important factor in enterprise survival. Most empirical research shows that the probability of enterprise failure is highest in the earlier years. The difficulty of coordinating strangers, lack of experience and tacit knowledge, insufficient assets and difficulties in establishing networks of suppliers and costumers are all reasons why young firms are more at risk of exiting (Carroll and Hannan, 2000).

Despite the limited resources that usually characterise new businesses, born globals achieve substantial international sales from an early stage in their development. There is no clear definition of a born global. In our study we define a born global as a firm that is starting international activities within less than one year after its foundation. The appearance of large numbers of born global firms is revolutionising the traditional character of international business and helping to reshape the global economy.

We also expect that the international trade status of an enterprise has an impact on its survival. The risk that an enterprise takes by starting to trade may be reflected in lower survival rates in the early years for traders. Giovannetti et al (2011) found for a panel of circa 4 thousand Italian manufacturing firms that exporting increased their risk of failure by 32 percent, which the authors attributed to increased competition from foreign producers. Alternatively, trade is generally assumed to stimulate growth, which would suggest lower failure rates among traders. For instance, Kimura and Kiyota (2006) found a failure rate that is 7–18 percent lower for Japanese exporting firms than for non-exporters. Dzhumashev et al (2011) showed for a set of Indian firms that internationalisation can also have a dual effect on survival, each of which emerges at a different point in time. In the initial phase of exporting, exporters are vulnerable to shocks and foreign competition, reflected in higher hazard rates in early years. Over time, exporters benefit from productivity gains and economies of scale, which cause their hazard rates to fall below those of non-exporters. In section 6.6 and 6.7 we will see if international trade right after entry (born globals) is also an important factor of firm survival in the Netherlands.

6.3 Data and methodology

Construction of the dataset

In order to analyse the differences in enterprise dynamics between Dutch and foreign controlled enterprises, we integrated several datasets. The General Business Register distinguishes several categories of enterprise events: births, deaths, acquisitions (and continuations). The establishment of a new enterprise leads to a birth in the General Business Register if the enterprise reports their economic activity (employment or turnover). Mortality involves the closure of an enterprise without continuation.

Information on births and deaths is linked to enterprise characteristics (sector of activity, firm size, locus of control) and data on international trade in goods (importer, exporter and two-way trader). The dataset is created for 2007–2010. The results in this paper are based on the sectors of the business economy (NACE Rev. 2 section B–N, excluding K). Government, education and health care are excluded from the analysis (see table 6.3.1). The combination of the datasets resulted in a micro dataset with information on enterprise dynamics for an average of 750,000 active enterprises each year. Approximately 14 percent of the enterprise population is born each year and about 9 percent of the enterprises dies. The Annex gives an overview of the number of births and deaths of Dutch and foreign controlled enterprises, by sector of activity and size class.

6.3.1 Sector classification

Category	Includes ¹⁾
Manufacturing	SBI 06–39 (natural resource extraction and industry)
Construction	SBI 41–43 (construction)
Wholesale trade	SBI 46 (wholesale trade)
Transport and storage	SBI 49–53 (transport and storage)
Retail trade and hotels and restaurants	SBI 45, 47, 55–56 (repairs, retail trade and hotels and restaurants)
Services	SBI 58–63, 68–82 (real estate, renting, communication services and business services)

¹⁾ Based on the new NACE Rev. 2 classification of the business enterprise sector.

Next we made a separate selection to allow for analysis of survival rates (i.e. the probability that a firm does not die) of Dutch versus foreign firms, for several types of traders, non-traders and for several economic sectors. In order to analyse survival rates, we selected all 108,000 firms that were newly established in 2007. We used the Business Register to identify the date a firm exited the population, and to estimate the survival probability. The exit date is defined as the month the firm died, not due to mergers or acquisitions. Exit dates range from January 2007 to December 2011, covering 60 months of possible existence. In the last sample year 2011 60,000 enterprises were still active.

Variables

For the analysis firms were broken down by sector of activity (manufacturing, construction, wholesale and retail trade, transport and services, see table 6.3.1), firm size (0–1 employees, 2–4 employees, 5–9 employees and >10 employees), locus of control (Dutch versus foreign). We also analysed the birth and death rates of importers (only), exporters (only) and two-way traders (import and export activities).

Analysis

Our analysis consists of two parts. First, we present a set of descriptive tables and figures on enterprise demography (rates on births and deaths) in the Netherlands for the years 2007 to 2010, in terms of the enterprise population. We make a distinction between Dutch and foreign controlled enterprises and between importers, exporters and two-way traders. Secondly, we analyse the survival rates among different types of firms. Finally we do a Cox regression on a model of all our variables with regards to survival.

6.4 Descriptive statistics

The demography of enterprises is displayed in figure 6.4.1, which presents the birth and death rates at foreign and Dutch controlled enterprises in the Netherlands for the period 2007–2010. The birth and death rates are calculated as shares of the total number of active foreign and Dutch controlled enterprises.

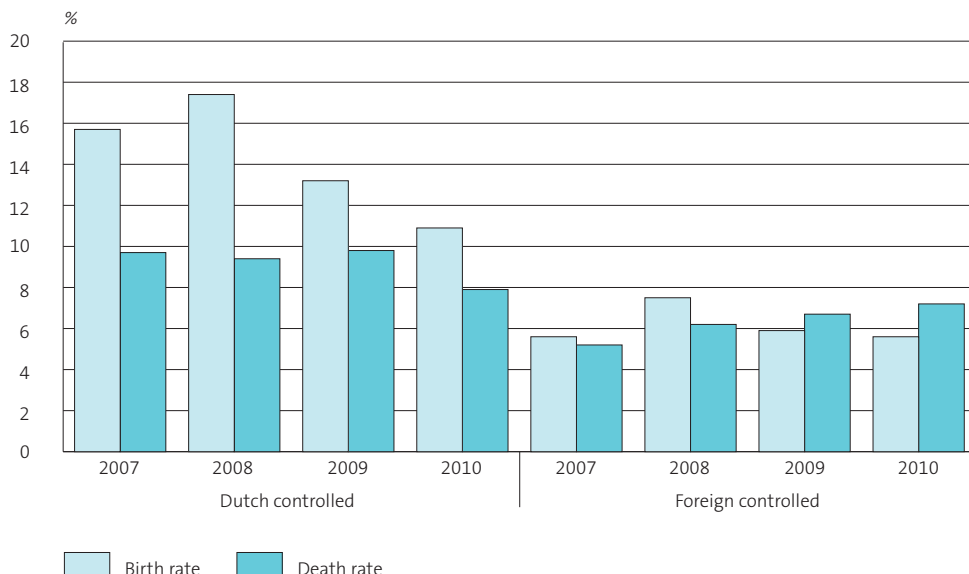
Dutch controlled enterprises showed a higher birth rate than foreign controlled enterprises in the Netherlands, both in number and in share of enterprises. This means: compared to the population of Dutch and foreign controlled enterprises, relatively more Dutch firms are established. Foreign firms encounter more entry barriers (cultural and regional differences, language barriers and a lack of knowledge about the local market) than Dutch firms.

Both Dutch and foreign controlled enterprises show an increase in newly established firms in 2008. After 2008, entrepreneurial activity declined because of the falling demand on the product market during economic crisis. Also, many individuals lost their jobs due to the recession and were forced to look for something different. Some started a new business out of necessity.

More entries and exits under Dutch than under foreign control

Dutch controlled enterprises also showed a higher death rate than foreign controlled enterprises: an average share of 9 percent. This implies that every year, on average 9 percent of the Dutch controlled enterprise population dies. The death rate of foreign controlled enterprises averaged 6 percent, which increased slightly for the 2007–2010 period.

6.4.1 Birth and death rates of Dutch and foreign controlled enterprises



In the observed period, newly established Dutch enterprises outnumber the ones that are closing down. In 2010 the number of Dutch enterprises grew by 3 percent. This is calculated as the number of enterprise births minus number of enterprise deaths, as a percentage of the number of enterprises on 1 January of the year concerned. This 3 percent growth rate in 2010 was lower than in previous years. In 2008, for instance, it was 8 percent.

The number of foreign enterprises increased in the 2007–2010 period. Although there was a negative growth rate in 2009 and 2010, the number of foreign enterprises still rose because of the dynamics in mergers and acquisitions. When looking at transitions between foreign and Dutch controlled enterprises, Dutch to foreign acquisitions lead to an increase in the number of foreign enterprises (not shown).

Figure 6.4.2 provides some information of the firm size distribution of new and dying enterprises in 2007 and 2010. As expected, most new Dutch and foreign enterprises were small with 0–1 employees. The average newly established foreign controlled enterprise had more employees than new Dutch enterprises. Foreign firms are already relatively large in their home market before they invest abroad, and are able to start on a larger scale than Dutch start-ups that do not have such backing (Fortanier, Korvorst and Pouwels-Urlings, 2011).

The dominating trend in firm size in the 2007–2010 period is towards smaller enterprises. The share of new Dutch enterprises with 0–1 employees increased from 71 to 85 percent. This represents the change towards more self-employment (as a freelance or business

owner) in the Netherlands and especially towards starting a new firm without any employees. Foreign new enterprises showed an increase in their share of small enterprises as well but not as steep as that of new Dutch enterprises.

Dying Dutch firms are also more prevalent among the smaller size classes, which is to be expected since most start ups are also small. The share of dying Dutch firms with 0–1 employees increased from 62 to 80 percent in the 2007–2010 period. Foreign controlled enterprises are generally much larger when the firm dies.

6.4.2 Births (left) and deaths (right), by size class

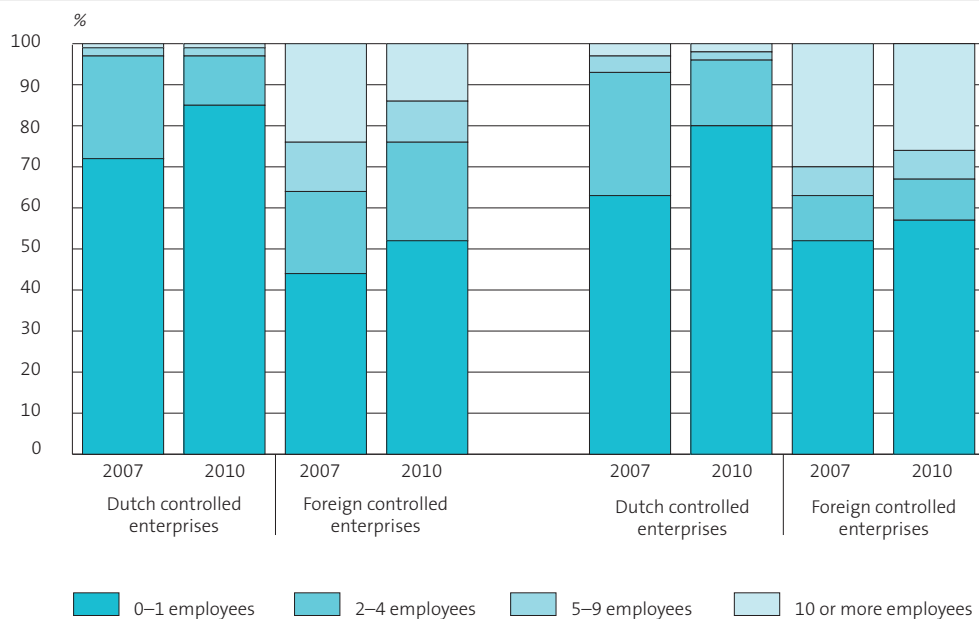
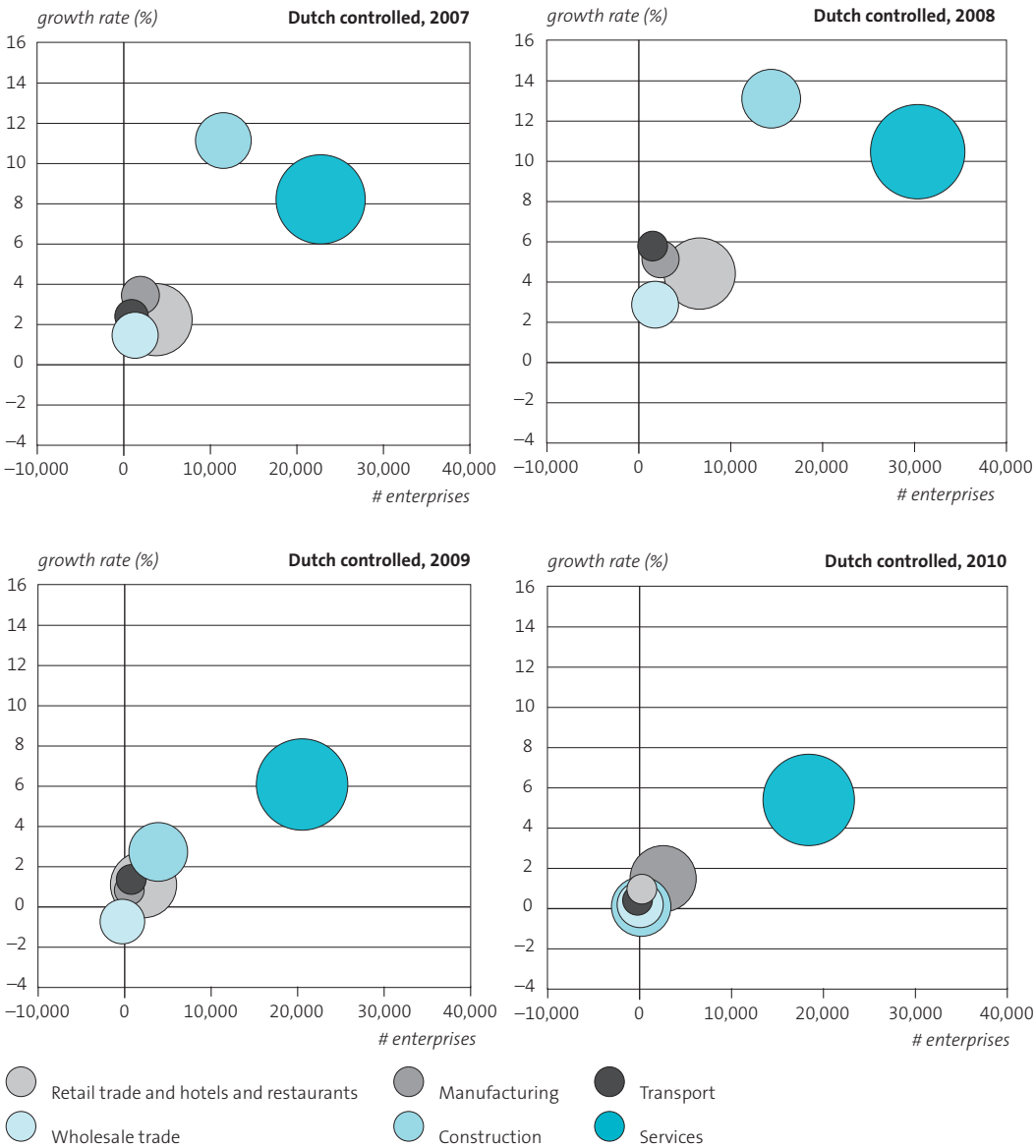
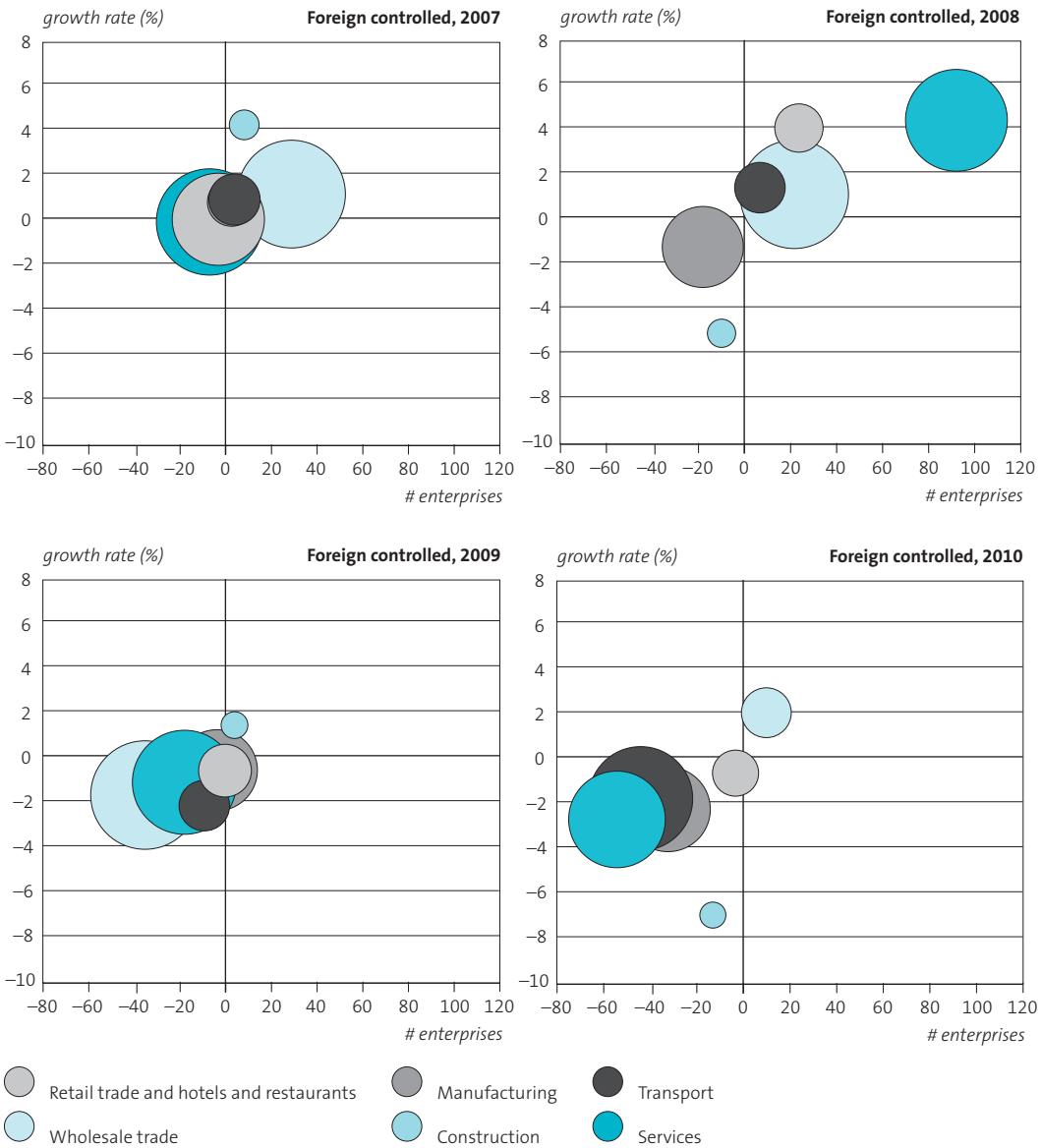


Figure 6.4.3 presents the annual growth in number of enterprises (births minus deaths) on the x-axis, the annual growth in shares of total enterprises (y-axis) and the size of the enterprise population in number of enterprises (the size of the bubble) for Dutch and foreign controlled enterprises by sector of activity for 2007–2010.

6.4.3 Enterprise growth rate of Dutch controlled enterprises, by sector of activity



6.4.3 Enterprise growth rate of foreign controlled enterprises, by sector of activity (end)



Relative to the size of the enterprise population, there were differences in enterprise growth rates across the various activities of the business economy and between Dutch and foreign controlled enterprises. For example, most entries and exits of foreign enterprises tended to be in wholesale in 2007–2010 where many foreign controlled enterprises are active (bubble size). In 2007, the number of enterprises in the wholesale trade grew by 1 percent (y-axis) whereas it decreased by 1.5 percent in 2010 (see figure 6.4.3). In contrast to foreign enterprises, the proportion (bubble size) of the Dutch wholesale sector is a lot smaller and there are fewer entries and exits of Dutch enterprises in this sector.

The number of Dutch enterprises grew by 23 thousand in 2010 of which 83 percent were in services. The highest growth rates in 2010 tended to be in services, namely 6 percent, whereas the lowest growth rate was in manufacturing. This reflects relatively low entry and exit barriers for a number of services and higher barriers for many industrial activities.

In contrast to Dutch enterprises, foreign enterprises showed negative growth rates in 2009 and 2010. Most entries and exits of foreign enterprises tended to be in the wholesale trade and in services. These sectors accounted for more than two thirds of the decline in foreign enterprises. Although almost all sectors show negative enterprise growth rates, there were still differences across the sectors. Foreign firms had the lowest growth rates in construction and services in 2010. The highest growth rate was in transport and storage. In 2010, the number of foreign firms in transport and storage actually grew by 2 percent.

6.5 Born globals

The internationalisation process of firms has been the topic of widespread research (Bernard and Jensen, 1997; Wagner, 2011; Muûls and Pisu, 2007). It has been demonstrated that many firms now do not develop in incremental stages with respect to their international activities. They often start international activities right from their birth, enter very distant markets right away, and enter multiple countries at once. Lin and Wang (2008) called such firms born global. In this study we define a born global as a firm that is starting international activities right from birth or very shortly afterwards. In this paragraph, we will describe the born globals.

Table 6.5.1 considers the number of firm births broken down by shares of non-traders, importers, exporters and two-way traders (who import as well as export). In 2007, 11 percent of the newly established enterprises in the Netherlands started to import or export within less than a year after their foundation. Firms that only export accounted for around 2 percent. Our data show that importing goods is more common for newly established firms than exporting. Exporting is a more specialised activity. Selling a product

abroad makes extra demands on an enterprise: additional investments, extra effort of the staff and a larger economic risk. It is therefore very important for entrepreneurs who want to focus on the foreign market to be well prepared. Firms entering a foreign market have to explore that market well. This reflects the relatively low barriers for importing and higher barriers for exporting. Some 6 percent of the enterprises imported goods in 2007. In their first year, firms that were exclusively importers or exporters tend to trade relatively few products (1.4) with a relatively small number of countries (2.5 vs. 1.6). Two-way traders start trading with an average of four products with four countries. In 2007, born globals contributed only 1 percent to import and export value but over time, the import and export values shares represented by the born globals of 2007, doubled.

Firms are likely to keep the same trade status during their lifetime when they are starting as non-traders or two-way traders (Muûls and Pisu, 2007). We found that only 11 percent of the new non-trading enterprises in 2007 started to import or export later than one year after their start.

6.5.1 Enterprise births, by international trade

	2007	2008	2009	2010
Total	107,825	126,850	103,315	84,305
	%			
Traders	11	11	8	14
importers only	6	6	4	8
exporters only	2	2	1	3
two-way traders	3	3	2	3
Non-traders	89	89	92	86

After the economic crisis, we see a recovery of the share of born globals. In 2010 the share of born globals was 14 percent, a slightly increase on 2007 and 2008. Advances in telecommunications and other technologies have considerably reduced the costs and risks involved in internationalisation, which makes it possible for an increasing number of small and medium sized firms to exploit opportunities in foreign markets. The proportion of the small firms' share of born globals has changed compared to the previous years. Over the years, small firms with 0–1 employees have been responsible for an increasing share of born globals. Starting at 60 percent in 2007, their contribution was up to 80 percent in 2010.

In the Netherlands, wholesale, retail, and services contributed 85 percent to the total number of born globals. Trade activity appears to be more common in wholesale than in

the other sectors. Enterprises in the wholesale trade comprise about 50 percent importers and exporters.

6.6 Survival rates

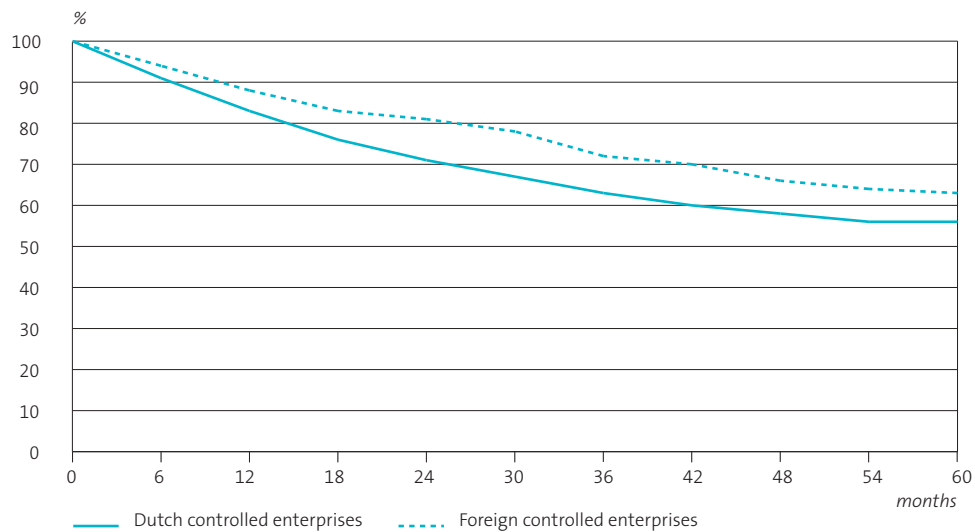
Many industries display a great deal of turbulence as new firms enter the market and existing firms exit (Caves, 1998). In this paragraph we describe the enterprise characteristics that influence the probability of firm survival. Survival is defined as the percentage of new firms that continue to operate when they reach a given age. Firms are most exposed to risks in their first few years. About 83 percent of the new enterprises that entered the market in 2007 survived one full year, 63 percent survived three years and 56 percent still survived after five years. We analysed the survival rates among different types of firms.

Figure 6.6.1 presents the survival rates for the 2007 cohort of new start-ups that are under Dutch and foreign control. The figure shows that the survival rate of the new firms in 2007 declined steadily for both categories over the five-year period observed. More foreign controlled than Dutch controlled enterprises survived.¹⁾ 88 percent of foreign enterprises that entered in 2007 survived one year, whereas 83 percent of Dutch enterprises did. After five years in business, 56 percent of the Dutch enterprises survived versus 63 percent of the foreign enterprises.

Foreign firms are larger at entry, so we expect a higher survival rate than for Dutch entrants. Indeed, we found higher survival rates for larger firms in our data. After 5 years, 83 percent of the large foreign firms were still active and only 62 percent of the small foreign firms (<10 employees). Large firms are more likely to survive as they benefit from economies of scale, have better access to finance and have different managerial capabilities than smaller firms (Fortanier, Korvorst and Pouwels-Urlings, 2011).

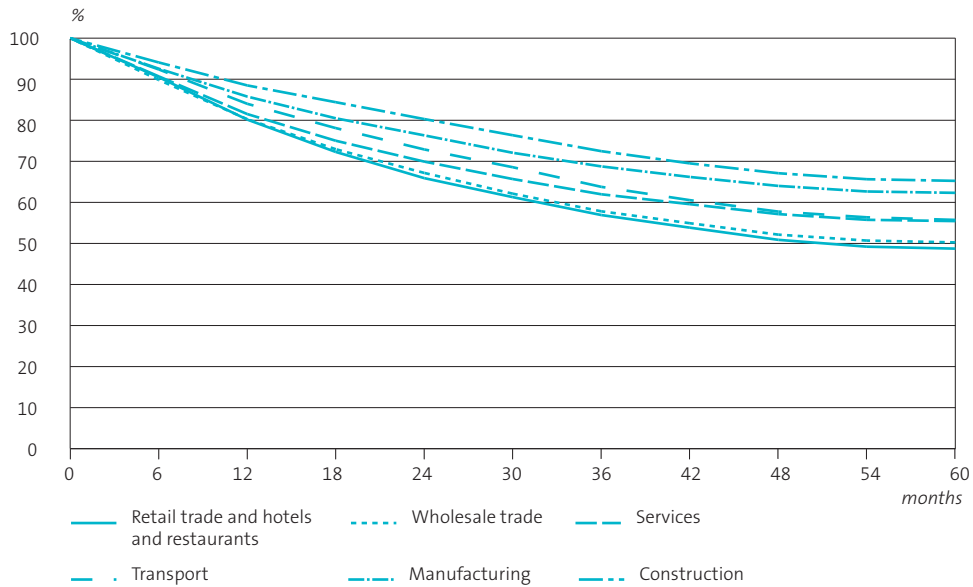
¹⁾ We analysed survival rates for different years of cohorts of new firms and found the same survival rate patterns among Dutch and foreign controlled enterprises.

6.6.1 Survival rates of new start-ups of Dutch and foreign controlled enterprises 2007



The results of the survival rates of new enterprises by sector of activity are presented in figure 6.6.2. There is a difference in survival rates across sectors. Survival rates are highest for firms that started in construction and manufacturing in 2007. In construction maintenance operations continue (for example because of constant demand from housing corporations), whereas in times of economic crisis new orders collapsed. Many industrial activities have relatively high entry and exit barriers. Firms have the lowest survival rates in the wholesale and retail trade.

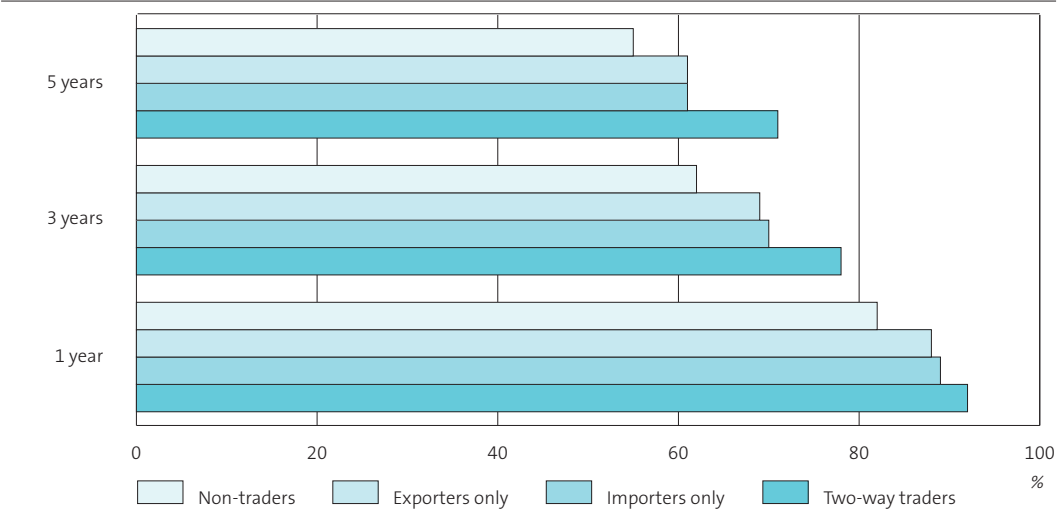
6.6.2 Survival rates of new start-ups 2007, by sector of activity



We also looked at the relationship between firm survival and three kinds of international trade activities (export only, import only and two-way trade). Two-way traders tend to be more productive than firms that either only import, or only export, or do not trade at all (Vogel and Wagner, 2010). Therefore, Wagner (2011) expected a lower exit probability for two-way traders than for exporters or importers. We found the same results. Figure 6.6.3 presents survival rates for the 2007 cohort of new enterprises that are importers only, exporters only, two-way traders and non-traders. The figure shows that more two-way traders survived than any of the other categories. For example, 92 percent of the two-way traders that entered in 2007 survived for one year, whereas 89 percent of the importers and exporters did. The gap in survival rates between these categories almost doubles as the number of years in business increases. After five years in business, 70 percent of two-way traders survived compared with 61 percent of the importers and the exporters.

International trade has a positive impact on firm survival

6.6.3 Survival rates of new start-ups with and without trade 2007



6.7 Regression analysis

In paragraph 6.6 we found differences in the probability of firm survival among different types of enterprises (i.e. Dutch versus foreign control). In this paragraph we test whether the differences in survival rates were statistically significant. We used a Cox regression model to explore the relationship between the survival of a firm and several explanatory variables. Interpreting the Cox model involves examining the coefficients for each explanatory variable. A positive regression coefficient (B) for an explanatory variable means that the hazard (risk of death) is higher and thus the survival rate is worse. Conversely, a negative regression coefficient implies a better prognosis for enterprises with higher values of that variable (Walters, 2009). The actual method is much too complex for a detailed discussion here.

We first tested whether the differences in survival rate for foreign controlled start-ups in 2007 were statistically significant from those of the Dutch controlled start-ups. The regression results confirmed that foreign controlled firms did indeed have a lower hazard ratio. The probability of an instant exit for foreign controlled firms is 24 percent lower than for Dutch controlled enterprises.

The sector of activity in which an enterprise starts has a statistically significant impact on its chances of survival. We tested the differences in survival rates between start-ups in the six sectors of activity. It turned out that start-ups in transport and storage and services did not differ significantly in terms of survival after five years. Start-ups in 2007 in the other sectors do differ significantly from each other, and again the highest hazard ratios are found for enterprises in the wholesale and retail trade.

Firm size is also highly significant in the survival of our 2007 start-up cohort. Regression results showed that the probability of failure after five years is much higher for firms that started with less than 4 employees than for larger firms. Similar results emerged when we tested the impact of firm size on the 2007 cohort of foreign controlled start-ups.

Table 6.7.1 shows the results of a Cox regression in which all four enterprise characteristics of the 2007 start-up cohort are jointly taken into account. This leads to somewhat different results than for the univariate analysis. For instance, the impact of foreign control on firm survival is no longer significant after five years when firm size, sector of activity and trade status are controlled for.

Firm size plays a key role in firm survival, especially when firms start out small (less than 5 employees). Larger firms (5 employees or more) are less likely to exit, but there is no difference in survival rate between firms with between 5 and 9 employees and larger firms (reference group).

Again, the sector of activity in which the enterprise starts its business is relevant for its probability of survival. New enterprises in the construction sector are more likely to be alive after five years than those in manufacturing. New firms in other sectors of activity are less likely to survive than those in manufacturing.

The most important explanatory factor in firm survival is trade status. Enterprises that start to trade right away are even less likely to exit than non-traders. Two-way-traders are quite likely to survive their first five years. The probability of instant exit for two-way traders is 52 percent lower than for non-traders when controlled for firm size, sector of activity and locus of control. There is little difference in survival rate between importers only and exporters only.

6.7.1 Cox regression model fitted to the 2007 birth cohort (n=107825)

	Regression coefficient (B)	Standard error (SE (B))	p-value	Hazard ratio (Exp (B))*	95% CI for hazard ratio	
					lower	upper
Foreign control	-0.062	0.077	0.421	0.940	0.807	1,094
Size class (1)						
0–1 employees	0.467	0.157	0.003	1,595	1,172	2,170
2–4 employees	0.453	0.157	0.004	1,572	1,155	2,140
5–9 employees	0.173	0.159	0.276	1,189	0.871	1,624
Sector of activity (2)						
Construction	-0.197	0.026	0.000	0.821	0.781	0.864
Wholesale trade	0.475	0.027	0.000	1,608	1,524	1,697
Transport and storage	0.145	0.034	0.000	1,156	1,082	1,236
Retail trade and hotels and restaurants	0.393	0.025	0.000	1,482	1,412	1,555
Services	0.160	0.024	0.000	1,174	1,121	1,229
Trade status (3)						
Importers only	-0.373	0.020	0.000	0.689	0.662	0.717
Exporters only	-0.309	0.038	0.000	0.734	0.681	0.791
Two-way traders	-0.732	0.037	0.000	0.481	0.447	0.517

Reference group 1: 10 or more employees. Reference group 2: Manufacturing. Reference group 3: Non-traders.

CI: confidence interval.

* Risk of death.

6.8 Conclusions

In this chapter, we analysed the differences between Dutch and foreign controlled enterprises with respect to enterprise dynamics, especially birth, death and survival rates. The analysis is based on micro economic databases from the Business Register of the population of firms in the Netherlands and international trade statistics.

In general, we found that Dutch and foreign controlled enterprises differ with respect to their birth, death and survival rates. There are far more Dutch controlled start-ups, often starting very small. Foreign firms are few in number, but they are on the whole larger in size. This confirmed our expectations based on the literature: since foreign firms encounter more entry barriers, they will enter less frequently than Dutch firms. Furthermore, the newly established Dutch enterprises outnumber the exits. The number of Dutch enterprises grew. The number of foreign enterprises also increased in the 2007–2010

period. Although foreign firms had a negative growth rate in 2009 and 2010, their number still increased because of mergers and acquisitions.

Firms are often starting international activities right from their birth or very shortly afterwards, such firms are considered to be born global. The share of born globals has increased over the years. After the economic crisis, we see a recovery of the share of born globals, in the form of a slightly increase on 2007 and 2008. The advances in telecommunications and other technologies enable more SME's to import or export within one year after their foundation.

We also looked at the survival rates among different types of enterprises. We found that almost three out of five new firms survived at least five years. Survival rates vary by industry with construction having the highest and retail trade the lowest survival rates in the period observed.

Internationalisation has a positive impact on firm survival. Due to the larger than average size and the international orientation of foreign enterprises, they have higher survival rates than Dutch enterprises. Two-way traders tend to be more productive than firms that either only import or export, or do not trade at all. This productivity results in higher survival rates for two-way traders.

We also tested whether the differences in survival rates are significant. Looking at the relationship between firm survival and ownership as the only explanatory variable, we found that foreign firms have a significant lower hazard ratio than Dutch firms. If we jointly take into account more enterprise characteristics, the impact of foreign control on firm survival is no longer significant. The most important explanatory factor in firm survival is trade status. Enterprises that start trading right after their birth are still less likely to exit than non-traders.

In further research it would be interesting to look in more detail to the factors that may influence the probability of firm survival as well. For example, the role of innovation or regional clustering on firm survival.

Annex

Births of Dutch and foreign controlled enterprises, by sector of activity and size class

	2007	2008	2009	2010
Total	107,825	126,850	103,315	84,305
Dutch controlled enterprises	107,580	126,400	102,910	83,875
	%			
<i>By sector of activity</i>				
Manufacturing	5	5	4	4
Construction	17	17	14	12
Wholesale trade	8	7	7	7
Transport and storage	3	3	3	3
Retail trade and hotels and restaurants	20	19	19	21
Services	46	48	53	53
<i>By size class</i>				
0–1 employees	71	72	79	85
2–4 employees	25	25	18	12
5–9 employees	2	2	1	2
> 10 employees	1	1	1	1
	#			
Foreign controlled enterprises	470	645	515	435
	%			
<i>By sector of activity</i>				
Manufacturing	12	14	15	14
Construction	3	2	3	2
Wholesale trade	26	27	30	24
Transport and storage	9	6	7	10
Retail trade and hotels and restaurants	7	7	6	6
Services	42	42	40	44
<i>By size class</i>				
0–1 employees	45	42	58	52
2–4 employees	20	25	20	24
5–9 employees	12	12	6	10
> 10 employees	24	22	16	14

Deaths of Dutch and foreign controlled enterprises, by sector of activity and size class

	2007	2008	2009	2010
Total	66,910	68,860	77,290	61,120
Dutch controlled enterprises	66,480	68,330	76,710	60,555
	%			
<i>By sector of activity</i>				
Manufacturing	5	5	5	5
Construction	11	11	13	15
Wholesale trade	11	11	10	10
Transport and storage	4	4	4	4
Retail trade and hotels and restaurants	27	25	23	24
Services	41	44	44	42
<i>By size class</i>				
0–1 employees	62	69	65	80
2–4 employees	30	25	28	16
5–9 employees	4	3	3	2
> 10 employees	3	2	3	2
	#			
Foreign controlled enterprises	430	530	580	570
	%			
<i>By sector of activity</i>				
Manufacturing	14	21	14	16
Construction	2	5	2	4
Wholesale trade	22	29	33	26
Transport and storage	9	7	8	6
Retail trade and hotels and restaurants	6	5	5	5
Services	47	34	38	43
<i>By size class</i>				
0–1 employees	52	54	41	57
2–4 employees	10	11	16	10
5–9 employees	7	8	10	7
> 10 employees	31	27	33	26

7



Economic effects of enterprise dynamics

7.1 Introduction

7.2 Theory and background

7.3 Data and methods

- Dataset and variables
- Propensity score matching
- Description of the analysis

7.4 Economic development of starters

7.5 Economic development before exit

7.6 Discussion

We studied the development trajectories of starters under Dutch and under foreign control. If they were similar at birth with respect to employment, sector of activity and turnover, did they develop differently later on? We also studied developments of exiters. What were the differences between firms under Dutch and under foreign control in the years before they exit the market? We found that after taking the possibility of exit into account, they have similar growth rates for employment and turnover and show the same path of decline for turnover and exports before they exit. But employment at foreign controlled enterprises diminished much more than at domestically controlled enterprises.

