Internationalisation Monitor

2011

Explanation of symbols

.	data not available
*	provisional figure
x	publication prohibited (confidential figure)
–	nil or less than half of unit concerned
–	(between two figures) inclusive
0 (0,0)	less than half of unit concerned
blank	not applicable
2010–2011	2010 to 2011 inclusief
2010/2011	average of 2010 up to and including 2011
2010/'11	crop year, financial year, school year etc. beginning in 2010 and ending in 2011
2008/'09	
-2010/'11	crop year, financial year, etc, 2008/'09 to 2010/'11 inclusive

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

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Foreword

Economic globalisation is characterised by increasing international trade, foreign investment and international sourcing. For the Netherlands, this concerns activities by Dutch multinational firms abroad as well as foreign enterprises in the Netherlands. Not only do these cross-border activities have important economic consequences, they also raise a number of important questions with respect to employment: does international sourcing reduce employment? And if so: what kinds of jobs are lost? How many jobs are created by incoming investment? If employers start importing products from emerging markets like China and India, how will this affect individual employees' wages, and how do these effects differ from those of trading relations with traditional partners like the EU and the US? Are internationally active companies more inclined to use flexible labour? These employment effects of globalisation constitute the central theme of this fourth edition of the Internationalisation Monitor.

To help quantify these social effects of globalisation, CBS presents a range of connected and consistent statistics on recent developments in international trade in goods and in services, international sourcing, foreign direct investment, international labour migration, and traffic and transport. These statistics are complemented by four in-depth articles that show how these globalisation trends affect employment.

For example, we found that employment decreases at companies engaged in international sourcing, while employee wages increase compared to similar companies that do not outsource work. At the same time, more and more foreign companies are investing in the Netherlands and thus creating employment. Similarly, in spite of some fears that once foreign companies take over Dutch ones, employment will be reduced as a result of reorganisation, this Internationalisation Monitor shows that there are no significant differences in employment before and after takeovers, regardless of the nationality of the new owner.
Workers are also better off if their employer is active in international trade, in particular if companies both import from and export to a wide range of countries. These are on average the largest, fastest growing and best-paying ones.

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

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Introduction

Introduction: the Internationalisation Monitor 2011

Introduction

Globalisation has become a well-known and well-discussed topic over the last two decades. Particularly for a small and open economy like the Netherlands, international developments have major implications. The recent financial and economic crisis illustrates this role of the international economy for the Netherlands. Global exports fell by nearly 23 percent in 2009 – due to the collapse in demand, the drying up of trade finance and the integrated nature of global supply chains (OECD, 2010b). Dutch exports and imports also contracted strongly (16 and 18 percent respectively), explaining two-thirds of the decline of Dutch GDP in 2009 (CBS, 2010a). At the same time, the positive economic growth rates that were recorded for 2010 and the first half of 2011 are also largely driven by resurging exports (CBS, 2010b).

Since international trade, but also international investments and other dimensions of globalisation hence play a vital role in the Dutch economy, it is not surprising that policy makers and the public-at-large ask questions on the determinants of globalisation and its effects in terms of employment, economic growth, sustainability and developments over time. To help answering these questions CBS aims to develop and present coherent data and statistics, with clear descriptions and annotations of trends and impacts of globalisation.

To implement this ambition, CBS has over the past years initiated a series of projects to integrate existing datasets in order to construct and publish new and relevant data on globalisation. The first results were published in the publications *Key Figures Internationalisation* (2007) and the *Internationalisation Monitor* (2008, 2009 and 2010). These publications – as well as this 2011 edition of the *Internationalisation Monitor* – serve a threefold goal:

- first, they monitor trends and developments in the area of international trade and international investment and activities of enterprises, keeping in mind the relationship between these developments and the economical role and position of the Netherlands in Europe and in the world;
- secondly, they analyse the consequences of these trends and developments for economic growth, wealth, the labour market and innovation;
- and finally they contribute to a well-balanced and factual discussion on internationalisation and the position of the Dutch and foreign controlled enterprises in this discussion.

In this introduction, we describe the structure of the Internationalisation Monitor 2011 and highlight the main findings. We start with the statistical challenges and innovations necessary to capture a widespread and complex phenomenon such as globalisation. In the subsequent paragraphs, we summarise the main trends and conclusions formulated throughout this publication.

Measuring internationalisation: statistical innovation

To accurately and consistently measure the process of globalisation is an enormous challenge for statistical authorities. Existing statistical concepts and frameworks – for instance various macroeconomic indicators, systems of national accounts and balance of payments principles – become increasingly difficult to construct. In addition, the ever-expanding activities of enterprises (and persons) abroad are inherently difficult to observe by statistical agencies, which are often restricted to a national mandate and area. It also is a major challenge to embody 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.

In multidimensional and complex discussions, statistical agencies have an obligation and a responsibility to prevent that, based on their data and analyses, partial or incorrect conclusions are drawn. Thorough knowledge of the main concepts and subjects of debate within the theme are necessary to identify which indicators and figures are most significant in the political and policy debate. Additionally, to ensure a correct interpretation of the data and figures, it is very important to explain clearly which data is used to construct the statistics and indicators and to illustrate the trends within a context, while the limitations of the data and the methods used are explicitly described. These considerations have materialised into the Internationalisation Monitor 2011, where several descriptive and analytical papers are combined with a large number of annotated tables on various indicators of globalisation.

Each year, the Internationalisation Monitor presents a wide variety of new statistics on the nature and consequences of the internationalisation of the Dutch economy. One of the key sources of these new statistics is the integration of micro-data from various surveys and registers available at CBS. Many of the innovations made in previous editions can now be found as 'regular' output in chapters 9 and onward of this publication.

Since the 2010 edition, we also include a series of analytical papers on a focused topic. This year, we analyse in particular the *social consequences* of globalization. More specifically, we included analyses of how international trade (broken down by partner country and good), international sourcing activities of firms, as well as international greenfield investments and acquisitions affect the size and composition of the workforce, job growth and wages. This required integrating information from the General Business Register with the Social Statistical Database, International Trade data, statistics on international sourcing and

business demography data. In addition, the social dimension of the globalisation process itself is described – in the form of trends on labour migration.

Results

This paragraph focuses on the main results of the articles and annotated tables of the Internationalisation Monitor 2011. First, we describe the trends in internationalisation by focusing in particular on the developments in international trade in goods and services, foreign direct investment, and labour migration. Secondly, we summarise the results of the focused papers analysing the key themes of this publication: the employment effects of international trade, international greenfield investments and acquisitions, and international sourcing.

Trends

Since 2002 up until the recent economic crisis, international trade in goods has increased on average by 10 percent each year (see chapter 1 and 9). Although the majority of Dutch trade remains with the European Union, the share of imports originating from EU-countries has decreased since 1996, from 64 percent to little over 50 percent in 2010. The main reason behind this development is the surge in imports coming from China and other BRIC countries. The share of imports coming from BRIC countries quadrupled since 1996 from 4 to 16 percent (or 52.6 billion Euro) in 2010, making China the third most important source of Dutch imports. Vice versa, the Netherlands is an important trading partner for China: we rank 6th on their list of key export destinations.
The economic crisis resulted in a strong decrease in Dutch exports of almost 16 percent in 2009, and goods imports decreased even stronger (– 18 percent). Yet 2010 and the first half of 2011 witnessed an upturn of trade, driven by a strong recovery in China and other developing Asian countries. Although one in ten firms in the Netherlands is active in international trade, the bulk remains concentrated among just a few firms: the top 1 percent of Dutch traders generated almost 74 percent of Dutch imports and 71 percent of exports.
In addition to goods, services are also important in international trade, and have a similar geographic composition (see chapters 2 and 10). The services sector has long been considered as non-tradable, but since the mid 1990s, services exports account for approximately 20 percent of total exports (a percentage that has remained stable over time). Trade in services was less affected by the economic crisis than trade in goods: services imports continued to grow in 2009 (though only with 2 percent) and services exports declined much less than exports of goods (–4.7 percent). Approximately 2 percent

of firms are engaged in services exports. A third of the value of services trade is conducted by non-services firms. Half of the value of services trade is done by foreign controlled firms The role of foreign firms is also apparent in the statistics on foreign direct investment (FDI) and the activities of foreign affiliates in the Netherlands (see chapters 3 and 11). As a general trend, the share of foreign controlled enterprises in the private Dutch sector is increasing. In 2009, these enterprises generated more than a quarter of the added value, one-sixth of employment and nearly a third of the total turnover of the private sector. Similarly, Dutch firms abroad employ an estimated 2–2.5 million people in 2009, mainly in Germany, followed by countries like the UK, France, Spain, Poland and Romania, as well as the US, China and Brazil outside the EU. However, like other international economic relations, Dutch inward and outward FDI was strongly affected by the economical crisis. Incoming and outgoing direct investment flows even turned negative in several quarters during the 2008–2010 period. Inward stocks decreased in this period as well (for the first time in many years); outward stocks rose in 2009 and 2010 after the sharp decline in 2008. A very substantial part of these dynamics can however be explained by the activities evolving around a single firm: the acquisition of ABN AMRO by Santander, Fortis and the Royal Bank of Scotland, and the subsequent purchase of Fortis by the Dutch government. As a final dimension of the analysis of internationalisation trends, we observe a substantial increase in labour migration since 2004, up to 59 thousand in 2008. In particular the number of labour migrants from new EU countries like Poland has increased (to four thousand), as well as the number of employees from China (to nearly two thousand). Labour migrants typically work at temporary employment agencies (27 percent) and with flexible contracts (20 percent), are relatively young (half is younger than 30) and frequently male (61 percent). There are substantial differences in average daily wage among the nationalities of the immigrated employees. Immigrants from developed countries like Japan, the US and Australia earn the highest wages, and Indian immigrants are also well paid, reflecting their skills, whereas Polish, Turkish, and Chinese immigrants earn relatively little. Labour migrants also often work for foreign-controlled firms (20 percent of the foreign immigrants, compared 11 percent of the Dutch labour force). In particular Asian migrants work for firms from their mother country, likely as expatriate workers (26 percent of Chinese and 54 percent of Japanese immigrants).

Employment effects of globalisation– an in-depth analysis

One of the main issues in the globalisation debate deals with the employment effect of outsourcing. We find that international sourcing – the (partial) movement of business functions currently performed in the Netherlands to enterprises abroad – is associated with a reduction in jobs in the Netherlands (see chapter 8). In particular lower paid jobs are prone to be outsourced, resulting in higher shares of high-paid workers among firms engaged in outsourcing.

At the same time, foreign firms invest in the Netherlands, thereby creating employment. In chapter 5, we analysed various dimensions of employment – including number of jobs, wages and the composition of the labour force – before and after life events among firms – including births, deaths and acquisitions. By taking into account if firms are foreign or Dutch controlled, we can not only compare differences between these firms, but also the differences in employment impact between foreign greenfield investments (births) and acquisitions (see chapter 5).