7.1 Introduction

In this chapter we will discuss possible differences in the development of enterprises under domestic and under foreign control in relation with enterprise dynamics. This is relevant knowledge for providing subsidies for starters, especially if the analysis shows that one locus of control is eventually more successful than the other. The chapter will answer the following two questions:

- If enterprises were similar at birth with respect to sector of activity, trade status, employment and turnover, but differed for locus of control, do they develop differently?
- Were there such differences between firms under Dutch and foreign control in the years before they exited?

This chapter will also examine post-entry growth in employment, turnover, imports and exports. How many of the newly created jobs remain? It is also important to consider the middle term impact of entry, which we will do in this chapter.

Survival and growth after survival should be considered together when studying the economic consequences of enterprise dynamics. In chapter 6 we already observed that enterprises under domestic and foreign control have different probabilities of survival. However, this is insufficient information if we want to determine whether the economic impact of foreign controlled starters differs from that of domestically controlled ones. For example, the exit rate for enterprises under foreign control may be lower than that of those under Dutch control, but perhaps the foreign controlled survivors have a lower growth rate than the surviving enterprises under domestic control. Then the economic impact of the former could still be smaller on average. So it is necessary to analyse survival and growth rates after survival together.

The chapter proceeds as follows. The next section presents some theory and background. In section 7.3 we describe the data and methods. Section 7.4 presents the empirical results about starters, while section 7.5 focuses on exits. The chapter ends with conclusions and suggestions for further research.

7.2 Theory and background

Based on what we explored in chapter 6, we expected that domestic and foreign controlled enterprises have different survival rates and different growth rates after survival. One reason for such differences is the size when they start. Several learning models (Jovanovic (1982), Ericson and Pakes (1995)) indicate that enterprises start at a sub-optimal size and use the learning opportunities to expand after success. During their first years, enterprises search for the organisational structure that suits them best and also for the optimal efficiency scale in order to be competitive. Foreign controlled enterprises are, on average, larger at start-up (table 6.4.2). This reflects their greater ability to attract financial resources. Audretsch (1990) already pointed out that an enterprise that starts larger needs less time to achieve an efficient scale. So we expected that foreign controlled enterprises would attain the optimal structures and efficiency scales faster than enterprises under domestic control, which would be expressed in higher growth rates.

There is much literature about the consequences of enterprise dynamics in performance or survival for domestic and foreign controlled enterprises when it concerns acquisitions. For example, Bandick and Holger (2009) analysed the effect of foreign acquisition on survival probability and employment growth using data on Swedish manufacturing plants during the period 1993–2002. And Hagemeyer and Tyrowicz (2011) used a large panel of firm-level data from Poland and match foreign owned firms to a control group of domestically owned companies to analyse various performance indicators.

There is limited literature about the difference in economic impact of the birth of a foreign controlled versus a Dutch controlled firm. Therefore we look at a related research line that uses similar methods for a similar yet different question. Namely, the impact of start-up subsidies on new firms' survival. Désiège et al. (2010) give an overview of such studies, pointing out that governments in all OECD countries have developed programs to help new firms. They point out the need to use rigorous methods that evaluate if differences in the outcomes between groups are caused by public support or not. In this chapter we will use such evaluation methods to answer our own question of whether or not the ownership characteristic between Dutch and foreign controlled enterprises causes differences.

New enterprises create many new jobs. For example, Haltiwanger et al. (2010) found that firm births were responsible for 17 percent of all newly created jobs in the United States during 1992–2005. However, it is not known how many of these jobs remain. This chapter considers the middle-long term impact on employment for the cohort of enterprises that started in 2007, by following them between 2007–2011. The developments at Dutch and foreign controlled enterprises are shown separately, which enabled us to make a comparison. Of course it is not sufficient to show only a comparison between these two

categories for 2008 alone, because the middle-long term impact may differ from the short-term impact.

The results about the consequences of enterprise dynamics presented in this chapter are an addition to those presented in the Internationalisation Monitor of 2011. There Fortanier et al. considered the consequences of births, exits and acquisitions during 2000–2005 for employment and wages. This chapter uses more recent data and different outcome variables. However, it does not discuss the consequences of acquisitions.

7.3 Data and methods

Dataset and variables

The dataset constructed for the analyses in this chapter includes demographic and economic variables over the period 2007–2011 on a yearly basis. The demographic variables are the ones used in chapter 6, namely enterprise births and deaths, sector of activity, locus of control and international trade status. In addition economic variables are included, namely turnover, value added, labour productivity, import and export values. The time span for value added ranges from 2007 to 2010 due to data availability.

The dataset used does not have the advantage of the dataset described in 6.3, namely that no variables are missing. In principle, turnover and value added should be known for all enterprises, but in practice this is not always the case (see paragraph 9.2 for further information). Table 7.3.1 shows the percentage of observations for which there was information on turnover and value added available. Labour productivity is defined as value added divided by persons employed, and because the number of persons employed is always known, labour productivity is available if and only if value added is available.

7.3.1 Availability of variables

	2007	2008	2009	2010	2011
	%				
Turnover					
Dutch controlled	78	78	77	88	87
Foreign controlled	65	69	62	76	78
Value added					
Dutch controlled	62	65	64	58	.
Foreign controlled	52	54	54	43	.

There is more data available on Dutch than on foreign enterprises for both variables. This is because their tax structures differ, and foreign controlled enterprises are often under no obligation to report to the tax survey that we used to calculate turnover and value added. The availability of the variable turnover increased substantially in 2010 probably because Statistics Netherlands introduced an extended concept of an enterprise (OG+) in that year. This allowed a better matching of the fiscal data (on the units of the tax authorities) to the statistical data (on the units in the General Business Register). There is a decrease in availability of the variable value added in 2010 because enterprises still have time to file their tax reports for 2010.

Apart from the missing values for turnover and value added, there are also missing values for the import and export values. This can have two causes. First, if there is no trade, the value of imports (exports) is equal to zero, but since an enterprise would not have to report this it may appear in the data with a missing value. Second, the value of imports (exports) is not zero, but this information is lost after matching of the international trade data to the general business register. These two cases cannot be distinguished. As the international trade value is linked for almost all enterprises in the business economy, we will treat the international trade data as if it is exhaustive.¹⁾

Propensity score matching

The results may be biased due to missing data. Yet another form of bias may appear when we only consider the group of survivors. It has been pointed out in the literature that growth is only known for survivors (Mansfield 1962, Fortanier et al. 2011). So if two groups with different survival rates are being compared, considering only growth of the total

¹⁾ 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.

group creates bias. It is then necessary to distinguish two groups: starters and starters who survive, as already noted by Dunne et al. (1989).

There is also observational bias in terms of locus of control, because for larger enterprises it is known whether they are under domestic or foreign control, but not always for smaller enterprises. In that case the locus of control is set to domestic. An ordinary least squares approach does not solve this problem. A solution to the observational bias is to use propensity score matching and only then analyse differences in outcomes. The basis for modern propensity score matching was laid out in the seminal paper of Rosenbaum en Rubin (1983). Our analysis is as follows:

1. Create propensity scores for all enterprises, reducing several enterprise characteristics to a one-dimensional propensity score. Here the propensity score is the probability of being under foreign control, conditional on some observed enterprise characteristics. So, enterprises with similar characteristics in 2008, such as size and turnover, will have similar propensity scores.
2. Match foreign enterprises to domestic enterprises that have approximately the same propensity score, and therefore similar characteristics.
3. Analyse the matched sample for outcome variables in 2011. For enterprises that have exited before 2011, these variables will be set to zero. The z-score for the difference between the two groups was calculated using bootstrap re-sampling methods.

The analysis was conducted using the procedure `psmatch2` (Leuven en Sianesi 2003) in Stata.

Due to the matching procedure, which involves the estimation of a model, the proof of causality is not as strong as that of a randomised trial. Furthermore, ideally the matching characteristics are known first and only then an owner (and locus of control) is chosen. This would ensure that the characteristics of the enterprise are not caused by the locus of control itself. Here this is not the case. All matching characteristics are known at the birth of an enterprise. It is already known by then whether it will be a domestic or foreign controlled enterprise. This does not matter for the sector of activity, because we can observe it immediately and match on it. But it might matter for, e.g., turnover. Our goal is to see whether there are different growth paths. And if the largest differences for turnover already take place in the start-up year, we will not observe them because we only use data for the first year (2008) where that data covers the whole year.

Description of the analysis

The analysis of starters begins with the complete set of enterprises that started in 2007. Some tables follow about these starters, to get an impression of their contribution to the economy during 2008–2011. Then the dataset is reduced such that only those enterprises remain that started in 2007 and still exist in the next year 2008. Subsequently, we first used propensity score matching to match starting Dutch controlled and foreign controlled enterprises in order to compare similar start-ups. If any of these enterprises no longer exist in 2011, all their outcome variables (such as turnover) are set to zero. In a second step, we analysed the matched sample. We used bootstrap re-sampling methods to obtain standard errors, which enables us to decide whether or not the differences found are statistically significant. Note that these do not account for the estimation uncertainty created in the matching process. In addition, we conducted a similar analysis for starters that did survive up till 2011, to see whether there are differences in turnover, employment and trade growth between foreign controlled firms and Dutch firms, conditional on survival.

In section 7.5 we carried out a similar analysis on exits as we did on starters. First, several tables show the economic impact of the enterprises that existed in 2007 and exited in 2011. Chapter 6 already yielded several characteristics that influence survival. Based on these characteristics and growth in the year before matching (to pick up any already existing decline), we calculated propensity scores. Using these scores we matched foreign exits to domestic exits. The matched sample is examined to see whether there are differences between domestic and foreign exits.

7.4 Economic development of starters

This paragraph concerns enterprises that started in 2007 irrespective of survival up to 2011. We start by showing the absolute contribution of Dutch and foreign controlled enterprises to total employment, turnover, imports and exports. Then these numbers are put into perspective by comparing them to the totals of the business economy. Subsequently, the growth paths of starting Dutch and foreign controlled enterprises are compared.

Table 7.4.1 shows that there are considerable differences between total turnover of starters under domestic control and of starters under foreign control. There are far more domestic starters (roughly 107 thousand as shown in the annex of chapter 6); therefore their totals are higher than the totals of foreign starters.

Total turnover of the cohort of 2007 was lower in 2011 than in 2008. In this period, total turnover of Dutch controlled enterprises contracted relatively more than foreign controlled firms, namely 22 percent versus 3 percent. Other indicators of the economic impact of the cohort, namely employment, imports and exports, were all lower in 2011 than in 2008 as well, but especially for Dutch controlled firms. The contraction of international trade in 2009 is clearly visible in the table. However, during the whole period 2008–2011 trade declined slower than employment. This is not surprising, because graph 6.6.3 already showed that international traders are more likely to survive. The decline of the import and export values is also cushioned by rising prices.

7.4.1 Totals for Dutch and foreign controlled enterprises, starters in 2007

	Unit	2008	2009	2010	2011
Dutch controlled					
Employees	1,000	188	166	126	118
Turnover	million euro	22,870	17,152	18,457	17,921
Imports	million euro	2,843	1,903	1,948	2,179
Exports	million euro	2,794	2,292	2,226	2,370
Foreign controlled					
Employees	1,000	9	8	6	5
Turnover	million euro	2,701	2,298	3,334	2,632
Imports	million euro	2,450	2,009	2,183	2,145
Exports	million euro	2,351	2,160	2,497	2,454

The share of the cohort in the total business economy²⁾ is shown in table 7.4.2. These shares decline slowly. This is because the survivors do not grow sufficiently to compensate for the exits, and because new cohorts have entered the market to take their share as well. The share of starters in total imports and exports declined more slowly than their share in turnover during the period 2008–2011. Again, this is explained by the higher probability of international traders to survive.

When comparing the relative contribution of Dutch controlled firms to that of foreign controlled firms, we see that the Dutch controlled starters of 2007, due to their overwhelming numbers, contribute the most to total turnover, employment and value added, even after five years. In terms of trade value, both types of enterprises contribute the same.

²⁾ NACE Rev. 2 section B to N, excluding K.

7.4.2 Share of starters in 2007 in the total business economy

	2008	2009	2010	2011
	%			
Dutch controlled				
Employees	4.0	3.9	3.6	3.5
Turnover	3.0	3.1	2.7	2.6
Value added	2.5	2.4	2.7	.
Imports	1.1	0.9	0.9	0.9
Exports	1.0	1.1	1.0	1.0
Foreign controlled				
Employees	0.2	0.2	0.2	0.2
Turnover	0.4	0.4	0.5	0.4
Value added	0.5	0.5	0.5	.
Imports	0.9	1.0	1.0	0.9
Exports	0.8	1.0	1.1	1.0

Now consider the combined effect of survival and performance. The rest of this paragraph concerns enterprises that started in 2007 and still existed in 2008, irrespective of survival up to 2011. When an enterprise exits the market before 2011, we set the turnover of this enterprise to zero for the exited years. Because there are many exits during time, the average yearly turnover of starters in 2007, survivors and exits together, drops from 258 thousand in 2008 to 185 thousand in 2011. From table 7.4.3 also follows that the average turnover is larger for starting foreign controlled enterprises than for domestic controlled enterprises.

Removing the exits and considering only the survivors shows that their average turnover per firm grows during the time period 2008–2011, for both loci of control. This growth is larger for a firm under foreign control than for to a firm that is under Dutch control.

7.4.3 Average turnover at Dutch and foreign controlled enterprises, starters in 2007

	2008	2009	2010	2011
	<i>thousand euro</i>			
Dutch controlled				
Survivors and exits	258	188	190	185
Survivors up to 2011	288	272	305	302
Foreign controlled				
Survivors and exits	8,234	6,922	8,593	6,499
Survivors up to 2011	11,415	8,882	11,445	12,640

This table only shows some outlines, which is insufficient for a proper comparison of foreign controlled enterprises and domestic controlled enterprises. These differ in general, for example for size and sector of activity. Furthermore, on average foreign controlled enterprises have higher turnover, higher salaries and higher productivity, even when controlling for size of employment or sector of activity (Internationalisation Monitor 2009 and 2010). Therefore, controlling for enterprise characteristics is necessary for a proper comparison.

We do this by matching foreign controlled enterprises to similar Dutch controlled enterprises based on propensity scores, and then analyse the data. Table 7.4.4 shows the variables on which enterprises were matched and from which time period they were chosen.³⁾ Just as in chapter 6, we aggregated sector of activity into six different groups, namely 1) manufacturing, 2) construction, 3) wholesale trade, 4) transport and storage, 5) retail trade, hotels and restaurants, and 6) other services. International trade status consists of four different values, namely, an enterprise can be a 1) non-trader, 2) an importer (only), 3) an exporter (only) or 4) a two-way trader (import and export activities).

We matched 170⁴⁾ foreign controlled enterprises with the same number of Dutch controlled enterprises. The latter group was selected from a group of approximately 58 thousand enterprises. If an enterprise did not exist anymore in 2011, all its values were set to zero in the exit years. So not only firms that exist during the whole time period are matched. This makes it possible to analyse the combined effect of survival/exit and growth after survival.

7.4.4 Matching variables and reference period

Variable	Reference period
Sector of activity	2007
Persons employed	2008
Log (turnover)	2008
Trade status	2008

³⁾ The enterprises are not active during the whole year of 2007; therefore matching on outcome variables such as turnover is for the value in 2008.
⁴⁾ Not every variable was available for all enterprises during the whole time period under concern. Panel data is needed for a comparison throughout the years. This reduced the group of foreign controlled starters to 170 enterprises.

7.4.5 Averages before and after matching, 2008

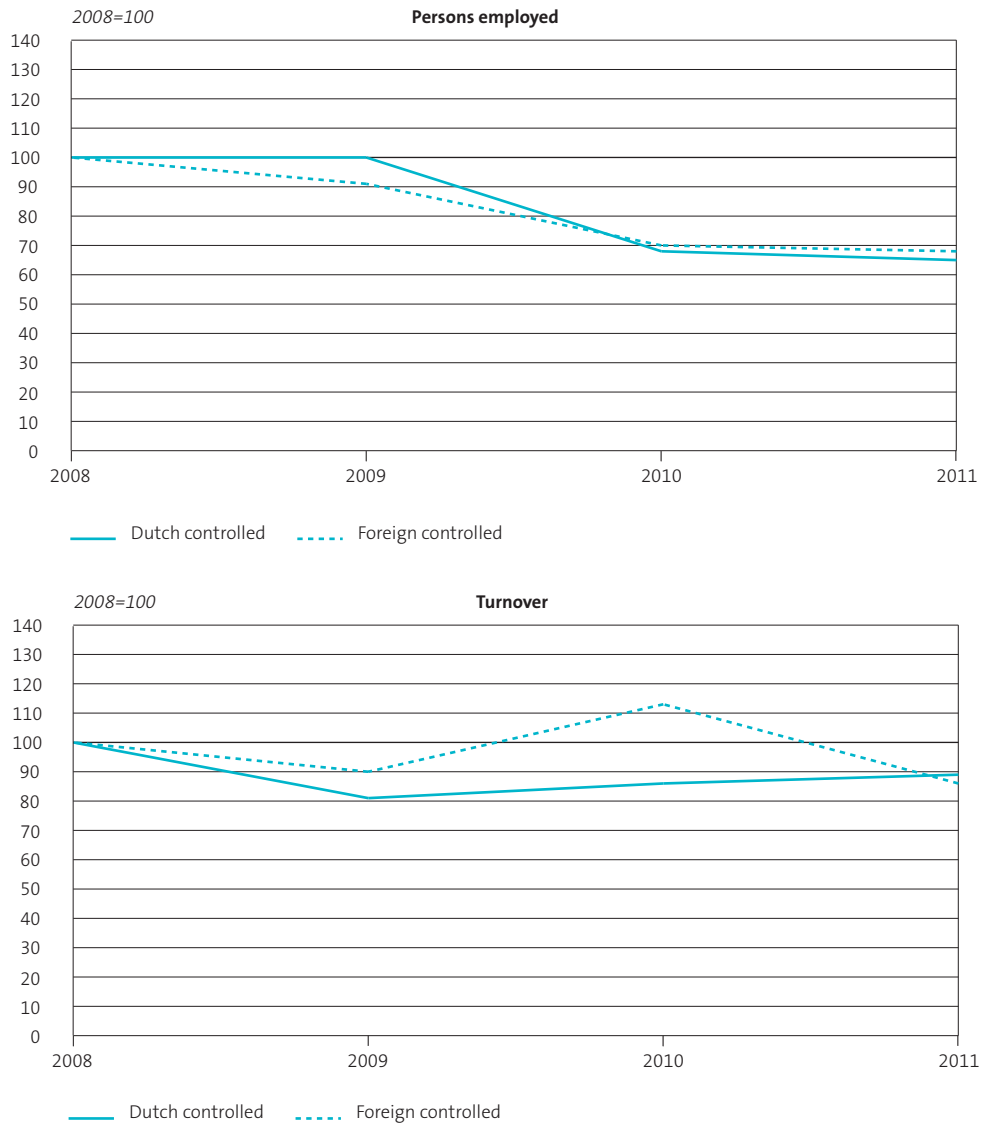
	Unit	All Dutch controlled enterprises	Matched Dutch controlled enterprises	Matched foreign controlled enterprises	Difference matched enterprises
Persons employed		1.9	26.6	24.6	2.0 (0.20)
Turnover	<i>thousand euro</i>	236	10,593	13,099	-2,506 (-1.07)
Exports	<i>thousand euro</i>	15	2,917	2,776	141 (0.12)
N		58,081	170	170	

Z-score in brackets next to difference.

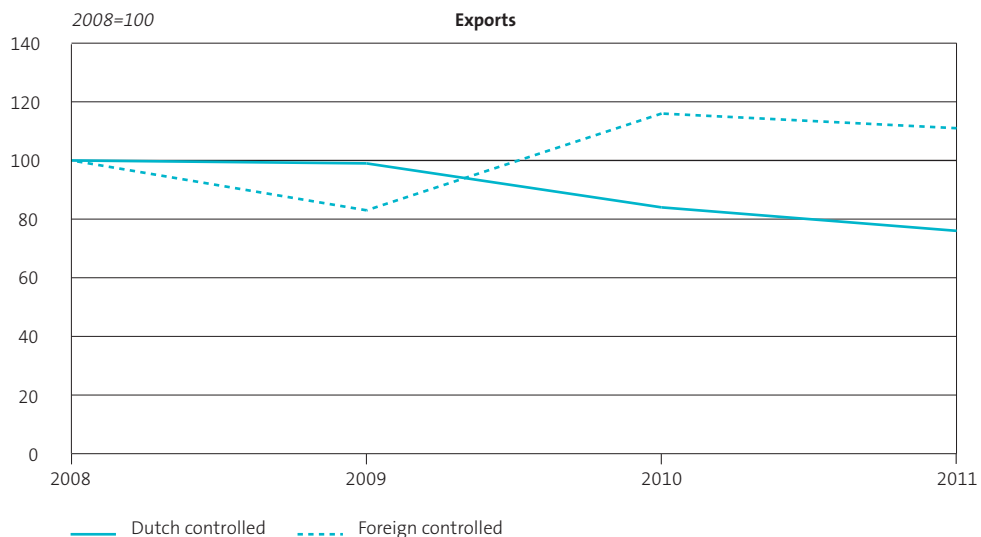
Table 7.4.5 clearly shows that the two groups are different before matching, but that we were able to find comparable Dutch starters of similar size in terms of employees, turnover and exports. This allows us to make an unbiased comparison of the development in employment, turnover and exports of Dutch starters versus foreign controlled starters.

Now consider differences between the matched starters of 2007, whether they survived up till 2011 or not. Graph 7.4.6 shows the growth paths of the average number of employees, turnover and exports of the matched Dutch and foreign controlled starters. We see that employment declines for both groups, and at similar rates. Turnover also declines, but at a slower rate. The fact that the 2011 indexes for turnover and exports are higher than for employment might be explained by inflation that increases turnover and exports, but not employment. Exports for the Dutch controlled enterprises decreased, but for the foreign controlled enterprises exports even increased compared to 2008. Maybe they are better in establishing and upholding an international network. The tests shown in table 7.4.7 do not show statistically significant differences in 2011 between the two groups for any of the three variables.

7.4.6 Comparison of similar Dutch and foreign controlled firms, starters in 2007



7.4.6 Comparison of similar Dutch and foreign controlled firms, starters in 2007 (end)



7.4.7 Averages for matched enterprises, 2011

	Unit	Matched Dutch controlled enterprises	Matched foreign controlled enterprises	Difference matched enterprises
Persons employed		17.4	16.8	0.6 (0.12)
Turnover	<i>thousand euro</i>	9,444	11,280	-1,836 (-0.84)
Exports	<i>thousand euro</i>	2,216	3,095	-879 (-0.67)
N		170	170	

Z-score in brackets next to difference.

When we consider only surviving enterprises, the results change. This analysis (not shown) yielded that the foreign enterprises grow more than their Dutch counterparts, but that these differences were not statistically significant. This suggests that, all else being equal, foreign enterprises may be more efficient but only conditional on surviving, because they have a higher risk of premature exit than the matched Dutch controlled enterprises.

7.5 Economic development before exit

This paragraph concerns enterprises that exited in 2011⁵⁾ and already existed in 2007. It starts by showing the absolute contribution of Dutch and foreign controlled enterprises to the Dutch economy. Then the averages of these variables are given for Dutch and foreign controlled exits. Subsequently, the paths of decline for exiting Dutch and foreign controlled enterprises are compared.

7.5.1 Totals for Dutch and foreign controlled enterprises, existing in 2007, exiting in 2011

	Unit	2007	2008	2009	2010	2011
Dutch controlled						
Employees	1,000	84	88	84	70	61
Turnover	million euro	11,170	12,410	8,948	7,961	1,474
Imports	million euro	1,559	1,888	1,563	1,083	498
Exports	million euro	2,051	2,162	1,733	1,894	627
Foreign controlled						
Employees	1,000	9	9	9	7	6
Turnover	million euro	2,121	2,551	1,705	1,389	478
Imports	million euro	581	582	429	446	228
Exports	million euro	750	705	520	532	294

Table 7.5.1 shows total employment, turnover, imports and exports of the groups under concern. Because there are far more Dutch than foreign controlled exits, their totals are also much higher. Turnover and exports were affected already two years before exit. Employment only started to decrease in the year before exit. Labour hoarding (see also chapter 4) is one of the explanations. The dip in exports in 2009 can partially be explained by the sharp fall in exports that year in general. But for the exits turnover fell far more than in the economy as a whole.

⁵⁾ A fraction of the exits in 2011 only stopped their activities temporarily and were reactivated in 2012. However, because this year is not yet finished, it is impossible to tell which ones were reactivated and therefore are not true exits. Still we choose to use exits of 2011 instead of 2010, for two reasons. First, because analysis using the real exits of 2010 gave similar results. Second, to show developments for as many years as possible.

As table 7.5.2 shows, there are again large differences between domestic and foreign controlled enterprises. On average the latter have higher employment, turnover, value added, imports and exports when they exit the market. Several variables show growth from 2007 to 2008, but almost all show a sometimes steep decline in subsequent years. One of the causes of declining performance was the economic crisis in which Dutch GDP contracted almost four percent in 2009.

7.5.2 Averages of key variables Dutch and foreign controlled enterprises, existing in 2007, exiting in 2011

	Unit	2007	2008	2009	2010	2011 ¹
Dutch controlled						
Employees		2.6	2.7	2.5	2.1	1.8
Turnover	<i>thousand Euro</i>	487	513	386	330	84
Imports	<i>thousand Euro</i>	54	63	59	60	26
Exports	<i>thousand Euro</i>	97	104	91	148	33
Foreign controlled						
Employees		25	26	24	16	13
Turnover	<i>thousand Euro</i>	11,844	11,585	8,282	7,061	2,457
Imports	<i>thousand Euro</i>	3,279	3,075	2,643	2,674	1,346
Exports	<i>thousand Euro</i>	4,494	4,171	3,387	3,309	2,040

¹⁾ The values of the variables in 2011 should be compared with those in previous years with caution, because the enterprises under concern do not exist during all months of this year.

The observed differences between Dutch and foreign controlled enterprises have many causes. For example, as already noted in paragraph 7.3, it is to be expected that size and sector of activity are such causes. Therefore, we matched exiting foreign controlled enterprises to similar Dutch controlled enterprises the same way we did for starters. Again, matching takes place on sector of activity, persons employed, turnover and trade status, all for 2010. We add the growth of turnover in 2009–2010 as a matching variable. The resulting group of 114 Dutch controlled enterprises has the same characteristics as the groups of foreign controlled enterprises. The two groups are followed through time to see whether they have different paths of decline.

7.5.3 Matching variables and reference period

Variable

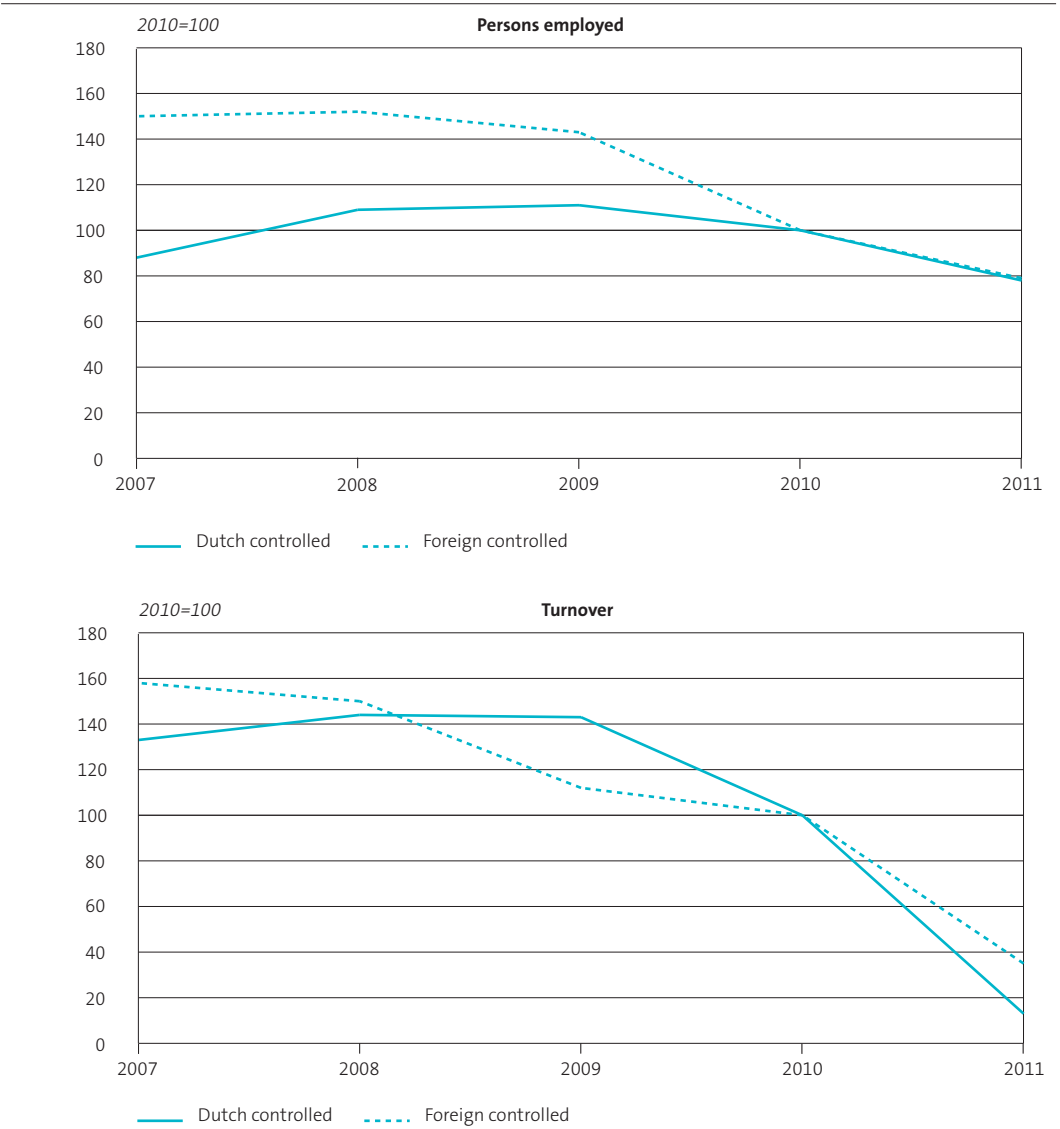
Sector of activity	2010
Persons employed	2010
Log (turnover)	2010
Turnover growth	2009–2010
Trade status	2010

7.5.4 Averages before and after matching, 2010

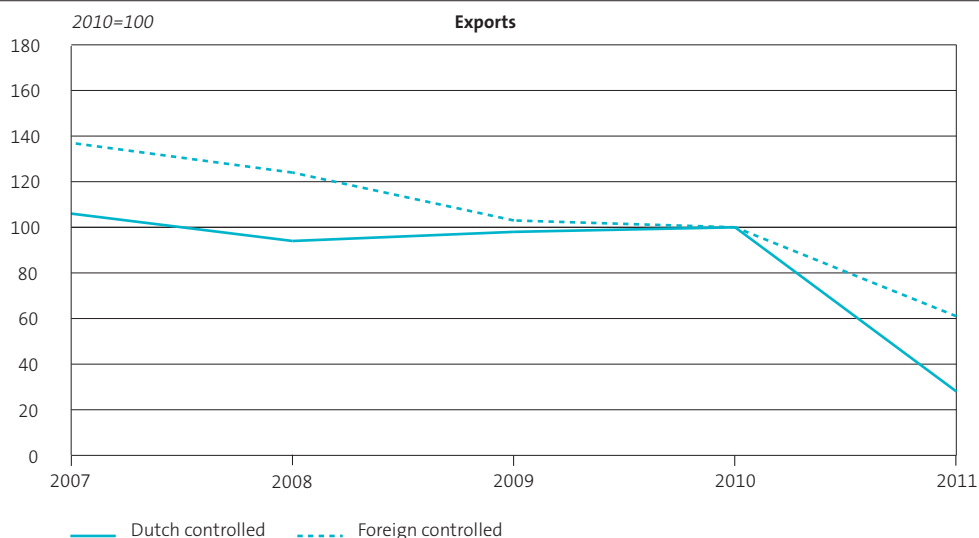
	Unit	All Dutch controlled enterprises	Matched Dutch controlled enterprises	Matched foreign controlled enterprises	Difference matched enterprises
Persons employed		2.5	14.2	18.5	–4.3 (–0.98)
Turnover	<i>thousand euro</i>	443	7,000	8,490	–1,490 (–1.08)
Exports	<i>thousand euro</i>	211	3,521	3,960	–439 (–0.27)
Number		9,693	114	114	

Z-score in brackets next to difference.

7.5.5 Development of matched Dutch and foreign controlled firms, existing in 2007 and exiting in 2011



7.5.5 Development of matched Dutch and foreign controlled firms, existing in 2007 and exiting in 2011 (end)



Graph 7.5.5 shows that the decline for all three variables starts earlier for foreign controlled enterprises. Furthermore, compared to the index year 2010, these enterprises lose more exports, turnover and employment than their Dutch counterparts. This is illustrated by table 7.5.6. Whereas the two groups of enterprises were matched in order to be similar in 2010, differences existed three years before exit. Employment was far higher at foreign controlled enterprises, and this difference proved to be statistically significant as well.

7.5.6 Averages for matched enterprises, 2007

	Unit	Matched Dutch controlled enterprises	Matched foreign controlled enterprises	Difference matched enterprises
Persons employed		12.5	27.6	-15.1 (-3.17***)
Turnover	<i>thousand euro</i>	9,282	13,381	-4,099 (-1.26)
Exports	<i>thousand euro</i>	3,733	5,416	-1,683 (-1.07)
N		114	114	

Z-score in brackets next to difference.

From these graphs one may conclude that it was no surprise that these foreign controlled enterprises would exit the market. As their turnover in 2010 was almost 40 percent lower than three years earlier, it is not surprising at all that they exited in 2011. However, fitting a good prediction model was not possible. There were more than 80,000 enterprises that experienced a similar fall of turnover, but still survived in 2011.

7.6 Discussion

The average starting foreign controlled enterprise is considerably larger than the average Dutch controlled starter. These differences remain four years after start-up and hold for employment, turnover and exports. However, these differences disappear for employment and turnover after matching foreign controlled enterprises to Dutch controlled enterprises with similar characteristics at the start. Foreign controlled starters only do better than their Dutch controlled counterparts in exports, but this difference was not statistically significant.

As far as exits are concerned, more employment, turnover and exports are lost at foreign than at domestic controlled enterprises that had the same characteristics four years before exit. However, only the difference in lost employment turned out to be statistically significant. Whereas average employment was similar in the year before exit, four years before exit the average foreign controlled exiter employed 28 people and its Dutch controlled counterpart 13.

It remains an open question whether it is possible to see in advance which firms will exit and which firms will not. During the economic crisis of 2009 it may have been related to exports and the international economy because the share of exports in total turnover is higher for foreign than for Dutch controlled enterprises. Due to this dependence on exports, they must be more vulnerable to shocks in the international economy. And as noted by Jaarsma (2011), in 2009 Dutch exports of goods were down 17 percent on the year before, whereas the Dutch economy contracted by four percent. The relation between exits, the international business cycle and exports should be studied together with other aspects. Such research is carried out at banks before they decide who to give credit and who not.

Research related to (the consequences of) births and exits of enterprises is a first step in the research programme of Statistics Netherlands on enterprise dynamics. In a next stage, mergers and acquisitions will be added. For example, what happens with employment, R&D, value added, productivity and other outcomes after a takeover? Urlings et al. (2011) showed that employment at a previously Dutch controlled enterprise is slightly higher two years after a foreign takeover. It is often mentioned in the literature (e.g. Djankov and Hoekman (2000), WIR (2012)) that a foreign takeover adds knowledge and network spillovers, thus contributing to productivity growth. But a takeover by a Dutch multinational would give such an impulse as well, and the question remains whether its effect is smaller, similar or larger.

Another strand in research is the combination of enterprise dynamics and regional information. The project Regional Economic Statistics (RES) at Statistics Netherlands already added much new regional information. And it is to be expected that birth, survival and performance are affected by specific regional characteristics. This implies that different regional stimulation policies for new entrepreneurs and existing enterprises are necessary instead of a “one size fits all” approach for the Netherlands as a whole.

8



Enterprise dynamics and international trade

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- Annex

This chapter focuses on the demography of international traders, their characteristics and performance over time. The ability to identify new traders allows us to compare their growth (intensive and extensive margin) to other traders. New exporters expand more along the country extensive margin while new importers grow along the product extensive margin. However, only in the first few years of trading do they add new products and countries to their portfolio. After these years, trade growth is mainly achieved by deepening trade in existing products and countries, like already existing traders do.

We also investigated whether trader type and the moment of trade start is relevant in explaining turnover differences between traders. It turns out that born globals that start as two-way traders had the highest turnover and trade value after five years. International traders have a higher survival rate than non-traders. However, survival diverges significantly between the various types of traders. Two-way traders are quite likely to survive the first five years. Survival is also impacted by the country and the products with which trade takes place.

8.1 Introduction

Enterprises that engage in international trade are a special kind of enterprise. They first need to outperform others in order to begin with international trade, because trading is a risky and costly activity, only to be ventured by the largest and most productive firms (Wagner, 2005; Bernard and Jensen, 1997). Analyses in the previous Internationalisation Monitor (2010) and Genée and Fortanier (2010) have shown that Dutch exporters, importers and especially two-way traders are indeed bigger and more productive than non-traders. Within the group of trading enterprises there is a lot of heterogeneity, with the bulk of trade concentrated within a few firms. Most traders trade only a few products with only a few partner countries, while the largest firms trade with many countries and in many products (Wagner, 2005; Bernard and Jensen, 1997; Bernard et al, 2007a; Mayer and Ottaviano, 2007; Muûls and Pisu, 2007).

There are, however, significant dynamics in these characteristics as well as within the population of international traders (Iacovone and Javorcik, 2010; Besedeš and Prusa, 2007). Firms that start trading start out small, with only a few products and partner countries. As such, they differ significantly from seasoned traders. This chapter contributes to current findings by providing a first insight into the dynamics in the Dutch population of commodities traders. For several years now Statistics Netherlands has been able to match international trade flows to enterprises in the General Business Register (see chapter 10 in this edition). With enterprise dynamics in mind, this allows us to follow traders over time; not only as a group but also as individual enterprises.