While relatively more Dutch firms are being established than foreign firms (the Dutch birth rate 5,4 percent versus 2,3 percent for foreign firms), foreign start-ups do tend to be much larger in terms of jobs created (40 jobs in the first year of establishment, versus 4 for Dutch controlled firms), and also employ more high-paid employees, and very few employees with flexible contracts.

The greatest differences between events at Dutch and foreign controlled enterprises can be found in their acquisition rates. Foreign controlled enterprises are almost three times more likely to be acquired by another firm than Dutch controlled enterprises (11 percent versus 4 percent). Acquisitions play an important role in employment: on average 12 percent of all employees at Dutch controlled firms, and 20 percent of people working for foreign controlled firms, are involved in an acquisition in any given year.

Since acquisitions (and mergers) are often motivated by a potential for synergy and efficiency, fears for job losses are common. However, we find that, with the exception of manufacturing firms, the number of jobs per enterprise increases slightly after acquisition, regardless of the nationality of the acquirer or acquiree.

In addition to international investments, international trade remains another key component of economic globalisation. Research has consistently shown that trading firms pay higher wages, hire more skilled personnel and are more productive than non-traders. However, traders are not a homogeneous group of enterprises. This monitor examines whether the country of origin and/or destination of international trade flows is an extra explanation for differences in enterprise employment and wages, in addition to enterprise size, locus of control and economic activity (see chapter 6). Dutch traders can be clustered into different groups according to their trading partner countries. Five groups of firms can be distinguished both with respect to import countries and export markets. Among importers, wages and the number of employees are highest in the group of firms that import goods from all over the world and the group of firms that import mainly from European countries. Enterprises that mainly import from China and other BRIC countries are on average the smallest enterprises and pay the least amount of salaries. Employment and wages are also highest at world wide exporters. Exporting to non-EU countries and BRIC countries is associated with lower wages and number of jobs.

Similarly, we explored whether the portfolio of products that are imported or exported affects employment and wages at trading firms, classifying products according to their factor intensity. We find that two-way traders trade relatively frequently in technology intensive products. A large share of their exports consists of re-exports, indicating that

these firms are more active as distributors and intermediaries. Indeed, the import and export flow of two-way-trading firms is often similar in terms of product composition. Further analyses show important differences in employment and wages depending on the portfolio of traded products. For example, firms that import a wide diversity of products employ the most people and pay their workers the highest salaries. The smallest and least paying importers are those that mainly import unskilled labour intensive products, which may indicate that international competitive pressures keep wages in the Netherlands low for for similar functions within these types of firms. Exporters of technological and human capital intensive products employ on average the most people and pay the highest wages. In reverse, exporters of unskilled labour intensive products are the least paying exporters.

Structure of the publication

The current format of the Internationalisation Monitor 2011 improves upon the setup we have developed in previous years. It now includes a total of 13 chapters, including chapters on trends (Chapter 1 to 4), focused analytical papers on the employment effects of globalisation (chapter 5 to 8) and a series of annotated tables (chapters 9 to 13). 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 four chapters aim to describe and monitor trends in several key areas of international economic activity. Chapter 1 focuses on trade on goods, chapter 2 on trade in services, chapter 3 on foreign direct investment and chapter 4 on international labour migration. All chapters describe the main developments and trends up until the most recent possible moment (generally 2009 or 2010), highlighting geographic and sectoral patterns. In addition, each chapter also benchmarks the Dutch developments against several other countries, including neighbours like Germany and countries that share the Dutch nature of a small, open economy, like Sweden.

The subsequent 4 chapters are the papers that all focus on common topic. This year's topic involves the social effects of globalisation. Chapter 5 analyses how key events in the life of firms – births, deaths and acquisitions – contribute to employment, distinguishing between foreign and Dutch controlled firms. Chapters 6 and 7 deal with international trade, investigating how the portfolio of partner countries and the portfolio of products traded affect employment and wages. The consequences of international sourcing constitute the topic of chapter 8. 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 represent a set of annotated tables that will be regularly updated. Some of them 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

While the publication of the Internationalisation Monitor 2011 presents yet another step in publishing more detailed and more coherent data on globalisation and its consequences for the Netherlands, additional research remains necessary. As many of the topics central to the debate on globalisation and internationalisation are being addressed (including not only trade and investment, but also international sourcing, mergers and acquisitions, and migration), more complex questions arise. These deal primarily with the impact of globalisation on the regional distribution of wealth, wellbeing and entrepreneurship, particularly in the context of international value chains and local clusters. Also, as analyses move from static comparison to studies of dynamics and changes over time, and simultaneously involve factors at different levels of analysis (e.g., individual, firm and cluster), increasingly advanced statistical models will be developed.

Hence, this Internationalisation Monitor 2011 is the fourth of a series of similar publications that are planned for the coming years, which will further describe the extent of internationalisation of the Dutch economy and the consequences of that international orientation for firms and individuals.

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, Agriculture and Innovation, 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.

Trends in international trade in goods

1

Trends in international trade in goods

World trade declined at an unprecedented rate in 2009 due to the economic and financial crisis. In this year the Netherlands experienced a decrease in imports of 18.4 percent and exports dropped by 16.5 percent. As a result, the Dutch economy was pushed into recession as Dutch GDP volume contracted by 3.5 percent. When international trade flows picked up again in 2010, growing export levels turned out to be the main driving force behind the Dutch economic recovery. Although the Dutch economy is still growing at the moment, economic troubles in Europe and the US are leading to renewed uncertainty. The bulk of Dutch trade is still with EU countries. But BRIC countries are becoming increasingly important in terms of Dutch imports.

1.1 Introduction

The Netherlands has, for centuries, been famed for its spirit of commerce and its track record as a trading nation. The Netherlands was the fifth largest exporter in the world in 2010 (UNCTAD). The country is home to the largest port in Europe, and half its population is employed by an enterprise engaged in foreign trade (see also Chapter 6). Accordingly, international trade in goods plays a major role in the Dutch economy. The economic crisis, which started in 2008, had a detrimental impact on the Dutch economy in 2009. However, as a result of the upswing in international trade, the Netherlands was able to recover quickly and achieve positive economic growth in 2010.

Statistics on international trade in commodities show the value and volume of goods crossing the Dutch border. Approximately 9,500 commodities and around 250 trading partners are distinguished. Figures are published on a regular and timely basis on the CBS website. This chapter looks at the main developments in international trade in goods, and places these developments into context by taking account of 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 2010 (CBS, 2010c). At that time, the consequences of the worldwide financial and economic crisis were just starting to become apparent in statistics. The most recent facts and figures can now be examined to illustrate the impact of the crises and the extent of the recovery.

Section 1.2 provides a broad overview of the trends in international trade in goods. We focus in particular on the 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, including

their technology content. Our top 5 most important partner countries are the focus of Section 1.5, which discusses the products that are traded with these countries and the role the Netherlands plays in their foreign trade. Finally, Section 1.6 describes the prevalence and concentration of trade in the Dutch enterprise population. The main conclusions and findings are summarised in Section 1.7.

1.2 Trends in trade during the economic crisis

The economic and financial crisis that led to a worldwide recession in 2009 also resulted in the greatest decline in world trade in over 70 years (WTO, 2010). While the value of world exports still grew by 15.6 percent in 2008, it contracted rapidly by 23.1 percent in 2009, as shown in Table 1.2.1. In 2010, world trade bounced back quickly with strong growth rates. In fact, the positive growth rates of 2010 were almost the mirror images of the negative rates of 2009. However, in terms of value, world exports and imports have not yet returned to 2008 levels.

1.2.1 Trade growth in percentages

	The Netherlands	US	EU 27	Germany	China	World
	%					
Imports						
2008	9.5	7.4	12.4	12.3	18.5	15.6
2009	–18.4	–26.0	–24.8	–21.9	–11.2	–23.1
2010	21.1	22.7	12.8	15.2	38.8	21.6
2011Q1*	18.4	18.7	19.2	19.8	32.7	n.a.
Exports						
2008	7.6	12.1	10.9	9.6	17.4	15.1
2009	–16.5	–18.0	–22.6	–22.7	–16.0	–22.6
2010	20.1	21.0	12.1	13.2	31.3	23.1
2011Q1*	16.1	18.2	18.9	17.8	26.4	n.a.

Source: Data on the Netherlands: CBS, Statline, International trade statistics, core figures (extracted: 24-8-2011). Data on other countries: WTO, http://www.wto.org/english/res_e/statis_e/daily_update_e/monthly_trade_e.xls.

The period from late 2008 to 2010 was eventful for the Netherlands in terms of international trade in goods. Both imports and exports contracted strongly in 2009, by 18.4 and 16.5 percent respectively. However, compared with other countries, the decrease in Dutch foreign trade turned out to be less than the average. For example, countries in the EU 27, such as Germany, experienced declines of over 20 percent. Dutch exports returned to their pre-crisis levels in 2010. Imports had decreased more strongly during the crisis but have shown better growth rates than exports since.

Compared with the EU 27, the decline in Dutch external trade as a result of the economic crisis was less than average

International trade in services was affected somewhat differently by the economic crisis. Dutch imports of services did not contract at all but continued to grow in 2009, although at a slower pace than in previous years. In terms of growth, services imports increased by 2.0 percent in 2009. Dutch exports of services did decline significantly in 2009, i.e. by 4.7 percent. However, services exports bounced back strongly in 2010, by 9.3 percent. Imports of services grew more moderately in 2010, i.e. by 3.5 percent. As such, the impact of the economic crisis was much more severe on trade in commodities than on trade in services (see also Chapter 2 for trends in international trade in services).

Because of its geographical location, the Netherlands is perfectly positioned as a gateway to Europe for goods arriving from all over the world. As such, re-exporting is an important and valuable activity for the Netherlands, amounting to almost 45 percent of total Dutch exports. Table 1.2.2 shows that re-exports stopped growing back in 2008. This indicates that the European economy, receiving the bulk of these re-exports, was already slowing down in terms of import demand, or that customers were supplied from stock. However, the decline in re-exports in 2009 was much less severe than that of domestically-produced exports.

1.2.2 Dutch international trade in goods

	Imports		Exports		Of which			
					Domestic exports		Re-exports	
	billion euro	*%*	*billion euro*	*%*	*billion euro*	*%*	*billion euro*	*%*
2004	228.2	10	255.7	9	144.7	6	110.9	13
2005	249.8	9	281.3	10	159.3	10	122.0	10
2006	285.4	14	319.0	13	179.0	12	140.0	15
2007	307.3	8	347.5	9	192.2	7	155.3	11
2008	335.9	9	370.5	7	215.7	12	154.8	–0
2009	274.0	–18	309.4	–16	171.9	–20	137.5	–11
2010	331.9	21	371.5	20	206.7	20	164.8	20
2011Q1*	90.9	18	101.2	16	58.0	21	43.2	10

Source: CBS, Statline, International trade in goods statistics (extracted: 24-8-2011).

International trade in goods is an important source of economic growth for the Netherlands. Graph 1.2.3 illustrates the importance of trade by depicting trade flows against GDP over the past two decades. Between 2001 and the first quarter of 2011, exports of goods as a share of GDP were, on average, 56 percent compared with 46 percent in the 1990s. In fact, this share had even increased to almost 67 percent in the first quarter of 2011. This is far more than for most other countries (Daems and Ramaekers, 2009). The net contribution of trade to GDP, the trade balance, has also risen over the past 20 years, from almost 3.6 percent of GDP in 1990 to over 7.9 percent in the first quarter of 2011.

1.2.3 Trade in goods as a share of Dutch GDP

Source: CBS, Statline, National Accounts (extracted: 24-8-2011)

The decline in trade also had a significant impact on Dutch economic growth. The crisis caused Dutch GDP volume to contract by 3.5 percent in 2009, and when orders and investments slowed down, unemployment reached a peak in February 2010 with 452 thousand unemployed, or some 5.8 percent of the labour force (CBS, 2011b).

As of the first quarter of 2010, both Dutch GDP and trade started to grow again. Increasing export levels were the main driving force behind the economic growth of 1.7 percent in 2010 and 2.8 in the first quarter of 2011 (see Table 1.2.4). Consumption grew only slightly in 2010, and investments were still decreasing. A strong recovery in China and other developing Asian countries, and their renewed demand for investments, resources and materials were key factors behind this upswing. In this period, unemployment in the Netherlands decreased only moderately and seems to have levelled off at around 5 percent in the first six months of 2011 (CBS, 2011d).

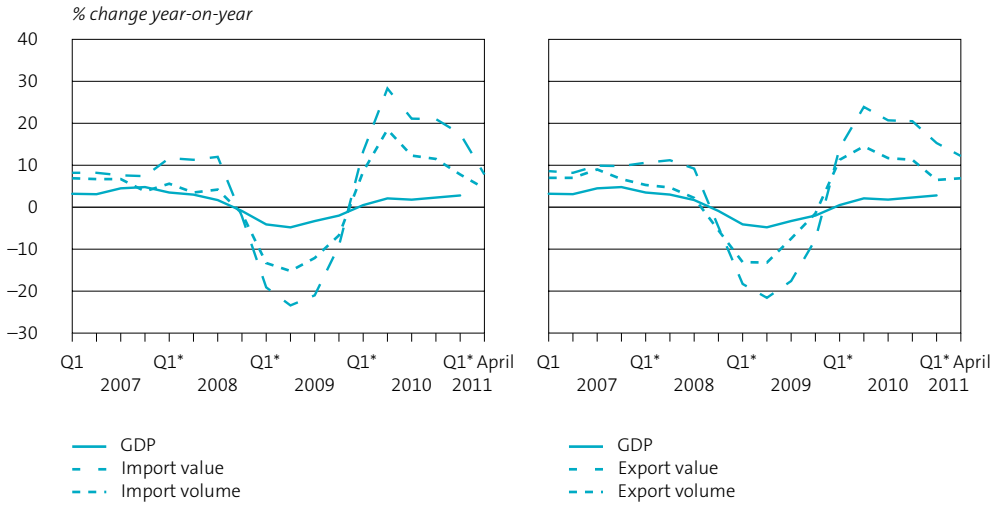
1.2.4 Breakdown of Dutch economic growth (% change in volume compared with previous period)

	2009*	2010*	2011Q1*
	% change year-on-year		
Economic growth	–3.5	1.7	2.8
Consumption households	–2.6	0.4	–0.1
Consumption government	4.8	1.0	1.3
Investment	–10.2	–4.4	10.1
Export	–8.1	10.8	7.0
Import	–8.0	10.6	7.2

Source: CBS.

Imports and exports saw unparalleled growth in terms of value. In fact, in the second quarter of 2010, Dutch import value increased by a whopping 28 percent and export value by 23 percent, as Graph 1.2.5 shows. Even in terms of trade volume, 2010 saw double-digit growth rates.

1.2.5 Development of Dutch GDP: imports and exports (compared with the previous year in %)



Source: CBS, Statline, National Accounts (extracted: 24-8-2011)

Although economies are growing again and international trade has returned to its pre-crisis level, there are a number of worrying signs. While the value of imports and exports grew by double-digit figures in the first quarter of 2011, import and export prices also increased rapidly. Accordingly, not only is growth in trade in terms of value slowing down, but trade growth in terms of *volume* is slowing down even more so (see Graph 1.2.5). In April 2011, Dutch export volume increased by 7 percent while imports grew by 5 percent compared with April 2010. The circumstances that influence Dutch exports, such as the euro exchange rate, the economic situation in Germany, and producer confidence indices in the eurozone, deteriorated in June and July of 2011[1)]. Debt crises in several southern-European countries have also led to renewed uncertainty on financial markets.

1) CBS, Exportradar for July 2011, http://www.cbs.nl/nl-NL/menu/themas/dossiers/conjunctuur/cijfers/kerncijfers/exportradar.htm.

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 through the first quarter of 2011. The bulk of Dutch trade takes place with countries in the European Union. In 2010, over half Dutch imports originated from EU countries, and approximately 75 percent of Dutch exports were destined for an EU country. Compared with 15 years ago, the role of the EU in Dutch exports has changed relatively little, but in terms of imports the picture was somewhat different back then. In 1996, almost 65 percent of Dutch imports came from an EU country (at that time the EU comprised only 14 other member states, compared with 26 member states in 2010). The major reason for the declining importance of the EU is the rise of China and other emerging markets such as Russia. The share of imports from BRIC countries has quadrupled since 1996, from 4 percent to almost 16 percent or 52.7 billion euros in 2010. Dutch exports to BRIC countries are also increasing, but at a much slower pace and on a much lower level.

Dutch imports from BRIC countries quadrupled in the past 15 years

1.3.1 International trade in goods by partner country

	Import value				Export value			
	2008	2009	2010	2011Q1*	2008	2009	2010	2011Q1*
	million euro							
Total	335,921	274,020	331,908	90,914	370,480	309,359	371,541	101,179
EU	185,125	151,824	176,668	48,563	282,730	231,337	275,661	76,235
Belgium	33,896	27,452	31,864	9,184	42,967	34,619	41,265	12,391
Czech Republic	3,701	3,761	4,544	1,283	4,481	3,818	5,317	1,416
France	16,884	13,591	14,438	4,184	32,375	27,484	32,489	9,309
Germany	64,622	52,537	58,914	15,155	90,618	75,225	90,269	24,221
Hungary	2,004	1,845	2,154	478	2,725	2,108	2,321	616
Italy	7,962	6,322	7,163	2,043	19,608	16,007	18,596	5,308
Poland	3,938	3,595	4,624	1,265	7,261	5,948	7,378	1,991
Spain	5,988	4,799	7,037	1,775	12,730	10,512	12,604	3,204
United Kingdom	21,224	17,648	22,130	6,002	33,586	25,879	29,651	7,965
Other EU	24,906	20,274	23,801	7,193	36,379	29,739	35,772	9,814
BRIC	45,200	37,853	52,707	14,531	13,208	11,783	14,545	4,026
Brazil	4,854	3,893	4,397	1,188	1,231	1,109	1,797	378
China	25,000	21,948	31,001	7,834	3,852	4,589	5,391	1,649
India	2,309	2,385	3,287	934	1,565	1,667	1,717	448
Russia	13,036	9,628	14,023	4,574	6,559	4,419	5,640	1,552
Non-EU (excl. BRIC)	105,597	84,343	102,533	27,821	74,542	66,238	81,335	20,918
Japan	9,492	7,251	9,274	2,720	2,945	2,381	3,190	722
United States	27,042	22,995	25,055	6,133	16,472	13,928	16,875	4,290
Rest of world	69,063	54,098	68,204	18,968	55,125	49,929	61,271	15,906

Source: CBS, Statline, International trade in goods (extracted: 24-8-2011).

1.4 Products traded

Table 1.4.1 specifies which goods were imported, exported and re-exported between 2008 and the first quarter of 2011. With 100.1 billion euro, imports of machinery and transport equipment formed the bulk of Dutch imports in 2010, followed by mineral fuels (60.0 billion euros) and chemicals (51.0 billion euros). Combined, these three categories accounted for almost 64 percent of Dutch imports in 2010.

1.4.1 Imports, exports and re-exports of commodities, by SITC classification

	Import value				Export value				Re-exports as a share of exports			
	2008	2009	2010	2011Q1*	2008	2009	2010	2011Q1*	2008	2009	2010	2011Q1*
	billion euro								*%*			
Total	335.9	274.0	331.9	90.9	370.5	309.4	371.5	101.2	42	44	44	43
Food and live animals	27.0	25.7	28.3	8.2	42.1	40.2	45.2	11.8	25	25	25	25
Beverages and tobacco	3.1	3.2	3.3	0.8	6.1	5.9	6.2	1.6	13	12	11	13
Crude materials, inedible ex. fuels	13.9	9.8	13.3	4.0	18.1	15.4	19.1	5.6	31	27	34	32
Mineral fuels, lubricants, related materials	61.1	43.0	60.0	18.7	56.8	38.3	51.0	16.4	18	24	26	30
Animal and vegetable oils, fats and waxes	3.3	2.2	2.7	0.8	4.0	3.0	3.0	0.9	27	20	21	22
Chemicals and related products	48.5	44.0	51.0	12.1	66.0	59.3	70.6	17.7	36	43	35	32
Manufactured goods classified by materials	38.7	28.3	33.6	9.6	35.3	26.7	33.2	9.3	38	37	41	42
Machinery and transport equipment	102.0	83.0	100.1	26.2	107.4	88.3	106.5	27.8	62	64	64	60
Miscellaneous manufactured articles	37.3	33.8	37.8	10.2	32.7	30.5	34.6	9.5	68	69	70	71
Commodities not classified elsewhere	1.0	1.1	1.6	0.2	1.9	1.8	2.2	0.5	7	21	56	48

Source: CBS, Statline, International trade in goods (extracted: 24-8-2011).

The breakdown of Dutch exports is quite similar to that of imports, with machinery and transport equipment, chemicals and mineral fuels as the largest categories. The share of re-exports was the highest for miscellaneous manufactured articles and machinery and transport equipment. What is remarkable is the declining share of re-exports in chemicals and related products, dropping from 43 percent in 2009 to 32 percent in the first quarter of 2011.

Another way of looking at the type of goods traded by the Netherlands is to classify them according to the level of technology embodied in a product. This classification was developed by Martins and Opromolla (2009) and is based on Loschky (2008). Table 1.4.2 shows the breakdown of Dutch trade in terms of technology level, and developments over time. Table 1.4.3 shows which goods belong to which category.

1.4.2 Breakdown of Dutch trade in terms of technology

	Import value		Export value		Import value		Export value	
	1997	2010*	1997	2010*	1997	2010*	1997	2010*
	billion euro				*%*			
Total	157.4	332.2	171.4	371.2	100	100	100	100
High-tech products	43.3	104.1	42.7	113.8	27	31	25	31
Medium to high-tech products	36.8	58.1	43.0	72.7	23	17	25	20
Medium to low-tech products	39.8	108.1	36.1	99.0	25	33	21	27
Low-tech products	37.4	61.5	49.0	84.5	24	18	29	23
Unclassified	0.2	0.6	0.6	1.2	0	0	0	0

Source: CBS.