We start out by illustrating how new traders in the Netherlands expand, first along the extensive margins (i.e. adding new products and countries to the portfolio) and subsequently along the intensive margin (increasing sales), also compared to continuing traders. In addition, we ask to what degree the various types of traders grow/vary in terms of turnover and trade value. We also want to build on the findings of chapter 6 and investigate factors that influence survival of traders. Chapter 6 showed that international traders have a higher survival probability than non-traders, especially two-way-traders. In this chapter we extend the analysis by discerning different types of traders, by making a distinction between survival as a trader and survival as an enterprise, and by including trade portfolio in the analyses. Additionally, we also make a distinction between trader survival and enterprise survival.

The outline of the chapter is as follows. In section 8.2 we will start with a brief review of the literature and background information on international trade dynamics. We will then illustrate the dataset that was constructed for this chapter in section 8.3. Section 8.4 starts with some descriptive data on the demography of international traders. Analyses on trader births and growth are presented, first in terms of product/country combinations and trade value, and then in terms of turnover and trade value. Section 8.5 looks at five year survival probabilities for various types of traders. The type of trade of the enterprise, i.e. with which countries it trades and in which products, is also included in these analyses. Section 8.6 wraps up the chapter with an overview of the main findings.

8.2 Theory and background

Current literature and empirical research by Melitz (2003), Bernard et al (1997, 2007a, 2007b), Wagner (2005) shows that traders are different from non-traders. Trade is associated with uncertainty and costs, which only the best performing and most productive firms are able to overcome. Dutch traders have a turnover that is at least 7 times higher than that of non-traders and a labour productivity that is at least 20 percent higher (CBS, 2010). Enterprises that trade in goods and services perform exceptionally well. Even among traders, there is a lot of heterogeneity. Bernard et al (2007b) already note that trade is concentrated and that most traders in fact only trade a relatively small amount. The majority of traders trade with one country and in one product (Amador and Opromolla, 2008; Iacovone and Javorcik, 2010, Bernard et al 2007a, Muûls and Pisu, 2007). Similar findings were published by CBS (2010), namely that the top 1 percent traders account for 71 percent of Dutch exports and 74 percent of imports. Heterogeneous firm theory offers explanations for this skewed distribution within the population of traders. Economies of scale in production might favour the concentration of trade among a small

number of producers. Country-specific sunk costs associated with expanding trade to new destinations can only be overcome by the most productive traders (Creusen et al, 2011). A common way to investigate trade growth is to assess the performance of traders along the extensive and the intensive margin. In economic literature, there is much discussion on the relative impact of each margin. Some authors find that the intensive margin is more important in explaining trade growth while others find the extensive margin to be more important (Besedeš and Prusa, 2010). We will follow the approach of Amador and Opromolla (2008), Besedeš and Prusa (2010) and Creusen et al (2011) and define the extensive margin as trade growth by adding new countries and products to the portfolio, and the intensive margin as trade growth by deepening existing trade relations (in terms of products and countries). We will also take into account the role that firm dynamics play in this regard, and distinguish between starters, exiters and continuing traders. And in addition we will look at importers as well as exporters. Traditionally, the focus is on exporters, but importers seem to have similar characteristics and premiums relative to non-traders. As such, our analysis will distinguish between enterprises that import, enterprises that export, and those that do both.

A frequent finding in research on heterogeneous trade theory is that the decision to start selling can make or break a firm. Fiercer competition on the international market might prove to be too much for some firms, causing them to stop trading or exit altogether. Although trade is associated with higher survival probability (Bernard and Jensen, 1997; Wagner, 2011), still around 40 percent of newly founded exporters and importers had exited five years later (see chapter 6). For new two-way traders, this share was around 30 percent. In this chapter we will build further on these empirical findings by distinguishing between enterprise survival and trader survival. By looking merely at enterprise survival a lot of churning in the trader population is disregarded. The fact that an international adventure has not worked out, does not automatically mean exit from the population. Another contribution that we will make to the growing research on survival of traders is that we want to take into account the type of trade that an enterprise engages in. Since transport cost or expenses related to setting up a network and distribution channel differ from country to country, it is logical to assume that trading with countries for which those costs are higher is riskier than trade with countries for which such barriers are relatively low. Creusen et al (2011) and Wagner (2011) take into account number of products traded when analysing survival, but to our knowledge no attempts have yet been made to incorporate type of product or specific partner countries in the analysis. This chapter aims to fill some of this knowledge gap.

8.3 Data and methodology

In order to say something about the demography of international traders, a broad dataset was created which incorporates information from the General Business Register (GBR) and the International Trade Statistics (commodities). Per enterprise, we determined a) whether or not an enterprise is new in the trade population, b) whether or not it stops trading (i.e. drops out of the trade population at some point in time) and c) whether or not the enterprise drops out of the overall enterprise population. To circumvent a lot of dynamics in the firm trading-status that are difficult to describe, we have decided to look at whether or not an enterprise has trade (imports, exports or both) in order to determine whether the trader is new or not. Characterising an enterprise as a two-way trader, importer or exporter is done at face value for each year: i.e. an enterprise can be an importer in one year, an exporter in the second year and a two-way trader in the third year.

The ensuing dataset comprises five years (2007–2011) of integrated, longitudinal information on enterprises and their trade status. Information from the year 2006 is only used to determine whether an enterprise started trading in 2007 or whether it was an existing trader. There were significant improvements to the matching procedure, especially as of 2010, which implies that we were able to identify more traders as of 2010. This has led to an overstated growth of traders between 2009 and 2010, making it more difficult to interpret population growth.

In this dataset, many traders could be classified as continuing traders since they had imports and/or exports in each consecutive year between 2007 and 2011. However, as in all administrations, in the GBR but also in the trade register (population of VAT-numbers), there are mistakes, mismatches and methodological changes over the years. This could cause an enterprise to be inadvertently classified as an incidental, stopping or starting trader, while its actual trade still continues. As such, we decided that if for one intermittent year the trade status could not be determined, this information was imputed.

Table 8.3.1 shows the composition of our longitudinal dataset on trading enterprises. In total 374,521 enterprises are included, of which 60,474 enterprises already traded before 2007 and reported trade in each consecutive year at least until 2011. We could identify 31,648 enterprises that started trade in 2007, of which 13,399 stopped trading that same year and 8,969 continued to trade up to 2011. We identified 58,925 incidental traders, whose trade status was erratic between 2007 and 2011. For enterprises that started to trade in 2011 it is not yet clear if and when they will stop trading, so they are included as continuing trader. Incidental traders are not distinguished per year.

8.3.1 Composition dataset 2007–2011

	Stop in 2007	Stop in 2008	Stop in 2009	Stop in 2010	Continuing trader	Incidental traders	Total
Start in							
2007	13,399	4,981	2,678	1,621	8,969		31,648
2008		23,342	9,922	5,069	26,174		64,507
2009			17,090	5,383	13,530		36,003
2010				27,921	40,064		67,985
2011					54,979		54,979
Already existing trader					60,474		60,474
Incidental traders						58,925	58,925
Total	13,399	28,323	29,690	39,994	204,190	58,925	374,521

In order to investigate how new traders develop after entry, also compared to other groups of traders, we extended the dataset to include information on products and countries, if available.¹⁾ When they start trading, do they start out small with e.g. one product to one country? And when they grow, do they grow along the country extensive margin, product extensive margin, or both? In this respect, products are defined at the level of HS4 (Harmonised System product classification at the 4-digit level) so as to not overstate the number of product variations.

Table 8.3.2 shows for which enterprises there is country and product information available. This number is significantly lower, since many traders are small and are not required to report such information (see footnote 1). For 130,682 enterprises we can distinguish detailed product and country information. Of the 11,530 enterprises that started trading in 2007 and for which we have country and product information, 4,038 have traded each year up to 2011 and 4,220 stopped trading in 2007.

¹⁾ Country and product information is available for enterprises of which their Intra-EU trade value exceeds the Intrastat survey threshold, and for all enterprises that trade with countries outside the EU-27. Enterprises with trade less than the threshold value are included as 'trading with EU-15' in the analyses of section 8.4. They are excluded from the product analyses of 8.4.

8.3.2 Enterprises with product-country information 2007–2011

	Stop in 2007	Stop in 2008	Stop in 2009	Stop in 2010	Continuing trader	Incidental traders	Total
Start in							
2007	4,220	1,688	991	593	4,038		11,530
2008		7,128	3,143	1,349	8,097		19,717
2009			4,448	1,484	4,802		10,734
2010				5,107	8,820		13,927
2011					9,742		9,742
Already existing trader					37,306		37,306
Incidental traders						27,726	27,726
Total	4,220	8,816	8,582	8,533	72,805	27,726	130,682

We also wanted to build on the survival analyses for international traders of chapter 6 by including type of trade in the equation. Are two-way traders more likely to survive than exclusive importers or exporters? In order to analyse survival rates, we selected all firms that started trading in 2007, resulting in 31,648 firms. Exit can be measured as ceasing to trade (opposite: trader survival), or as firm exit in general (opposite: enterprise survival). In this chapter, *enterprise survival* is defined as the year that the firm died, that is not due to mergers or acquisitions, and no restart in the next year. This information is based on the data used in chapter 6. Now it is aggregated on a yearly basis since for traders we do not have monthly start/stop dates. *Trader exit* is defined as the year in which a firm stops trading; i.e. no trade in the following year.

Are enterprises that trade with countries close-by less likely to stop trading than enterprises that trade with countries far away? And is the type of product that is traded (for instance, low-skilled labour intensive products such as clothing) also relevant in predicting survival of traders? Do the results change when we take into account enterprise survival rather than trader survival? In order to answer these questions, we grouped partner countries into four large country groups, namely 1) EU-15, 2) BRIC/Asia, 3) North America and 4) Other countries; and three product groups namely 1) primary products and natural resources, 2) high-tech products and 3) low-skilled labour intensive products and human-capital intensive products, according to the factor intensity classification of Hinloopen and Van Marrewijk.²⁾

²⁾ <https://www2.econ.uu.nl/users/marrewijk/eta/intensity.htm>

8.4 Descriptive statistics

Table 8.4.1 shows some descriptive statistics for various types of importers and exporters. For importers and exporters we distinguish:

1. enterprises that traded each year between 2007 and 2011 (i.e. continuing traders)
2. enterprises that started to import or export somewhere between 2007 and 2011 (lifespan not taken into account)
3. incidental importers (exporters)
4. enterprises that stopped importing or exporting somewhere between 2007 and 2011 (lifespan not taken into account)

Since the events are not mutually exclusive (a starter can also be an exiter a year later), a total is presented separately.

8.4.1 Descriptive statistics on various traders (2007–2011)

	N	Countries		Products		Product/country combinations		Trade value	
		average	median	average	median	average	median	average	median
								x 1,000	
Importers	60,554	4	2	10	3	18	4	4,516	28
of which									
Continuing	27,772	5	3	13	5	25	6	7,520	109
Starters	26,113	3	1	6	2	9	2	1,492	5
Incidental	2,702	1	1	2	1	3	1	79	1
Exiters	25,167	4	1	8	2	14	3	1,544	9
Exporters	32,284	9	3	8	2	38	5	8,991	119
of which									
Continuing	17,623	11	4	9	3	44	7	12,040	402
Starters	9,268	6	2	6	2	25	2	4,725	23
Incidental	711	2	1	2	1	9	1	231	6
Exiters	11,550	8	2	7	2	32	4	3,810	45

Table 8.4.1 shows that the average importer sourced on average 10 products from 4 countries, while the average exporter exported 8 products to 9 countries. Bernard and Jensen (2007a) found similar results for importers, but the average exporter in the US is smaller. The average import value per enterprise was 4.5 million euro, but the median is much lower, indicating that there are many small importers. The average export value for exporters between 2007 and 2011 was almost 9 million euro, with again a much lower median.

Continuing importers are by far the largest importers, both in terms of trade value and in terms of trading partners. Continuing importers had an average of 5 partner countries, 13 products and 25 country-product combinations between 2007 and 2011. Their average import value was around 7.5 million euro, and also their median trade value was the highest of all importers. Incidental importers are smallest, in terms of import value, products and countries. Enterprises that started importing between 2007 and 2011 sourced these goods from 3 trading partners on average, imported 6 products, had an average trade value of 1.5 million euro. This is slightly lower than the average import value of enterprises that stopped importing between 2007 and 2011. Exiting importers are somewhat larger than starters, especially in terms of median trade value and product-country combinations. New exporters start out with an average of 6 trading partners and 6 products. Some of them are immediately successful since the average trade value is higher than that of stopping exporters (median is not). Continuing exporters are most successful, with a high trade value and many products and countries.

The average number of product-country combinations is twice as high for exporters as for importers, namely 38 product-country combinations compared to 18 for importers. Also the median and mean trading value is at least twice as high. As such, importers are on average smaller (although not in number of products), source from fewer countries and have a lower trade value. Similar results were found by Bernard et al (2007). This also suggests that trade barriers for imports are lower than for exports.

8.5 Growth after trade start

Extensive Margin

In this section we focus on all enterprises that started trading in 2007. We investigate in what way starting traders expand (even though some of them stopped altogether). Table 8.5.1 shows for starting importers the expansion of trade along the product and country extensive margin. In their first year, 62 percent of them imported one product from one country. In fact, 83 percent of importers that started to trade in 2007 sourced their products from one country. Roughly 64 percent imported only one type of commodity during their start-up year.

After five years, only 31 percent of these importers were still importing one type of commodity from one partner country. However, many had expanded their product portfolio by increasing the number of products they import. Almost 25 percent of them imported 6 or more products after five years. As such, importers that started trading in 2007 mainly expanded along the product margin.

8.5.1 Trade portfolio at import start (2007) and after five years (2011)

2007										
%										
Countries	Products									
	1	2	3	4	5	6-10	11-20	21-50	51+	Total
1	62	11	4	2	1	2	1	0	0	83
2	2	5	2	1	1	1	0	0	0	12
3	0	1	1	1	0	0	0	0	0	3
4	0	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	0
6-10	0	0	0	0	0	0	0	0	0	1
11-20	0	0	0	0	0	0	0	0	0	0
21-50	0	0	0	0	0	0	0	0	0	0
51+	0	0	0	0	0	0	0	0	0	0
Total	64	16	7	4	2	4	1	0	0	100

2011										
%										
Countries	Products									
	1	2	3	4	5	6-10	11-20	21-50	51+	Total
1	31	9	5	2	1	3	1	0	0	53
2	2	6	3	2	1	4	2	0	0	21
3	1	2	2	1	2	3	1	1	0	11
4	0	0	0	1	0	1	1	0	0	5
5	0	0	0	0	0	1	1	0	0	3
6-10	0	0	0	0	0	1	1	1	0	5
11-20	0	0	0	0	0	0	1	1	0	2
21-50	0	0	0	0	0	0	0	0	0	1
51+	0	0	0	0	0	0	0	0	0	0
Total	34	17	10	7	6	13	8	3	1	100

Table 8.5.2 shows that the trade of exporters that started in 2007 was even more concentrated than for importers. Around 67 percent of starting exporters exported 1 product to 1 country. For starting exporters trade is relatively more concentrated along the product margin than for importers. Approximately 73 percent of new exporters are specialised in 1 product. After five years, this share was still 43 percent which is roughly 10 percentage points higher than for importers.

For exporters, the expansion is somewhat more along the country extensive margin. This could imply that for some exporters the costs of expanding their business to new countries is lower than adapting their production process to create new products. After five years, 81 percent had at most 5 export products. Of course, there are still some enterprises that are major traders. Around 1 percent of exporters that started in 2007, had more than 50 export products and exported to more than 50 countries after five years. But such firms form a minority in the trading population.

8.5.2 Trade portfolio at export start (2007) and after five years (2011)

2007										
%										
Countries	Products									
	1	2	3	4	5	6-10	11-20	21-50	51+	Total
1	67	7	2	1	1	1	0	0	0	78
2	3	5	1	0	0	0	0	0	0	9
3	0	1	1	0	0	0	0	0	0	3
4	0	0	1	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	1
6-10	1	0	0	0	0	0	0	0	0	3
11-20	1	0	0	0	0	0	1	0	0	3
21-50	0	0	0	0	0	0	0	0	0	1
51+	0	0	0	0	0	0	0	0	0	0
Total	73	14	5	2	2	2	2	0	0	100

2011										
%										
Countries	Products									
	1	2	3	4	5	6-10	11-20	21-50	51+	Total
1	36	7	2	1	1	1	1	0	0	50
2	3	6	2	1	1	2	0	0	0	16
3	2	1	1	1	1	1	0	0	0	7
4	1	1	1	0	0	1	0	0	0	4
5	1	1	0	0	1	1	0	0	0	5
6-10	1	1	1	1	0	2	1	1	0	9
11-20	0	1	1	1	1	1	1	1	0	5
21-50	0	0	1	0	0	1	1	1	0	4
51+	0	0	0	0	0	0	0	0	1	1
Total	43	18	9	6	5	10	5	2	1	100

**New importers expanded more
along the product extensive margin
while new exporters grew more
along the country extensive margin**

Intensive Margin

How important adding new products and expanding to new countries is for importers and exporters is shown in table 8.5.3. We investigated this for new importers and exporters in 2007 and continuing traders. Importers that started to trade in 2007 imported in total for 1.2 billion euro of what are by definition new products from new countries. In 2008, they imported in total for 5.2 billion euro, of which 64 percent was made up by products which they already imported in 2007. Similarly, roughly two thirds of trade could be attributed to the same partner country as in 2007 and about one third of trade value was generated by importing from new countries. In their third year, these shares dropped to 5–6 percent, and in 2011 only 2 percent of the import value came from new products and/or from new countries. In comparison, for continuing importers the role of new products and new countries is very low. This indicates that enterprises that start to trade, begin to resemble continuing traders after 2–3 years. At least if they continued to trade.

8.5.3 Growth along the intensive margin

	Importers			Exporters		
	total value	new products	new countries	total value	new products	new countries
	<i>x bln euros</i>	%		<i>x bln euros</i>	%	
Started trade in 2007						
2007	1.2	—	—	1.1	—	—
2008	5.2	36	37	5.9	37	52
2009	3.9	5	6	4.6	6	11
2010	4.3	2	3	4.8	2	6
2011	4.4	2	2	4.9	2	2
Continuing trader						
2007	191.8	—	—	197.9	—	—
2008	217.3	2	5	221.6	2	6
2009	171.2	2	2	182.0	2	3
2010	208.6	1	2	201.2	2	2
2011	220.9	1	1	216.5	1	1

A similar exercise was done for exporters. For starting exporters, the role of new countries is more important than new products, which confirms our conclusions from table 8.5.2. Over half of their export value in 2008 came from exporting to new countries compared to 2007. In their third year, still 11 percent of trade was created by new partner countries. Again, after approximately three years, the enterprises that started to export in 2007 start to resemble continuing traders, for whom new products and countries are barely significant.

Interesting to see is that both new and continuing traders experienced a significant drop in trade value between 2008 and 2009, i.e. the worldwide financial crisis. This indicates that the economic downturn affected all kinds of traders. Chapter 9 in this edition of the Internationalisation Monitor will dig deeper into the impact of the economic crisis of 2009 on enterprise performance and demography.

From table 8.5.1 to 8.5.3 we can conclude that most newly established traders remain relatively small in the short term, both in terms of trade value and in the number of products and countries. Although some expand quickly along the extensive margin, around 70 percent of importers and exporters (conditional on survival) trade at the most with 5 countries and in 5 products. Adding new products and countries to their portfolio is only important in the first and second year of trading. After that, trade growth is mainly achieved by expansion along the intensive margin; i.e. deepening of the existing trade in the same products and with the same countries, as is also the case for more seasoned traders. This is in line with Besedeš and Prusa (2010) and Creusen et al (2011) who also found that the majority of trade growth is due to the intensive margin rather than the extensive margin.

Turnover and trade growth (ANOVA)

Heterogeneous trade theory (Bernard and Jensen, 1997/2007; Wagner, 2007) predicts that enterprises that engage in trade perform better than enterprises that focus on the domestic market. This is because only the most productive firms are capable of overcoming the costs of international trade and international competition. There were similar findings for Dutch traders (IM2010/2011). In this paragraph we ask whether (new) traders outperform non-traders, and whether there are differences in economic performance between various types of traders.

In order to analyse this, we first selected enterprises that were born in 2007 (following chapter 6) which were still active in 2011 (no exit) and for which there was information on turnover and trade in 2011. Then we characterised enterprises as a non-trader 1), an only importer 2), an only exporter 3) or as a two-way trader 4), which is summed up by the categorical variable *TypeTrade*. We also distinguished between enterprises that start trading right away (at entry) and enterprises that start trading later on. This information is captured by the categorical variable *TypeStart*, which has the value 0) when it concerns a non-trader (no start), 1) if the enterprise is a born global and 2) if the enterprise starts trading later than the moment of birth.

The first column of table 8.5.4 shows the results of an ANOVA on (LN) turnover for enterprises that did not trade in their five years of existence, enterprises that started to trade at birth (i.e. born globals) and enterprises that started to trade later on. The born globals born in 2007 realised the highest turnover in 2011, while non-traders again have the lowest turnover five years after birth. Pairwise comparisons are shown in table 8.1a in

the annex. In this model, *TypeStart* had a significant effect on (LN) turnover, as can be seen from the F-values in the lower part of table 8.5.4.

8.5.4 (Corrected) Turnover and trade means for *TypeStart* (2011)

	Average LN turnover	Average LN turnover	Average LN trade value
TypeStart			
No trade	10.8	—	—
Born Global	11.8	11.7	9.7
Later in life	11.5	11.7	8.5
Total	11.0	11.0	11.0
<i>F-value</i>			
Corrected Model	1,207***	318***	1,023***
Intercept	1,146,916***	441,343***	118,506***
TypeStart	1,207***	1	549***
TypeTrade		433***	831***

*** Significant at the 0.05 level

When we also correct for the type of trader that the enterprise becomes (importer, exporter or two-way trader), and exclude non-traders from the analysis, the results change drastically (second column of table 8.5.4). Now turnover of born globals does not differ from enterprises that start trading at a later point. F-tests reveal that when *TypeStart* and *TypeTrade* are included simultaneously, *TypeStart* is no longer significant in explaining turnover differences. *TypeTrade*, i.e. importers, exporters and two-way traders do have different turnover levels when type of start is controlled for, and all differ significantly from each other. The highest turnover is for two-way traders, followed by importers and then exporters.

The fact that *TypeStart* is no longer significant when *TypeTrade* is included indicates that *TypeTrade* is more important in explaining turnover differences. Born Globals that start to trade are quite likely to become two-way-traders. Enterprises that start to trade later in life often start to trade as either an exporter or importer. As such, when we control for *TypeTrade*, the turnover differences between born globals and late starters disappear.

The last ANOVA model, presented in column three, also includes *TypeTrade* and *Typestart* (also without non-traders), but now the natural logarithm of trade value is the independent variable. F-values show that in this model, both categorical variables are significant (pairwise comparisons in table 8.1a in the annex). Two-way traders had the highest trade value in 2011, followed by exporters and then importers (all significantly different from each other), and born globals had a higher trade value than enterprises that start trading later on.

8.6 Survival analysis

In this paragraph we will investigate whether the type of trade that an enterprise engages in influences its survival probabilities. Specifically, we ask whether importing and/or exporting, as well as the type of countries and products an enterprise trades in can explain differences in survival. In this regard, survival can be defined as a trader that continues trading or as an enterprise that stays in business. In this paragraph we will look at both types of exit, first when a trader stops trading (trader survival, but the enterprise continues as non-trader), and then whether the enterprises stops as a whole (enterprise survival).

Two-way traders have the highest survival probability: after five years more than 50 percent was still active in trade

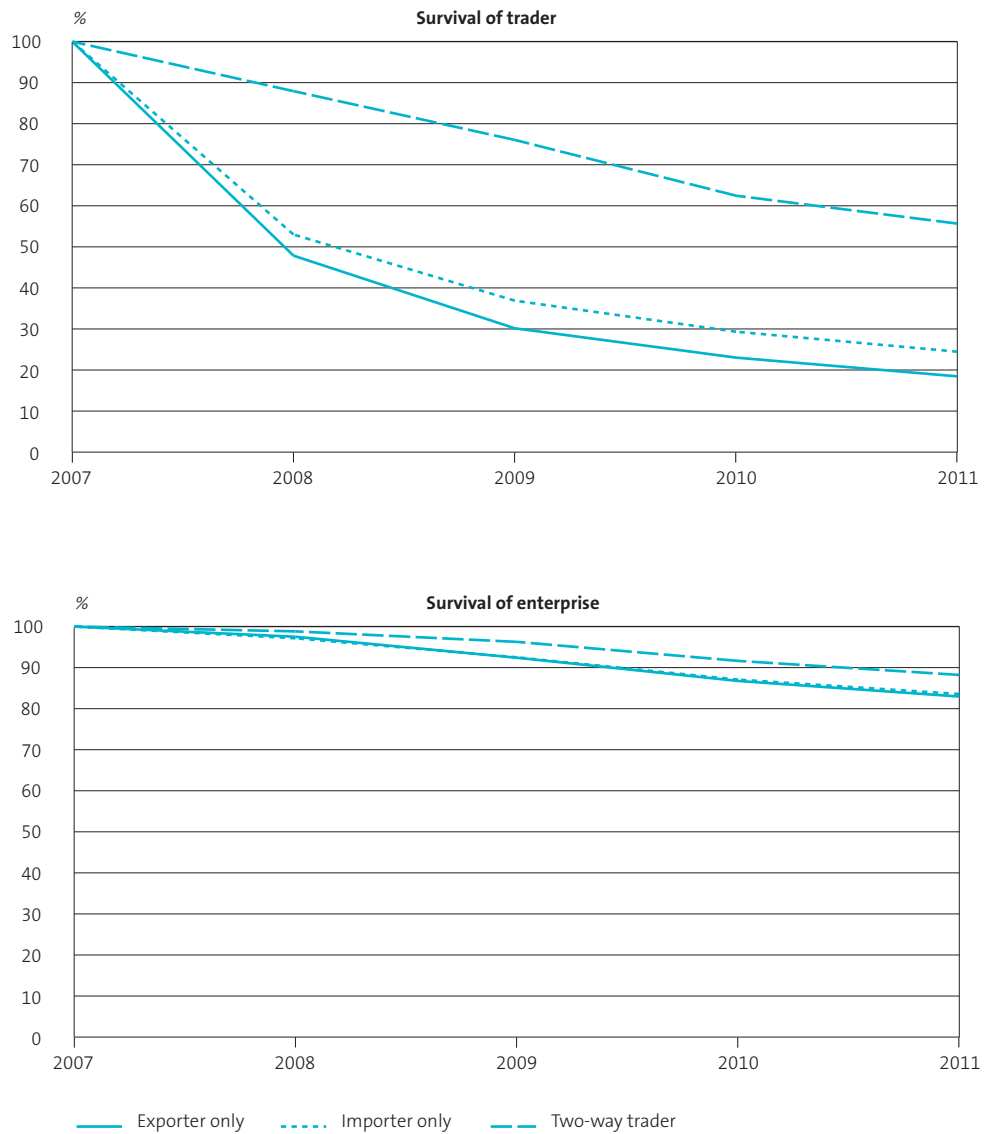
Survival of international traders: type of trader

Graph 8.6.1 shows the results of this exercise. The left graph shows the survival rate of enterprises that only import, only export and two-way traders, where survival is defined as an enterprise continuing to trade. Of all enterprises that started to only import in 2007, roughly 25 percent still reported imports in 2011, indicating that 75 percent had stopped importing within five years. Even fewer exporters were still active in 2011, namely less than 20 percent. This again suggests that engaging in exports is riskier than importing. Two-way traders that started in 2007 had the best survival probability. More than half of them were still active in trade after five years, indicating that enterprises that are able to trade on a significant scale have better prospects than other traders. Similar results were found by Bernard et al (2007a). The differences in survival between the three groups are significant as table 8.2a in the annex shows.

We also tested whether starting to import (only), export (only) or two-way trade was relevant for the survival of the enterprise as a whole. The results are shown in the right graph of graph 8.6.1. The first notable difference with the results of the trader survival analysis is that even though many enterprises stop trading within their first five years, they do not necessarily go out of business. The difference in enterprise survival is not significant between importers and exporters: they have a similar exit rate after five years, namely

around 17 percent. Two-way traders are significantly different in terms in survival and even less likely to exit. Only around 10 percent of them have exited the enterprise population after five years.

8.6.1 Survival rates of new traders (2007)



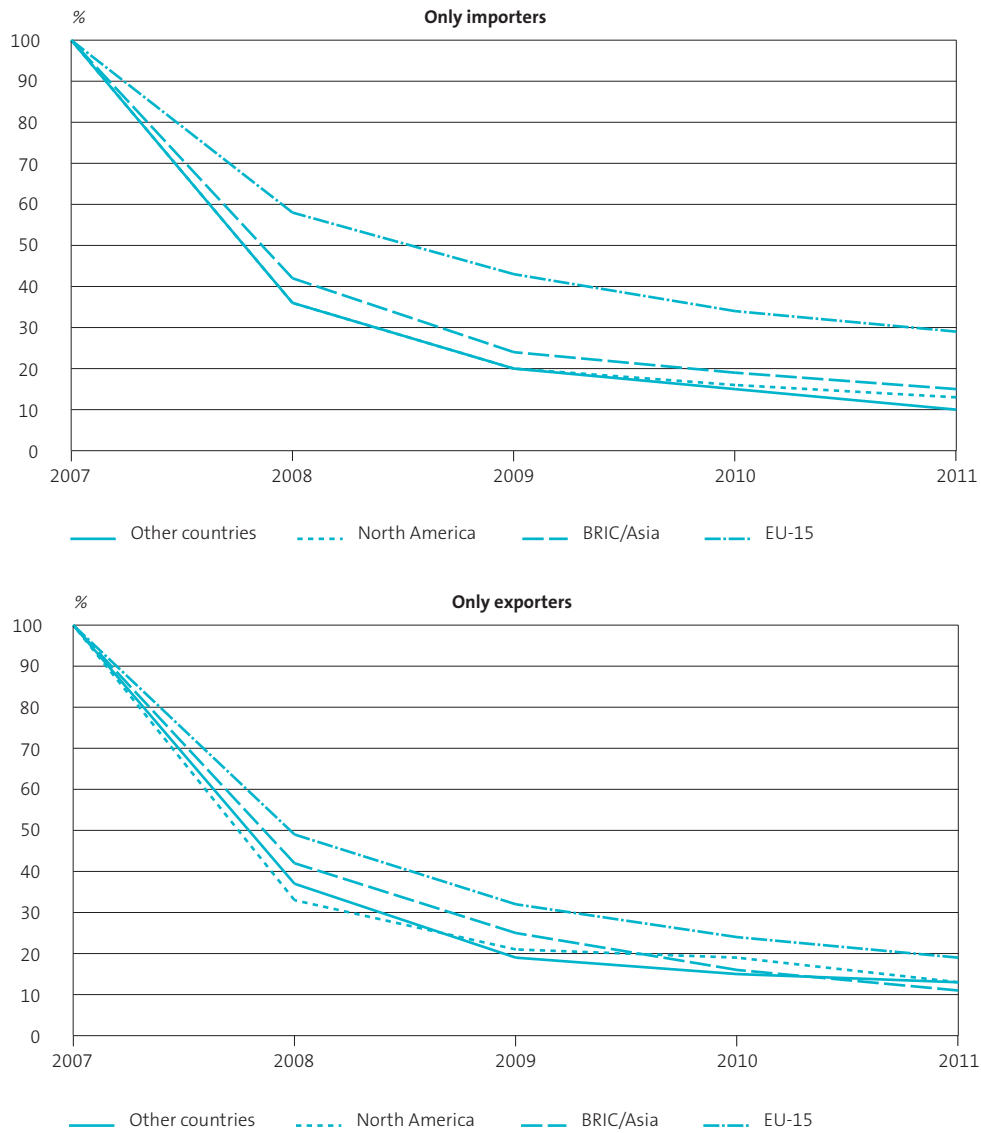
Survival of international traders: country characteristics

In this paragraph we focus on whether the country with which an enterprise trades is relevant for its survival as a trader. Smeets et al. (2010) list several barriers for trade, such as different language, culture and institutions, and we expect that survival of a trader might depend on type of partner country because of such barriers. In order to test this, we grouped partner countries into four large country groups, namely 1) EU-15, 2) BRIC-Asia, (Brazil, Russia, India, China and other Asian countries), 3) NAM (North America, meaning the US, Canada and Mexico) and 4) other countries. The country group with which an enterprise traded (imports/exports) most in 2008 (the year after trade start) is considered to be its main trading partner, and the impact of this concentration is depicted against its five year trader survival rate in graph 8.6.2. The results of this exercise on enterprise survival are shown in graph 8.6.3.

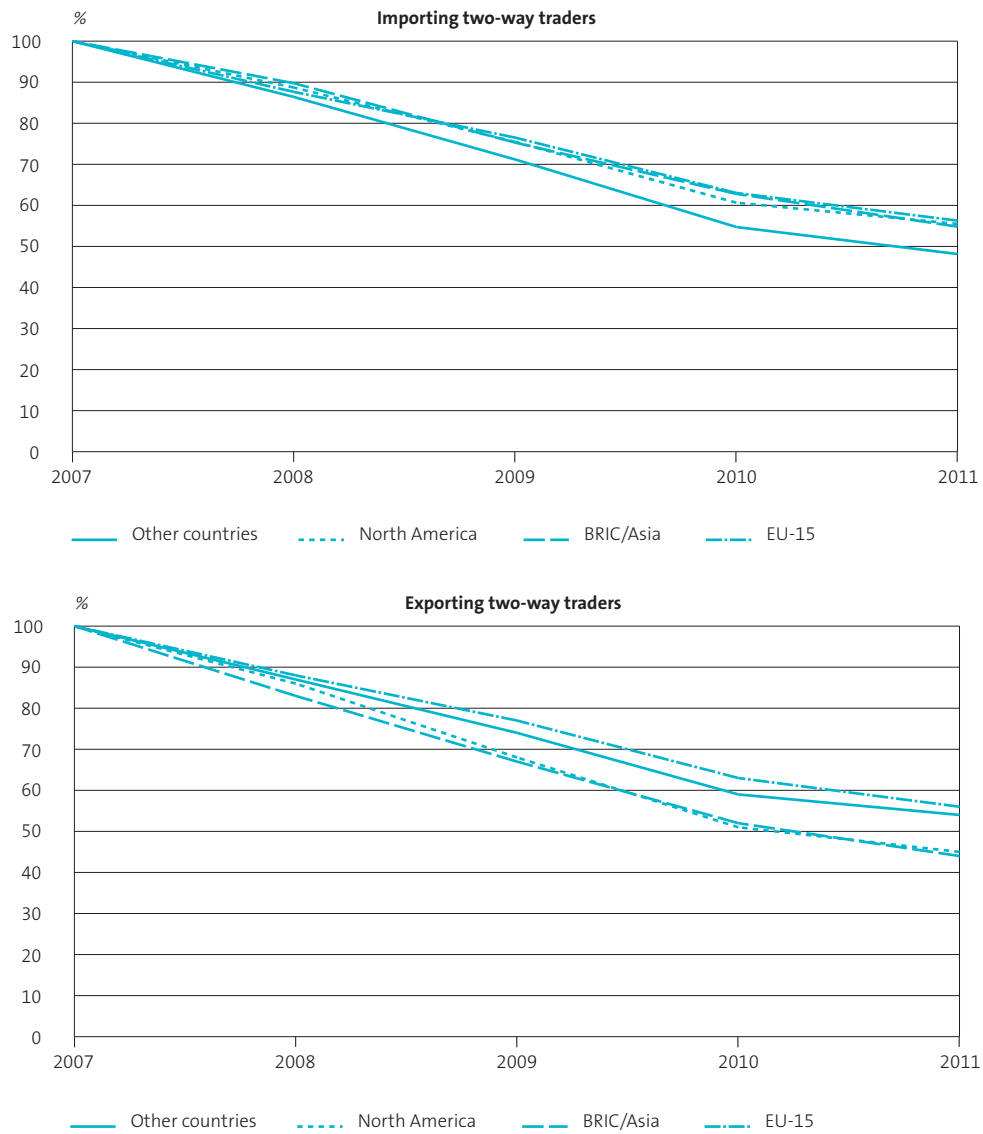
When we divide importers into a group of enterprises that only import (no exports) and those that import and export, we see striking differences in terms of survival (graph 8.6.2). For two-way traders it is not that relevant from where they import, their survival is nearly the same after five years (approximately 55 percent was still active in 2011), i.e. no significant differences in survival. For importers however, importing from the EU-15 has a positive effect on survival compared to importing from further away. After five years, roughly 30 percent of such exclusive importers is still active in trade while the others have become non-traders. Surprisingly, importing from BRIC/Asia starts out a little safer than importing from North-America or other countries but the difference is no longer significant after five years.

The destination of exports seems to be somewhat less relevant for the survival of traders than for importers. Still, exporting to the EU-15 consistently yields the best results in terms of survival after 5 years. Again, two-way traders are less likely to exit than exporters. In 2011 around 50 percent of two-way trading exporters was still active in trade. Especially exporters to EU-15 and other countries have a higher survival rate than exporters to BRIC/Asia and North-America. Roughly 20 percent of exporters to the EU-15 were still active after five years. This is significantly higher than the survival rate of exporters to BRIC/Asia, North-America and other countries, of which only 10 percent is still active in 2011. See table 8.3a in the annex for pairwise comparisons.

8.6.2 Survival rates of new traders (2007); by main partner country



8.6.2 Survival rates of new traders (2007); by main partner country (end)

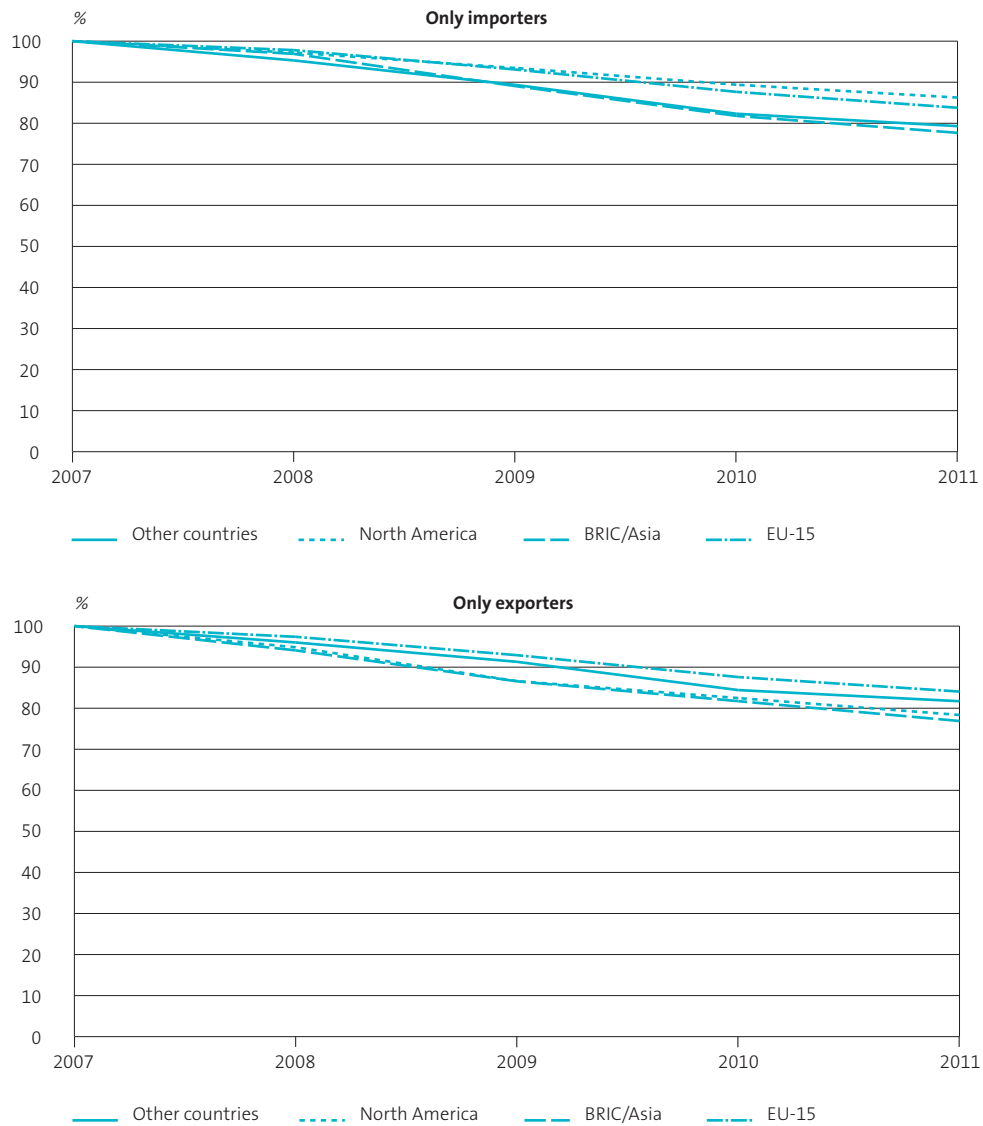


We also investigated whether the conclusions change when enterprise survival is taken into account, rather than trader survival. The results of this analysis are shown in graph 8.6.3. Across the board, enterprise survival is much higher than trader survival. Approximately 85–90 percent of the two-way traders is still active in 2011, regardless of partner country. Of only importers and only exporters, roughly 80 percent is still alive after five years (although many without trade).

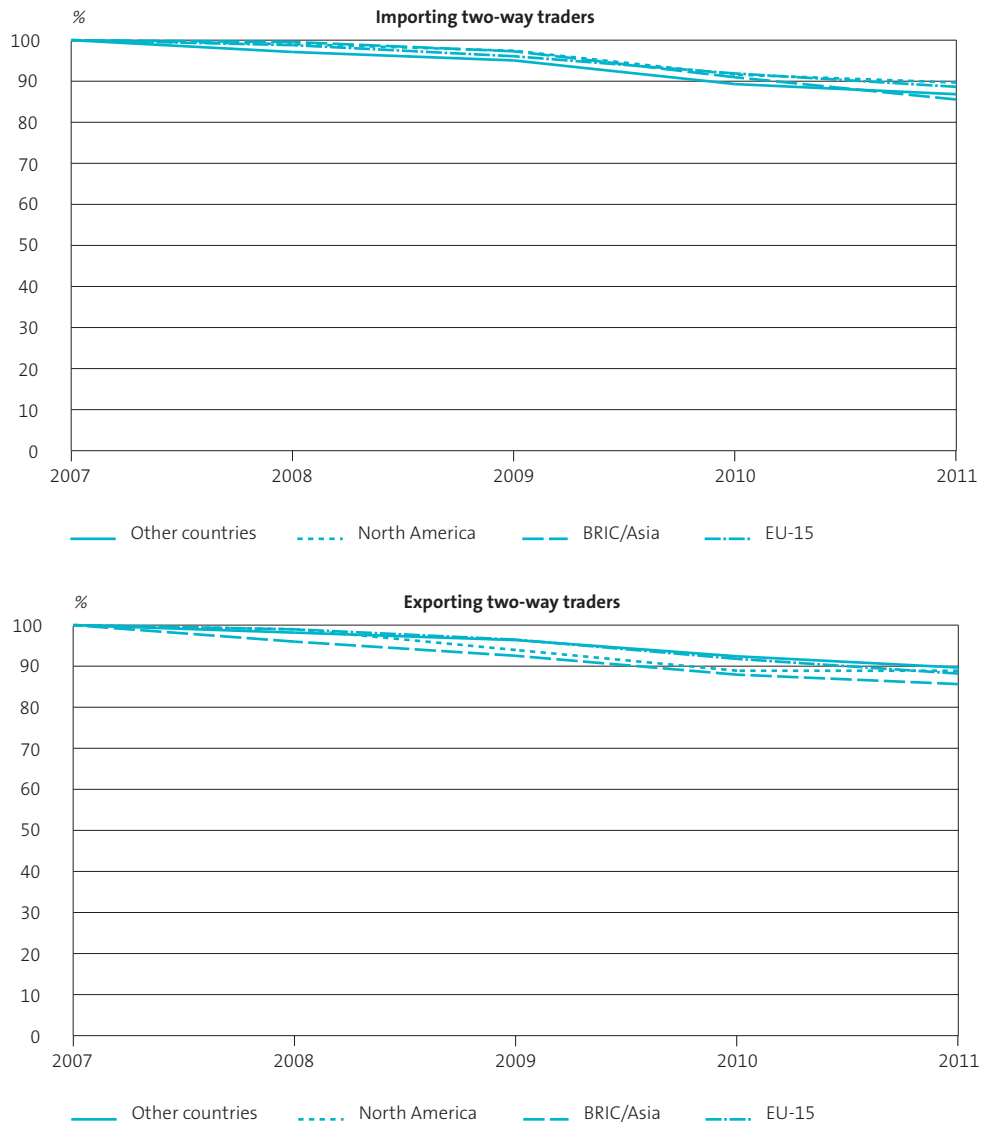
Another remarkable difference is that importing from North-America becomes ‘safer’ and importing from BRIC/Asia becomes ‘less safe’ in terms of enterprise survival than trader survival. Graph 8.6.3 shows that (only) importers that import from EU-15 and North-America have a significantly higher enterprise survival rate, while for trader survival importing from EU-15 was safest. See table 8.3a for pairwise comparisons.

Graph 8.6.3 also shows that trade with BRIC/Asia seems to be associated with somewhat lower enterprise survival rates for all types of traders. This could indicate that trading with BRIC/Asia is somewhat more of a ‘make or break deal’. That is, when things go wrong, the enterprise as a whole exits. The reverse is especially true for importers importing from North-America. The trade relationship may stop but this does not necessarily jeopardize the existence of the enterprise as a whole. Trade with the EU-15 does not seem to have a different impact on trader survival than on enterprise survival.

8.6.3 Enterprise survival of traders (2007); by main partner country



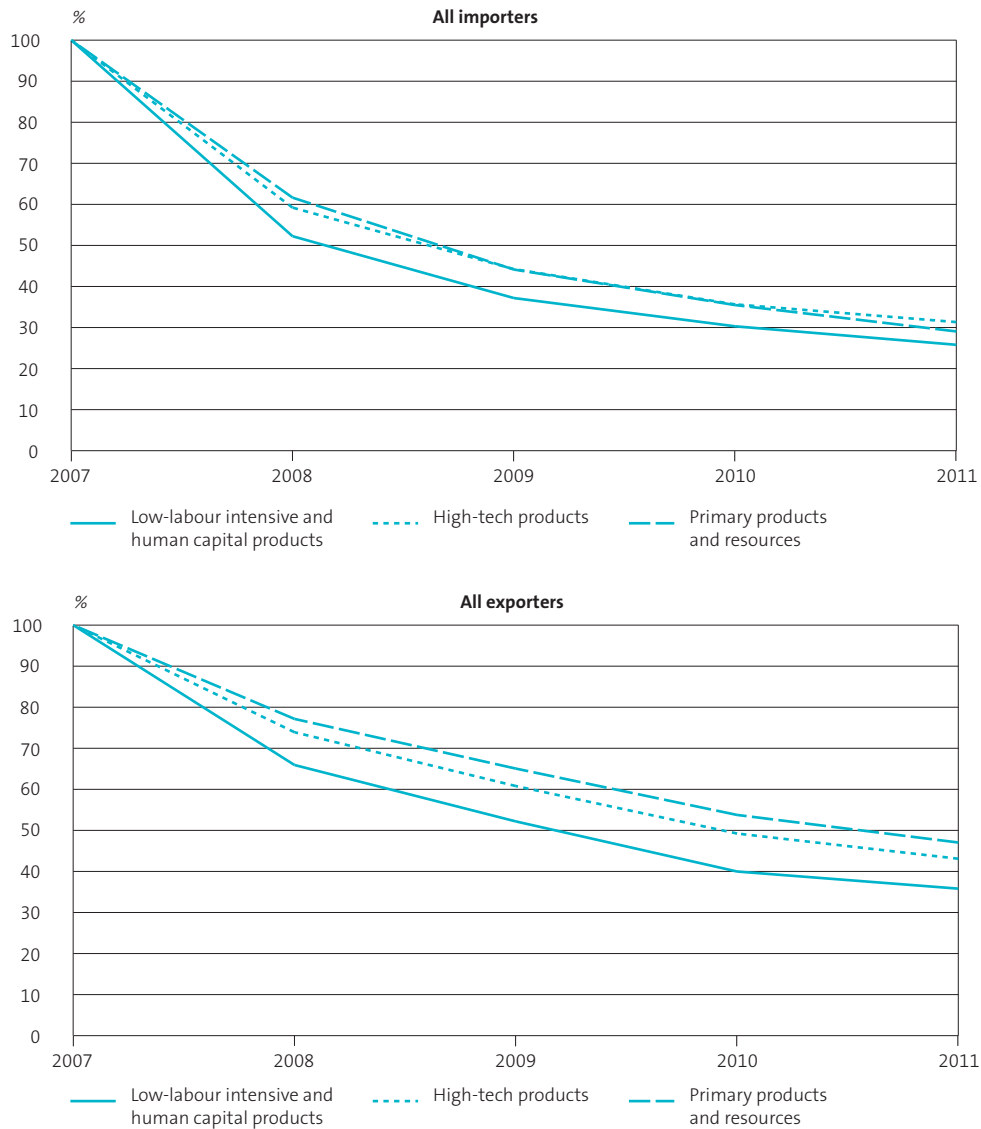
8.6.3 Enterprise survival of traders (2007); by main partner country (end)



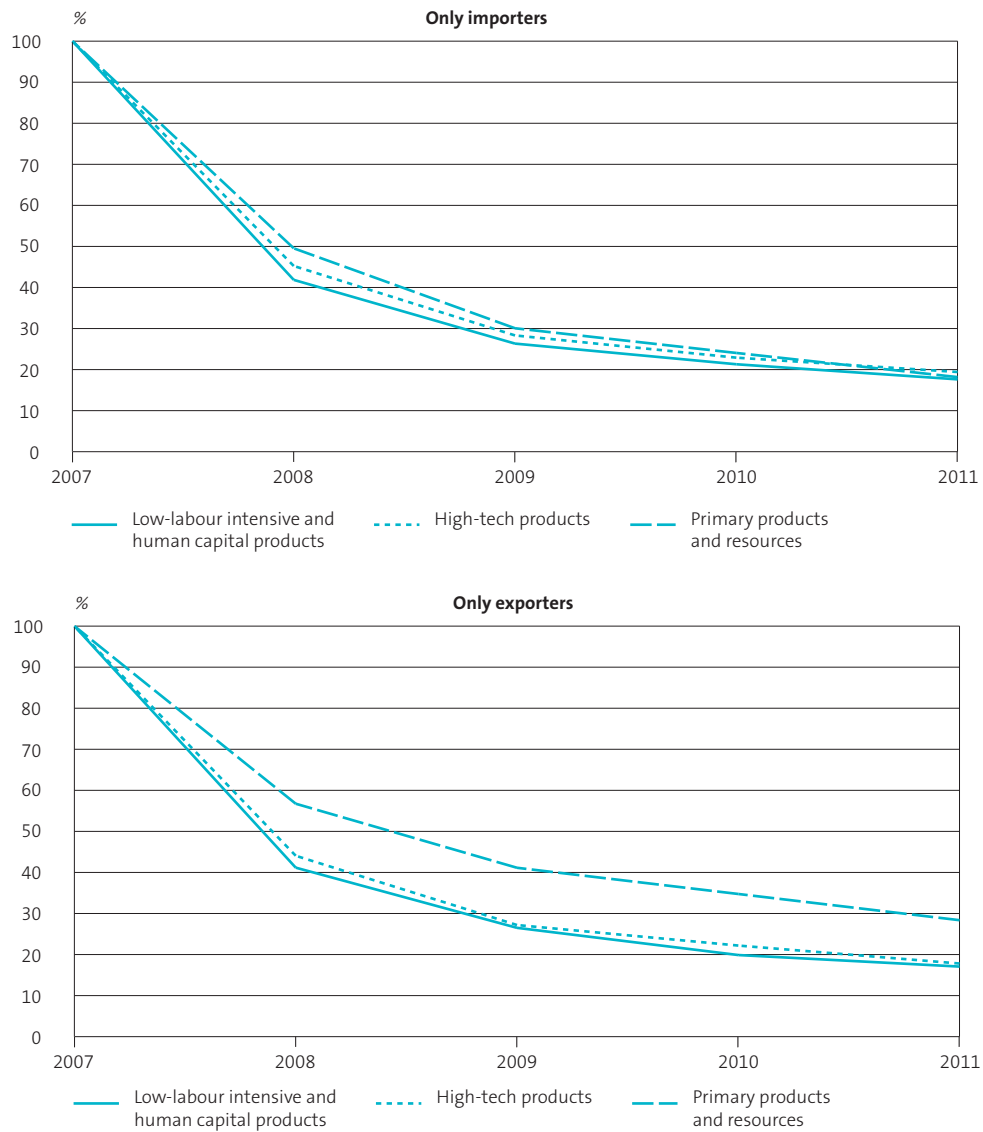
Survival of international traders: product characteristics

In this section we focus on whether the type of product an enterprise imports and/or exports also has an impact on its survival. In order to test this, we aggregated an enterprise's trade into three large product groups according to their factor intensity. Group 1 consists of primary products and natural resource intensive products (e.g. mineral fuels, ores). Group 2 are low-skilled labour intensive products and human capital products (e.g. clothing, vehicles). Group 3 are high-tech products (e.g. computers, chemicals). The product group in which an enterprise trades (imports/exports) most in 2008 (the year after trade start) is considered to be its main trading product, and the impact of this concentration is depicted against its five year survival rate (as a trader).

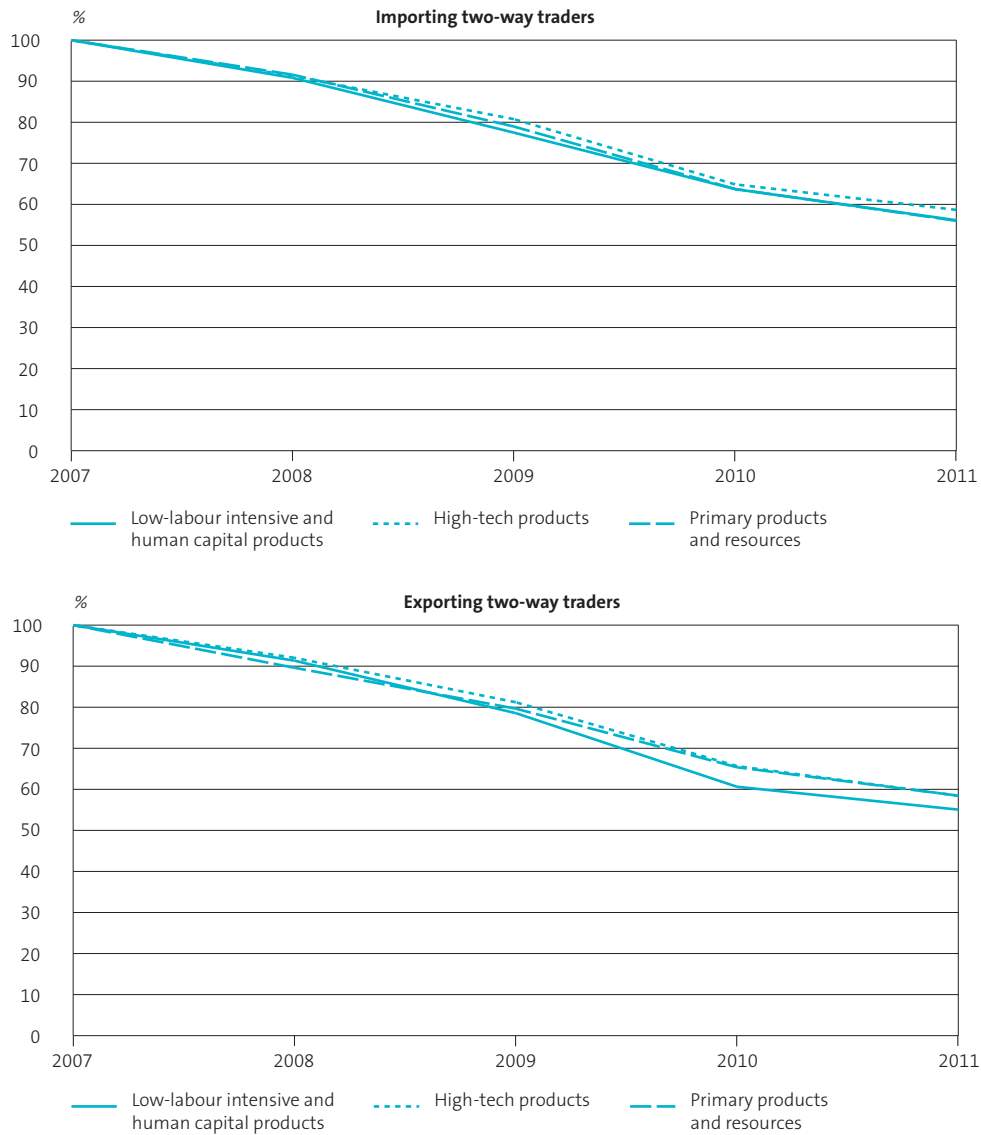
8.6.4 Survival rates of new traders (2007); by main product



8.6.4 Survival rates of new traders (2007); by main product (continued)



8.6.4 Survival rates of new traders (2007); by main product (end)



Graph 8.6.4 shows that there is only a difference in survival for importers in general (two-way traders and importers together), for each individual category the differences are no longer significant. The top left graph shows the difference in survival between importers that import primary products, resources, low-skilled labour intensive products and enterprises that import high-tech products. Enterprises that import high-tech products have a higher (statistically significant) survival probability than importers of low-skilled labour intensive products. For two-way traders or importers there are no significant differences in survival in terms of products traded.

Exporters show a similar pattern as importers, meaning that the probability of exit as a trader is highest for exporters of low-skilled labour intensive products. Export of primary products also has a significant (positive) impact on survival. Exporters of primary products and exporters of high-tech products have similar survival rates (statistically not different from each other; see table 8.4a in annex). Distinguishing between only exporters and two-way traders shows interesting differences. For two-way-traders, as we saw for imports, the type of product exported is not a significant explanation in survival. However, the exporters that export primary products and natural resources are (statistically) significantly more likely to export after five years than exporters of low-skilled labour intensive products and high-tech exporters.

We also investigated whether the conclusions change when enterprise survival is taken into account, rather than trader survival. In terms of enterprise survival, no significant differences were found for any type of trade, i.e. the type of product that is traded does not seem to be relevant in explaining overall enterprise survival.

8.7 Conclusion

This chapter provides insight into the dynamics of international commodities traders in the Netherlands, their economic development over time, the manner in which they grow (extensive versus intensive margin), and the role that type of trade plays in their survival.

The average Dutch importer sourced on average 10 products from 4 countries, while the average exporter exports 8 products to roughly 9 countries. Already existing traders have by far the largest trade value and the most partner countries. New importers sourced on average 6 products from on average 3 countries. New exporters start out with 6 trading partners and 6 products.

Most traders start and stay small. Almost two thirds of importers that started to trade in 2007 sourced their products from one country and imported only one type of commodity during their start-up year. With 67 percent, exporters are even more concentrated in their first year. After five years, still around 70 percent of importers and exporters

(conditional on survival) trade with 5 countries or less, and in 5 products or less. Adding new products and countries to their portfolio is costly and brings along risk, which only the most productive and profitable firms can afford to do. As a result, growing along the extensive margin is less important. Most growth is achieved by extending already existing relationships, as is also the case for more experienced firms.

Our ANOVA of differences in turnover showed that two-way traders achieve significantly higher levels of turnover than importers, exporters or non-traders. If all else is equal, non-traders have the lowest level of turnover. When an enterprise starts to trade is also relevant in explaining turnover and trade differences. Born Globals realise the highest turnover. However when combined with *TypeTrade*, *TypeStart* becomes insignificant. Born Globals that start to trade are quite likely to become two-way traders. Enterprises that start to trade later on often start to trade as either exporters or importers. As such, when we control for *TypeTrade*, the turnover differences between born globals and late starters disappear.

The last main contribution of this chapter adds to the survival literature. We distinguish between enterprise survival and trader survival, and assess the impact of partner country and product portfolio on both survival types. Two-way traders have the highest survival probability. Over half were still active traders after five years and only 10 percent had exited as an enterprise altogether. Of newly established importers and exporters respectively 25 and 20 percent still traded after five years, and around 18 percent of both groups ceased to exist as an enterprise.

Due to the costs involved with trade and the risks for entrepreneurs, we expect that survival of a trader may also depend on the type of partner country. For two-way traders it is not very relevant from where they import. Enterprises that only import have a higher survival rate when they mainly import from the EU-15. Alternatively, exporting to the EU-15 also yields the best results in terms of survival after five years, compared to exporting to BRIC/Asian countries, North America or other countries (although not significantly so for two-way traders).

When we look at enterprise survival rather than trader survival, trade with BRIC/Asia seems to be associated with somewhat lower enterprise survival rates. Trading with BRIC/Asia could be a 'make or break deal', where trade failure leads to enterprise failure. The reverse is true especially for importers from North-America. When the trade relationship stops this does not necessarily cause the enterprise to exit. Trade with the EU-15 does not seem to have a different impact on trader or enterprise survival.

In this chapter we also investigated whether the type of product an enterprise imports and/or exports has an impact on its survival. Enterprises (including two-way traders) that import high-tech products have a higher (statistically significant) survival probability than importers of low-skilled labour intensive products. Exporters show a similar pattern as importers, meaning that the probability of exit as a trader is highest for exporters of low-skilled labour intensive products. Exporting primary products also has a significant (positive) impact on survival. However, in terms of enterprise survival, there were no

significant differences. Further analysis on trader survival should include the number of products and countries as well as absolute trade value.

Annex

8.1a Pairwise comparisons for ANOVA on corrected turnover and trade means for TypeTrade

	Basic model	Basic model + TypeStart	Basic model + TypeStart on trade value
Non-trader			
Born Global	-1.023***		
Later in life	-0.715***		
Born Global			
Non-trader	1.023***		
Later in life	0.308***	0.028	1.216***
Later in life			
Non-trader	0.715***		
Born Global	-0.308***	-0.028	-1.216***

*** The mean difference is significant at the 0.05 level.

8.2a Pairwise comparisons between different types of traders

	Trader survival	Enterprise survival
Importer only		
Exporter only	0.135*	-0.037
Two-way trader	-0.829*	-0.399*
Exporter only		
Importer only	-0.135*	0.037
Two-way trader	-0.964*	-0.363*
Two-way trader		
Importer only	0.829*	0.399**
Exporter only	0.964*	0.363**

* Significant at 0.005 level.

8.3a Pairwise comparisons between different types of countries

	Import only		Two-way trader	
	trader survival	enterprise survival	trader survival	enterprise survival
EU-15				
BRIC/Asia	0.334*	0.352*	0.032	0.237
Other countries	0.436*	0.279*	0.217	0.163
North-America	0.412*	-0.170	0.025	-0.101
BRIC/Asia				
EU-15	-0.334*	-0.352*	-0.032	-0.237
Other countries	0.103	-0.073	0.185	-0.074
North-America	0.078	-0.523*	-0.007	-0.338
Other countries				
EU-15	-0.436*	-0.279*	-0.217	-0.163
BRIC/Asia	-0.103	0.073	-0.185	0.074
North-America	-0.025	-0.449*	-0.192	-0.265
	Export only		Two-way trader	
	trader survival	enterprise survival	trader survival	enterprise survival
EU-15				
BRIC/Asia	0.170	0.419	0.333*	0.232
Other countries	0.201*	0.155	0.079	-0.133
North-America	0.197	0.349	0.303	-0.041
BRIC/Asia				
EU-15	-0.170	-0.419	-0.333*	-0.232
Other countries	0.031	-0.264	-0.254	-0.365
North-America	0.027	-0.070	-0.031	-0.273
Other countries				
EU-15	-0.201*	-0.155	-0.303	0.133
BRIC/Asia	-0.031	0.264	0.031	0.365
North-America	-0.004	0.194	-0.224	0.092

* Significant at 0.005 level.

8.4a Pairwise comparisons between different types of products

	All importers		Import only		Two-way trader	
	trader survival	enterprise survival	trader survival	enterprise survival	trader survival	enterprise survival
Primary products and resources						
Low-labour intensive and human-capital intensive	0.109	-0.003	0.056	-0.021	0.006	-0.059
High-tech products	-0.024	-0.065	0.010	-0.027	-0.072	-0.171
Low-labour intensive and human-capital intensive						
Primary products and resources	-0.109	0.003	-0.056	0.021	-0.006	0.059
High-tech products	-0.134*	-0.062	-0.046	-0.006	-0.078	-0.111
High-tech products						
Primary products and resources	0.024	0.065	-0.010	0.027	0.072	0.171
Low-labour intensive and human-capital intensive	0.134*	0.062	0.046	0.006	0.078	0.111
	All exporters		Export only		Two-way trader	
	trader survival	enterprise survival	trader survival	enterprise survival	trader survival	enterprise survival
Primary products and resources						
Low-labour intensive and human-capital intensive	0.299*	0.172	0.279*	-0.026	0.090	0.254
High-tech products	0.104	0.173	0.250*	0.197	-0.015	0.150
Low-labour intensive and human-capital intensive						
Primary products and resources	-0.299*	-0.172	-0.279*	0.026	-0.090	-0.254
High-tech products	-0.194*	0.001	-0.029	0.223	-0.105	-0.104
High-tech products						
Primary products and resources	-0.104	-0.173	-0.250*	-0.197	0.015	-0.150
Low-labour intensive and human-capital intensive	0.194*	-0.001	0.029	-0.223	0.105	0.104

* Significant at 0.005 level.

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.¹⁾

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.

¹⁾ 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
Parameter		
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
Characteristics	
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



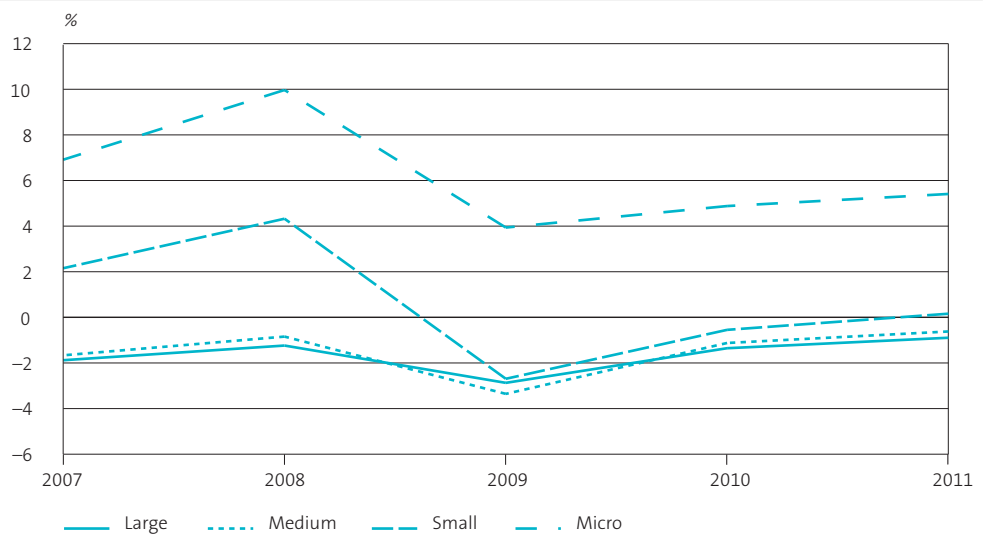
Demographics

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.

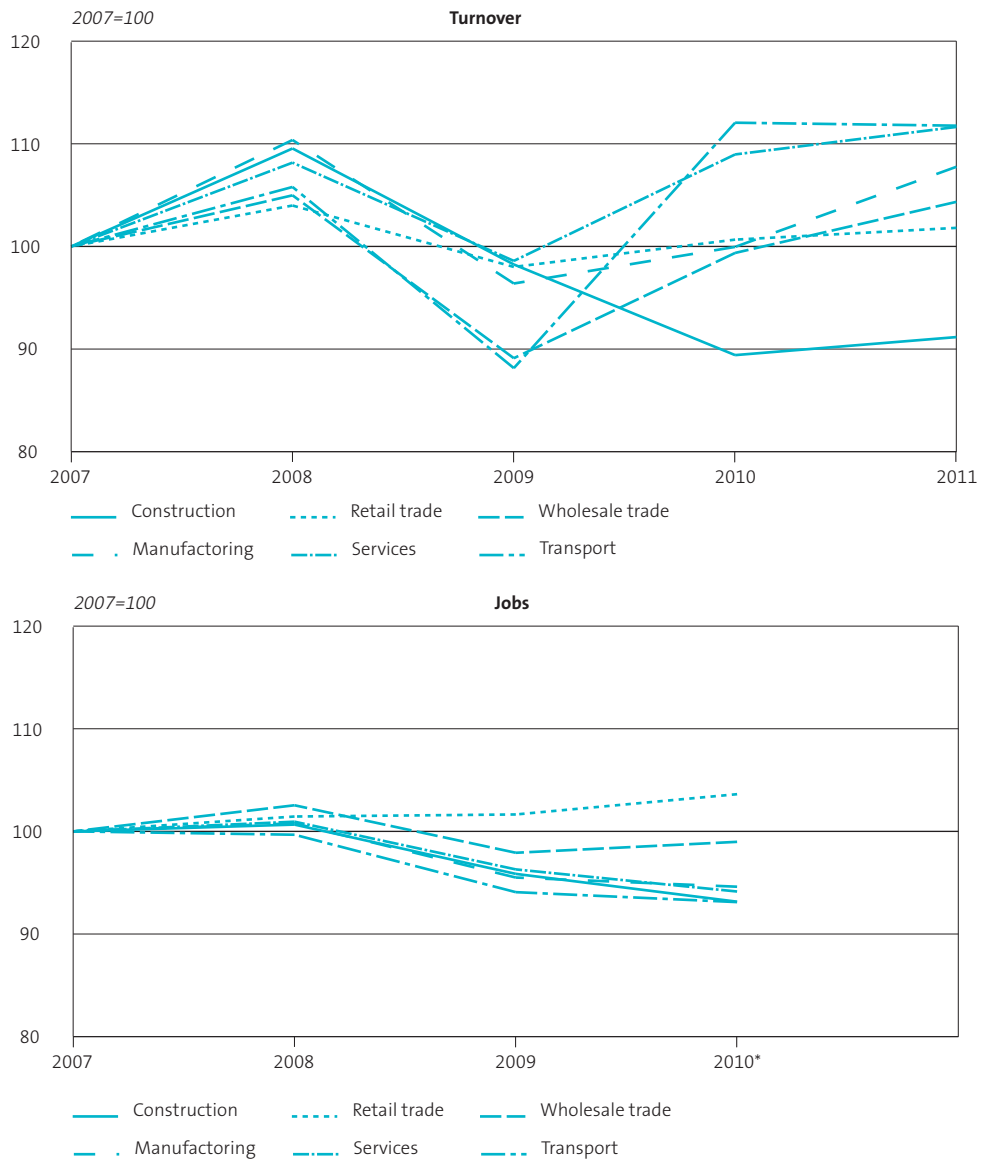
9.4 Economic impact of the financial crisis

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)

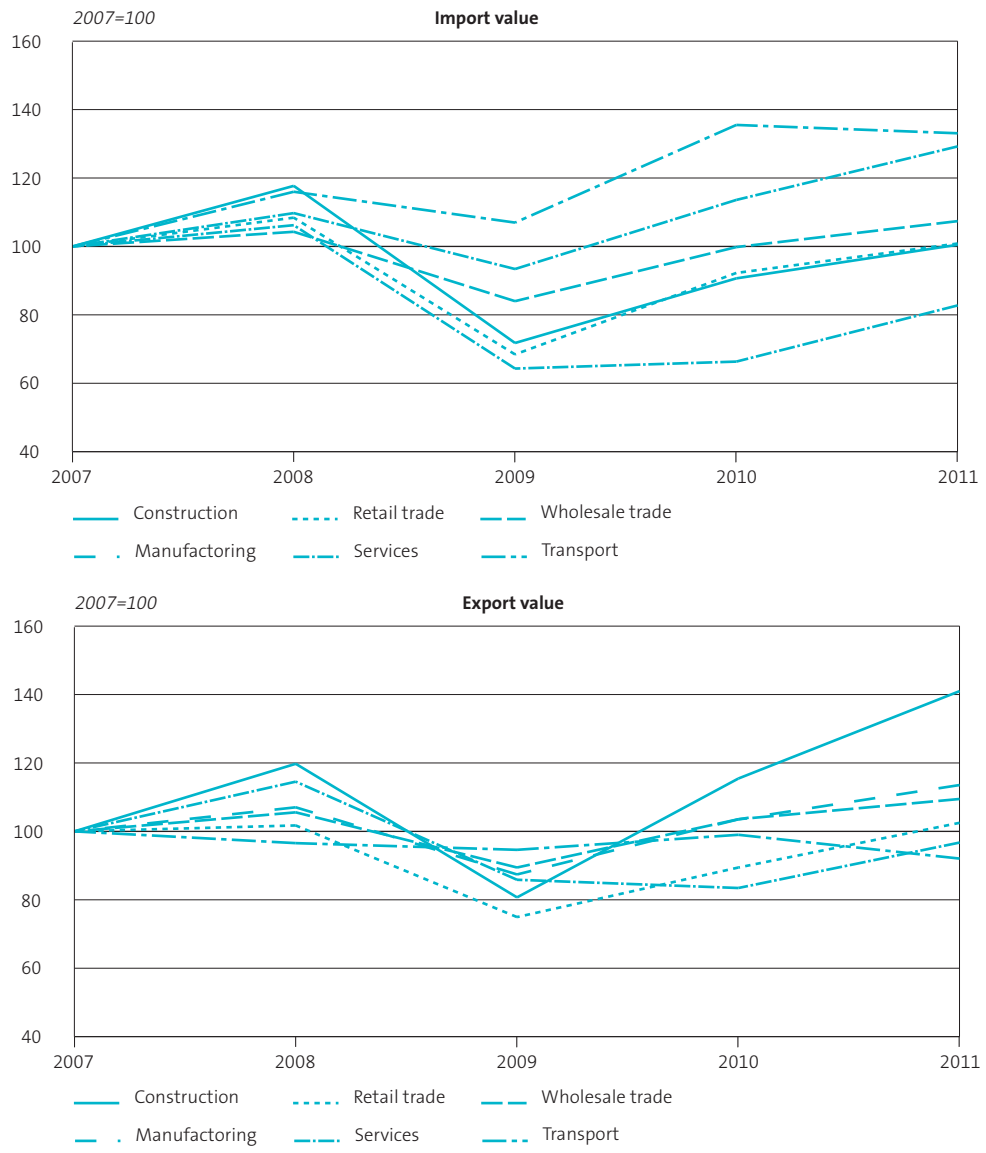


Figure 9.4.1 also shows that the crisis had the largest effect on the turnover of transport enterprises, but we also see them recuperate with a 24 percent increase in turnover from 2009 to 2010. Until 2011 the transport sector lost the most jobs, over 20,000, which is 7 percent of its 2007 total. This 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.