1.4.3 Breakdown of technology categories

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
Low	Pulp, paper, paper products, printing and publishing	47-49
	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).

In 1997, the breakdown of Dutch imports was relatively equally divided among the four categories, with high-tech products making up the highest share. By 2010, this balance had shifted somewhat in favour of high-tech products and medium to low-tech products. Almost one third of Dutch imports consisted of high-tech imports and a similar percentage applied to medium to low-tech products in 2010. This development can be related to the kind of goods involved. As mentioned above, the Netherlands is an active trader in, and re-exporter of fossil fuels such natural gas, crude oil and derivates. The Netherlands also specialises in storing and refining these products. Fossil fuels are an important component of medium to low-tech commodities. As regards high-tech imports, the development of new technologies, such as cellular phones, video cameras, memory storage devices and computer components, plays an important part in this increase. Trade in pharmaceuticals and medical equipment has also become more important in recent years, and are also classified as high-tech.

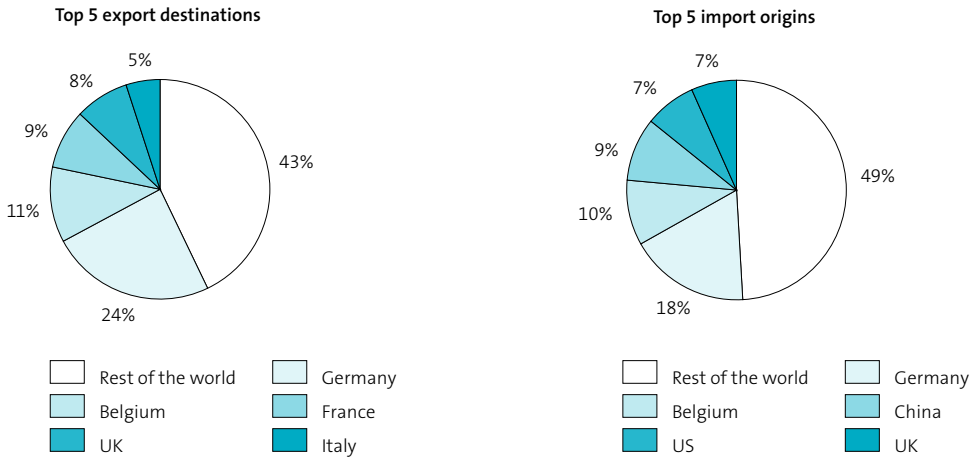
In relative terms, the imports of medium to high-tech products and low-tech products have declined significantly since 1997. The key commodities involved in the decline in the first category are cars, motorcycles and other transportation vehicles as well as electric machines and household appliances. Low-tech imports that have declined in importance since 1997 were clothes and apparel, recycled paper, pulp, cardboard and cellulose. Low-tech products are likely not to be the most expensive products and are subject to serious international competitive pressure. As a result, this decline might seem more dramatic while in terms of import volume, the decline is actually less pronounced.

In terms of exports, the low-tech products category used to be the largest. This had changed by 2010 and Dutch exports consisted, for the greater part, of high-tech products. The development was the same for Dutch exports as described above for imports, i.e. high-tech and medium to low-tech products became more important, whereas medium to high-tech and low-tech products decreased relative to total Dutch exports. Medium to low-tech exports that have become more important since 2010 are mainly mineral fuels and to some extent crude materials. High-tech exports that have increased in importance since 1997 are, for the greater part, pharmaceuticals and ‘new technology’ items such as cellular phones, video cameras, televisions, computer components etc. Re-exports play an important role in this development. Table 1.4.1 shows that re-exporting is particularly high in the machine, transport equipment and manufactured articles categories.

1.5 A closer look at the top 5 partner countries

Graph 1.5.1 shows the Netherlands' five main trading partners in terms of imports and exports. For both flows, Germany and Belgium are, and have been for a long time, the most important trading partners. In 2010, about one third of Dutch trade was conducted with these two neighbouring countries.

1.5.1 Netherlands' top trading partners, 2010



Source: CBS, Statline, International trade in goods (extracted: 24-8-2011)

Trade in crude oil and petroleum products plays the main role in Dutch trade with these countries, as shown in Tables 1.5.2 and 1.5.3. Around 9 and 15 percent of Dutch exports to Germany and Belgium respectively consisted of these commodities in 2010. About 18 percent of Dutch imports from Belgium also comprised crude oil or petroleum products. Other similarities in trade patterns are the importance of road vehicles, and organic chemicals in imports from Germany and Belgium. The main products traded with Germany are, however, medicinal or pharmaceutical in nature, such as vaccines and blood sera. Natural gas is an important export product for the Netherlands, which was not only destined for Germany and Belgium, but was also exported to the other three top 5 trading partners.

1.5.2 Top 5 import products from top 5 countries of origin (SITC 2), 2010

	Germany		Belgium		China		US		UK	
		billion euro								
	Total	58.9	Total	31.9	Total	31.0	Total	25.1	Total	22.2
1	Medicinal and pharmaceutical products	6.3	Crude or petroleum products	5.9	Office machines	9.8	Medicinal and pharmaceutical products	6.6	Crude or petroleum products	6.6
2	Road vehicles	4.6	Road vehicles	3.2	Telecommunications	5.4	Professional, scientific and controlling instruments	2.1	Medicinal and pharmaceutical products	2.0
3	Electric machinery	3.5	Organic chemicals	2.0	Miscellaneous manufactured articles	3.0	Miscellaneouss manufactured articles	1.7	Natural or industrial gas	1.6
4	General industrial machinery	2.4	Iron and steel	1.0	Electric machinery	2.7	Electric machinery	1.6	Office machines	1.5
5	Organic chemicals	2.3	Plastics in primary forms	1.0	Apparel and clothing	2.0	Organic chemicals	1.5	Road vehicles	1.1

Source: CBS, Statline, International trade in goods (extracted: 24-8-2011).

1.5.3 Top 5 export products to top 5 destination countries (SITC 2), 2010

	Germany		Belgium		France		UK		Italy	
		billion euro								
	Total	90.3	Total	41.3	Total	32.5	Total	29.7	Total	18.6
1	Crude or petroleum products	8.2	Crude or petroleum products	6.4	Office machines	3.2	Office machines	3.0	Office machines	1.8
2	Medicinal and pharmaceutical products	6.4	Organic chemicals products	3.9	Crude or petroleum	2.3	Telecommunications	2.4	Natural or industrial gas	1.8
3	Natural or industrial gas	5.5	Natural or industrial gas	2.9	Telecommunications	2.1	Crude or petroleum products	2.2	Telecommunications	1.2
4	Office machines	5.3	Miscellaneous manufactured articles	1.7	Natural or industrial gas	1.6	Vegetables and fruit	1.6	Electric machinery	1.2
5	Telecommunications	4.3	Office machines	1.6	Organic chemicals	1.6	Natural or industrial gas	1.4	Organic chemicals	1.1

Source: CBS, Statline, International trade in goods (extracted: 24-8-2011).

China is the third most important country of origin for Dutch imports. In 2007, the import value of Chinese goods surpassed imports from the US and in 2010, imports from China were 'only' 1 billion euros less than imports from Belgium. Computers and other office machines are the most important commodity imported from China, followed by telecommunication equipment, manufactured articles, other electric machinery, apparel and clothing. Only a few years ago, office machines and telecommunications were mainly imported from the US. Nowadays, imports from the US consist mainly of medicinal and pharmaceutical products, and professional and medical instruments, also used by the

healthcare sector. The UK is the fifth largest country of origin for Dutch imports. Mainly crude oil and petroleum products are imported from the UK.

In 2010, France and Italy ranked third and fifth in the top 5 export destination countries. Office machines and telecommunication products are important products exported to these countries, as shown in Table 1.5.3. Since the Netherlands imports many of these products from China, the share of re-exports in these flows to France and Italy is high.

Tables 1.5.4 and 1.5.5 show how important the Netherlands is for its top 5 trading partners in terms of commodities trade. In 2010, Germany was our main trading partner. And conversely, the Netherlands was the most important source country for Germany. Approximately 13 percent of German imports in 2010 came from the Netherlands, of which approximately half comprised re-exports[2)]. With 7 percent of German exports going to the Netherlands, we ranked third on the German list of top destination countries in 2010, behind France and the US.

The Netherlands plays a similar role in Belgian trade, being its number 1 country of origin and its third country of destination. Almost one fifth of Belgian imports came from the Netherlands (again, re-exports constituted a significant part; this share was 41 percent in 2009) and 12 percent of Belgian exports went to the Netherlands.

1.5.4 Importance of the Netherlands for the international trade of its top 5 export partners, 2010*

Reporting country	Importing from	million euro	Share in total (%)	Rank
Germany	Netherlands	106,750	13	#1
	World	804,737	100	
Belgium	Netherlands	55,767	19	#1
	World	294,519	100	
UK	Netherlands	30,377	7	#3
	World	422,491	100	
France	Netherlands	33,810	7	#4
	World	456,938	100	
Italy	Netherlands	19,473	5	#4
	World	364,950	100	

Source: Eurostat, Comext database (extracted: 17-6-2011).

2) In 2010, CBS conducted a study in which the exports to our main export partners were separated into domestically produced exports and re-exports. This study showed for instance that in 2009 almost half of total Dutch exports going to Germany consisted of re-exports. This study can be found on http://www.cbs.nl/nl-NL/menu/themas/internationale-handel/publicaties/artikelen/archief/2010/2010–3142-wm.htm and http://www.cbs.nl/NR/rdonlyres/D09FC4C6-5560-405C-835C-94C1A87F0B9E/0/3142T.xls.

1.5.5 Importance of the Netherlands for the international trade of its top 5 import partners, 2010*

Reporting country	Exporting to	million euro	Share in total (%)	Rank
Germany	Netherlands	63,164	7	#3
	World	957,135	100	
Belgium	Netherlands	37,042	12	#3
	World	310,947	100	
China [1)]	Netherlands	26,300	3	#6
	World	861,494	100	
US [2)]	Netherlands	26,355	3	#9
	World	964,218	100	
UK	Netherlands	24,006	8	#3
	World	306,045	100	

1) Figures extracted from http://www.census.gov/foreign-trade/balance/c4210.html#2010 and calculated in euros http://www.statistics.dnb.nl/index.cgi?lang=nl&todo=Koersen.
2) Figures refer to 2009, extracted from http://www.stats.gov.cn/tjsj/ndsj/2010/indexeh.htm and calculated in euros http://www.statistics.dnb.nl/index.cgi?lang=nl&todo=Koersen.

The Netherlands is the third largest trading partner for the UK, both in terms of imports and exports. Approximately 7 percent of UK imports are from the Netherlands and around 8 percent of UK exports are destined for our country. The UK mainly imports from Germany and China, and exports mostly to the US and Germany.

For France and Italy, the Netherlands is only an important partner country in terms of imports. The Netherlands ranked fourth on both countries' lists of top import partners in 2010. In terms of imports, China and the US were our third and fourth most important partner countries in 2010. However, the Netherlands is not so important for the US: we rank ninth on their list of export destinations and are surpassed by countries such as Canada, Mexico, China and Japan.

For China, the Netherlands is a strategic port of access to Europe. As such, we rank sixth on their list of destination countries. However, by no means are all imports from China destined for the Dutch market; a large portion is subsequently distributed to other EU countries. The US is the main export market for China, closely followed by Hong Kong. Hong Kong has a unique position in Chinese trade. Specialised in intermediary and financial services and benefiting from economies of scale and agglomeration, Hong Kong functions as a trade and transportation hub for goods from China's mainland (Sung, 2005).

1.6 Top traders

Only a small percentage of Dutch firms engage in international trade in goods, as can be seen in Chapter 9, Table 9.5.1. Around 11 percent of all Dutch enterprises exported goods in 2009, and roughly 17 percent imported goods. Gibcus, Snel and Verhoeven (2008) estimated that in 2007 about 9.5 percent of all Dutch firms were involved in export.

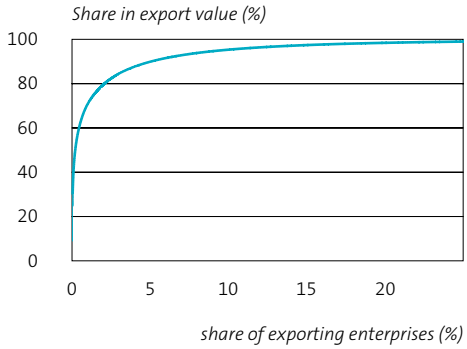
Not only is trade an activity for a select few enterprises, the bulk is concentrated among a very limited number of traders. Table 1.6.1 and Graph 1.6.2 show that the top 1 percent of traders accounted for almost 74 percent of the total Dutch import value and almost 71 percent of total exports in 2008. Looking at the top 10 percent of traders reveals that over 95 percent of trade is already accounted for.

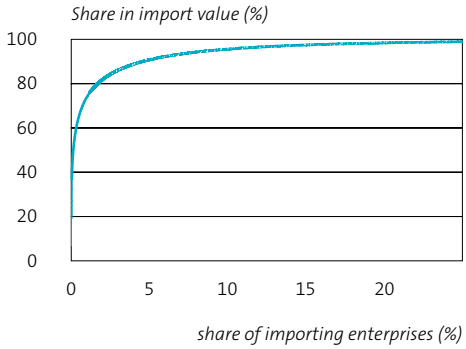
1.6.1 Top traders, 2008*

	Import value	Export value
Top 1%	73.9	70.8
Top 5%	90.7	89.9
Top 10%	95.6	95.4
Top 25%	98.9	99.0
Top 50%	99.8	99.9

Source: CBS.

1.6.2 Trade value depicted against population of traders, 2008





Source: CBS.

It might be concluded from these figures that international trade in goods is mainly an activity engaged in by the largest enterprises. However, this is not the case. A large portion of trade is carried out by SMEs. Chapter 9 in this Internationalisation Monitor further explores the role of enterprise size in international trade in goods.

1.7 Conclusion

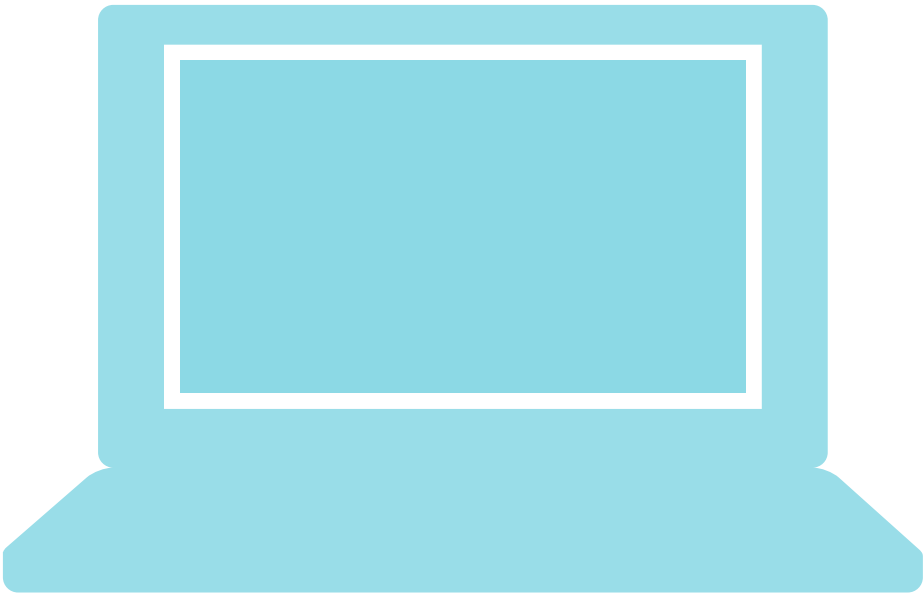
Dutch international trade in goods recovered strongly in 2010 from the preceding economic crisis, with imports growing by 21 percent and exports by one fifth. The first quarter of 2011 exhibits similar growth rates, but the outlook does seem to be changing. Other European countries are growing faster than the Netherlands. Additionally, import and export prices have undergone significant increases, indicating that in terms of volume, trade is not increasing as much. Caution against too much optimism that the crisis is over, might be the best approach.

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

Machinery and transport equipment, chemical products and mineral fuels form the bulk of Dutch trade. Combined, these three commodity categories accounted for 64 percent of Dutch imports and 62 percent of exports in 2010. The share of re-exports is also quite high, particularly for machinery and transport equipment, indicating that the majority of this trade is not produced in the Netherlands.
Classifying goods according to their level of technology shows that imports and exports used to be in equilibrium (i.e. almost as much trade in high-tech as in low-tech goods). In 2010, this balance shifted in favour of high-tech commodities such as (interactive) cell phones, (video) cameras, computer equipment etc, and in favour of medium to low-tech products such as mineral fuels and natural resources materials. However, growing re-exports play an important role in this development.

Trends in international trade in services

2



Trends in international trade in services

Trade in services is becoming more and more important. Over the last 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), this is mostly due to the difficulties associated with transferring services. The aim of this chapter is to provide more information about recent trends in the Dutch international trade in services, including the impact of the economic crisis.

2.1 Introduction

Modern economies are nowadays 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). Although the share of services in GDP has increased steadily over time, services account for only about a fifth of world trade and this share has been quite stable since the mid 1990s (Nordås, 2010).
This is a reflection of the difficulties associated with transferring services. For example, many services must be consumed at or near the place of production and only a limited number of services can be shipped in a box or transferred via internet or telephone. Dutch international trade in services reflects these international trends: while the value of services exports increased during the period 2004–2008, the share of services in total Dutch exports remained approximately 20 percent (CBS, 2010c). In this chapter, we supplement the information on the trends published in the previous Internationalisation Monitor with data for the years 2009 and 2010, allowing an analysis of the effects of the economic downturn and subsequent recovery for Dutch international trade in services.

To monitor the trends in international services we start with a broad overview of the developments in the Dutch international trade in services (section 2.2). The breakdown of the Dutch international trade in services per services category can be found in section 2.3, with a focus on 'transportation' in section 2.4. Information on the largest import and export services markets and the upcoming trading partners for the Netherlands is presented in 2.5 and 2.6. Section 2.7 examines the role of the Netherlands in the services trade of several of our main trading partner countries. Finally, section 2.8 contains the summary and conclusions.

2.2 Developments in 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.

Export of services recovered remarkably in 2010

2.2.1 shows the overall Dutch imports and exports of international trade in services for seven successive years, illustrating - amongst others - the impact of the economic downturn and subsequent recovery. This is particularly apparent for the exports of services, which declined with 4 billion euros between 2008 and 2009, resulting in a negative annual growth rate of –4.7 percent in 2009. The services category 'transportation' was with a decline of 3.4 billion euros for a large extent responsible for this decrease. The export of the international trade in services recovered remarkably in 2010, resulting in an annual growth rate of 9.3 percent. The services 'royalties and license fees', 'communication services', 'insurance services' and 'travel' provided the largest contribution to the increase between 2009 and 2010.

The effects of the economic crisis and recovery are less severe for the imports of services. They continued to grow each year, although the annual growth rates were relatively modest in 2009 (2.0 percent) and 2010 (3.5 percent), compared to earlier years. The increase between 2009 and 2010 was driven by growth rates of at least 10 percent in each of the four services categories 'transportation', 'communication services', 'insurance services' and 'royalties and license fees'.

2.2.1 Dutch imports and exports of international trade in services

	Imports		Exports	
	million euro	*annual growth rate (%)*	*million euro*	*annual growth rate (%)*
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 [1)]	80,735	3.5	89,569	9.3

Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

[1)] Revised provisional figure.

The effects of the economic recession and recovery were larger for international trade in goods than for trade in services. For example, trade in goods showed a much larger decrease for imports (–18 percent) as well as for exports (–16 percent) compared to trade in services in the period 2008–2009. This was followed by a stronger recovery in 2009–2010, in which it was shown that imports and exports of goods increased with 21 and 20 percent respectively (see also Chapter 1 for trends in trading goods). Hence, trade in services appears less susceptible to the world wide economic trends than trade in goods. This can also be seen in the share of international services in the total Dutch imports as well as exports. In 2009, the share in the imports rose with nearly 4 percentage points to 22.2 percent and that in the exports with nearly 2 percentage points to 20.9 percent. During the economic recovery in 2010, these increases were reversed to percentages observed before the recession.

2.3 Composition of Dutch international trade in services, specified per services category

2.3.1 shows the import and export values for each services category. For 2010 the trade balance was also added to the table. Figures 2.3.2 (imports) and 2.3.3 (exports) illustrate the recent trends in trade of the four largest services categories ('transportation', 'travel', 'royalties and license fees' and 'other business services') in 2010.