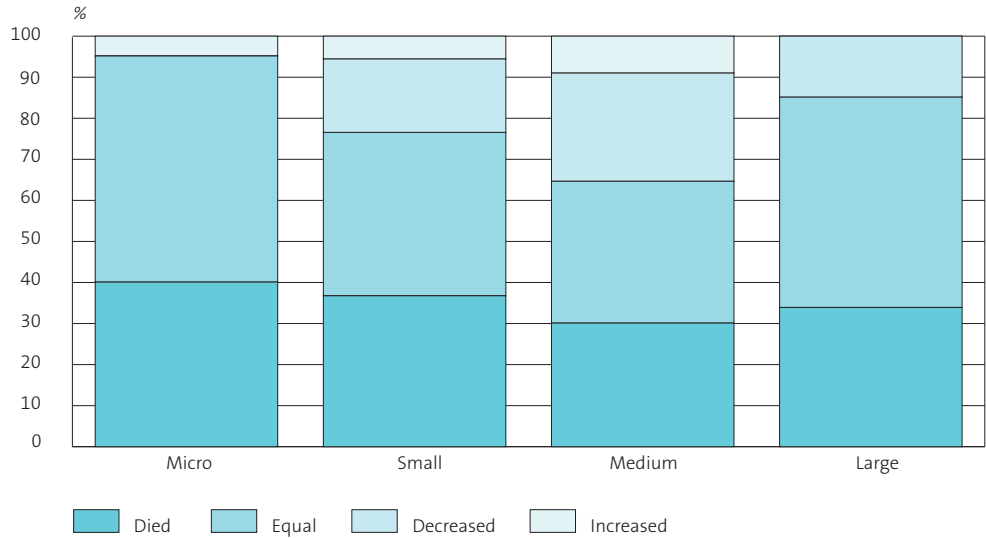
The retail and wholesale trade were the only two sectors where the number of jobs grew in 2010

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



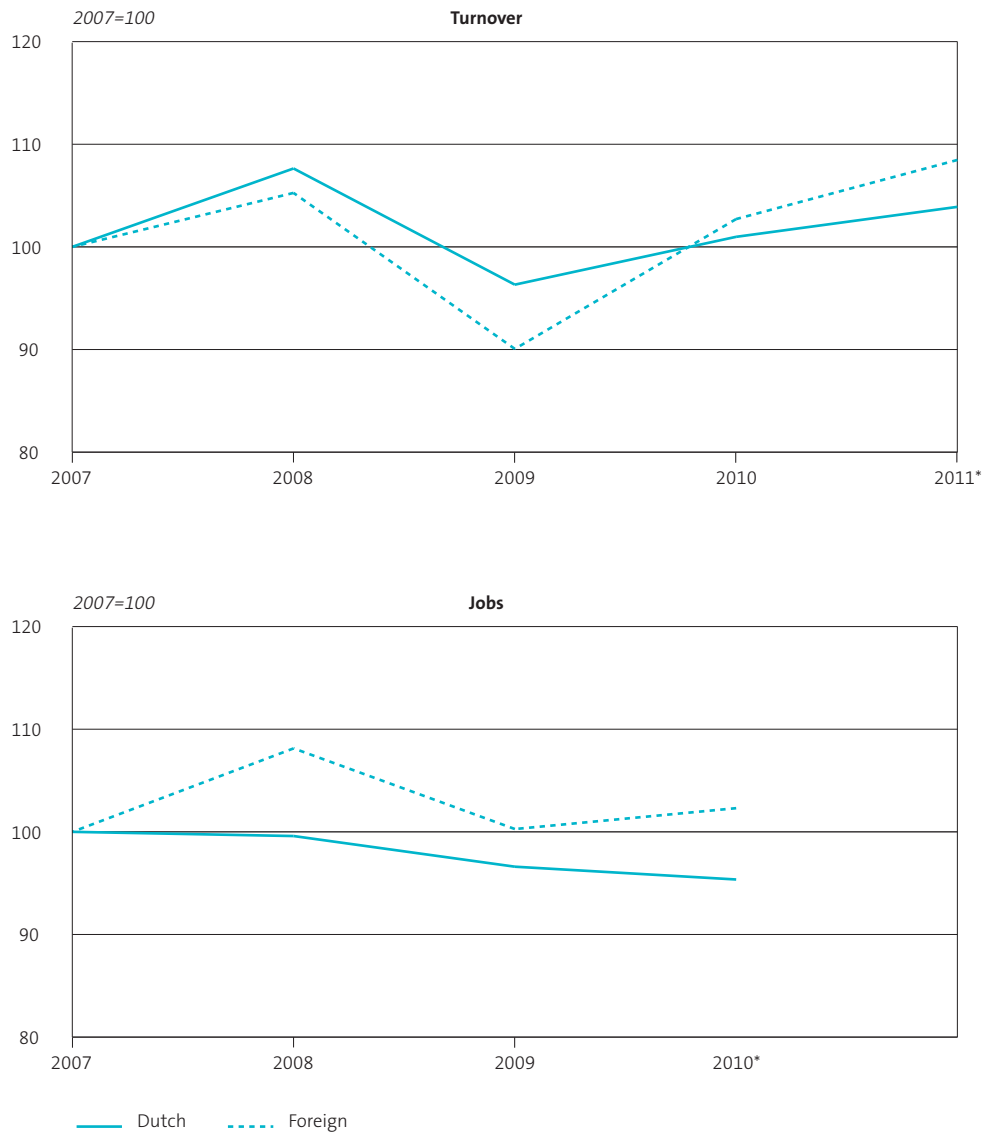
Ownership

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

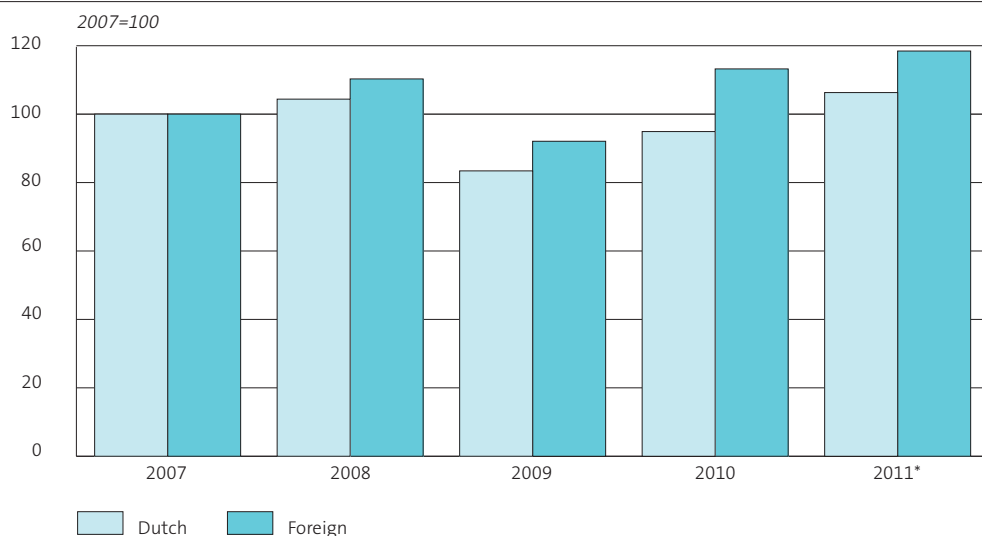
of Dutch enterprises. A similar observation was made by Urlings et al. (2011), who studied the developments of jobs at foreign and Dutch controlled enterprises during 2000–2007. They found a 200 thousand job increase at foreign controlled enterprises (considered as a group) which equals the net number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

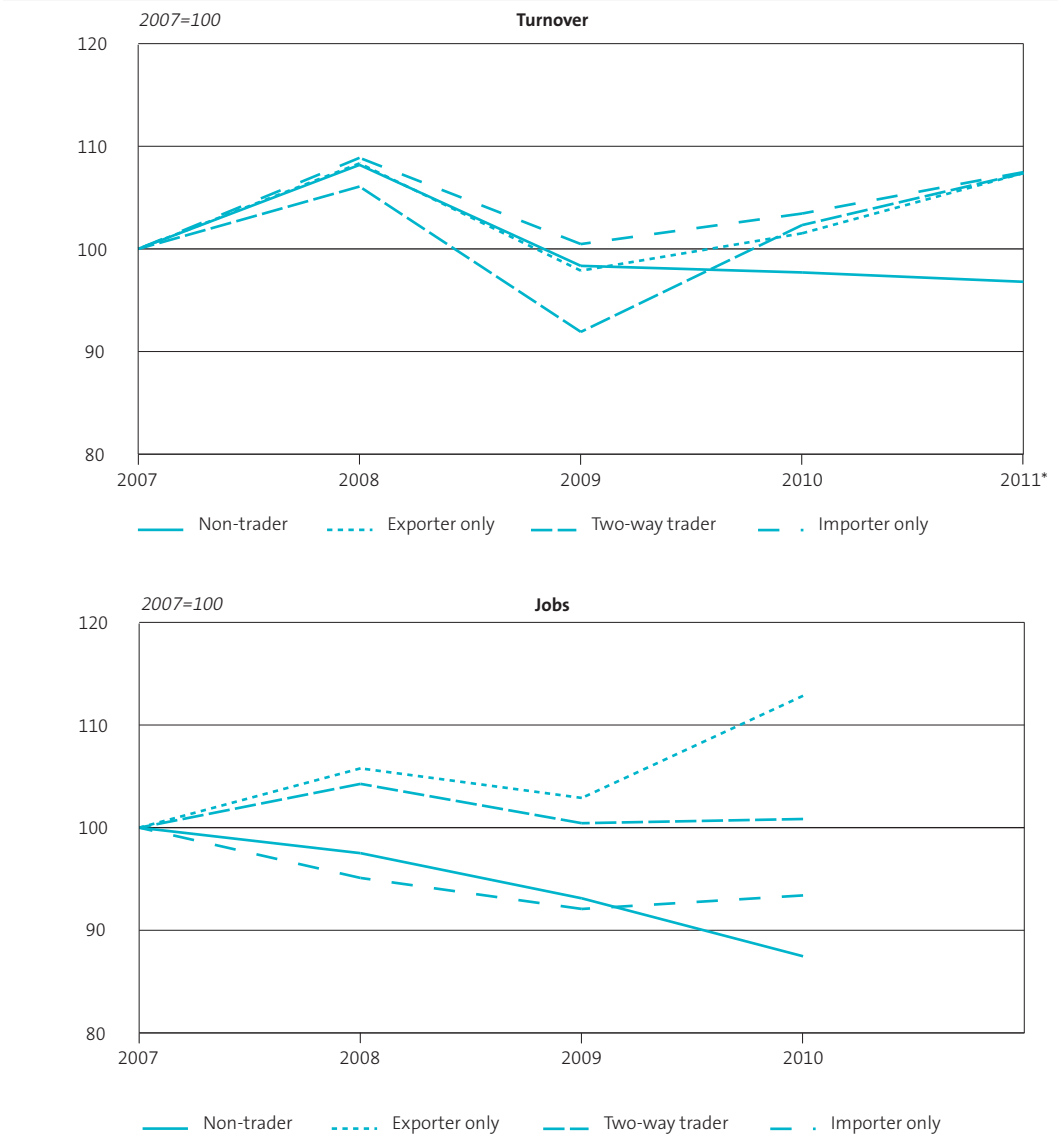


Type of trade

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
%				
Type of trade				
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>				
Corrected Model	10 ***	64 ***	412 ***	92 ***
Intercept	14250 ***	3896 ***	278 ***	145 ***
TypeTrade	10 ***	64 ***	412 ***	92 ***
%				
Ownership				
Dutch	15.1	-5.5	-0.6	0.3
Foreign	11.8	-9.8	8.5	4.5
<i>F-value</i>				
Corrected Model	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
	%			
Size class				
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
Sector of activity				
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
Type of trade				
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
Ownership				
Dutch	10.5	–8.7	1.1	1.9
Foreign	14.7	–8.9	6.7	4.3
	<i>F-value</i>			
Corrected Model	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.

International
trade in goods
by enterprises

10



International trade in goods by enterprises

10.1 Introduction

- Methodology

10.2 Overview of international trade in goods by origin of the parent enterprise

10.3 International trade in goods by size class

10.4 International trade in goods by industry

10.5 International goods traders in the Netherlands

This chapter presents information about the developments of the international trade in goods by Dutch enterprises in the Netherlands. Data on international trade flows from 2002–2011 are discussed in relation to Dutch enterprise characteristics, such as economic activity, size class and country of ownership (domestic or foreign control). In 2011, total import and export values increased by almost 10 and by 9 percent, respectively. The share of imports generated by foreign controlled enterprises remained over 50 percent in 2011, while their share in exports was just under 50 percent. By 2010, trade had returned to its pre-crisis levels of 2008. Trade of SMEs was already restored by 2010. Large enterprises showed import levels comparable to 2008 in 2011, but their export values were still somewhat lower. The bulk of goods were once again imported and exported by wholesalers and manufacturers. These two sectors also have the highest trade propensity. About 44 percent of the wholesalers imported and 36 percent exported goods in 2011. For manufacturers these shares are somewhat lower, but still around a third.

10.1 Introduction

This chapter describes the pattern of the international trade in goods by Dutch enterprises in the Netherlands, and examines the developments of trade in goods and the breakdown of the Dutch trading population. Data on the international trade flows between 2002 and 2011 are enriched with Dutch enterprise characteristics, such as economic activity, size class and country of ownership, domestic or foreign control. The results presented here are preliminary, because integrating data from international trade statistics and the General Business Register (GBR) is still in its early stages.

Statistics on the international trade in goods represents the value and volume of goods crossing the Dutch border. Statistics Netherlands distinguished 9,452 commodities and 245 trading partners in 2010. To obtain these data, Statistics Netherlands conducts a monthly survey on intracommunity trade and obtains information on extra-EU trade flows, mainly from customs.

Around 79 percent of the import and 71 percent of the export flows in 2011 could be attributed to enterprises registered in the General Business Register. This is slightly less than in 2010, where almost 83 percent of imports and 75 percent of exports could be matched to enterprises. The main reason why some trade flows cannot be assigned to an enterprise in the GBR is because these trade flows also include trade by international traders who are not registered in the GBR if they have no establishment or office in the Netherlands. As the focus here is on traders active in the Netherlands (which can still be ultimately foreign controlled higher up in the chain of command), these foreign traders fall

beyond the scope of this analysis. Also, some trade cannot be assigned to Dutch traders because some economic activities, e.g. farmers are not completely registered in the GBR.

Methodology

Over the years, the methodology of enriching international trade data with enterprise characteristics has changed and improved. Furthermore, new information sources have become available and this has been of great value in the matching process. This resulted in a higher number of matches as of 2009.

The General Business Register, the main source of enterprise information, has undergone major changes as of 2006. This also resulted in significant improvements in the quality of matching traders to enterprises in the GBR from reference year 2007.

The procedure to determine whether an enterprise is Dutch or foreign controlled changed in 2005. As of 2006, company control is based on the concept of the Ultimate Controlling Institute (UCI), as defined by the FATS Regulation. For the enterprises of 2011, the UCI is based on the data from 2010, since the data on 2011 is not yet available.

The distinction between re-exports (belongs to Dutch trade according to the National Concept) and quasi-transit trade (does not belong to Dutch trade according to the National Concept) has changed as of 2008. The net effect of this methodological change is a downward adjustment of the total trade level in the National Concept, where exports decreased somewhat stronger than imports.

Enterprises without employees (self-employed persons) are excluded from the tables and analyses in this chapter.

General business register: The general business register comprises all enterprises in the Netherlands that make a contribution to the domestic product. For each enterprise, several characteristics are recorded such as the economic activity and size class (in terms of employee numbers).

Dutch enterprise: an enterprise is the actual transactor in the production process, characterised by independence in decisions about the process and by providing products to others. As a result of the definition and particularly the required independency, one enterprise may comprise several local units or several legal units.

Dutch controlled vs. foreign controlled enterprise: The Ultimate Controlling Institutional Unit (UCI) is defined as the institutional unit, proceeding up a foreign affiliate's chain of control, which is not controlled by another institutional unit. 'Foreign controlled' means that the resident country of the UCI is a country other than the Netherlands. 'Control' means the ability to determine the general and strategic policy of an enterprise by appointing appropriate directors. The UCI is determined on a yearly basis by combining enterprise information from various sources.

10.2 Overview of international trade in goods by origin of the parent enterprise

Table 10.2.1 depicts the breakdown between Dutch and foreign controlled enterprises, as a function of the total values of imports, exports and re-exports in the Netherlands for 2002–2011. Whereas total import value dropped by more than 18 percent in 2009 on 2008, it had returned to pre-recession levels by 2010 and rose another 10 percent in 2011 to almost 365 billion euros. In 2011, Dutch and foreign controlled shares in imports did not change much compared with the previous years. Over the years, foreign controlled enterprises have gained an increasing share of Dutch imports, which seems to be stabilising. Starting with 40 percent in 2002, their contribution had risen to 52 percent in 2011.

Exports show a similar trend. Figures dropped by more than 16 percent in 2009 on 2008, returned to the 2008 level by 2010 and increased another 10 percent in 2011, exceeding 409 billion euros. Like import value, the share of Dutch and foreign control in exports has not changed notably in the last few years. This means that the observed decline in export as well as import value was incurred equally by Dutch and foreign controlled traders, although a small advantage of the foreign controlled traders in 2010 suggests that that group recovered a little faster from the recession. The trade surplus, i.e. export value minus import value, amounted 44 billion euro in 2011. This equals the high trade surplus of 2007.

In terms of numbers, foreign controlled companies account for less than 4 percent of the Dutch trader population. This implies that the vast majority of traders are Dutch controlled, but also that the relatively low number of foreign controlled traders account for considerable sums. As far as import value is concerned, this minority of foreign traders contributes a major share of total Dutch import of goods (52 percent) while for export value, foreign enterprises contribute just under half of the total value.

10.2.1 International trade in goods; Dutch versus foreign controlled enterprises

	Import value		of which		Export value		of which	
			Dutch controlled	foreign controlled			Dutch controlled	foreign controlled
	<i>billion euro</i>	%			<i>billion euro</i>	%		
2002*	205.6	60	40		232.7	60	40	
2003*	206.9	58	42		234.2	60	40	
2004*	228.2	56	44		255.7	59	41	
2005*	249.8	49	51		281.3	54	46	
2006*	285.4	49	51		319.0	53	47	
2007*	307.3	48	52		347.5	54	46	
2008*	335.9	46	54		370.5	51	49	
2009*	274.0	47	53		309.4	51	49	
2010*	331.9	44	56		371.5	49	51	
2011*	364.9	48	52		409.4	52	48	

* Enterprises without employees are excluded.

10.3 International trade in goods by size class

In 2011, goods imports of SMEs and large enterprises increased by 1.2 and 12 percent respectively. Over the years, large enterprises have shown a more steady growth rate than SMEs. However, SMEs returned to their pre-recession import values as early as 2010, while large enterprises did not surpass their 2008 import level until 2011.

For the group of large trading enterprises, foreign controlled enterprises contributed a significantly larger share to the total import value than Dutch controlled companies. Over the years, this foreign share went from 59 percent in 2002 to 62 percent in 2011. For SMEs, the role of foreign controlled enterprises in imports has also become more important over the years. In 2002, about 30 percent of imports were carried out by these enterprises. They even dominated in 2010, indicating that foreign controlled SMEs recovered faster from the recession than domestic SMEs. By 2011 Dutch SMEs dominated again with a 56 percent share.

The total export value of SMEs had returned to pre-recession levels by 2010, and amounted to almost 165 billion euros in 2011. Compared to SMEs, large companies saw their export values deteriorate more in 2009. And, similar to import values, large enterprises take longer to recover, with export levels at almost 111 billion euros in 2011.

For SMEs that export goods, the share of exports carried out by foreign controlled enterprises has increased steadily since 2002, when only 28 percent of the export value could be assigned to foreign controlled enterprises. In 2011, 44 percent of the total export value of 165 billion euros was generated by small and medium sized foreign traders. As was the case in import developments, by 2010 foreign traders had regained a larger share, indicating a faster recovery. Development over time was exactly the opposite for large exporters. In 2002, foreign controlled companies still generated 59 percent of the export value. This gradually declined to 53 percent in 2011. This could not be explained by a falling number of foreign controlled exporters (on the contrary). It was caused by an increase in export value by Dutch owned exporters.

10.3.1 Import and export value of goods by size class and origin of the parent company

	SMEs		of which		Large enterprises		of which	
			Dutch controlled	foreign controlled			Dutch controlled	foreign controlled
	<i>billion euro</i>	%			<i>billion euro</i>	%		
Import value								
2002*	109.2	70	30		65.1	41	59	
2003*	108.4	70	30		63.1	42	58	
2004*	114.9	66	34		67.0	40	60	
2005*	125.6	57	43		75.9	39	61	
2006*	138.4	57	43		87.4	45	55	
2007*	135.6	59	41		100.2	40	60	
2008*	151.2	56	44		115.0	37	63	
2009*	129.3	54	46		89.7	36	64	
2010*	151.7	49	51		107.6	35	65	
2011*	153.5	56	44		120.8	38	62	
Export value								
2002*	106.5	72	28		80.1	41	59	
2003*	108.0	72	28		74.1	42	58	
2004*	114.3	69	31		77.3	42	58	
2005*	131.5	62	38		79.4	42	58	
2006*	139.3	60	40		95.2	47	53	
2007*	140.0	63	37		105.3	46	54	
2008*	157.2	58	42		120.6	46	54	
2009*	142.2	55	45		90.7	45	55	
2010*	160.0	51	49		96.4	46	54	
2011*	164.9	56	44		110.9	47	53	

¹⁾ See introduction.

* Enterprises without employees are excluded.

SME: small and medium-sized enterprises. An SME is an enterprise that employs less than 250 people. A small enterprise employs less than 50 people and a medium-sized enterprise employs between 50

and 249 people. Enterprises without employees were excluded from the analysis.

10.4 International trade in goods by industry

As Table 10.4.1 shows, enterprises in *wholesale trade* and *manufacturing* contributed most of the import value of goods in 2011, namely 95.7 and 85.0 billion euros, respectively. Most sectors grew rapidly over the years, particularly *wholesale trade* and *transport and storage*. Compared to 2002, they produced growth rates of 121 percent and 147 percent respectively.

Over the years, the dominance of Dutch traders has shifted. More than half of the import value of goods can be linked to enterprises under foreign control. This shift between 2002 and 2011 can be seen for *wholesale trade*, *retail trade*, *repair, accommodation and food*, *transport and storage*, and *professional, scientific and technical activities*. However, the influence of Dutch traders increased for *agriculture, fishing, extraction, energy, water and waste* and *real estate, business and other services*.

In total export value, enterprises in *manufacturing* and *wholesale trade* are also the largest traders to which exports worth 113.5 and 99.0 billion euro respectively could be attributed in 2011. Compared to 2002, all sectors show a strong growth. The strongest increase can be found for *wholesale trade* and *agriculture, fishing, extraction, energy, water and waste*, with 144 percent and 136 percent respectively

When exporting enterprises are differentiated in terms of Dutch and foreign control, there is a general shift from Dutch dominance to equilibrium. This shift from mostly Dutch to foreign controlled exporters can be observed for *wholesale trade*, *transport and storage*, and *professional, scientific and technical activities*. Like importers, the share of Dutch exporters has increased for *agriculture, fishing, extraction, energy, water and waste*, and *real estate, business and other services*, but also for *construction*.

10.4.1 Import and export value of goods by economic activity and origin of the parent company

	2002*			2010*			2011*		
	Total value	of which		Total value	of which		Total value	of which	
		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled
	<i>billion euro</i>	%		<i>billion euro</i>	%		<i>billion euro</i>	%	
Import value	205.6	60	40	331.9	44	56	364.9	47	53
<i>Economic activity (NACE Rev.2)</i>									
Agriculture, fishing, mining, energy, water and waste (SBI: A, B, D, E)	3.3	69	31	7.7	90	10	9.1	87	13
Manufacturing (SBI: C)	53.9	41	59	75.3	42	58	85.0	43	57
Construction (SBI: F)	0.7	83	17	1.4	68	32	1.5	66	34
Wholesale trade (SBI: G46)	43.4	68	32	95.5	43	57	95.7	50	50
Retail trade, repair, accomodation and food (SBI: G45, G47, I)	18.2	64	36	24.1	48	52	26.5	47	53
Transport and storage (SBI: H)	16.7	56	44	41.8	33	67	41.2	43	57
Information and communication (SBI: J)	1.0	70	30	2.1	52	48	2.2	54	46
Finance and insurances (SBI: K)	0.9	–	–	2.3	–	–	1.2	–	–
Professional scientific and technical activities (SBI: M)	5.8	86	14	6.8	49	51	9.5	49	51
Real estate, business and other services (SBI: L, N, S)	1.2	56	44	2.0	78	22	1.9	78	22
Rest category (SBI: O, P, Q, R, T, U)	0.6	92	8	0.4	94	6	0.5	94	6
Export value	232.7	60	40	371.5	49	51	409.4	51	49
<i>Economic activity (NACE Rev.2)</i>									
Agriculture, fishing, mining, energy, water and waste (SBI: A, B, D, E)	8.5	87	13	17.0	96	4	20.1	96	4
Manufacturing (SBI: C)	82.4	46	54	102.7	45	55	113.5	47	53
Construction (SBI: F)	0.4	76	24	0.7	87	13	0.8	88	12
Wholesale trade (SBI: G46)	40.6	71	29	97.4	46	54	99.0	53	47
Retail trade, repair, accomodation and food (SBI: G45, G47, I)	7.3	84	16	7.2	59	41	8.1	62	38
Transport and storage (SBI: H)	12.6	64	36	17.6	37	63	16.7	26	74
Information and communication (SBI: J)	1.0	61	39	1.9	61	39	1.9	52	48
Finance and insurances (SBI: K)	0.6	–	–	1.6	–	–	1.1	–	–
Professional scientific and technical activities (SBI: M)	7.3	86	14	8.9	41	59	12.6	45	55
Real estate, business and other services (SBI: L, N, S)	1.2	48	52	1.3	70	30	1.6	73	27
Rest category (SBI: O, P, Q, R, T, U)	0.2	98	2	0.2	91	9	0.3	98	2

* Enterprises without employees are excluded.

10.5 International goods traders in the Netherlands

The total number of enterprises in 2011 amounted to 1,3 million, almost 5 percent more than in 2010. The highest increase in the number of enterprises was observed in the *rest category* (e.g. education, health and culture). With over 15 thousand enterprises more, the population size increased by 9 percent. There was another significant increase, of around 8 percent, for *information and communication* and *professional, scientific and technical activities*. Over the years, most enterprises have been active in the latter.

Importers constituted 12 percent of the total Dutch enterprise population, while 7 percent exported in 2011. For importers, this is a slight increase compared to 2010. Considering the different economic activities, *wholesale trade* and *manufacturing* stand out, with the largest shares of traders in their population. Enterprises in *wholesale trade* comprise 40 percent importers and 32 percent exporters. For manufacturers 32 percent comprise importers, and 25 percent exporters.

Although the largest share of enterprises can be found in *professional, scientific and technical activities*, relatively few of these enterprises imported and exported goods abroad (6 percent). This pattern has been quite stable over time.

Enterprises in *wholesale trade* bore the brunt of the crisis. In 2009 fifty percent of the almost 74 thousand enterprises in this branch imported goods to the Netherlands and 41 percent exported goods. By 2011, this was down by 6 and 5 percent respectively, with the biggest decrease in traders in 2010. The same pattern can be seen for *finance and insurances*. *Transport and storage* and *information and communication* on the other hand saw their numbers of international traders increase in 2010. Although their recovery from the crisis started in 2010, growth did not continue in 2011.

Goods imports and exports are least important in *finance and insurances* and in the *rest category*, with only 3 and 4 percent of the enterprises involved in importing activities and even fewer in exporting, namely 2 percent.

10.5.1 Share of importers/exporters of goods in the enterprise population by economic activity

	2009*			2010*			2011*		
	total	importers	exporters	total	importers	exporters	total	importers	exporters
		%			%			%	
Total	1,333,232	13	8	1,273,511	12	8	1,333,101	12	7
<i>Economic activity (NACE Rev.2)</i>									
Agriculture, fishing, mining, energy, water and waste (SBI: A, B, D, E)	71,009	10	7	70,426	11	8	68,563	11	8
Manufacturing (SBI: C)	58,210	37	30	54,790	34	27	55,937	32	25
Construction (SBI: F)	141,857	7	3	138,267	7	3	141,515	7	3
Wholesale trade (SBI: G46)	88,509	50	41	81,004	43	36	81,519	40	32
Retail trade, repair, accommodation and food (SBI: G45, G47, I)	188,653	24	6	182,733	23	6	188,632	22	6
Transport and storage (SBI: H)	34,865	9	8	32,908	12	14	33,736	12	13
Information and communication (SBI: J)	60,915	9	8	61,409	11	10	66,492	11	10
Finance and insurances (SBI: K)	124,788	8	6	85,603	3	3	88,393	3	2
Professional scientific and technical activities (SBI: M)	238,795	6	5	233,792	6	6	252,001	6	6
Real estate, business and other services (SBI: L, N, S)	167,917	5	2	164,342	6	2	172,777	6	3
Rest category (SBI: O, P, Q, R, T, U)	157,714	3	2	168,237	4	2	183,536	4	2

* Enterprises without employees are excluded.

International
trade in
services by
enterprises

11



International trade in services by enterprises

- 11.1** Introduction
- 11.2** Overview of the international trade in services by origin of the parent enterprise
- 11.3** International trade in services by size class
- 11.4** International trade in services by economic activity
- 11.5** International services traders in the Netherlands

11.1 Introduction

The statistics on the international trade in services provide information about the Dutch import and export values of services from and to a foreign country respectively. Each quarter, Statistics Netherlands (CBS) uses the business survey to collect data for the following services: transportation, communication services, construction services, insurance services, financial services, computer and information services, royalties and licence fees, other business services and personal, cultural and recreational services. Data on government services and travel are obtained by other data collection methods and are therefore not available for the analyses presented here.

The data for the annotated tables in this chapter are based on an integration of the micro data from the business survey and the UCI (Ultimate Controlling Institute).

The business survey is based on two groups according to the value of the international trade in services. The first group includes enterprises with a significant share in the total size value of the international trade in services. These enterprises ($n = 350$) are integrally observed at the enterprise group level. The second group includes enterprises with a less significant share in the total size value of the international trade in services. These enterprises are observed through a questioned based sample survey of approximately 5,000 companies at enterprise level.

The UCI is defined as an institutional unit, proceeding up a foreign affiliate's chain of control, which is not controlled by another institutional unit. Therefore, foreign controlled enterprises have a centre of control outside the Netherlands, whereas Dutch controlled means that the locus of control is in the Netherlands. 'Control' is defined as the ability to determine general corporate policy by appointing appropriate directors. The UCI is determined on an annual basis by combining enterprise information from various sources.

11.2 Overview of the international trade in services by origin of the parent enterprise

11.2.1 shows the overall Dutch imports and exports of services for six successive years. Among other things, the impact of the economic downturn and subsequent recovery is illustrated. The services exports declined by 4 billion euro between 2008 and 2009, resulting in an annual growth rate of -4.7 percent in 2009. However, in 2010 and 2011 the annual growth rates were remarkably higher, respectively, 8.8 and 9.8 percent. The effects of the economic crisis and recovery were less apparent for the services imports, which continued to grow each year. However, the annual growth rates were relatively modest in 2009 (2.0 percent) and 2010 (2.9 percent) compared to the previous years. In 2011, services imports increased by 6.2 percent.

The shares of Dutch and foreign controlled enterprises in our sample are shown in 11.2.2. From 2006 to 2008, approximately 55 percent of the import value was attributed to Dutch controlled enterprises and 45 percent to foreign controlled enterprises. In the following years, the imports by foreign controlled enterprises increased relatively more than the imports of the Dutch controlled enterprises. In 2011 the share of the foreign controlled enterprises was 49 percent.

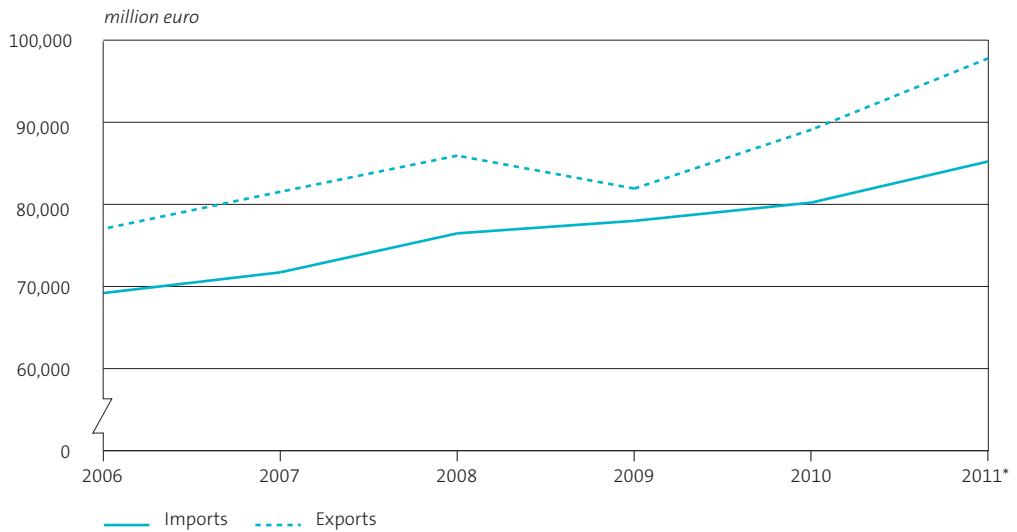
A considerable share (58 percent) of the export value could be ascribed to Dutch controlled enterprises from 2006 to 2008. After an increase to 60 percent in 2009, this share decreased to 56 percent in 2010. In 2011 the exports carried out by Dutch controlled enterprises increased relatively more than the exports of the foreign controlled enterprises. Dutch controlled enterprises had a 58 percent share of the 2011 export value.

Overall, Dutch controlled enterprises are represented better in exports than in imports.

The import and export values for **total services** reported in this section are based on data in the CBS (StatLine) database. All other data presented in this chapter are based on the integrated dataset of the micro data from the business survey and the UCI. In addition,

enterprises with no employees were excluded from all analyses in this chapter. Although the total sample does not include all services, it represents 54 percent of the total import value and 71 percent of the total export value.

11.2.1 Total Dutch imports and exports of services



11.2.2 International trade in services by origin of the parent enterprise

	Imports			Exports		
	total	Dutch controlled	foreign controlled	total	Dutch controlled	foreign controlled
	million euro	%		million euro	%	
2006	69,199	55	45	77,020	58	42
2007	71,721	56	44	81,534	58	42
2008	76,470	55	45	85,935	58	42
2009	77,994	53	47	81,924	60	40
2010	80,219	50	50	89,099	56	44
2011	85,231	51	49	97,797	58	42

11.3 International trade in services by size class

11.3.1 illustrates that large enterprises carried out 62 percent of services imports in 2011. This was a slight decrease by 2 percentage points compared to 2010. Three fifths of the services exports were conducted by large enterprises in 2011. This is 6 percentage points less than in 2010, due to the fact that the value of exports conducted by small to medium-sized enterprises (SME) increased and the exports of large enterprises decreased in 2011.

Approximately 60 percent of services exports are conducted by large enterprises

Where imports of the SME are concerned, there were relatively more foreign (56 percent) than Dutch controlled (44 percent) enterprises in 2009. Since then, the value of imports carried out by foreign controlled SME increased more than that of their Dutch controlled counterparts. As a consequence, in 2011, 61 percent of the services imported by SME was by foreign controlled ones (see 11.3.2).

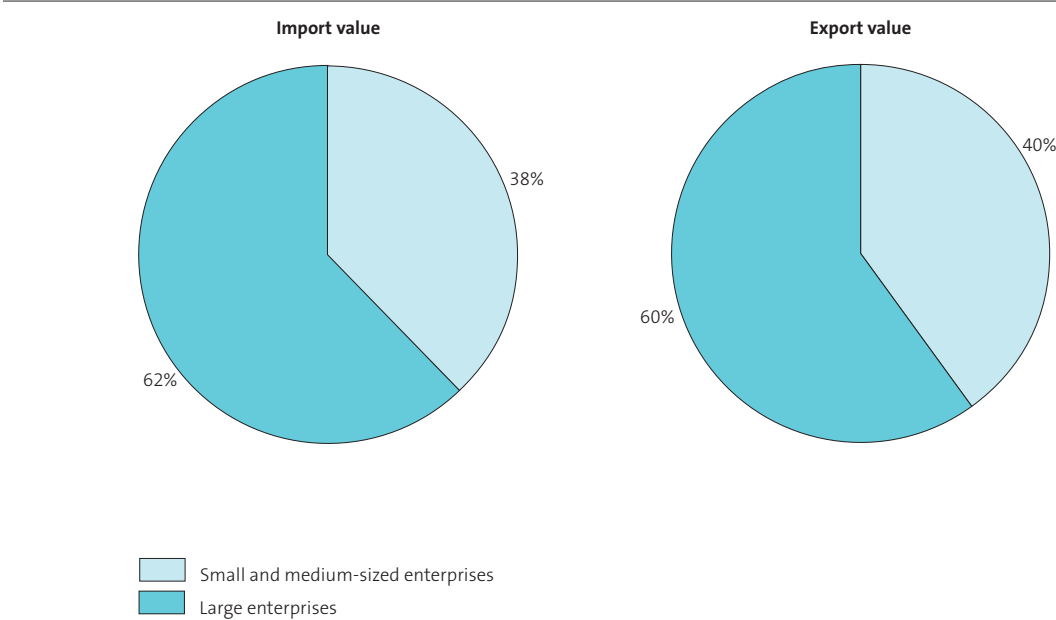
Dutch controlled enterprises accounted for 58 percent of the services imports by large enterprises in 2009. In 2011, this share rose to 59 percent.

In terms of exports, 54 percent of the value in the small to medium-size class can be found among Dutch controlled enterprises in 2009. The share of these domestically-controlled enterprises decreased to 51 percent in 2011, because the value of services exports carried out by foreign controlled SME had increased significantly.

Where exports of the large enterprises are concerned, 63 percent was held by Dutch controlled ones in 2009 and this share remained almost the same in 2011.

A small or medium-sized enterprise (SME) is an enterprise employing fewer than 250 people. A large enterprise is an enterprise with 250 employees or more.

11.3.1 Import and export value of services by size class, 2011*



11.3.2 Imports and exports of services by size class and origin of the parent enterprise

	2009		2011	
	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
%				
Imports				
Small and medium-sized enterprises	44	56	39	61
Large enterprises	58	42	59	41
Exports				
Small and medium-sized enterprises	54	46	51	49
Large enterprises	63	37	62	38

11.4 International trade in services by economic activity

In 2011, 29 percent of the import value of services was performed by enterprises in the *agriculture, mining and manufacturing* sector. The second largest share (28 percent) was carried out by enterprises in the *communication, financial intermediation, real estate and business activities* sector, see also 11.4.1.

For exports, the largest share of trade (38 percent) was conducted by enterprises in the *transport and storage* sector, whereas enterprises in the *agriculture, mining and manufacturing* sector amounted to 27 percent of the export value of services.

Imports: Dutch controlled enterprises dominated in the agriculture, mining and manufacturing sector

In 11.4.2, a breakdown was made between services imports by economic activity and the origin of the parent enterprise in 2009 and 2011. In both years, the Dutch controlled enterprises dominated the largest two sectors being *agriculture, mining and manufacturing* and *communication, financial intermediation, real estate and business activities*. The changes in these sectors between 2009 and 2011, are mainly the consequences of statistical decisions rather than economic developments.

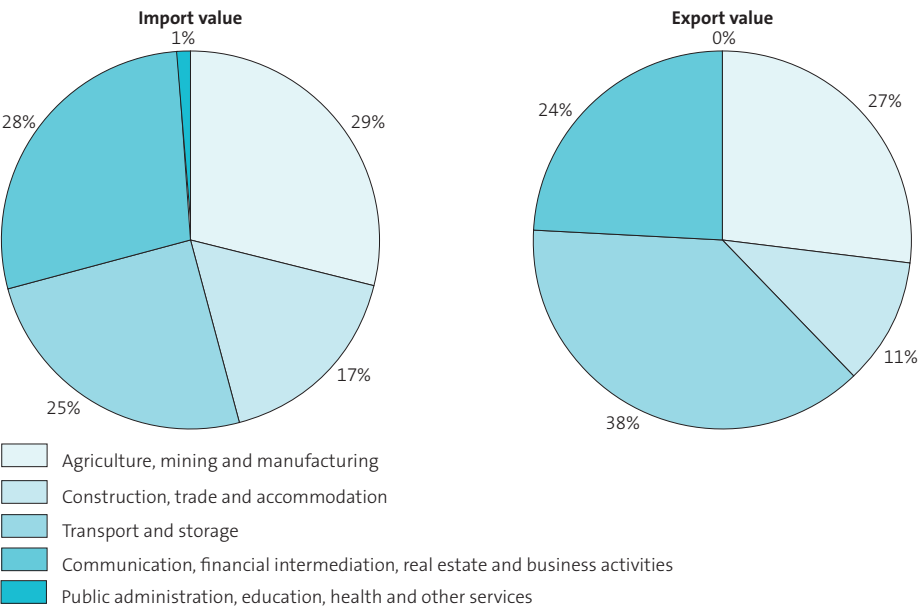
Of all the sectors, *construction, trade and accommodation* is dominated most by foreign controlled enterprises. In 2011 only 29 percent of the import value was held by Dutch controlled enterprises. For *public administration, education, health and other services*, it is the other way around. In 2011 the share of services imports by Dutch controlled enterprises was 85 percent in this sector. In *transport and storage* almost equal distributions were found in 2009 and 2011.

11.4.3 shows that the foreign controlled enterprises dominated in 2009, with 52 percent, the largest export sector being *transport and storage* and this share almost remained the same in 2011. The following sectors comprised relatively more services exported by Dutch controlled enterprises in 2011: *agriculture, mining and manufacturing; communication, financial intermediation, real estate and business activities* and *public administration*,

education, health and other services. In addition, the changes in these sectors from 2009 onwards are mainly the consequences of statistical decisions rather than economical developments.

In 2009, the foreign controlled enterprises dominated (64 percent) the services exports of the sector *construction, trade and accommodation*. After that year, the exports by foreign controlled enterprises had decreased, while those of the Dutch controlled enterprises had increased. As a consequence, in 2011, the export value share of the foreign controlled enterprises decreased to 57 percent in this sector.

11.4.1 International trade in services by economic activity, 2011*



11.4.2 Imports of services by economic activity and origin of the parent enterprise

	2009		2011	
	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
	%			
<i>Economic activity (NACE Rev 2)</i>				
A + B + C + D + E: Agriculture, mining and manufacturing	70	30	59	41
F + G + I: Construction, trade and accommodation	30	70	29	71
H: Transport and storage	52	48	51	49
J + K + L + M + N: Communication, financial intermediation, real estate and business activities	51	49	56	44
O + P + Q + R + S: Public administration, education, health and other services	73	27	85	15

11.4.3 Exports of services by economic activity and origin of the parent enterprise

	2009		2011	
	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
	%			
<i>Economic activity (NACE Rev 2)</i>				
A + B + C + D + E: Agriculture, mining and manufacturing	88	12	72	28
F + G + I: Construction, trade and accommodation	36	64	43	57
H: Transport and storage	48	52	47	53
J + K + L + M + N: Communication, financial intermediation, real estate and business activities	52	48	63	37
O + P + Q + R + S: Public administration, education, health and other services	66	34	92	8

11.5 International services traders in the Netherlands

Between 2009 and 2011, the enterprise population increased by 7.5 percent, as is shown in 11.5.1. The sector *public administration, education, health and other services* realised the highest growth rate (17.3 percent) in the number of active enterprises in the Netherlands.