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

	2004		2005		2006		2007		2008		2009		2010 [1]		
	I	E	I	E	I	E	I	E	I	E	I	E	I	E	TB
Total	64.1	68.3	67.9	74.0	69.2	77.0	71.7	81.5	76.5	85.9	78.0	81.9	80.7	89.6	8.8
Transportation	11.0	15.6	12.0	17.3	14.9	19.8	15.2	20.0	15.4	21.1	12.9	17.7	14.3	19.1	4.8
Travel	13.2	8.3	13.0	8.4	13.6	9.0	13.9	9.7	14.8	9.1	14.8	8.9	14.8	9.8	–5.0
Communication services	2.3	2.7	2.6	3.0	3.0	3.0	2.8	3.1	2.7	3.1	2.7	3.2	3.2	3.7	0.6
Construction services	0.9	1.7	1.1	2.2	0.9	1.8	1.0	1.8	1.2	2.2	1.5	2.1	1.6	2.1	0.5
Insurance services	0.6	0.3	0.6	0.4	0.7	0.4	0.8	0.4	0.8	0.5	0.7	0.4	0.8	0.5	–0.3
Financial services	1.0	0.8	1.3	0.9	1.5	1.2	1.7	1.2	1.5	1.1	1.2	1.1	1.2	1.0	–0.2
Computer and information services	2.5	3.0	3.0	3.0	3.5	3.9	4.0	4.7	3.9	4.6	4.1	4.4	4.0	4.7	0.7
Royalties and license fees	6.9	8.7	6.9	8.2	6.1	8.2	7.3	10.0	9.8	13.4	13.1	15.0	14.9	18.2	3.3
Other business services	24.3	24.9	25.9	28.4	23.7	27.4	24.0	28.2	25.4	28.5	25.7	26.9	25.0	28.1	3.1
Personal, cultural and recreational services	0.7	0.6	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.0
Government services n.i.e.	0.7	1.6	0.7	1.5	0.6	1.7	0.6	1.8	0.5	1.9	0.6	1.8	0.6	1.9	1.3

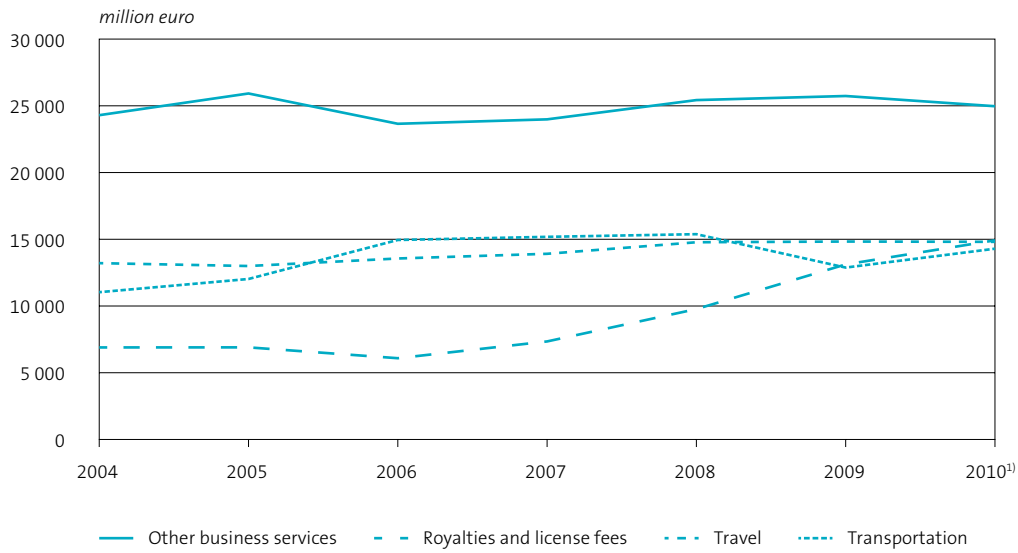
Source: CBS, International Trade in Services Statistics (extracted 8-7-2011). I = Import value; E = Export value; TB = Trade balance (E minus I).

[1] Revised provisional figure.

The Netherlands has had a consistent services trade surplus in the period 2004–2010, ranging from 4.2 billion euros in 2004 to 8.8 billion euros in 2010. The services categories 'transportation' and 'royalties and license fees' provided the largest contributions to this trade surplus in 2010 with a positive trade balance of 4.8 and 3.3 billion euros respectively. The services 'travel', 'insurance services' and 'financial services' were the three services with a trade deficit, of which 'travel' had the largest deficit with 5.0 billion euros in 2010. This means that there were more services and goods obtained by Dutch travellers in foreign countries than by foreign travellers in the Netherlands.

The services category 'other business services' was by far the largest group in Dutch services imports as well as exports in the period 2004–2010, see also 2.3.2 and 2.3.3. This category of services is extremely diverse and includes for example merchanting, operational leasing services, advertising and research and development. However, for imports as well as for exports approximately 50 percent of this category could be ascribed to the category 'services between affiliated enterprises not included elsewhere (n.i.e)'.

2.3.2 Trends in total Dutch import values by the four largest services categories in 2010



Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

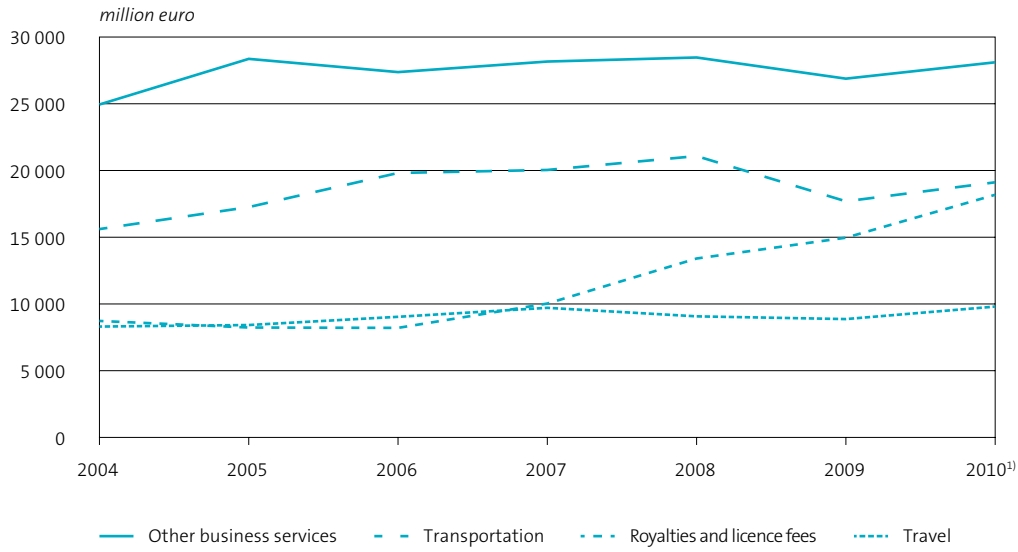
[1)] Revised provisional figure.

In 2008, 'transportation' was the second largest service for imports as well as for exports. However, for imports it dropped to a fourth place in 2010 due to a decrease in trade in

this services category since 2008 and a considerable rise in the 'royalties and license fees' category from 2006 onwards. For exports, 'transportation' remained the second largest service in 2010.

The services category 'royalties and license fees' has grown remarkably since 2006 and has become the second most important service in Dutch imports and the third most important service in exports in 2010.

2.3.3 Trends in total Dutch export values by the four largest services categories in 2010



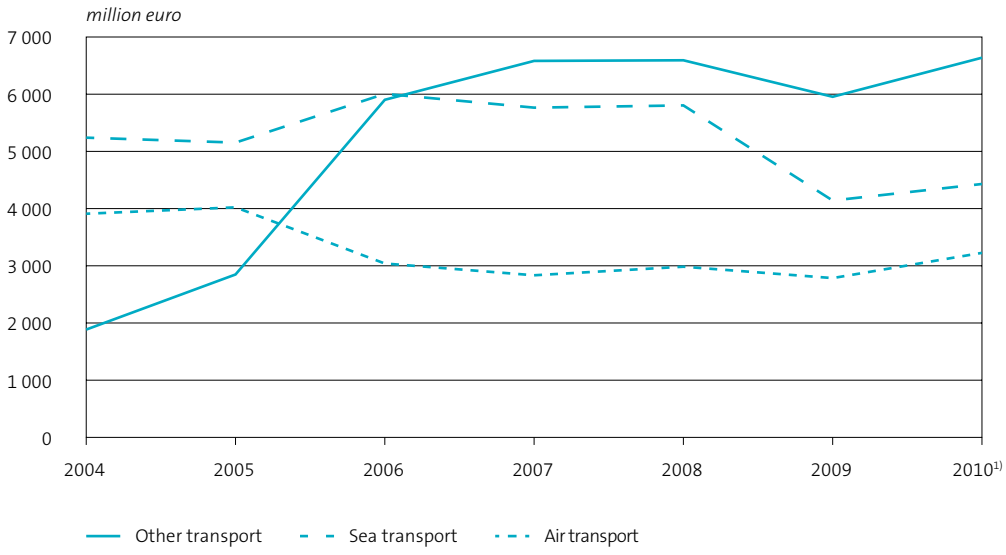
Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

1) Revised provisional figure.

2.4 The Dutch international trade in services broken down for the services category 'transportation'

In 2.4.1 and 2.4.2, the Dutch import and export values of the services category 'transportation' are broken down into 'sea transport', 'air transport' and 'other transport'. The service 'other transport' contains all transportation services concerning transport of passengers and freight by road, rail and inland waterway and transport by pipeline and electricity transmission and other supporting and auxiliary transport services.

2.4.1 Trends in total Dutch import values broken down for the services category 'transportation'



Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

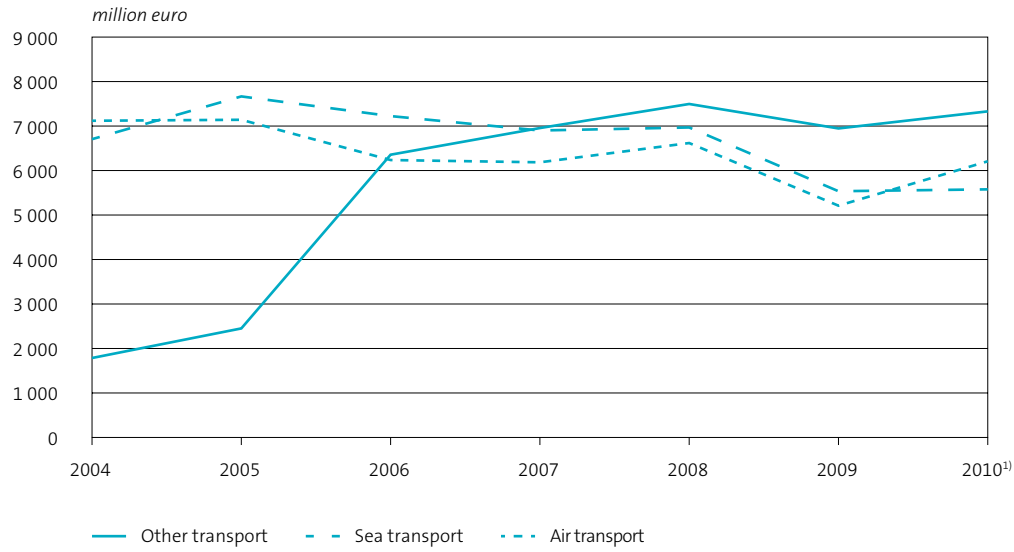
[1)] Revised provisional figure.

These 'other transport' services grew substantially in the period 2004–2006, both with respect to imports and exports, making it the largest category of trade in 'transportation' (again both for imports and exports). This increase could mainly be ascribed to the growth of freight transport by road.

During the economic downturn in 2008–2009, the imports of the category 'sea transport' showed the largest decrease of the three categories and dropped with almost 30 percent. For imports of 'air transport' services only a decline of 7 percent was recorded. Exports of 'sea transport' and 'air transport' services were reduced by 21 percent between 2008 and 2009. In particular 'air transport' showed a relatively stronger recovery in the subsequent period, both for imports and exports.

More information about international traffic and transport flows can be found in chapter 12 of this Internationalisation Monitor.

2.4.2 Trends in total Dutch export values broken down for the services category 'transportation'



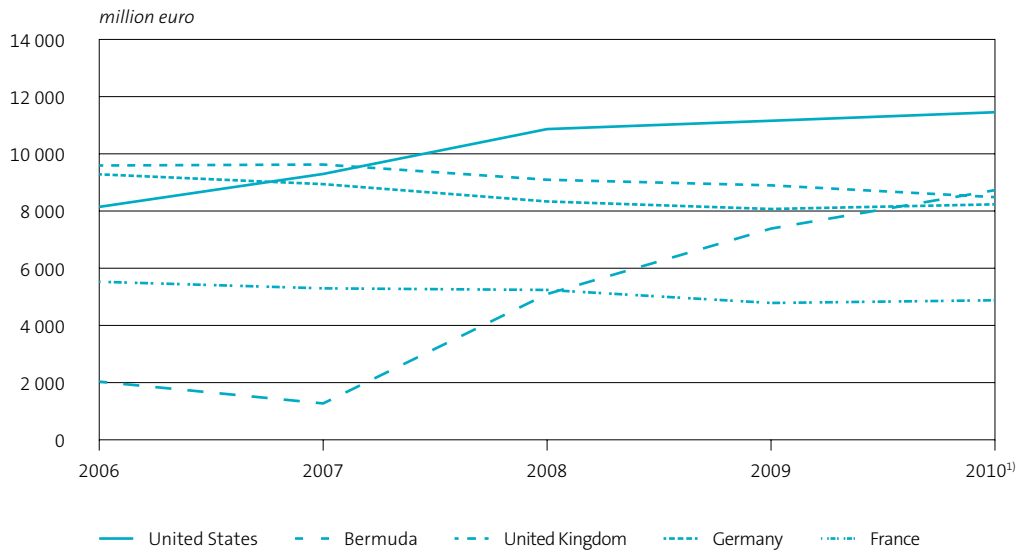
Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

[1)] Revised provisional figure.

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

In 2010, the United States was the largest import services market for the Netherlands with a trade value of more than 11 billion euros, see also 2.5.1. The rise in imports from the United States in 2008–2010 was mostly due to the category 'royalties and license fees'. Because of a tremendous increase from 2007 onwards, Bermuda became the second largest import market for the Netherlands with 8.7 billion euros. Bermuda was closely followed by the European trading partners United Kingdom and Germany.

2.5.1 Trends in total Dutch import values of services imported from the largest markets in 2010

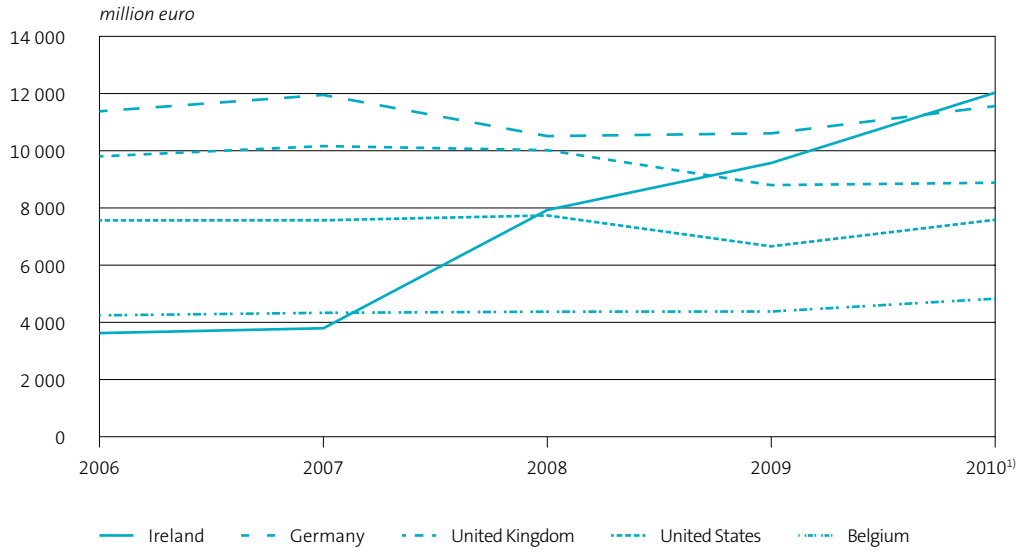


Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

[1)] Revised provisional figure.

Ireland was the most important export destination for the Netherlands with more than 12 billion euros in 2010, see also 2.5.2. This number one position was mainly caused by an increase in the export of 'royalties and license fees' since 2007. With an export value of 11.6 billion euros, Germany was the second largest export services market for the Netherlands in 2010. The United Kingdom and the United States were also present in the top five of main trading partners. However, trade with these two countries decreased between 2008 and 2009, mainly due to reductions in 'transportation' and 'other business services'.

2.5.2 Trends in total Dutch export values of services exported to the largest markets in 2010



Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

[1)] Revised provisional figure.

2.6 The top four largest upcoming trading partners by growth

We analysed which countries showed the largest growth rates in imports and exports of Dutch services between 2006 and 2010, 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 (400 million euros) or exports (450 million euros) in 2006 were included.

Bermuda was the largest upcoming trading partner concerning services imports. This is due to an increase from 2 to 8.7 billion euros in the period 2006–2010, which represents a growth of almost 330 percent. Ireland was, with a growth of nearly 200 percent, the second largest upcoming trading partner, mainly due to an increase in the service 'royalties and license fees'. Russia and Switzerland had growth rates of more than 40 percent, mostly due to increases in 'other business services'. The overall growth of Dutch services imports was almost 17 percent between 2006 and 2010.

2.6.1 The four largest upcoming trading partners by growth

	Imports				Exports		
	2006	2010 [1]			2006	2010 [1]	
	million euro		*growth rate (%)*		*million euro*		*growth rate (%)*
Bermuda	2,034	8,730	329	Ireland	3,624	12,032	232
Ireland	659	1,961	198	Switzerland	2,431	4,470	84
Russia	550	802	46	Finland	632	1,065	69
Switzerland	2,665	3,762	41	Brazil	740	1,166	58

Source: CBS, International Trade in Services Statistics (extracted 8-7-2011).

[1] Revised provisional figure.

Threshold for countries: only the countries with a minimum trade value of 0.5 percent of total Dutch services imports (400 million euro) or exports (450 million euro) in 2006 were included.

Concerning services exports, Ireland was the largest upcoming trading partner with a growth of 232 percent in the period 2006–2010. Again, the services category 'royalties and license fees' contributed the most. Switzerland was, with a growth of more than

80 percent, the second largest upcoming trading partner. This was mainly caused by the services category 'other business services'. For Finland and Brazil growth rates of respectively 69 and 58 percent were observed in 2006–2010. The services category 'computer and information services', contributed the most to Finland's growth, whereas 'other business services' was the largest contributor for Brazil. The overall growth of Dutch services exports in this period was 16 percent.

Exports: Ireland largest upcoming trading partner

Dutch services imports from and exports to the upcoming BRIC countries (Brazil, Russia, India and China) increased tremendously from 2004 to 2008. In addition, the share of the Dutch services imports value from BRIC countries amounted 5.8 percent in 2008, whereas the share of the Dutch export value to BRIC countries rose to 6.3 percent in 2008. However, for imports as well as for exports this share declined to 4.6 percent in 2010, mainly due to a decrease in the imports and exports of 'other business services' from and to Brazil.

2.7 The position of the Dutch international trade

2.7.1 and 2.7.2 give an overview of the Dutch share in services exports for Germany, the United States, the United Kingdom and France. These countries were important for the Dutch services import in 2010[1)]. For all four countries the export of services to the world increased between 2004 and 2009. In the same period, the exports of services to the Netherlands increased as well for Germany and the United States. However, the Dutch share in the total services exports of the United Kingdom and France slightly decreased with 0.8 and 0.7 percentage point, respectively.

1) All the data for this section are from Eurostat, for the latest year available (2009). Since no detailed country information was available for Bermuda, this country was excluded from the analyses in this section.

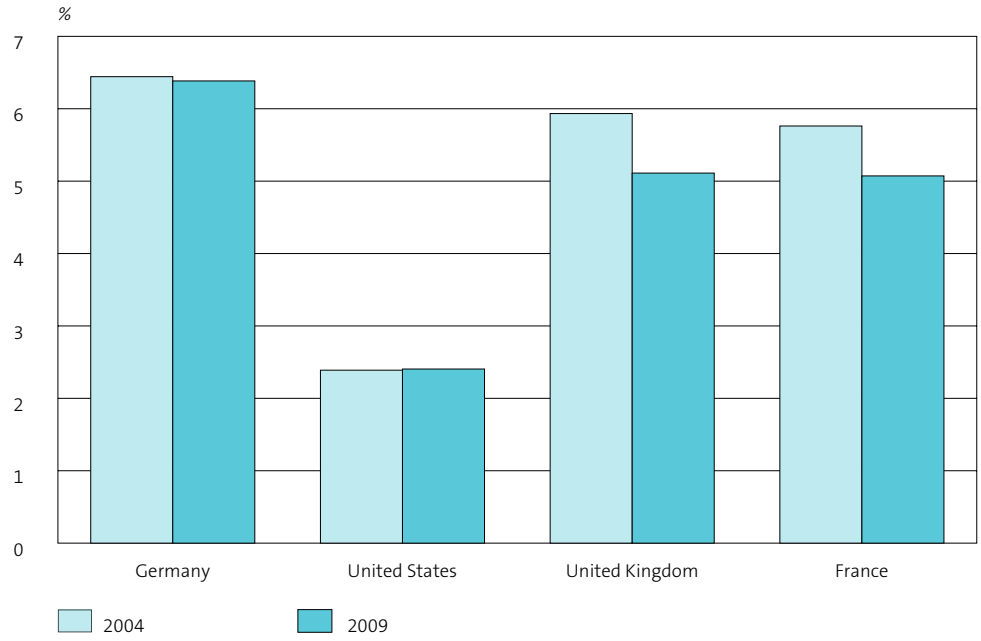
In 2009, Germany exported the most to the Netherlands with nearly 10.6 billion euros. This represents 6.4 percent of the total German services exports, making the Netherlands the fourth most important services export destination for Germany, after the United States (12 percent), United Kingdom (12 percent) and Switzerland (10 percent). The United States exported more than 8.5 billion euros to the Netherlands in 2009, putting the Netherlands at an eleventh position in it's top services export markets with a market share of 2.4 percent.