In 2009, 1.4 percent of all active enterprises imported services and this percentage decreased by 0.3 percentage points to 1.1 percent in 2011. In addition, 1.4 percent of all enterprises exported services in 2009. In 2011, this share had slightly decreased to 1.2 percent.

Of all sectors, *communication, financial intermediation, real estate and business activities* contained the largest number of active enterprises in 2009 and 2011. However, only 1.3 and 1.6 percent of all these enterprises were, respectively, importing or exporting services in 2009. These percentages even fell to 0.9 and 1.3 percent in 2011.

In 2009, the sector *transport and storage* comprised the highest share of importing services traders (5.6 percent) and this percentage decreased to 5.2 percent in 2011. In addition, exporting services traders were also mostly found (9.0 percent) in this sector. In 2011, this share was reduced by 1.3 percentage points.

Agriculture, mining and manufacturing was the sector with the second largest shares of importing (2.9 percent) and exporting (1.6 percent) services traders in 2009. The importing share was reduced by 0.1 percentage points in 2011, whereas the exporting share had increased by 0.5 percentage points. The lowest share of international services traders was found in the *public administration, education, health and other services* sector, for imports as well as for exports.

General business register (GBR): The general business register comprises all enterprises in the Netherlands that make a contribution to the domestic product. For each enterprise, several characteristics are recorded such as the economic activity and size class (in terms of number of employees).

Enterprise population: The number of active enterprises in the Netherlands. Based on the general business register and includes enterprises that employ one or more people for at least 15 hours per week. For certain sectors, such as agriculture, a different methodology is applied to obtain the number of active enterprises.

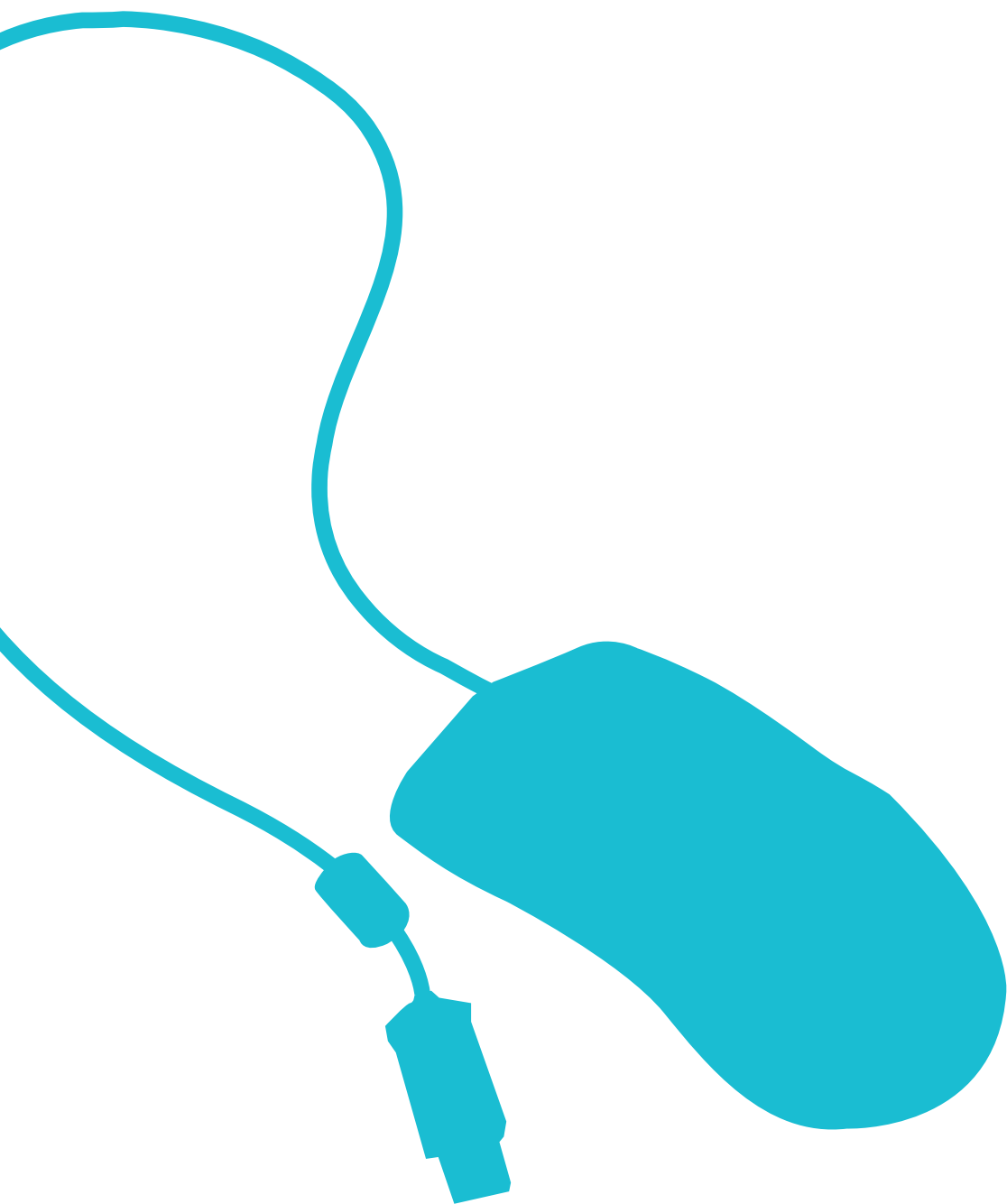
The share of international services traders is given by economic activity as a percentage of the total number of economically active enterprises in the general business register of Statistics Netherlands. Each enterprise in the sample is defined as a unique international services trader. These results give a good indication of the **minimum** percentage of international services traders by economic activity in the Netherlands. The word 'minimum' is used because when designing the international trade statistics some enterprises that are actually involved in the international trade in services were omitted. These enterprises are mainly marginal international services traders. For these marginal traders an additional estimation is made in the ITS figures.

11.5.1 Share of international services traders by economic activity

	2009			2011		
	GBR	International services traders		GBR	International services traders	
		imports	exports		imports	exports
	<i>n</i>	%		<i>n</i>	%	
Total	1,088,475	1.37	1.4	1,169,785	1.05	1.2
<i>Economic activity (NACE Rev 2)</i>						
A + B + C + D + E: Agriculture, mining and manufacturing	119,475	2.92	1.63	117,305	2.76	2.07
F + G + I: Construction, trade and accommodation	363,740	1.12	1.14	368,785	0.9	0.98
H: Transport and storage	29,595	5.59	9	30,200	5.22	7.75
J + K + L + M + N: Communication, financial intermediation, real estate and business activities	380,005	1.3	1.58	423,855	0.88	1.26
O + P + Q + R + S: Public administration, education, health and other services	195,660	0.37	0.25	229,640	0.19	0.14

Foreign Direct Investments

12



Foreign Direct Investments

12.1 Introduction

12.2 The Dutch share in worldwide FDI

12.3 Dutch FDI: stocks and flows

12.4 Dutch FDI stocks: by country

12.5 Dutch FDI stocks: by economic sector

12.1 Introduction

This chapter describes patterns in Dutch foreign direct investment (FDI). First, Dutch investment is compared to FDI worldwide. Next the values of flows and stocks and their shares in GDP are presented. Chapter 12 ends with a description of the Dutch FDI by country and by economic sector. The year 2000 is the reference year for the data, which cover up to the year 2010. 2011 was included where possible. The Special Purpose Entities (see Chapter 4) are excluded from this chapter.

De Nederlandsche Bank (DNB) is the leading authority on measuring FDI in the Netherlands. It collects and compiles the data in line with the Balance of Payments Manual (IMF, 1993).

Foreign direct investment is defined as a cross-border investment made by a resident in one economy (the *direct investor*) with the objective of establishing a lasting interest in an enterprise (the *direct investment enterprise*) that is resident in an economy other than that of the direct investor. The 'lasting interest' is in evidence when the direct investor owns at least 10 percent of the voting power of the direct investment enterprise (OECD, 2008).

Inward FDI is the foreign direct investment in the reporting economy. **Outward FDI** is the direct investment of the reporting economy made abroad.

Flows of foreign direct investment consist of the annual changes in share capital, reinvested profits and other investments, including loans.

Stocks of foreign direct investment are measured at the end of the year and consist of capital participations, loans (including trade credits, intra concern loans), and other liabilities. The difference between stocks at the end of two subsequent years is equal to the flow of FDI plus reassessments as a result of changed exchange rates, changed prices and other causes such as goodwill write-downs.

Transactions of a subsidiary enterprise to the parent enterprise are netted out with the transactions of the parent to the subsidiary. This is in line with the directional principle in the Balance of Payments Manual.

Note that the direct investor is not necessarily the ultimate controlling institutional unit (UCI). For example, if a Dutch enterprise controls a German enterprise that controls an Austrian enterprise, the UCI of the Austrian enterprise is Dutch, but the direct investor in Austria is German.

EU-15 is the composition of the European Union from 1 January 1995. **EU-27** is the composition of the European Union from 1 January 2007.

12.2 The Dutch share in worldwide FDI

The share of the Netherlands in the global stock of inward FDI decreased in 2010 compared to 2009, from 3.7 to 3.1 percent (see 12.2.1). Most EU-15 countries experienced declining shares. The shares of Belgium and France fell most compared to 2009. Sweden, Luxembourg, Portugal and Greece were the only countries that retained their shares in 2010.

Outside the EU-15, the share of the US in worldwide inward FDI increased by 1.1 percentage point to 18 percent in 2010. The shares of Australia and the emerging markets China and Brazil also grew, while those of Canada, Switzerland and Japan remained the same.

In the global stock of outward FDI, the share of the Netherlands decreased from 4.9 percent in 2009 to 4.4 percent in 2010. Of the EU-15 countries, only France experienced a stronger decline. Ireland was the only EU member state with a higher share than in 2009. On the whole, the share of the EU-15 in total worldwide outward FDI decreased by 3.5 percentage points to 43.2 percent in 2010.

Of the BRIC countries, the shares of India and Brazil in worldwide FDI remained relatively stable. Those of Russia and China were higher just as in the year before. The United States' share in global outward FDI stock also increased between 2009 and 2010.

After 2008, the Netherlands contributed less to the EU-15 FDI stock

Graph 12.2.2 provides a closer look on the Dutch share in the total FDI stock of the EU-15 countries. Concerning inward FDI stock, this share decreased substantially in 2008–2010. Not only did the accumulated value of investments in the Netherlands drop during this period, but apparently investors also found other member states like Sweden, Ireland and the United Kingdom more attractive to invest in.

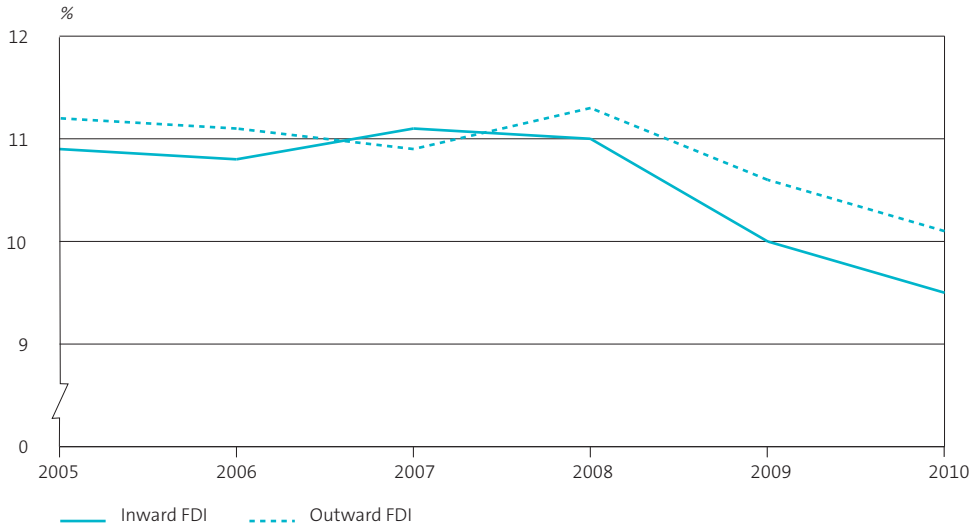
Where outward FDI stock is concerned, the Netherlands contributed less to EU-15 too. The accumulated value of investments made by Ireland, France and Belgium increased far more than the Dutch outward FDI stock between 2008 and 2010. These three countries were the only member states that managed to increase their shares in EU-15 outward FDI during this period.

12.2.1 Shares in worldwide FDI (stocks)

	2000	2005	2007	2008	2009	2010
	%					
Inward stocks						
World	100	100	100	100	100	100
EU-15	29.7	38.1	38.7	38.4	36.9	32.5
Netherlands	3.3	4.2	4.3	4.2	3.7	3.1
Austria	0.4	0.7	0.9	1.0	0.9	0.8
Belgium	2.6	3.3	4.5	4.4	4.8	3.5
Denmark	1.0	1.0	0.9	1.0	0.8	0.7
France	5.3	7.7	7.1	6.0	6.3	5.3
Germany	3.6	4.1	3.9	4.4	3.8	3.5
Italy	1.6	1.9	2.1	2.1	2.0	1.8
Spain	2.1	3.3	3.3	3.9	3.5	3.2
Sweden	1.3	1.5	1.6	1.8	1.8	1.8
United Kingdom	5.9	7.3	7.0	6.4	5.9	5.7
Switzerland	1.2	1.5	2.0	2.9	2.8	2.8
Brazil	1.6	1.6	1.7	1.9	2.2	2.5
China	2.6	2.4	1.8	2.5	2.6	3.0
India	0.2	0.4	0.6	0.8	0.9	1.0
Russian Federation	0.4	1.6	2.8	1.4	2.1	2.2
Australia	1.6	2.1	2.2	2.0	2.4	2.7
Canada	2.9	3.0	2.9	2.9	2.9	2.9
Japan	0.7	0.9	0.7	1.3	1.1	1.1
United States	37.4	24.4	19.9	16.3	16.9	18.0
Outward stocks						
World	100	100	100	100	100	100
EU-15	43.8	46.4	45.4	49.0	46.7	43.2
Netherlands	3.8	5.2	4.9	5.5	4.9	4.4
Austria	0.3	0.6	0.8	0.9	0.9	0.8
Belgium	2.3	3.9	3.4	3.8	4.0	3.6
Denmark	0.9	1.0	1.0	1.2	1.1	1.0
France	11.6	9.9	9.4	7.9	8.7	7.5
Germany	6.8	7.5	7.0	8.3	7.4	7.0
Italy	2.3	2.4	2.2	2.8	2.5	2.3
Spain	1.6	2.5	3.1	3.7	3.4	3.2
Sweden	1.5	1.7	1.7	2.0	1.8	1.6
United Kingdom	11.3	9.7	9.6	9.6	8.7	8.3
Switzerland	2.9	3.5	3.4	4.6	4.4	4.5
Brazil	0.7	0.6	0.7	1.0	0.9	0.9
China	0.3	0.5	0.5	0.9	1.2	1.5
India	0.0	0.1	0.2	0.4	0.4	0.5
Russian Federation	0.3	1.2	1.9	1.3	1.6	2.1
Australia	1.2	1.7	1.8	1.5	1.8	2.0
Canada	3.0	3.1	2.7	3.3	3.1	3.0
Japan	3.5	3.1	2.8	4.3	3.9	4.1
United States	33.8	29.3	27.6	19.4	22.6	23.7

Source: UNCTAD (extracted: 16-05-2012).

12.2.2 Dutch share in EU-15 FDI (stocks)



Source: UNCTAD (extracted: 16-05-2012).

The Netherlands does not generally include SPEs in FDI, but most other countries do. If SPEs were included in Dutch FDI, the share of the Netherlands in worldwide FDI would be higher.

12.3 Dutch FDI: stocks and flows

Over the last decade the Netherlands had more outward than inward foreign direct investment (see 12.3.1). This is common for most other developed countries, as has been noted in the Internationalisation Monitor 2011. Emerging markets have relatively favourable economic conditions and therefore, in general, more inward than outward FDI (UNCTAD, 2012).

In 2011, the difference between Dutch outward and inward FDI stocks was comparable to that in 2010. Outward FDI stock accounted for 729 billion euro and inward FDI stock for 455 billion euro. These values were 1.3 and 2.6 percent higher than in 2010, respectively.

The ratios of inward and outward FDI stocks to Dutch GDP (in current prices) remained relatively stable in 2011. These ratios are often considered to be measures for the openness

of an economy (OECD, 2008). Graph 12.3.2 shows that the openness of the Dutch economy with respect to outward FDI has clearly increased since 2005. However, the inward FDI/GDP ratio seems to be fluctuating around the 80 percent level.

Of all EU-27 countries, the Netherlands was the third most open economy with respect to outward FDI stock in 2010. Only Luxembourg and Ireland had higher outward FDI/GDP ratios. In 2005, the Dutch economy even was the most open EU-27 economy with respect to outward FDI. Regarding inward FDI/GDP ratios, the Netherlands came seventh in 2010. Malta had the most open economy with respect to inward FDI stock in the EU-27, followed again by Luxembourg and Ireland.

FDI flows are more sensitive to large transactions than FDI stocks, and hence varied substantially during the 2000–2011 period. An example of a large transaction is the acquisition of ABN AMRO by foreign enterprises in 2007 and the subsequent sale of the Dutch part of Belgium-based Fortis to the Dutch state in the following year. Another example is the restructuring of Shell in 2005, when the company which previously had two headquarters (in the Netherlands and in the United Kingdom) became an enterprise with only one headquarters in The Hague. Activities in the United Kingdom were then reclassified as foreign investments of the Netherlands abroad.

The considerable fluctuations of FDI flows diminish the relevance of the indicators that compare the size of flows with GDP. In the past these indicators would give information about the relative attractiveness of economies, both that of the Netherlands and that of

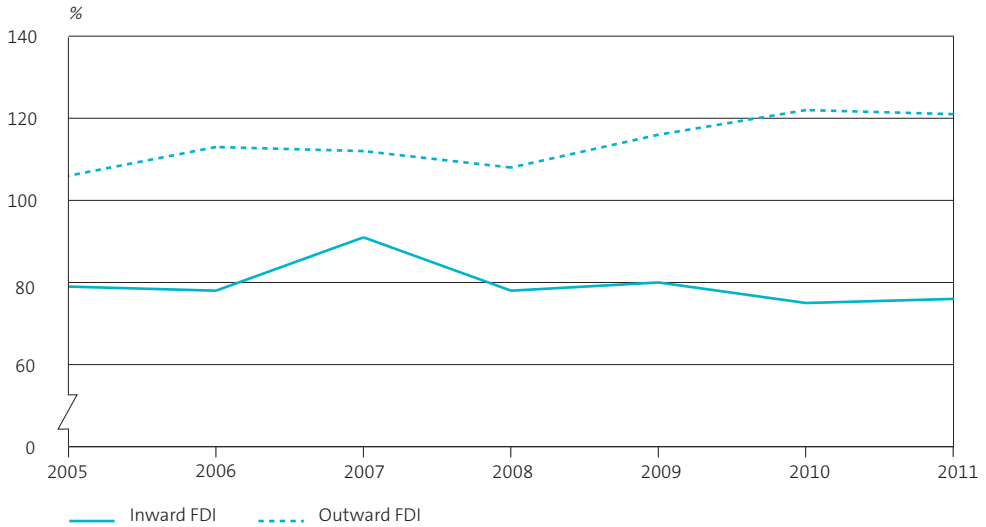
foreign countries. However, recent fluctuations in these indicators could not be separated from sudden flows caused by large acquisitions or from the decrease in FDI caused by the economic crisis.

12.3.1 Dutch FDI (flows and stocks): value and share in GDP

	2000	2005	2006	2007	2008	2009	2010	2011
<i>million euro</i>								
Value								
Inward FDI, flows	69,308	31,399	11,142	87,226	3,106	25,945	–6,770	11,597
Outward FDI, flows	82,094	98,964	56,737	40,628	46,650	20,285	41,691	16,257
Inward FDI, stocks	261,937	406,392	419,702	520,766	463,894	458,436	443,877	455,252
Outward FDI, stocks	328,276	545,828	607,794	639,960	639,425	663,911	719,606	728,871
%								
Share in GDP								
Inward FDI, flows	17	6	2	15	1	5	–1	2
Outward FDI, flows	20	19	11	7	8	4	7	3
Inward FDI, stocks	63	79	78	91	78	80	75	76
Outward FDI, stocks	79	106	113	112	108	116	122	121

Source: De Nederlandsche Bank (FDI) and CBS (GDP) (extracted: 23-05-2012), calculated by CBS.

12.3.2 Dutch FDI (stocks) relative to GDP



Source: De Nederlandsche Bank (FDI) and CBS (GDP) (extracted: 23-05-2012), calculated by CBS.

12.4 Dutch FDI stocks: by country

The United States and the EU-27 countries are the main investors in the Netherlands (see 12.4.1). Together these countries accounted for 351 billion euro, or 79 percent of total Dutch inward FDI stock in 2010. The accumulated value of investment of the BRIC countries remained relatively small, while the investments of “other European countries” almost halved compared to 2009. The FDI stocks of Norway (–59 percent) and Jersey (–46 percent) in the Netherlands fell the most.

The United States and EU-27 countries are the main FDI partners

If we have a closer look at the EU-27, we see that the United Kingdom has the largest share in Dutch inward FDI in 2010. This was also the case back in 2000. Since then, the Luxembourgian FDI stocks in the Netherlands increased almost six fold and French more than tripled. Belgium was the only EU-27 country to account for considerably less in total Dutch inward FDI stock in 2010. Furthermore, between 2006 and 2008, inward FDI by Belgium fluctuated strongly because of the acquisition and subsequent disposal of ABN-AMRO by Fortis (see 12.3).

The EU-27 and the United States are also the main partners regarding Dutch outward FDI stock in 2010. In total 68 percent (411 billion euro) was invested in these countries. However, this share is considerably lower than the combined share of the EU-27 and the United States in Dutch inward FDI (79 percent). Relatively speaking, Dutch outward FDI stock in France and the US remained behind the total French and American investment values in the Netherlands in 2010. For Switzerland, it was the other way around. This country is known for its favourable tax and financial conditions, and therefore attractive for investors (Deloitte, 2011).

Between 2000 and 2010, Dutch outward FDI stock in the United States decreased by 6.8 percent. One of the causes for this decline was the selling of American subsidiary enterprises such as US Foodservices, La Salle and Harcourt by Dutch firms in 2007 (DNB, 2008). The accumulated investment value of the Netherlands in EU-27 more than doubled between 2000 and 2010. The United Kingdom, Belgium and Germany were the main partners. Outside the EU-27, the investments in Switzerland have increased substantially since 2000. The shares of outward FDI going to the BRIC countries were still relatively small in 2010.

If we categorise the origin and destination of Dutch FDI stocks by continent, we see that inward FDI (12.4.2) is more concentrated than outward FDI (12.4.3). Between 2005 and 2010, the share of Dutch investments in Asia has increased steadily.

Some of the shifts, particularly in outward FDI, are caused by changing exchange rates. For example, the dollar lost more than 40 percent of its value against the euro between 2000 and 2010. So

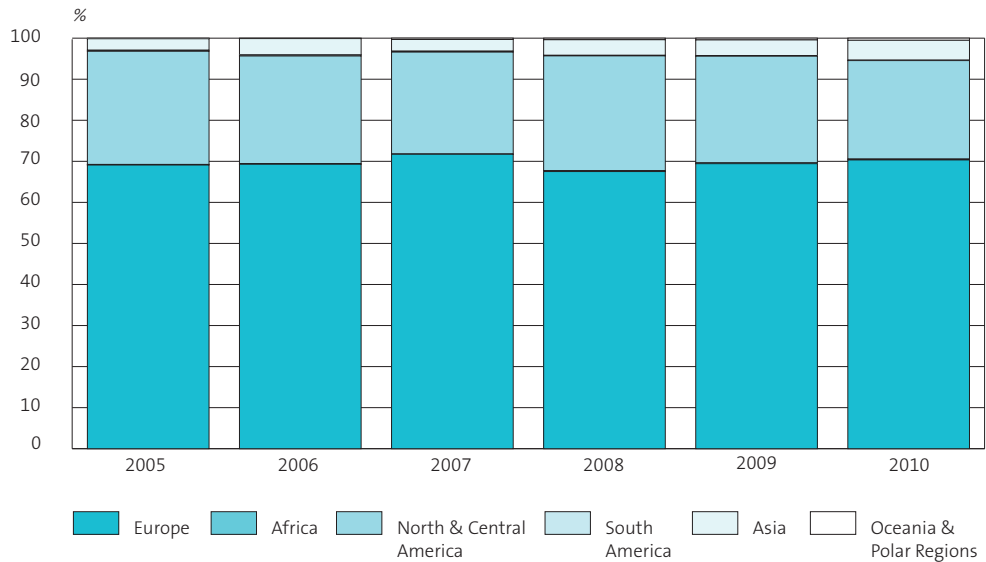
even if investments in the United States were to have retained their value in dollars, their value in euros would have decreased.

12.4.1 Dutch FDI (stocks), by country of origin or destination

	Value						Share (2010)
	2000	2005	2007	2008	2009	2010	
	<i>million euro</i>						%
Inward FDI							
World	261,937	406,392	520,766	463,894	458,436	443,877	100
EU-27	161,860	242,951	345,201	282,886	279,732	279,699	63
Belgium	40,490	38,946	59,885	37,771	36,257	30,931	7
Germany	35,867	42,666	44,633	37,976	34,191	36,221	8
France	13,467	28,525	42,227	45,855	43,821	44,310	10
Ireland	8,362	15,429	19,366	21,179	21,169	21,101	5
Italy	1,064	2,197	2,570	2,974	2,542	3,233	1
Luxembourg	8,877	34,586	50,775	49,138	49,594	52,396	12
Spain	807	9,290	24,493	9,101	9,502	5,438	1
United Kingdom	41,630	57,154	86,424	61,955	56,813	59,720	13
Sweden	6,418	3,934	4,403	6,291	14,397	13,831	3
other EU countries	4,878	10,224	10,425	10,647	11,448	12,519	3
Russian Federation	3	117	240	304	320	323	0
Switzerland	12,531	18,312	17,381	14,009	20,056	22,352	5
other European countries	3,144	19,117	10,676	15,985	18,195	9,836	2
United States	56,765	77,265	94,527	100,028	83,772	70,945	16
Dutch Antilles and Aruba	7,896	7,772	8,145	10,138	9,744	9,305	2
Japan	9,187	7,428	8,630	8,931	10,556	12,288	3
Brazil	176	837	861	315	248	215	0
China	33	23	96	128	64	260	0
India	26	4	8	10	6	140	0
other countries	10,316	32,566	35,001	31,161	35,744	38,515	9
Outward FDI							
World	328,276	545,828	639,960	639,425	663,911	719,606	100
EU-27	174,403	333,328	411,981	398,120	391,887	410,626	57
Belgium	35,242	39,649	74,989	64,093	59,912	69,732	10
Germany	32,932	57,097	65,343	65,676	60,159	57,512	8
France	19,636	32,428	37,612	35,832	33,789	32,917	5
Ireland	11,018	12,173	12,300	12,210	11,946	11,470	2
Italy	5,846	15,017	21,419	20,050	17,923	22,330	3
Luxembourg	5,487	17,791	32,533	43,241	45,281	54,754	8
Spain	9,729	24,401	28,859	27,559	27,216	20,571	3
United Kingdom	34,234	99,093	93,917	87,180	91,987	95,386	13
Sweden	2,631	7,020	5,876	5,884	5,269	5,911	1
other EU countries	17,648	28,659	39,133	36,397	38,405	40,043	6
Russian Federation	1,871	5,646	9,014	7,277	6,976	7,340	1
Switzerland	15,999	35,533	42,852	43,726	53,584	64,509	9
other European countries	4,043	4,960	8,021	8,008	8,130	8,010	1
United States	84,545	87,939	65,136	71,599	80,692	78,782	11
Dutch Antilles and Aruba	2,110	1,886	2,393	2,242	2,309	2,834	0
Japan	1,248	1,577	3,338	5,322	5,951	7,394	1
Brazil	4,886	8,229	11,562	6,232	7,634	8,086	1
China	1,800	1,827	4,367	5,099	6,468	5,541	1
India	531	1,254	2,167	1,939	2,070	2,629	0
other countries	36,840	63,649	79,129	89,860	98,213	123,855	17

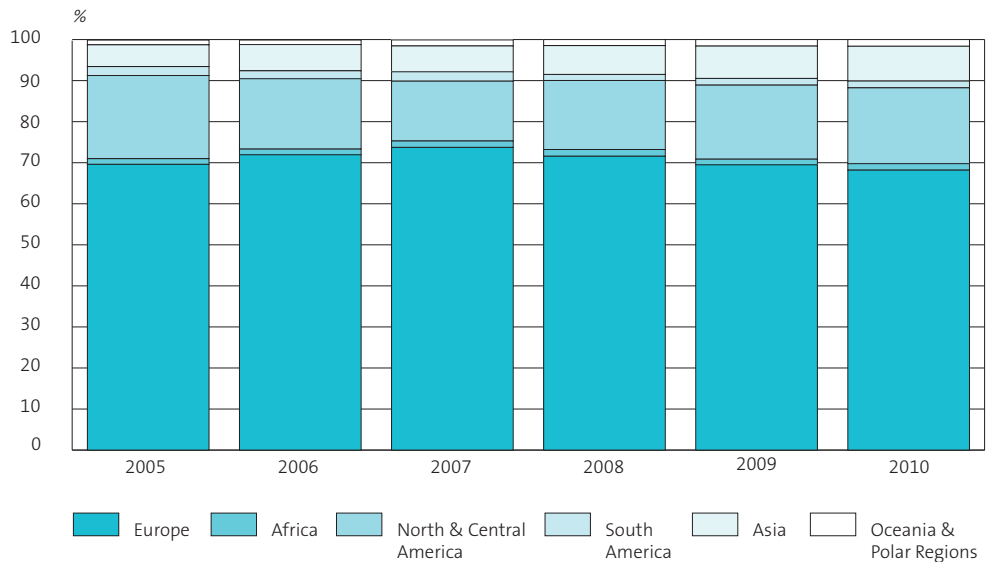
Source: De Nederlandsche Bank (extracted: 23-05-2012), calculated by CBS.

12.4.2 Origin of inward FDI (stocks) by share



Source: OECD (extracted: 24-05-2012), calculated by CBS.

12.4.3 Destination of outward FDI (stocks) by share



Source: OECD (extracted: 24-05-2012), calculated by CBS.

12.5 Dutch FDI stocks: by economic sector

The amount of inward foreign direct investment (stock) received by enterprises in the Dutch manufacturing sector was 6.8 percent higher in 2010 than in the year before. 2010 was the first year since 2000 in which the accumulated investment value in Dutch manufacturing was higher than that in Dutch services (see 12.5.1). Approximately half of all inward FDI in manufacturing was aimed at the *mining and quarrying, petroleum and chemical products* sector. Investments in the manufacturing of petroleum and chemical products increased particularly strongly between 2009 and 2010.

As for services, Dutch inward FDI stock was 11 percent lower in 2010. The accumulated value of other countries' investments in the Dutch *monetary intermediation and insurance* sector decreased the most (–14 percent) compared to the year before. One might think this drop is related to the economic crisis. Nevertheless, other European countries like Ireland and Austria experienced growth in *monetary intermediation and insurance* from 2008 on. Together with Belgium, the Netherlands was one of the few European countries with lower inward FDI stock in this sector in 2010. However, compared to 2000, the growth of foreign direct investments in *monetary intermediation and insurance* was the strongest by far.

Outward FDI (stock) carried out by Dutch manufacturers increased by 8.8 percent in 2010, whereas the accumulated value of investments by Dutch service providers abroad only increased 6.3 percent compared to 2009. Just as with inward FDI, Dutch outward FDI became more specialised. Investments are increasingly made by specific sectors, such as *mining and quarrying, petroleum and chemical products* and *monetary intermediation and insurance*. The investment abroad of these two sectors together accounted for 59 percent of the total Dutch outward FDI in 2010.

The United Kingdom is the most important outward FDI partner for Dutch manufacturing enterprises (see 12.5.3). In 2010, 18 percent of their FDI stock was in this country, whereas services enterprises had invested most in the United States. Concerning Dutch inward FDI stock (12.5.2), the US was the main partner for manufacturers as well as service providers.

DNB divides FDI into two categories: manufacturing (sectors A through F in NACE Rev. 2) and services (sectors G through S minus O). Besides the economic sectors in 12.5.1, manufacturing also consists of agriculture, utilities and construction. Services also consist of real estate, renting and business activities, education, health, social work, entertainment and recreation. Public administration is not included.

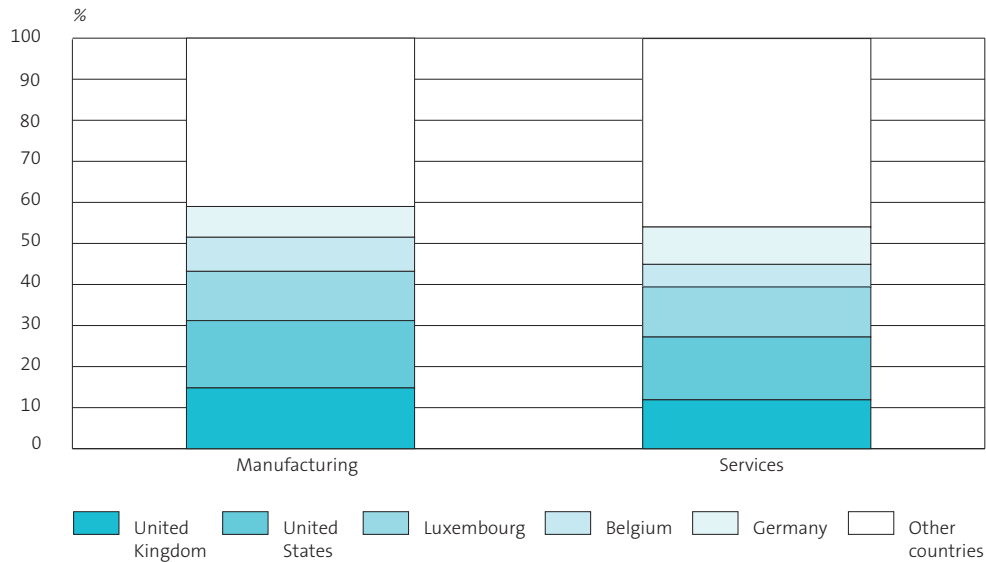
Note that the economic sector for outward FDI is the sector of the Dutch enterprise investing abroad. The destination sector in the other country can differ from the economic sector of the Dutch enterprise.

12.5.1 Dutch FDI (stocks), by economic sector

	Value						Share (2010)
	2000	2005	2007	2008	2009	2010	
	million euro						%
Inward FDI							
Total	256,787	406,392	520,766	463,894	458,458	445,238	100
Manufacturing	89,702	164,503	199,406	210,928	210,220	224,433	50
mining and quarrying, petroleum and chemical products	47,397	84,540	108,761	110,768	110,722	112,638	25
electro technical and metal products	15,464	23,098	17,271	22,312	23,020	23,216	5
food, beverages and tobacco	13,321	33,299	48,298	48,323	47,370	52,924	12
other	13,519	23,567	25,076	29,525	29,107	35,655	8
Services	167,085	241,889	321,360	252,966	248,238	220,805	50
trade	40,744	44,392	43,688	42,824	47,610	43,254	10
transport, storage and communication	18,284	24,948	42,249	42,940	42,097	40,081	9
monetary intermediation and insurance	18,774	70,460	144,706	98,759	90,407	77,420	17
other	89,283	102,089	90,717	68,443	68,125	60,050	13
Outward FDI							
Total	318,833	545,828	639,960	639,425	663,921	714,264	100
Manufacturing	136,322	240,255	287,254	320,033	336,353	366,028	51
mining and quarrying, petroleum and chemical products	54,858	148,653	175,494	190,712	203,660	219,708	31
electro technical and metal products	33,137	34,858	39,946	44,309	43,065	47,116	7
food, beverages and tobacco	32,028	38,057	48,760	56,610	60,855	70,594	10
other	16,298	18,686	23,054	28,403	28,774	28,611	4
Services	182,511	305,573	352,706	319,392	327,568	348,236	49
trade	29,857	42,619	39,180	32,762	33,553	33,288	5
transport, storage and communication	24,954	49,384	49,837	59,468	60,435	64,312	9
monetary intermediation and insurance	57,360	145,277	197,856	168,536	173,679	197,331	28
other	70,341	68,292	65,833	58,626	59,902	53,305	7

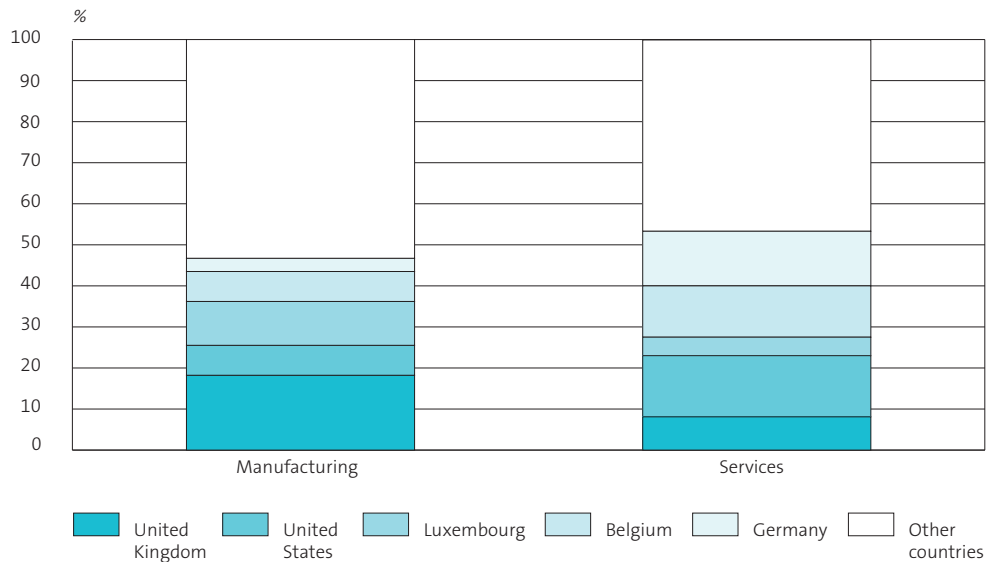
Source: De Nederlandsche Bank (extracted: 23-05-2012), calculated by CBS.

12.5.2 Inward FDI (stocks) by economic sector and country, 2010



Source: De Nederlandsche Bank (extracted: 23-05-2012), calculated by CBS.

12.5.3 Outward FDI (stocks) by economic sector and country, 2010



Source: De Nederlandsche Bank (extracted: 23-05-2012), calculated by CBS.

International traffic and transport flows

13



International traffic and transport flows

13.1 Introduction

13.2 International air passenger transport

13.3 International air freight and mail transport

13.4 Internationalisation of goods transport flow by modality and by transporter nationality

- Transport by road
- Transport over water
- Transport by other modes

13.5 International sea container flow by origin and destination

- Short sea traffic
- Deep sea traffic

13.1 Introduction

The traffic and transport sector is closely linked to the international trade in goods and is important for the Dutch economy. In 2011, land, water, air and supporting transport activities generated 3.9 percent of the total value added of the Dutch economy, and employed over 402 thousand people. The total output of the sector amounted to 53.2 billion euro, of which 40 percent was accounted for by land transport, 10 percent by water transport, and 17 percent by air transport services.

This chapter examines the Dutch international traffic and transportation flows. The trends are presented in tables and graphs. Recent developments in the international transport statistics facilitate an understanding of the composition and evolution of transport flows.

Section 13.2 starts with observations about the international air passenger flows from and to the Netherlands. The relative comparative position of the Dutch market area is measured with the benchmark top 15 of European airports. The section concludes with a closer look at the regional airports in the Netherlands.

In section 13.3 the international freight and mail transport by air is discussed. Fifteen major European airports are distinguished as well as the continent of origin/destination of freight and mail. Special attention is paid to the Dutch position in this transport flow and to the international transportation of goods by the various Dutch airports.

The goods transport flow to and from the Netherlands by modality and nationality of the transporter is covered in section 13.4. The ongoing innovation and diffusion of technology in the transport sector has lowered transaction costs and increased the demand for, and supply of transportation capacity. These developments are most pronounced in the container trade, which has grown significantly since the mid-1970s.

Containerisation has reduced the cost of shipping goods, thereby facilitating the creation of global supply chains and stimulating international trade. The Netherlands is an important link in the hub-and-spoke model of overseas transport flows of goods to and from Europe, feeding into other modes of transport and creating a variety of related economic activities and network effects. Container transport flows to and from the Netherlands by sea are covered in section 13.5. This section deals with short sea as well as deep sea traffic.

EU-15 is the composition of the European Union on 1 January 1995.

EU-27 is the composition of the European Union on 1 January 2007.

13.2 International air passenger transport

Following the economic crisis which began in the last quarter of 2008 and the first positive signs at the end of 2009, the year 2010 confirmed the recovery of passenger transport by air.

Between 2009 and 2010 the total number of intra and extra-EU international passengers travelling by air from and to EU-15 member states increased by 3.5 percent to more than 820 million passengers, as table 13.2.1 shows. After the dip in 2009 to all EU-15 countries at both international intra-EU and extra-EU transport of air-passengers, the small growth in 2010 and the booming increase in 2011 to nearly 890 million air passengers, a new record of transported air-passengers catches the eye. This is the highest number of transported air passengers in twelve years.

Air transport was also vulnerable to shocks due to unforeseen events such as the extreme weather conditions in the autumn of 2010 and the eruption of the Eyjafjallajökull-volcano in Iceland in the spring of 2010. These incidents led to a major dip in air transport throughout the EU-countries at the time.

The second quarter of 2010 is the only period showing negative growth. It is likely that, without the Icelandic volcanic eruption in April 2010, the growth rate of 2010 on 2009 would have been similar to that of 2011 on 2010; namely an increase of 7.4 percent.

The United Kingdom continues to lead the EU-15 and handles more than 20 percent of all passengers in international air passenger transport, economic crisis or not. The Netherlands holds a stable sixth position between Italy and Greece.

A similar picture emerges when we look at individual airports, as is done in graph 13.2.2. The top 8 EU-27 airports in terms of air passengers handled has stayed more or less the same: London Heathrow is the undisputed number one. The ranking of the other airports changed little in the last six years.

In 2010 London Heathrow led with 61 million international transported air passengers, followed by Paris/Charles de Gaulle with nearly 53 millions passengers and Frankfurt/Main with more than 46 million. Amsterdam Schiphol Airport ranked fourth with 45 million transported passengers.

Amsterdam Schiphol Airport has been the main European airport for handling intra-EU air passengers for several years. In 2011 it saw a 14 percent increase in intra EU-27 passengers transport. Because of this development, Amsterdam Schiphol Airport with 49.7 million international transported passengers ranked third after London, with nearly 65 million international air passengers, and Paris/Charles de Gaulle with 55.2 million international air passengers. Amsterdam just changed position with Frankfurt/Main with 49.5 million international transported air passengers in 2011.

Most international air passengers transport to and from EU-15 countries is intra-EU transport: 68 percent of all the international transported air passengers in recent years. The smaller the airport, the higher the share of intra-EU travel.

Regional airports in the Netherlands have become more important in international air passenger transport, as table 13.2.3 shows. The increase of the total number of passengers at the four regional airports in the last four years is much stronger than the development of Amsterdam Schiphol Airport in that period. In absolute passenger numbers Eindhoven Airport is growing fastest with nearly 500 thousands air passengers each year; in percentages Maastricht Aachen Airport is growing fastest.

Measures are taken to avoid double counting in the air passenger figures in national and intra-EU passenger transport. Double counting is not counting the same passengers twice. They are reported by the origin airport as departures and by the partner airport as arrivals. Since the EU aggregate excludes double counting on intra-EU traffic, member state figures do not add up to the EU-27 aggregate. For example, someone flying from Paris to London will

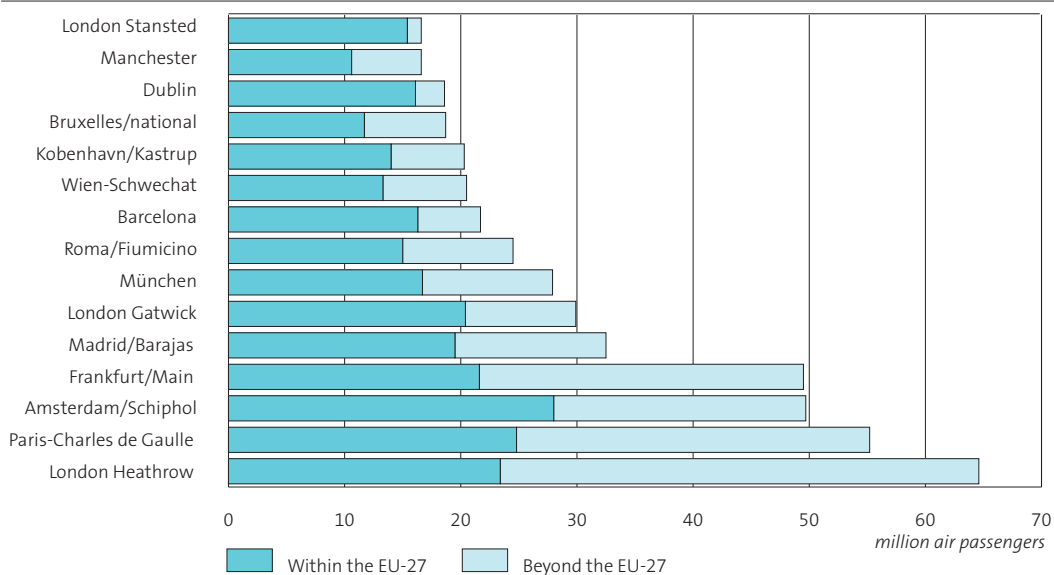
be counted in France as an 'departure passenger' and in the United Kingdom as an 'arrival passenger' but only once at EU-27 level. The information provided in this table is primarily based on On Flight Origin/Destination (OFOD) data. These were supplemented by Flight Stage (FS) data and airport declarations. Data is collected on the basis of the first origin/destination of passengers, and not the final origin/destination in case of flight connections.

13.2.1 Overview of international EU-27 air passengers transport by the member states

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<i>million air passengers</i>												
EU-15	605.2	603.7	602.7	630.3	694.1	747.0	794.2	847.7	855.5	798.5	826.4	886.9
United Kingdom	142.8	142.2	146.1	153.5	166.6	177.3	184.6	191.2	189.0	175.6	171.9	180.6
Germany	98.6	97.2	94.0	99.9	114.5	124.1	131.3	139.5	140.9	134.4	142.0	150.9
Spain	81.1	83.3	83.2	88.9	95.8	104.7	110.2	119.4	120.6	110.7	115.2	127.2
France	65.6	65.8	68.6	69.6	76.0	81.3	86.2	92.8	95.8	91.6	96.9	103.6
Italy	44.3	43.4	42.7	49.4	57.0	63.2	69.5	77.6	76.9	73.4	79.1	84.3
Netherlands	40.4	39.4	40.6	41.0	44.4	46.4	48.5	50.4	50.4	46.5	48.6	53.9
Greece	16.0	16.7	17.6	18.8	20.2	23.6	26.8	29.0	27.8	26.0	25.8	27.6
Austria	14.2	14.1	14.4	15.2	17.7	19.1	20.2	22.3	23.2	21.1	22.8	24.5
Ireland	24.6	24.9	24.8	23.2	24.0	25.0	26.6	28.1	29.2	25.6	22.7	22.8
Portugal	13.4	13.3	14.5	14.9	16.0	17.3	19.0	21.4	22.3	21.1	22.7	24.7
Belgium	21.6	19.8	14.3	15.1	17.5	17.8	19.1	20.7	21.9	21.3	22.6	25.1
Denmark	17.1	18.0	18.2	17.8	19.4	20.5	21.2	22.1	22.6	19.0	21.9	23.4
Sweden	16.3	16.2	14.6	13.6	14.7	15.6	18.7	20.1	21.1	19.3	20.5	22.8
Finland	7.6	7.7	7.5	7.8	8.9	9.5	10.5	11.6	12.1	11.4	12.0	13.6
Luxembourg	1.7	1.6	1.5	1.4	1.5	1.5	1.6	1.6	1.7	1.5	1.6	1.8

Source: Eurostat/Statistics Netherlands.

13.2.2 International passenger transport through EU-27 airports, top 15 airports, 2011



Source: Eurostat.

13.2.3 International air-passengers transport between the Netherlands and the continents

	Amsterdam Schiphol Airport				Other Dutch Airports ¹⁾			
	2008	2009	2010	2011	2008	2009	2010	2011
	<i>x 1,000</i>							
Total transported	47,392	43,523	45,137	49,681	3,034	2,933	3,455	4,188
Europe	31,725	28,990	29,772	33,825	3,028	2,931	3,449	4,177
Africa	2,556	2,539	2,764	2,587	4	0	3	10
America	7,923	7,132	7,295	7,635	0	0	2	0
Asia and Australia	5,188	4,862	5,305	5,634	2	1	1	1

Source: CBS.

¹⁾ Maastricht-Aachen Airport, Rotterdam-The Hague Airport, Eindhoven Airport and Groningen Airport Eelde.

13.3 International air freight and mail transport

After the dip in 2009, international air freight and mail transport recovered extremely well in 2010 and showed some growth in 2011. The growing importance of the international extra-EU transport segment (transport to or from non-EU-27 countries) is reflected in substantially, 20.8 percent higher air freight and mail transport figures of the EU-15 member states in 2010, compared with 2009. Except for Denmark and Greece, transported freight and mail by air grew strongly in most EU-countries in 2010.

Because intra-EU freight and mail transport recorded a moderate increase of 8.9 percent between 2009 and 2010, the average increase of all international transport of freight and mail in this period for the EU-15 member states, comes to 18.1 percent.

Extra-EU destinations remained the most important segment of the freight and mail market, representing about 78 percent of the total international transport at the EU level on a yearly basis. Most of the freight transport between European countries took place by sea shipping and other ways of transport like railway or lorries.

The international transport of air freight and mail in 2011, compared to 2010, was growing but only slightly: 1.4 percent in extra EU transport and 4.6 percent in the intra-EU transport; therefore the average increase of the 15-EU member states is 2.1 percent.

Although the 2010 figures of France are estimated, the ranking of the top five EU member states has remained unchanged over the last five years, as is shown in table 13.3.1. Airport Frankfurt/Main in Germany leads, handling considerably more air freight than any other EU-15 member state in 2010 (4.0 million tonnes) and in 2011 (4.2 million tonnes). The United Kingdom, with airport London Heathrow as its most famous airport, follows with 2.3 million tonnes of air freight in both years. The Netherlands and France alternate in third and fourth position.

After the dip in 2009, international air freight and mail transport recovered extremely well in 2010

For most EU-15 member states, Asia and Australia have been the most important destinations for international transport of freight and mail for years. Even during the years of economic recession, 2008 and 2009, more than 40 percent of all extra-EU transport was to and from countries in the far east. This is much more than freight and mail transport

between European countries (average 26 percent of all transported tonnes of goods) or with the United States of America (a yearly average of 25 percent).

Graph 13.3.2 illustrates the most popular destinations for freight and mail in international extra-EU transport between Amsterdam Schiphol Airport and airports in non EU-27 countries in 2011. Ten of the fifteen most important destination airports (with most international transported tonnes freight and mail to and from the Netherlands) are situated in Asia.

Noteworthy is Pudong International Airport in Shanghai with 169 tonnes goods to and from the Netherlands. Shanghai Pudong International Airport was opened at the end of century to relieve Hong Qiao International Airport in Hong Kong. Now Hong Kong ranks fourth, far behind Shanghai/Pudong.

Besides the international transport of goods to and from these non-European airports, the Netherlands also does business with European airports. Especially with Leipzig/Halle Airport in Germany which accommodates DHL Express. This is a division of the German logistics company 'Deutsche Post', which provides international express mail services. They are still highly popular for international shipments. After Leipzig/Halle Airport with 8.5 tonnes goods to and from the Netherlands, London Heathrow comes second with 5.6 tonnes of transported goods.

Amsterdam Schiphol Airport is also the Netherlands' main international airport for freight and mail. Table 13.3.3 shows that it handled about 96 percent of all transported goods in the Netherlands in 2011. The other 4 percent of international transported goods (in 2008 still 3.4 percent) were handled by the four regional airports, of which Maastricht-Aachen Airport was the most important in 2011. It showed a 6 percent growth in international transported goods by regional airports in 2008. The trend in transporting goods to and from Asia is also reflected at Maastricht-Aachen Airport, with more than 15 thousands tonnes in 2011.

Air freight and mail transport are registered according to the principle of loaded and unloaded by country, not including national movements. The importance of air freight and mail transport generally increases with the distance covered.

Since the same movement of goods is reported as a departure by one airport and as an arrival by the partner airport, the EU totals exclude double-counting for intra-EU international transport. Data collection is based on the first origin/destination of freight, and not on the actual origin/destination if there are flight connections.

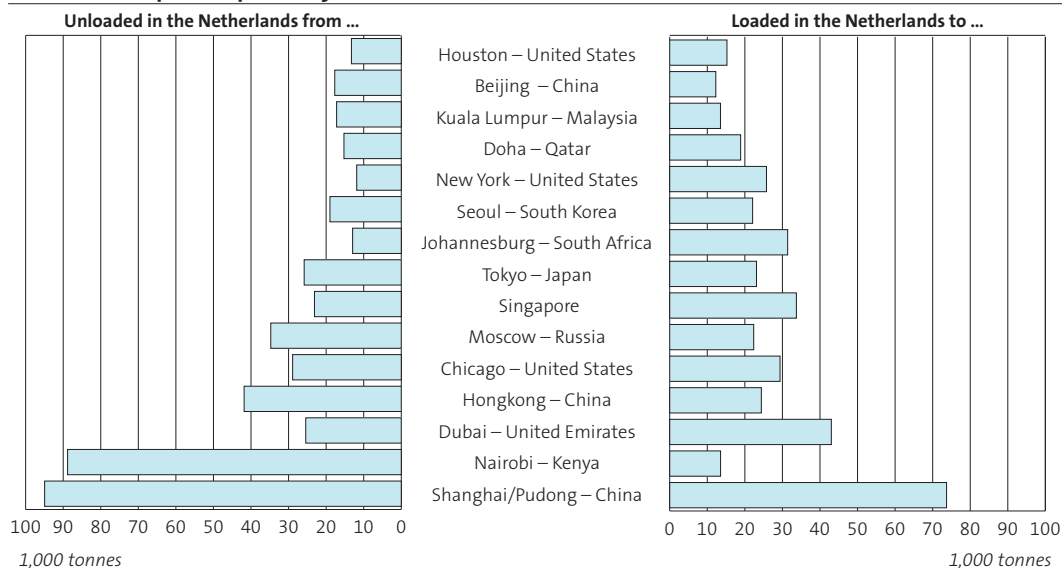
13.3.1 International transport of freight and mail through EU 15-airports by continent of origin or destination, 2011

	Europe	North America	Central and South America	Africa	Asia and Australia	Total	Growth 2009–2010	Growth 2010–2011
	1,000 tonnes						%	
Total	3,652.5	2,765.3	783.5	979.1	5,536.7	13,717.1	18.1	2.1
Germany	1,269.0	780.5	158.3	140.2	1,833.7	4,181.7	23.6	4.7
United Kingdom	457.1	762.0	61.5	180.5	842.0	2,303.1	13.8	-0.7
France ¹⁾	437.0	362.8	112.3	165.4	571.3	1,648.9	18.4	7.3
Netherlands	136.8	298.6	166.8	205.1	807.6	1,614.9	16.7	0.9
Belgium	336.2	119.7	2.8	182.1	359.6	1,000.4	16.4	2.8
Italy	308.8	97.1	23.2	14.3	340.3	783.7	19.3	1.8
Luxembourg	42.0	159.3	70.3	58.7	335.7	666.0	12.5	-5.6
Spain	208.9	75.3	154.4	14.2	85.8	538.6	22.7	5.0
Austria	67.0	14.8	0.0	1.5	135.6	218.9	16.9	-7.2
Finland	68.4	11.6	0.0	0.0	96.3	176.3	31.6	8.8
Denmark	72.3	30.1	0.0	0.2	52.3	154.8	-2.8	3.9
Sweden	75.6	16.0	0.2	1.3	55.7	148.8	18.9	-12.7
Ireland	70.4	29.5	0.0	0.0	7.1	107.1	10.1	-8.2
Portugal	51.8	4.8	33.7	14.6	0.1	104.9	12.4	-10.1
Greece	51.1	3.4	0.0	0.8	13.6	69.0	-9.8	-8.0

Source: Eurostat.

¹⁾ figures of France are estimated in 2010.

13.3.2 Loaded and unloaded international air freight and mail transported between the Netherlands and top-15 airports beyond the EU-27, 2011



13.3.3 International transport of freight and mail between the Netherlands and other continents

	Amsterdam Schiphol Airport				Other Dutch Airports ¹⁾			
	2008	2009	2010	2011	2008	2009	2010	2011
<i>1,000 tonnes</i>								
Total transported	1,568	1,286	1,512	1,524	56	54	62	65
Europe	75	57	72	96	12	19	33	30
Africa	189	179	179	185	44	34	26	19
America	409	351	422	457	0	0	1	2
Asia and Australia	895	700	838	786	0	1	3	15

Source: CBS.

¹⁾ Maastricht-Aachen Airport, Rotterdam-The Hague Airport, Eindhoven Airport and Groningen Airport Eelde.

13.4 Internationalisation of goods transport flow by modality and by transporter nationality

The global economic crisis is clearly reflected in international transport volumes. After a 13 percent dip in 2009, the volume of goods transported to and from the Netherlands increased by 9.4 percent (from 950 million tonnes to just over 1 billion tonnes) in 2010 compared with one year earlier.

International traffic is dominated by maritime transport. More than 53 percent of all goods transport is carried out by seagoing vessels. Road goods transport takes a 17.6 percent share and inland shipping accounts for 15.2 percent (see table 13.4.1).

Foreign enterprises with transport equipment also compete to load and unload goods in the Netherlands. In fact, the majority of goods is transported by non-Dutch transport equipment enterprises. In 2010, 78 percent of the total unloaded weight and 47 percent of the total loaded weight in the Netherlands was transported by foreign transport equipment enterprises. Compared to 2009 the Dutch enterprises lost 1 percentage point in both directions, especially in road and maritime transport.

International goods transport is dominated by maritime transport

Transport by road

In 2010, Dutch registered vehicles handled most (57 percent) transportation of goods by road (see graph 13.4.2). The Dutch transport companies lost 1 percentage point of the total bilateral transport compared to 2009.

Over the past few years, Polish registered vehicles increased in road transport especially. In 2010 the transport loaded in the Netherlands by these vehicles increased by 17 percent and the goods unloaded by 29 percent. In total, more than 11 million tonnes were carried by Polish trucks. The neighbouring countries Belgium and Germany transported 8 percent less by road to and from the Netherlands in 2010.

Vehicles registered in Germany, Belgium and Poland account for one third of the total incoming transport flow by road. Between 2009 and 2010, the share of unloaded goods by Belgian and German registered vehicles decreased both by 1.1 percentage points to 27 percent, whereas for Polish trucks it increased by 1.5 percentage point to almost 7 percent of the goods flow towards the Netherlands. The Dutch transport companies still have a share of 55 percent.

The volume of goods transported abroad from the Netherlands also continues to be mainly in Dutch hands (59 percent), although this share has declined by almost 7 percentage points since 2006. Again, especially Polish trucks have benefited (+4 percentage points) from this decline. Their overall share increased from 3.2 to 6.3 million tonnes in 2010.

Transport over water

Compared with all the other modes of transport, the share of Dutch-registered transportation equipment (vessels) in total Dutch sea shipping is very small. Most ships are registered in Panama, the Bahamas, Liberia, the United Kingdom or Greece. In 2010, only 3 percent of the volume of goods transported towards and 9 percent of goods transported from the Netherlands were carried under the Dutch flag.

In contrast, on inland waterways, the transport of goods was mainly done by Dutch registered transport equipment. Over two thirds of all carried goods loaded in the Netherlands were transported by Dutch vessels in 2010. For the goods on inland waterways unloaded in the Netherlands after crossing the border with Germany or Belgium, this percentage exceeded 73 percent. Most foreign inland waterway vessels were Belgian or German.

Transport by other modes

Goods transported by rail and pipeline are 100 percent Dutch business. Of the air freight and mail weight almost half (48 percent) is transported by airplanes registered in the Netherlands. Air transport-equipment registrations from Asian (29 percent), American (17 percent) and European (5 percent) countries account for the remainder in 2010.

The nationality of seagoing transport equipment is not specified by vessel owner, but by the country of registration. A ship is said to be flying a flag of convenience if it is registered in a foreign country. The

most popular flags of convenience as identified by the International Transport Workers' Federation (ITF) are those of Panama, Liberia, the Bahamas, and the Marshall Islands

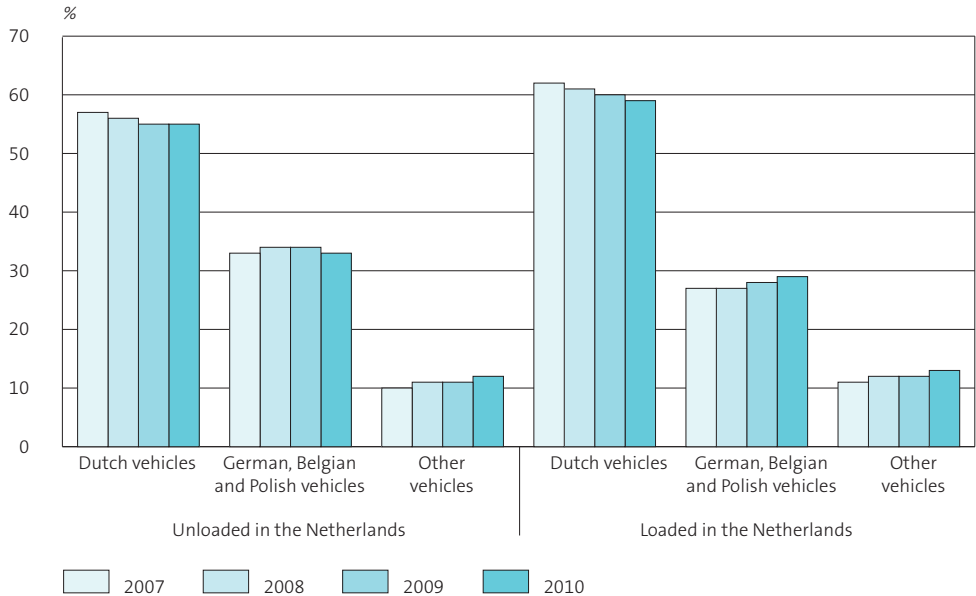
13.4.1 Weight of transported goods by nationality of transport equipment, 2010

	Unloaded in the Netherlands					Loaded in the Netherlands				
	total	sea shipping	inland waterways*	road transport	others ¹⁾	total	sea shipping	inland waterways*	road transport	others ¹⁾
<i>1,000 tonnes</i>										
Total	567,614	401,545	66,635	77,990	21,444	471,427	166,487	103,433	86,584	114,923
<i>Dutch transport equipment</i>	126,324	13,451	48,857	43,021	20,995	250,484	13,749	71,488	50,697	114,550
<i>Foreign transport equipment</i>	441,290	388,094	17,778	34,969	449	220,944	152,739	31,945	35,887	373
Europe	225,138	172,341	17,769	34,969	59	144,667	76,800	31,949	35,887	31
EU 14	145,828	103,207	16,715	25,860	46	99,844	46,061	29,866	23,899	18
incl.										
Belgium	20,389	3,011	9,852	7,518	8	20,213	1,373	12,248	6,588	4
Denmark	11,811	11,593		218	0	9,772	9,578		194	0
Germany	28,031	8,820	5,655	13,552	4	34,797	6,663	16,129	12,003	2
France	5,073	3,638	797	638	0	3,704	2,015	606	1,083	0
Greece	33,767	33,621		146	0	3,330	3,149		181	0
United Kingdom	34,756	34,183		573	–	18,661	17,818		843	–
Sweden	2,758	2,577		181	0	1,235	1,087		148	0
other European countries	79,312	69,134	1,054	9,110	14	44,824	30,740	2,083	11,988	13
incl.										
Cyprus	14,399	14,399		0	0	11,792	11,791		1	0
Malta	18,558	18,558		–	0	6,644	6,644		–	0
Norway	20,260	20,188		72	0	4,962	4,885		77	0
Poland	4,858	20	39	4,799	0	6,422	10	63	6,349	0
Russia	2,719	2,719	–	–	0	672	672	–	–	0
Africa	48,371	48,363	–	–	8	15,172	15,168	–	–	4
incl.										
Liberia	47,471	47,471	–	–	–	14,691	14,691	–	–	–
America	108,725	108,583	–	–	142	36,269	36,151	1	–	117
incl.										
Antigua and Barbuda	10,978	10,978	–	–	–	11,918	11,918	–	–	–
Bahamas	33,394	33,394	–	–	–	6,486	6,486	–	–	–
Panama	55,306	55,306	–	–	–	13,039	13,039	–	–	–
Asia	37,466	37,226	–	–	240	16,298	16,077	–	–	221
incl.										
Singapore	11,555	11,507	–	–	48	6,130	6,088	–	–	42
Hong Kong	14,186	14,172	–	–	14	4,521	4,508	–	–	13
Oceania and others	21,580	21,580	–	–	0	8,542	8,542	–	–	0
incl.										
Marshall Islands	19,284	19,284	–	–	–	8,142	8,142	–	–	–
<i>%</i>										
Total	100	100	100	100	100	100	100	100	100	100
<i>Dutch transport equipment</i>	22	3	73	55	98	53	8	69	59	100

¹⁾Transport by air, railway and pipelines*.

Source: CBS, Eurostat.

13.4.2 Share of Dutch road transport by vehicle registration



13.5 International sea container flow by origin and destination

Since its introduction in the mid-1960s, the container has become crucial to the development of international transport and trade. Increasing capacity of containerships and efficient handling in the ports made a strong growth possible by keeping transport rates low despite of rising demand. Container traffic along the European coasts (Short Sea Shipping, SSS) and long distance container traffic (Deep Sea Shipping, DSS) are developing rapidly. Between 2000 and 2010, SSS container transport through the Netherlands increased by three quarters, while DSS transport grew by 82 percent.

After a 13 percent decrease in 2009, in 2010 the total container transport was back at the same level as in the top year 2007. With 3.6 million containers, the incoming traffic in 2010 was the highest ever. Both types of transport, SSS (+25 percent) and DSS (+15 percent), increased in 2010.

Despite 8 percent growth, the total outgoing traffic (containers loaded in the Netherlands) was still lower than in 2007 and 2008. The increase in the number of loaded containers in SSS (+24 percent) is partly caused by transit traffic. We estimate that nearly one third of the deep sea containers are transhipped to the smaller feeder vessels that distribute the containers along the European coasts.

The export from Europe to markets overseas via Dutch ports is carried out by deep-sea vessels and decreased by 1 percent in 2010.

Short sea traffic

The top 10 countries in SSS traffic to the Netherlands consolidated their position and gained a 86 percent share in 2010. Compared to 2009, 26 percent (209 thousand) additional containers were shipped from there to the Netherlands. Traffic from the United Kingdom (+31), Russia (+68) and Norway (+44 percent) towards the Netherlands increased spectacularly. Apart from Finland (–4 percent), all other SSS countries shipped more containers to the Netherlands.

In 2010, transport flows from the Netherlands towards SSS countries came back to the same level as before the crisis. The flows to Spain (–17) and Ireland (–6) were the only ones that declined, whereas transport to Finland (doubled), France (+66), Sweden (+48) and Norway (+21 percent) increased.

The most important partner countries in Short Sea Shipping are the UK, Ireland and Russia. In 2009 Russia was in third place, but took over the second place from Ireland. Together the UK and Ireland accounted for 1 million containers in 2010 and represent almost half of the SSS containers handled in the Netherlands. The share of these two countries has decreased since 2003. At that time, two third of the containers of the top 10 countries came from the UK and Ireland. The total share of the top 10 SSS partner countries increased in this period at the expense of ‘other countries’ (see table 13.5.1).

Deep sea traffic

Just like Short Sea Shipping, Deep Sea Shipping is concentrated in a few countries: the top 10 loading and unloading countries accounted for over 83 percent of total Dutch DSS in 2010. DSS of containers recovered partly in 2010: 7.5 percent (or 300 thousand) more containers were shipped than in 2009. However, this is still below the level of 2008.

In 2010, DSS with the top-10 loading partner countries increased by 18 percent (or 299 thousand containers). For example, China shipped 28 percent (or 188 thousand) containers more to the Netherlands than in 2009. Countries in the region, Taiwan (+23),

Malaysia (+18) and Hong Kong (+18) returned to the 2008 level. South Africa with 45 percent growth recovered fastest.

The number of containers shipped to the top 10 DSS destinations decreased by 1.7 percent in 2010. The United States in particular posted a sharp decline of 31 percent or 63 thousand containers. Transport to other export markets also dropped substantially: Japan (–21), Brazil (–16) and Taiwan (–14 percent). Positive exceptions were South Korea (+16), China (+15) and Singapore (+5 percent).

Containers are registered according to the principle of loaded in NL and unloaded in NL. 'Short Sea Shipping or Coastal Shipping' (SSS) includes all partner ports situated in geographical Europe, on the Mediterranean and the Black Sea.

'Deep Sea Shipping' (DSS) is the complementary geographical aggregate. Short Sea Shipping includes 'feeder services': a short sea network between ports in order for freight to be consolidated or redistributed to or from a deep sea service in one of these ports ('hub ports').

13.5.1 Container transport to and from the Netherlands in Short Sea Shipping and Deep Sea Shipping

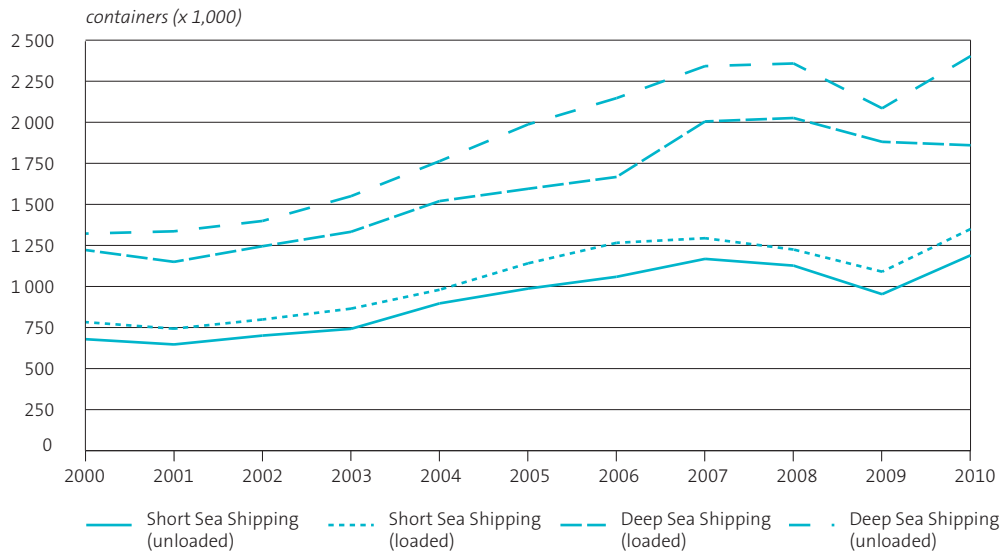
	2000	2003	2006	2007	2008	2009	2010
<i>1,000 containers</i>							
Total	4,006	4,490	6,138	6,809	6,737	6,010	6,803
Unloaded in the Netherlands	2,001	2,293	3,205	3,510	3,485	3,039	3,593
<i>Short Sea Shipping</i>	679	742	1,059	1,168	1,127	953	1,190
Unloaded in the Netherlands and loaded in:							
top 10 countries	544	621	907	1,013	994	808	1,018
United Kingdom	250	298	378	382	354	264	346
Russia	19	23	90	112	133	94	157
Ireland	100	145	181	180	165	137	141
Norway	37	32	46	48	43	47	68
Finland	25	18	43	73	95	67	64
Sweden	29	14	30	48	44	45	61
Spain	41	44	62	77	65	46	51
Poland	1	0	3	7	8	38	47
Iceland	20	20	35	45	47	40	46
Portugal	23	26	39	42	40	31	36
other countries	134	122	152	155	133	145	173
Share of the top 10 countries (%)	80.2	83.6	85.7	86.8	88.2	84.8	85.5

13.5.1 Container transport to and from the Netherlands in Short Sea Shipping and Deep Sea Shipping (end)

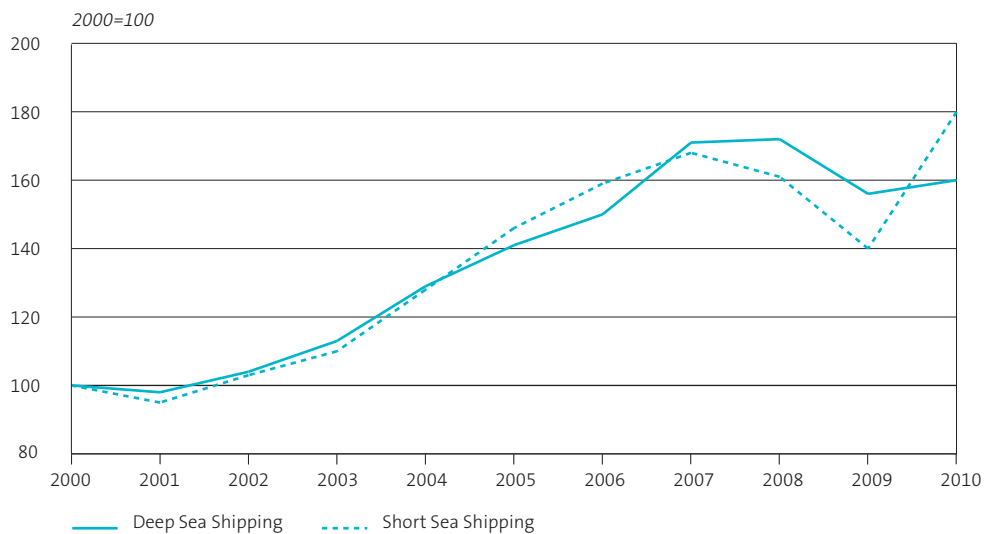
	2000	2003	2006	2007	2008	2009	2010
<i>1,000 containers</i>							
<i>Deep Sea Shipping</i>	1,322	1,550	2,147	2,342	2,358	2,085	2,403
Unloaded in the Netherlands and loaded in:							
top 10 countries	1,066	1,229	1,776	1,949	1,966	1,706	2,004
China	157	304	601	755	768	684	872
Singapore	206	170	254	239	236	221	240
United States	207	218	247	254	262	221	209
Hong Kong	145	129	154	152	136	160	185
Malaysia	27	68	100	121	121	86	101
Japan	131	118	134	137	156	85	96
Taiwan	61	54	79	77	72	72	89
Brazil	45	68	87	97	96	77	87
South Africa	23	42	48	43	52	44	64
South Korea	64	58	71	76	66	54	60
other countries	257	321	370	393	392	380	398
Share of the top 10 countries (%)	80.6	79.3	82.8	83.2	83.4	81.8	83.4
Loaded in the Netherlands	2,005	2,197	2,933	3,299	3,252	2,971	3,210
<i>Short Sea Shipping</i>	783	865	1,266	1,294	1,225	1,090	1,350
Loaded in the Netherlands and unloaded in:							
top 10 countries	604	717	1,044	1,098	1,061	903	1,098
United Kingdom	250	313	421	424	390	330	390
Russia	19	25	100	104	121	88	120
Ireland	99	144	169	175	151	125	117
Sweden	46	31	33	66	57	58	86
Spain	54	63	101	113	112	90	75
Finland	31	31	35	66	74	36	72
Belgium	7	13	35	24	16	40	68
Norway	34	35	42	40	45	54	66
Portugal	46	47	63	54	65	53	56
France	18	16	43	33	30	29	49
other countries	179	148	222	196	164	187	252
Share of the top 10 countries (%)	77.1	82.9	82.5	84.9	86.6	82.9	81.3
<i>Deep Sea Shipping</i>	1,222	1,333	1,667	2,005	2,026	1,881	1,860
Loaded in the Netherlands and unloaded in:							
top 10 countries	922	1,035	1,367	1,661	1,694	1,572	1,545
China	81	140	369	561	601	551	632
Singapore	172	145	197	183	215	189	198
United States	233	231	228	226	231	199	137
Malaysia	27	64	78	113	112	124	112
Hong Kong	102	95	158	181	131	110	102
South Korea	53	47	76	84	69	81	94
Japan	123	122	111	125	125	119	94
Taiwan	70	97	76	70	78	93	80
Brazil	18	42	38	76	81	61	51
United Arab Emirates	43	51	37	42	51	46	45
other countries	300	298	300	345	333	309	315
Share of the top 10 countries (%)	75.4	77.7	82.0	82.8	83.6	83.6	83.1

Source: CBS, Maritime Statistics.

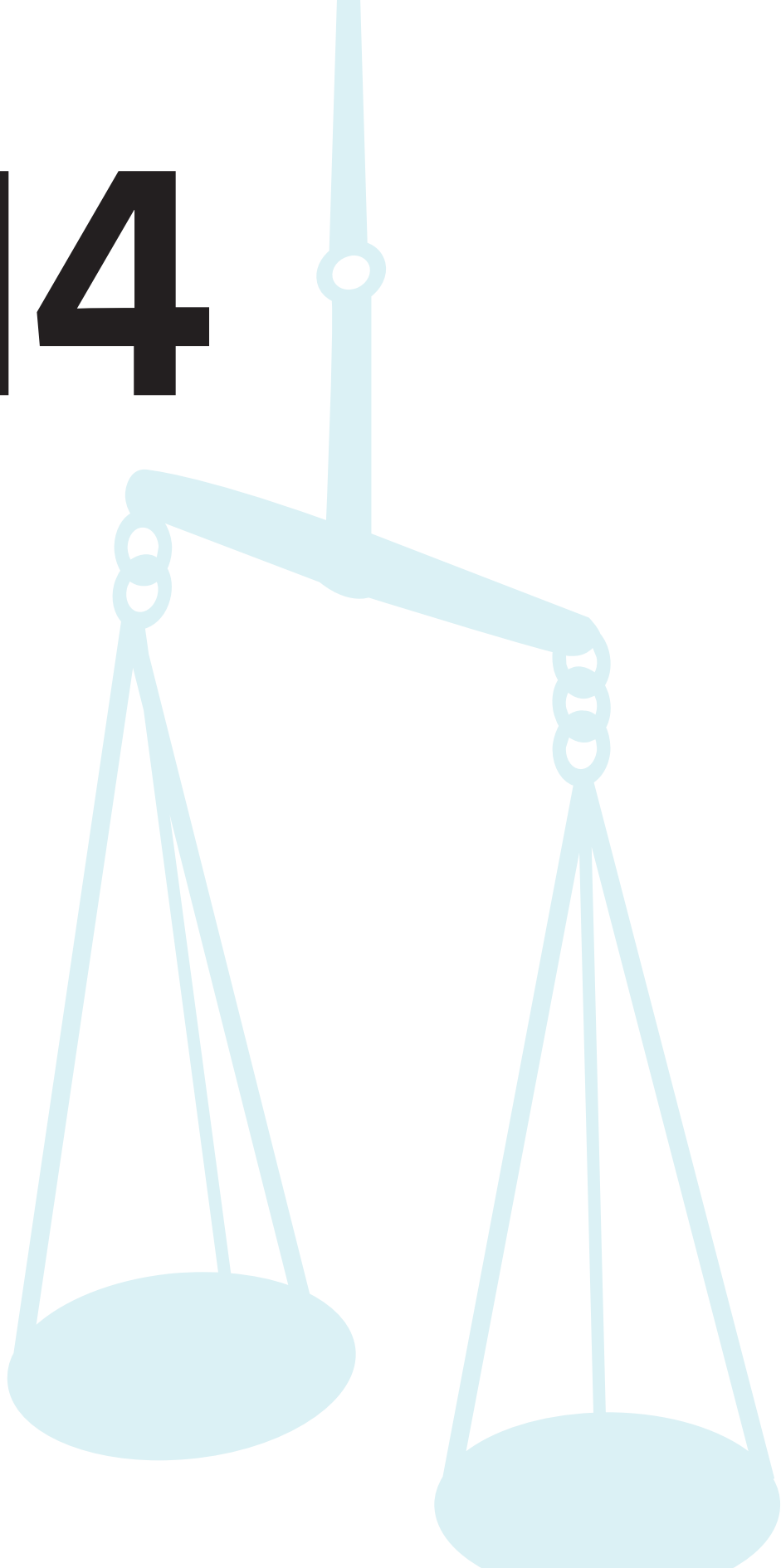
13.5.2 Sea container transport to and from the Netherlands



13.5.3 Growth of sea container transport to and from the Netherlands



14



Internationalisation and employment

14.1 Introduction

14.2 Overview of the data on internationalisation and employment

14.3 Employment situation at Dutch and foreign controlled enterprises

14.4 Workforce composition and job dynamics at Dutch and foreign controlled enterprises

14.5 Wages at Dutch and foreign controlled enterprises

Figures for Dutch and foreign controlled enterprises in the Netherlands are presented, showing the developments of enterprises, jobs and average enterprise size, workforce composition, job dynamics and wage distribution in 2006–2009. Foreign-controlled enterprises had a 12 percent share of jobs in the Dutch economy in 2009. Furthermore, their workforce consisted on average of 115 jobs per enterprise (mostly foreign multinationals). However, the year 2009 was marked as the start of the economic downturn with job totals falling at both Dutch and foreign controlled enterprises.

14.1 Introduction

The data for the annotated tables in this chapter on internationalisation and employment are based on a microdata integration of the Social Statistics Database, the business survey and the UCI (Ultimate Controlling Institute) dataset at the enterprise level (a linked employer-employee database).

The UCI is defined as an institutional unit, proceeding up a foreign affiliate's chain of control, which is not controlled by another institutional unit. Therefore, foreign controlled enterprises have a centre of control outside the Netherlands, whereas Dutch controlled means that the locus of control is in the Netherlands. 'Control' is defined as the ability to determine general corporate policy by appointing appropriate directors. The UCI is determined on an annual basis by combining enterprise information from various sources.

Merging enterprise information from the business survey together with registered jobs in the Social Statistical Database results in a match for more than 90 percent of all enterprises, for which the locus of control can be determined. A weighting procedure was subsequently developed in order to deduct the ownership status of the remaining enterprises and to scale the matched job information to the level of annually registered jobs from the Social Statistics Database.

The tables in this chapter show the differences in employment between Dutch and foreign controlled firms in the Netherlands (2006–2009), along with information on economic activity and enterprise size, job dynamics, workforce composition, and the relative distribution of annual wage levels.

14.2 Overview of the data on internationalisation and employment

Incoming investments by foreign multinational enterprises (MNEs) directly affect not only employment but also the concomitant wages and working conditions in a host country. In general, foreign ownership of enterprises is linked in most countries to job creation and retention, and is therefore often considered to have a positive effect on employment and welfare (Görg, 2000; Radošević et al., 2003; Fortanier and Korvorst, 2009; Genée, Korvorst and Fortanier, 2010).

The number of enterprises registered in the linked employer-employee database in the Netherlands showed an 8 percent growth rate from 2006 to 2008 but a downward trend in 2009, with a decline of about 5 percent. This decline marks the economic downturn in the Netherlands that first manifested itself in that year.

Only Dutch controlled enterprises were affected by this downward trend, showing a decrease of about 25 thousand enterprises in the last year, see Table 14.2.1. The decline in the number of enterprises was only seen in the segment of small sized (0–49 employees) Dutch controlled enterprises, leaving medium (50–249 employees) to large enterprises (250 and more employees) unaffected. In contrast, foreign controlled enterprises, albeit smaller in absolute numbers, showed a steady 5 percent year-on-year growth in all size classes, with an estimated total of 8.1 thousand enterprises in 2009.

Overall, Dutch controlled enterprises are well represented in the sectors retail trade, repair, hotels and restaurants, professional scientific and technical activities, and real estate, business and other services, see 14.2.2A. However, foreign controlled enterprises show a slightly different profile, as shown in 14.2.2B, with great prominence in the sectors wholesale trade, manufacturing, professional scientific and technical activities and transport and storage, information and communication and retail trade, repair, hotels and restaurants.

The estimates of **Dutch and foreign controlled enterprises** in the Netherlands reported in this section are based on data in the CBS StatLine database (2006–2008). Data on 2009, shown in 14.2.1 and 14.2.2, are based on an update of the linked employer-employee

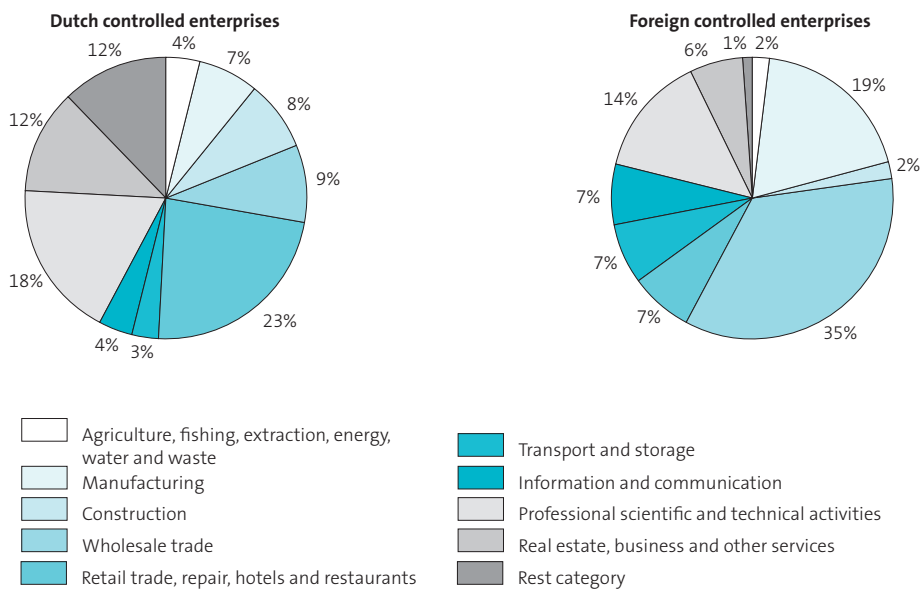
integrated microdataset. Accompanying annotated tables and figures are broken down by size class and economic activity.

14.2.1 Enterprises in the linked employer-employee dataset, by size class and origin of the parent enterprise, 2006–2009 (weighted)

	2006	2007	2008	2009
# enterprises				
Total	451,567	480,905	488,917	463,724
<i>Dutch controlled</i>	444,962	474,449	481,205	455,614
Small enterprises	432,872	460,316	468,956	441,820
Medium enterprises	9,588	11,266	9,674	11,080
Large enterprises	2,502	2,866	2,575	2,714
<i>Foreign controlled</i>	6,605	6,456	7,712	8,110
Small enterprises	4,437	4,126	5,355	5,541
Medium enterprises	1,600	1,721	1,725	1,923
Large enterprises	568	609	631	646

Source: CBS.

14.2.2 Enterprises in the linked employer-employee dataset, by economic activity and origin of the parent enterprise, 2009 (weighted)



14.3 Employment situation at Dutch and foreign controlled enterprises

Preceded by a period of steady growth, the number of jobs in the Dutch economy started to decline by 2009 due to the economic crisis. See Table 14.3.1 with additional information on enterprises, jobs and average enterprise size. A modest decline was seen from 2009 on 2008 with a total of 7.8 million registered jobs in the Netherlands in 2009. Dutch and foreign controlled enterprises were similarly affected by this overall decline, both showing a relative decrease of about 2 percent in registered jobs. Following this downward trend, the number of enterprises under Dutch control also declined in the past year. However, foreign controlled enterprises still showed a small increase in absolute enterprise numbers, albeit that their relative firm size in terms of average job numbers also showed a modest decline.

Both Dutch and foreign controlled enterprises showed a decline in job numbers during the economic crisis in 2009

Overall, foreign controlled enterprises, mostly MNE(s), are consistently larger than Dutch controlled enterprises in the average number of jobs per enterprise, across all sectors. See Table 14.3.2 for an overview of the employment situation at Dutch and foreign controlled enterprises in the Netherlands in 2009, broken down by economic activity. The largest differences in average job numbers between Dutch and foreign controlled enterprises can be found in the retail trade, repair, hotels and restaurants, agriculture, fishing, extraction, energy, water and waste, and construction and the information and communication sectors.

The **job situation at Dutch and foreign controlled enterprises** in the Netherlands reported in this section are based on data in the CBS StatLine database (2006–2008). Data on 2009, as shown in 14.3.1 and 14.3.2, are based on an update of the linked employer-employee integrated micro dataset. Accompanying annotated tables and

figures are broken down by size class and economic activity. Average employment was calculated as the (weighted) average number of jobs per year, by locus of control (Dutch versus foreign) and economic activity of the enterprise.

14.3.1 Employment situation at Dutch and foreign controlled enterprises, 2006–2009 (weighted)

	2006	2007	2008	2009
	#			
Total Dutch economy				
Enterprises	451,567	480,905	488,917	463,724
Jobs	7,525,034	7,852,727	7,910,511	7,782,694
Average jobs per enterprise	17	16	16	17
Dutch controlled enterprises				
Enterprises	444,962	474,449	481,205	455,614
Jobs	6,740,133	7,070,589	6,960,169	6,847,384
Average jobs per enterprise	15	15	14	15
Foreign controlled enterprises				
Enterprises	6,605	6,456	7,712	8,110
Jobs	784,901	782,138	950,342	935,310
Average jobs per enterprise	119	121	123	115

Source: CBS.

14.3.2 Average employment at Dutch and foreign controlled enterprises, by industry, 2009 (weighted)

	Dutch controlled	Foreign controlled
Average # jobs per enterprise		
<i>By economic activity</i>		
Agriculture, fishing, extraction, energy, water and waste	10	134
Manufacturing	24	147
Construction	12	146
Wholesale trade	10	51
Retail trade, repair, hotels and restaurants	11	286
Transport and storage	16	148
Information and communication	12	145
Professional scientific and technical activities	7	61
Real estate, business and other services	21	247
Rest category	51	61

Source: CBS.

14.4 Workforce composition and job dynamics at Dutch and foreign controlled enterprises

Dutch and foreign controlled enterprises have an equal share of older workers, which make up about 20 to 25 percent of their workforce, as shown in 14.4.1. Overall, Dutch controlled enterprises employ far more women: almost one in two employees is female compared to one in three at their foreign controlled counterparts. However, this effect of a higher share of women in Dutch controlled enterprises does not apply to all sectors of economic activity. Furthermore, the share of native Dutch employees working at foreign controlled enterprises is on average much lower than that at Dutch controlled enterprises (a 7 percent difference in 2009). This could be due to a larger share of expatriate workers. And perhaps the working language, or the international orientation of foreign enterprises attracts or necessitates more foreign employees. Nevertheless, the share of native Dutch workers was still relatively high at 74 percent in 2009.

Foreign controlled enterprises show higher retention rates of employees than their Dutch controlled counterparts

Labour dynamics involves job changes between two enterprises and the transition from and to work. In the linked employer-employee dataset for the Netherlands (2009) a distinction can be made between new entrants to the job market, employees who remain at a specific enterprise, and those who change jobs between enterprises.

In 2009, around 80 percent of the employees worked for the same enterprise as the year before, see Table 14.4.2. Yet, foreign controlled enterprises in the Netherlands show higher retention rates than Dutch controlled enterprises, 82 versus 77 percent of workers per year respectively. This is especially true in the sectors manufacturing, wholesale trade, and

transport and storage. This may be related to better options of inter-firm education and/or opportunities for job mobility.

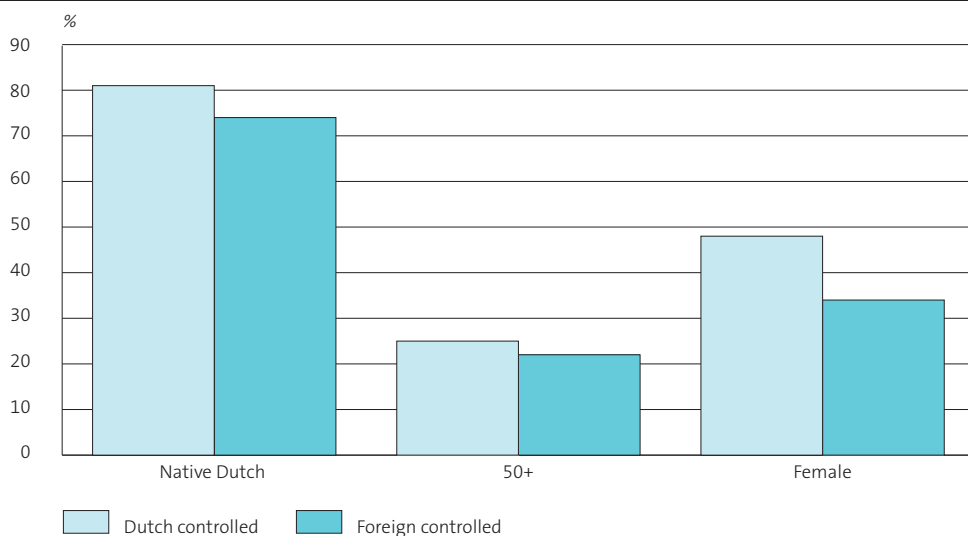
The share of new entrants to the job market is highest at Dutch controlled enterprises, around 11 percent in 2009. This applies to small to medium-sized enterprises, and to a much lesser extent to large enterprises with more than 250 employees. Furthermore, new entrants to the labour market at Dutch controlled enterprises are most prominent in the retail trade, repair, hotels and restaurants, agriculture, fishing, extraction, energy, water and waste, and the information and communication sectors.

The **composition of the workforce at Dutch and foreign controlled enterprises** in the Netherlands reported in this section are based on data in the CBS StatLine database (2006–2008). Data on 2009, as shown in 14.4.1 and 14.4.2, are based on an update of the linked employer-employee integrated micro dataset. Accompanying annotated tables and figures are broken down by size class and economic activity. Diversity at the workplace was determined by calculating the (weighted) average percentage of women in the total workforce in the Netherlands at the end of each year, broken

down by enterprise control. A similar approach was taken to derive the relative share of older (50+) and native Dutch employees. In addition, separate ratios were calculated for each category of interest, i.e. size class and economic activity.

The **job dynamics** in terms of the share of new entrants per enterprise was calculated as the (weighted) average percentage of entrants (employees in their first jobs and new to the labour market) in the total workforce at the end of the year. A similar approach was adopted for job switchers and stayers.

14.4.1 Share of female, older (50+) and native Dutch employees working at Dutch and foreign controlled enterprises in 2009 (weighted)



14.4.2 Job dynamics at Dutch and foreign controlled enterprises, by economic activity and size class, 2009 (weighted)

	Dutch controlled			Foreign controlled		
	new entrants	stayers	switchers	new entrants	stayers	switchers
	%					
Total	11	77	12	6	82	12
<i>By economic activity</i>						
Agriculture, fishing, extraction, energy, water and waste	14	76	10	6	83	11
Manufacturing	7	82	11	3	87	10
Construction	8	79	13	9	80	11
Wholesale trade	10	78	12	5	84	11
Retail trade, repair, hotels and restaurants	14	72	14	9	76	15
Transport and storage	10	75	15	4	84	12
Information and communication	13	73	14	7	81	12
Professional scientific and technical activities	12	77	11	6	81	13
Real estate, business and other services	12	72	16	9	71	20
Rest category	9	79	12	8	78	14
<i>By sizeclass</i>						
Small and medium-sized enterprises	11	77	12	6	82	12
Large enterprises	6	82	12	4	85	11

Source: CBS.

14.5 Wages at Dutch and foreign controlled enterprises

Foreign controlled enterprises in the Netherlands have a substantially higher share of high-paid employees in their workforce than their Dutch controlled counterparts: 33 percent versus 17 percent respectively in 2009, as shown in 14.5.1. Differences are most pronounced for the small enterprise range of 0–49 employees. Conversely, Dutch controlled enterprises have a higher share of low-paid employees: about one in three workers was paid at or below the 30th wage percentile.

This wage gap might be a result of FDI requiring more highly skilled and therefore more highly paid personnel in host countries. In addition, foreign firms are often said to pay higher wages to avoid labour migration to nearby enterprises or to prevent employees from setting up domestic businesses themselves. Furthermore, foreign enterprises may be

more productive in general, while operating in new, innovative sectors, thereby substantiating a higher wage level (Genée, Korvorst and Fortanier, 2010).

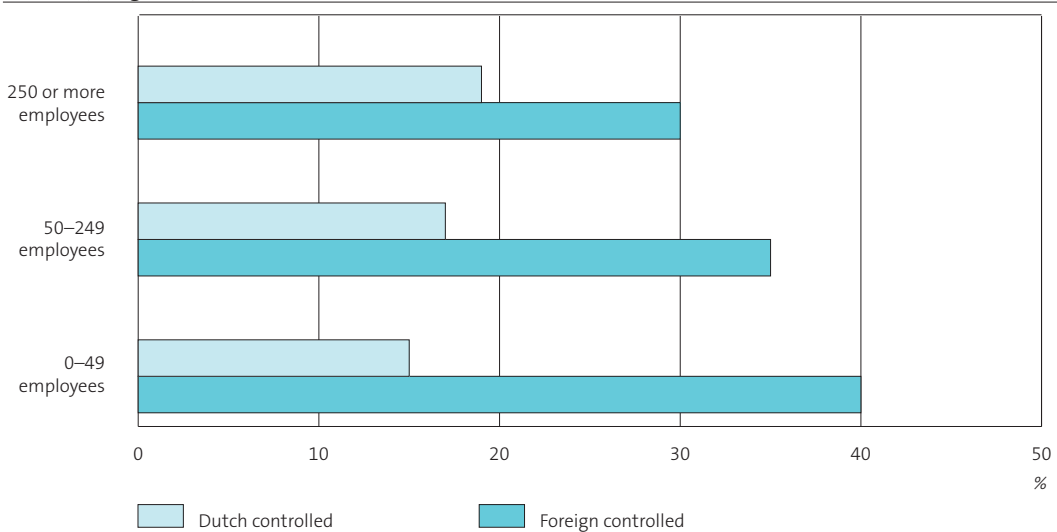
When comparing the ratio of high-paid employees by sector of economic activity, the differences between Dutch and foreign controlled enterprises are most pronounced in agriculture, fishing, extraction, energy, water and waste, manufacturing, and wholesale trade.

For both Dutch and foreign controlled enterprises alike, the sectors of retail trade, repair, hotels and restaurants and real estate, business and other services stand out with the highest shares of low-paid workers.

The **wages** that are annually paid to employees working at **Dutch and foreign controlled enterprises** in the Netherlands reported in this section are based on data in the CBS StatLine database (2006–2008). Data on 2009, as shown in 14.5.1 and 14.5.2, are based on an update of the linked employer-employee integrated micro dataset. Accompanying annotated tables and figures are broken down by size class and economic activity. Jobs are classified as high-paid if their wage is in the 81st percentile or higher of all registered jobs in the Netherlands. Jobs are classified as low-paid if they are at or below the 30th wage percentile.

The mean share of high-paid employees was calculated as the (weighted) average number of high-paid jobs, as a percentage of the average number of total jobs registered in the Netherlands per year, by locus of control (foreign versus Dutch controlled enterprises). A similar approach was taken to determine the mean share of low-paid employees. In addition, separate ratios were then calculated for each category of interest, i.e. economic activity and size class.

14.5.1 Share of high-paid employees at Dutch and foreign controlled enterprises by size class, 2009 (weighted)



14.5.2 Share of high and low-paid employees working at Dutch and foreign controlled enterprises, by economic activity, 2009 (weighted)

	High-paid		Low-paid	
	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled
	%			
Total	33	17	19	33
<i>By economic activity</i>				
Agriculture, fishing, extraction, energy, water and waste	50	18	4	35
Manufacturing	39	18	4	19
Construction	39	21	4	11
Wholesale trade	42	21	10	22
Retail trade, repair, hotels and restaurants	6	4	54	65
Transport and storage	24	17	13	20
Information and communication	56	40	6	15
Professional scientific and technical activities	48	34	7	20
Real estate, business and other services	8	9	42	48
Rest category	23	16	29	28

Source: CBS.

References

- Alfaro, L. and M. X. Chen (July 2012). Selection, Reallocation, and Spillover: Identifying the Sources of Gains from Multinational Production, NBER Working Paper No. 18207.
- Amador, J. and Opromolla, L. (2008). Product and destination mix in export markets. Working papers 17/2008. Economics and Research Department Banco de Portugal. Lisbon. Portugal.
- Audretsch, D.B. (1990). Start-up size and establishment exit. *Discussion Paper FS IV 90-8*, Wissenschaftszentrum Berlin für Sozialforschung.
- Baldwin, R.E. and S.J. Evenett, 2009, *The Collapse of Global Trade, Murky Protectionism, and the Crisis: Recommendations for the G20*, A Vox EU publication: London.
- Bandick, R. and Görg, H. (2009) : Foreign acquisition, plant survival, and employment growth, Kiel working paper, No. 1525
- Berkel van, F. and C. Lemmens-Dirix. 2012. More and more East European transporters active in the Netherlands Webmagazine Statistics Netherlands, The Hague/Heerlen. <http://www.cbs.nl/en-GB/menu/themas/internationale-handel/publicaties/artikelen/archief/2012/2012-3546-wm.htm?Languageswitch=on>
- Bernard, A.B. and Jensen, J.B. (1997), Exporters, Skill Upgrading and the Wage Gap, *Journal of International Economics*, 42 (1); 3-31.
- Bernard, A.B. and Jensen, J.B (1997). 'Exceptional Exporter Performance: Cause, Effect, or Both?'. *Journal of International Economics* 47 (1999) 1-25. USA.
- Bernard, A.B, Jensen, J. and Schott, P. (2007a). 'Importers, Exporters and Multinationals: A portrait of firms in the U.S. that trade goods'. NBER Working Paper No. 11404. USA.
- Bernard, A., Jensen, J.B., Redding, S. and Schott, P. (2007b). 'Firms in international trade'. *Journal of Economic Perspectives*, 21(3): 105-130.
- Bernard, A., Jensen, J.B., Redding, S. and Schott, P. (2010), Wholesalers and Retailers in US, *Trade American Economic Review* 2010, Vol. 100, No. 2, May, 408-413.
- Besedeš, T. and Prusa T. (2010). The role of extensive and intensive margins and export growth. NBER Working Paper Series 13628. Cambridge. USA.
- Bruls, F. and Leufkens K. (2011). Foreign companies in the Netherlands: small number, large turnover. CBS Webmagazine. Statistics Netherlands, The Hague /Heerlen.
- Carroll, G.R. and M.T. Hannan (2000), *The Demography of Corporations and Industries*.
- Caves. R.E., 1998. Industrial organization and new findings on the turnover and mobility of firms. *Journal of Economic Literature* 36 (4), 1947-1982.

- CBS. (2007). Key Figures Internationalisation 2007. Den Haag/Heerlen.
- CBS. (2008). Internationalisation Monitor 2008. Den Haag/Heerlen.
- CBS. (2009). Internationalisation Monitor 2009. Den Haag/Heerlen.
- CBS (2010). *Internationalisation Monitor 2010*. Den Haag/Heerlen.
- CBS. (2011). Internationalisation Monitor 2010. Den Haag/Heerlen.
- CBS. (2011a). Export blijft motor achter economische groei. Artikel, donderdag 24 maart 2011.
- CBS. (2011b). Internationalisation Monitor 2011. Den Haag/Heerlen.
- CBS. (2012). De Nederlandse economie 2011.
- Creusen, H., Kox, H., Lejour, A. and Smeets, R. (2011). Exploring the margins of Dutch exports : a firm-level analysis. *De Economist*, volume 159, number 4, 413-434. Den Haag. Nederland.
- Deloitte, 2011. Taxation and Investment in Switzerland 2011.
- Djankov, S. and Hoekman, B. (2000). Foreign investment and productivity growth in Czech enterprises. *The World Bank Economic Review* 14(1), 49-64. Washington, D.C.: World Bank.
- De Jong, J., 2011. Werkloosheid en de Grote Recessie. CPB Policy Brief 2011/10, Dutch Bureau for Economic Policy Analysis (CPB), The Hague.
- Désiège, L., Duhautois, R. and Redor, D. (2010). Do Public Subsidies Have an Impact on New Firm Survival? An Empirical Study with French Data. TEPP Working Papers 2010-4.
- DNB, 2008. The Dutch international investment position in 2007. Statistical Bulletin December 2008, De Nederlandsche Bank.
- DNB (2008-9). *Statistical Bulletin September 2008*, De Nederlandsche Bank.
- DNB (2008). Can foreign direct investment statistics be made more useful? Statistical Bulletin December 2008, De Nederlandsche Bank, Amsterdam.
- DNB (2011). Netherlands leads the field in direct investment. DNBulletin, De Nederlandsche Bank, Amsterdam.
- Duijkers, R., 2012. Medium-sized businesses struck hardest by crisis in the construction sector. Webmagazine Statistics Netherlands, The Hague/Heerlen. <http://www.cbs.nl/en-GB/menu/themas/bouwen-wonen/publicaties/artikelen/archief/2012/2012-3630-wm.htm?Languageswitch=on>
- Dunne, T., Roberts, M.J., Samuelson, L. (1988). Patterns of firm entry and exit in U.S. manufacturing industries. *RAND Journal of Economics* 19(4): 495-515.
- Dzhumashev, R., Mishra, V. and R. Smyth. (2011). Exporting, R&D Investment and Firm Survival. Discussion Paper 39/11. Monash University. Australia.
- Ericson, R. and Pakes, A. (1995). Markov-perfect industry dynamics: a framework for empirical work. *Review of Economic Studies* 62, 53-82.

Ernst & Young 2012. Nederland steeds aantrekkelijker, barometer Nederlands vestigingsklimaat 2012. Rotterdam.

European Commission (2009), *Economic Crisis in Europe: Causes, Consequences and Responses*. Luxembourg: Office for Official Publications of the European Communities.

Eurostat 2009. 'High-technology' and 'knowledge based services' aggregations based on NACE Rev. 2. Eurostat, Luxembourg.

FME. (2012). EC: Export kurk waarop Nederlandse economie drijft.

Forbes, K. J. (2002) "How Do Large Depreciations Affect Firm Performance?," International Monetary Fund Staff Papers, 2002, v49(Spec), 214-238.

Fortanier, F.N. (2008). Multinational Enterprises, Institutions and Sustainable Development. PhD thesis, University of Amsterdam.

Fortanier, F. and Van de Ven, P. (2009). Globalization and national accounts: consequences of inward foreign direct investment for productivity at the micro and meso level. Paper presented at the ISI Conference in Durban, South Africa.

Fortanier, F. and Korvorst, M., 2009. Effects of globalisation: wage differences between employees at Dutch and foreign controlled enterprises in the Netherlands. Chapter A5 in the Internationalisation Monitor 2009. Statistics Netherlands, The Hague/Heerlen.

Fortanier F. and S. Moons, 2011, Foreign Investors in The Netherlands: Heterogeneous Employment and Productivity Effects, *De Economist* 159 (4), 511-531.

Fortanier, F., Korvorst, M. and N. Pouwels-Urlings (2011). Enterprise demography and foreign ownership: effects on employment, *Internationalisation Monitor 2011*, p. 93-115, CBS.

Francois, J. and B. Hoekman (2009). Services trade and policy. *Working paper No. 0903*. Johannes Kepler University of Linz, Linz-Auhof.

Genee, S. and Fortanier, F. (2010). Internationaliseren en productiviteit, Deel 1. Statistische analyse, Statistics Netherlands, The Hague/Heerlen (in Dutch).

Genee, S., Korvorst, M. and Fortanier, F. (2010). 'Wage and employee differences between trading and non-trading firms in the Netherlands', *Internationalisation Monitor 2010*, B4, p. 117-129, CBS.

Gessel van - Dabekaussen, G., Roza M.W., Van den Bosch, F.A.J., Volberda, H.W. 2008. Offshoring door Nederlandse bedrijven; een eerste grootschalig onderzoek in de industrie en dienstverlening. Statistics Netherlands, The Hague/Heerlen.

Gibcus, P., P. de Jong - 't Hart and W. Verhoeven (2005). Bedrijvendynamiek in Nederland: goed of slecht?, EIM.

Giovannetti, G., Ricchiuti, G. and M. Velucchi. (2007). Size, Innovation and Internationalization: A survival analysis of Italian firms. Working Paper N. 07/2007. Firenze. Italia.

Groot, S.P.T., Lejour, A. and Gerritsen M. (2011a). Uitvoer naar opkomende economieën. ESB 96 (4601).

Groot, S.P.T., De Groot, H., Lejour, A.M. and Möhlmann J. (2011b). The rise of the BRIC countries and its impact on the Dutch economy. CPB Background document, Dutch Bureau for Economic Policy Analysis, The Hague.

Görg, H. (2000) 'Multinational Companies and Indirect Employment: Measurement and Evidence', *Applied Economics*, 32(14): 1809-1818.

Hagemejer, J. and Tyrowicz, J. (2011) Firm-level evidence on the role of FDI in a transition economy.

Haltiwanger, J.C., Jarmin, R.S. and Miranda, J. (2010). Who creates jobs? Small vs. Large vs. Young. Working Paper 16300, National Bureau of Economic Research, Cambridge.

Hartog, C., Hessels, J., Stal van, A. and de Jong, J. (2010). Global Entrepreneurship Monitor 2009 The Netherlands, Entrepreneurship on the rise, EIM, GEM.

Helpman, E., Melitz M., and Yeaple, S. 2004. Export versus FDI with Heterogeneous Firms, *American Economic Review* 94(1), 300-316.

Iacovone, L. and Javorcik, B. (2010). Multi-product exporters: Product churning, uncertainty and export discoveries. *The Economic Journal*. Volume 120, issue 544, pp. 481-499. USA.

IBM 2012. Global Location Trends 2012.

IMF 1993. Balance of Payments Manual, fifth edition. IMF, Washington.

IMF 2012. Coordinated Direct Investment Survey. IMF, Washington.

IMF 2012. World Economic Outlook April 2012. Washington, DC USA.

Innovatieplatform, Vitalisering van de kennis-economie, 2004/<http://www.rijksoverheid.nl/onderwerpen/ondernemersklimaat-eninnovatie/investeren-in-topsectoren/high-tech>.

Internationalisation Monitor 2009, Statistics Netherlands. The Hague/Heerlen.

Internationalisation Monitor 2010, Statistics Netherlands. The Hague/Heerlen.

Jaarsma, M. (2011). Trends in international trade in goods. *Internationalisation Monitor 2011*, chapter 1, p. 19-38, Statistics Netherlands. The Hague/Heerlen.

Jaarsma, M. and Lemmens-Dirix, C. (2011). A closer look at Dutch goods and services traders. *Internationalisation Monitor 2010*, chapter B2, p. 85-100, Statistics Netherlands. The Hague/Heerlen.

Jovanovic, N. (1982). Selection and the evolution of industry. *Econometrica*, 50(3):649-670.

Kessels, M. 2011, More difficult for MKB retailers to obtain bank loans. Webmagazine Statistics Netherlands, The Hague/Heerlen. <http://www.cbs.nl/en-GB/menu/themas/bedrijven/publicaties/artikelen/archief/2011/2011-3371-wm.htm?Languageswitch=on>

Kimura, F. and K. Kiyota. (2006). Exports, FDI and Productivity: Dynamic evidence from Japanese firms. *Weltwirtschaftliches Archiv/Review of World Economics*, 142(4): 695-719. Japan.

- Kuypers, F., Lejour, A., Lemmers, O. and P. Ramaekers. (2012) Kenmerken van wederuitvoerbedrijven. <http://www.cbs.nl/nl-NL/menu/themas/internationale-handel/publicaties/artikelen/archief/2012/2012-kenmerken-wederuitvoerbedrijven-2009-art.htm>. CPB/CBS. Den Haag/Heerlen.
- Lejour, A. and Lemmers, O., 2012. Inkomende Investerings en economische prestaties. Dutch Bureau for Economic Policy Analysis, The Hague and Statistics Netherlands, The Hague/Heerlen.
- Lemmers, O., Ramaekers, P., Kuypers, F. and A Lejour, <http://www.cbs.nl/nl-NL/menu/themas/dossiers/globalisering/publicaties/artikelen/archief/2012/2012-3561-wm.htm>
- Leuven, E. and Sianesi, B. (2003). PSMATCH2 (version 3.0.0): Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing.
- Ling, K. and Wang, Z. (2008), Internationalization Process and Strategy Of Born Global SME. A Study of Chinese born global small and medium-size enterprise.
- Loschky, A. (2008) Reviewing the nomenclature for high-technology trade – the sectoral approach. Working paper STD/SES/WPTGS (2008) 9.
- Mansfield, E. (1962). Entry, Gibrat's law, innovation and the growth of firms. *American Economic Review* 52(5): 1023-1051.
- Martins, P. and L. Oromolla. (2009). Exports, Imports and wages: Evidence from matched firm-worker-product panels. IZA Discussion Paper No. 4646. Bonn. Germany.
- Mayer, T. and Ottaviano, G. (2007). The happy few: the internationalisation of European firms. Bruegel. Brussels/Belgium.
- Melitz, M. (2003). The impact of trade on aggregate industry productivity and intra-industry reallocations. *Econometrica* 71(6), 1695-1725.
- Ministry of Economic Affairs, Agriculture and Innovation. (2012). Export is banenmotor voor Nederland. <http://www.rijksoverheid.nl/ministeries/eleni/nieuws/2012/09/05/export-is-banenmotor-voor-nederland.html>
- Muûls, M. and Pisu, M. (2007). Imports and exports at the level of the firm: Evidence from Belgium. *CEP Discussion Paper No 801*.
- Narjoko, D. and Hill, H., 2007, Winners and Losers during a Deep Economic Crisis: Firm-level Evidence from Indonesian Manufacturing Asian Economic Journal, 21(4), 343–368.
- Nowak, O. 2012. EU and Member States' balance of payments during the economic turmoil. Statistics in focus 32/2012, Eurostat, Luxemburg.
- OECD, 2008. OECD Benchmark Definition of Foreign Direct Investment, fourth edition.
- OECD 2011. Harmonisation and integration of financial and economic measures of multinational enterprises. DAF/INV/STAT(2011)10/REV1, OECD, Paris, France.
- OECD 2012. OECD Economic Surveys Netherlands 2012. OECD, Paris, France.
- Radosevic, S., Varblane, U. and Mickiewicz, T. (2003) 'Foreign Direct Investment and its effect on employment in Central Europe', *Transnational Corporations*, 6(1): 117-21.

Ramaekers, P. and E. Daems. (2009). Netherlands increasingly tied in with global trade.

Webmagazine: <http://www.cbs.nl/en-GB/menu/themas/internationale-handel/publicaties/artikelen/archief/2009/2009-wm.htm?Languageswitch=on>. CBS. Den Haag/Heerlen.

Ramaekers, P and T. de Wit. (2012). "Economiegrootte, afstand en de handel van Nederland met andere landen". CBS: <http://www.cbs.nl/nl-NL/menu/themas/internationale-handel/publicaties/artikelen/archief/2012/2012-zwaartekrachtmodel-uitgebreid-2010-art.htm>. CBS. Den Haag/Heerlen.

Rosenbaum, P.R. and Rubin, D.B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika* 70: 41-55.

Smeets, R., Creusen, H., Lejour, A. and Kox, H. (2010). Export margins and export barriers. Uncovering market entry costs of exporters in the Netherlands. *CPB Document* 208. Den Haag. Nederland.

Ten Have, C. and Meester, M. (2011). Oost-Europese chauffeurs worden 'massaal uitgebuit' door Nederlandse bedrijven. *Volkskrant* 15 August 2011 (in Dutch)

UNCTAD 2012. World Investment Report 2012, Towards a new generation of investment policies. UNCTAD, United Nations, New York.

Urlings, N., Fortanier, F. and Korvorst, M. (2011). Inkomende investeringen en werkgelegenheid in Nederland. Statistics Netherlands, The Hague/Heerlen. (in Dutch)

Vogel, A. and Wagner, J. (2010), Higher productivity in importing German manufacturing firms; self-selection, learning from importing, or both? *Review of World Economics* 145 (4), 641-665.

Wagner, J. (1994). The post-entry performance of new small firms in German manufacturing industries. *The Journal of Industrial Economics* 42(2): 141-154.

Wagner, J (2005). Exports and productivity: A survey of the evidence from firm level data. *Working Paper Series in Economics No. 4*, University of Lüneburg, Lüneburg.

Wagner, J. (2011). Exports, imports and firm survival: first evidence for manufacturing enterprises in Germany. IZA Discussion Paper No. 5924. Bonn. Germany.

Walters, S.J. (2009). What is a Cox model?, What is...? Series, NPR09/1005.

Weterings, A., Raspe O. and M. van den Berge, 2011, The European Landscape of Knowledge-Intensive Foreign-Owned Firms and the Attractiveness of Dutch Regions. PBL Netherlands Environmental Assessment Agency, The Hague/Bilthoven.

WIR (2012). World Investment Report 2012, Towards a new generation of investment policies. UNCTAD, United Nations.

WTO (2010). World Trade Report 2010. Trade in natural resources. Geneva. Switzerland.

WTO 2012. WTO StatTalk 7-2012, World Trade Organization, Geneva, Switzerland.

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