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

Country	Export to	2004	2009
		million euro	
Germany	World	118,670	165,837
	The Netherlands	7,646	10,587
United States	World	269,484	356,947
	The Netherlands	6,438	8,584
United Kingdom	World	159,106	166,690
	The Netherlands	9,441	8,520
France	World	92,422	102,914
	The Netherlands	5,325	5,220

Data derived from Eurostat (extracted 13-5-2011), reporting country is the source.

2.7.2 Services export market shares of the Netherlands on several important foreign markets



Data derived from Eurostat (extracted 13-5-2011), reporting country is the source.

2.7.3 and 2.7.4 give an overview of the Dutch share in services imports for several important partner countries. For all these countries, except the United Kingdom, the total imports of services from the world increased between 2004 and 2009. In the same period, it was observed that for all countries the imports from the Netherlands increased, except for the United States and the United Kingdom. As a result, the services import market shares of the Netherlands within the United States and the United Kingdom slightly decreased with 0.4 and 0.1 percentage point from 2004 till 2009.

In 2009, Germany imported the most from the Netherlands (11.3 billion euros, or a market share of 6.2 percent in total German services imports) compared to the other selected countries. For Germany the Netherlands was the fifth largest country concerning imports of services.

2.7.3 Total import values of services from the Netherlands and the world for several important foreign markets

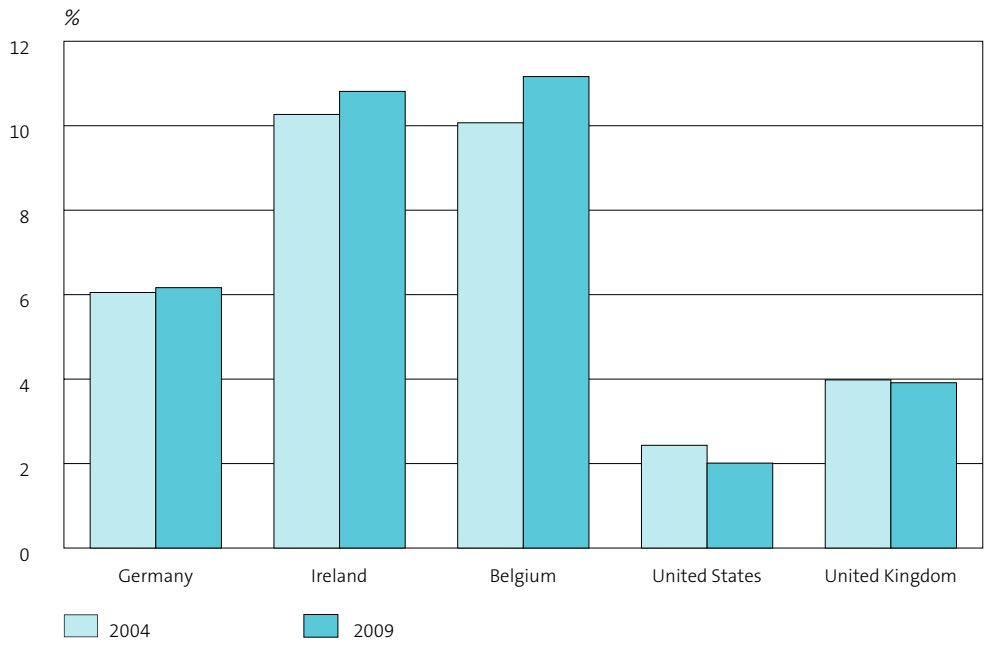
Country	Import from	2004	2009
		million euro	
Germany	World	158,384	182,804
	The Netherlands	9,584	11,271
Ireland	World	52,625	75,049
	The Netherlands	5,403	8,115
Belgium	World	39,475	52,626
	The Netherlands	3,975	5,875
United States	World	226,378	264,697
	The Netherlands	5,507	5,324
United Kingdom	World	120,658	117,635
	The Netherlands	4,804	4,604

Data derived from Eurostat (extracted 13-5-2011), reporting country is the source.

Ireland imported more than 8 billion euros from the Netherlands in 2009. This resulted in a Dutch market share of 10.8 percent in the total services imports of Ireland. Section 2.5 already showed that Ireland became the most important export destination for the Netherlands in 2010. In addition, with a top three position, the Netherlands was also a very important import country for Ireland concerning services.

Of these important partner countries, the Netherlands has the largest Dutch services import market share in Belgium. In 2009, more than 11 percent of the total services imports came from the Netherlands.

2.7.4 Services import market shares of the Netherlands on several important foreign markets



Data derived from Eurostat (extracted 13-5-2011), reporting country is the source.

2.8 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 exports of services, which decreased tremendously between 2008 and 2009. However, the export of services recovered remarkably in 2010. 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 to the years before. When the trends of the international trade in services were compared with the trends of the international trade in goods, it could be concluded that trade in services appears less susceptible to the world wide economic trends than trade in goods.

The services category 'other business services' is by far the largest group in Dutch imports as well as exports in the period 2004–2010. Although this category of services is extremely diverse, containing amongst others merchanting and operational leasing services, approximately 50 percent could be ascribed to 'services between affiliated enterprises not included elsewhere (n.i.e)'. Furthermore, especially trade in 'royalties and license fees' has grown remarkably since 2006 and is the second most important service in Dutch imports and the third most important service in exports in 2010. The service 'transportation' was the second largest service in Dutch exports in 2010. However, for imports this service dropped to a fourth place in 2010 due to a decrease in trade in this services category since 2008 and a considerable rise in the 'royalties and license fees' category from 2006 onwards. Among all 'transportation' services, the category 'other transport' was the largest one for imports as well as for exports in 2010.

In 2010, the United States was the largest import services market for the Netherlands with a trade value of more than 11 billion euros. For services exports, Ireland was the largest upcoming trading partner and, with 12 billion euros, also the most important export destination for the Netherlands in 2010. This number one position was mainly caused by a significant increase in the export of 'royalties and license fees'. In addition, the Netherlands was also a very important import country for Ireland concerning services.

Foreign direct investments and related employment

3

Foreign direct investments and related employment

3.1 Introduction

3.2 Recent developments in Dutch FDI

- Inward FDI flow turns negative in 2010 as a result of one-off factors
- Outward FDI flow on pre-crisis level
- FDI flows recovering worldwide
- Inward stocks decrease as a result of one-off factors, but outward stocks increase in 2010

3.3 Foreign Affiliate Statistics (FATS)

- Share of foreign controlled enterprises in the Dutch private sector increases
- On average, employment increases after a foreign takeover

3.4 Employment by foreign controlled enterprises from an international perspective

- Share of FCEs in total employment is the same in the Netherlands, Belgium and Denmark
- FCEs concentrate employment in manufacturing and wholesale
- French controlled enterprises employ relatively many people in the Netherlands

3.5 Conclusions and further research

Inward foreign direct investment is important for the Dutch economy because it generates considerable employment and value added in the private sector. The economic crisis affected FDI flows worldwide, but they are showing signs of recovery. The share of foreign controlled enterprises in employment in the Dutch private sector continues to increase. These enterprises employed 803 thousand people in 2009, whereas Dutch controlled enterprises abroad employed 2–2.5 million people. Foreign controlled enterprises employ the same share of the workforce in the Netherlands, Belgium and Denmark, but less in Germany and France. In general, they account for a high share of employment in manufacturing and wholesale, but a smaller share in retail. French controlled enterprises employ relatively many people in the Netherlands.

3.1 Introduction

Inward foreign direct investment (FDI) is important for the Dutch economy. One in seven employees in the Dutch private sector works for a foreign controlled enterprise. Furthermore, almost one-fourth of the added value in this sector is generated by foreign controlled enterprises. Similarly, Dutch enterprises have substantial investments abroad. As a result, the Netherlands has always ranked high in the UNCTAD Performance Indices for inward and outward FDI. For example, in the UNCTAD World Investment Report of 2009 there were six Dutch companies in the top 100 of non-financial Trans National Companies, including Shell, Philips Electronics and AkzoNobel.

If Special Purpose Entities (SPEs, see Box) are included, the Netherlands even ranks first in the world as regards the level of inward and outward foreign investment. This is one of the results of the IMF Coordinated Direct Investment Survey (DNB 2011). However, DNB notes that 'only part of the total amount reflects foreign direct investment that affects the Dutch real economy'. SPEs account for around 75% of total Dutch direct investment, but they do not affect the Dutch real economy. Part of the remaining 25% is channelled through the Netherlands without there being a link with the Dutch real economy as well.

FDI contributes to the GDP and the economic growth of the host country. In 2010, foreign affiliates of multinationals accounted for over one-tenth of global GDP (World Investment Report 2011). Foreign enterprises may introduce new organisational skills, new products and new production processes, which can be transferred to local firms, by, for example, labour migration. Furthermore, FDI contributes to the local capital stock, it drives competition, and creates local linkages and generates external trade (Fortanier 2008).

Foreign investors have a direct effect on employment, and the wages and labour conditions of their employees. UNCTAD estimates that in 2010, foreign affiliates of multinationals employed 62 million workers worldwide (World Investment Report 2011). In addition, their indirect (multiplier) employment effects may be substantial as a result of linkages with local suppliers and buyers. Foreign controlled enterprises in the Netherlands employed around 803 thousand people in 2009. They pay higher wages and attract more highly-educated employees than domestic enterprises (CBS, 2010c). However, their workers work more contract hours and put in more overtime per week (CBS, 2009).

This chapter starts with recent developments in Dutch FDI. More information on FDI can be found in Chapter 11 'Foreign direct investments'. In section 3 we focus on inward and outward Foreign Affiliate Statistics (FATS), which describe the activities of foreign controlled enterprises that reside in the Netherlands, and the activities of Dutch controlled enterprises in foreign countries, respectively. Subsequently, in section 4 employment at foreign enterprises is put into an international perspective. All sections pay special attention to the BRIC countries: Brazil, Russia, India and China. The chapter ends with conclusions and suggestions for further research.

FDI: definitions and methodology

The leading authority on FDI in the Netherlands is De Nederlandsche Bank (DNB), which collects, compiles and publishes data on incoming and outgoing FDI as part of the Balance of Payments in line with the IMF Balance of Payments Manual (IMF, 1993). DNB divides FDI into manufacturing (the sectors A up to F in NACE Rev. 2, which includes mining, quarrying and the metal industry, among others) and services (sectors G through S minus O, which includes trade, transport and the financial sector, among others). The economic sector for both Inward and Outward FDI, is that of the enterprise in the Netherlands that receives or makes investments, respectively.

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, p. 195 and p. 7, respectively). De Nederlandsche Bank does not include SPEs in detailed FDI statistics, but it does publish the Balance of Payments including the SPEs (and a version excluding SPEs). DNB pointed out that at the end of 2009, the Dutch figures excluding SPEs were approximately one-fourth of the figures that included SPEs (DNB 2011).

For more definitions and methodology see the introduction to Chapter 11.

The final data for this chapter were extracted on 12 August, 2011.

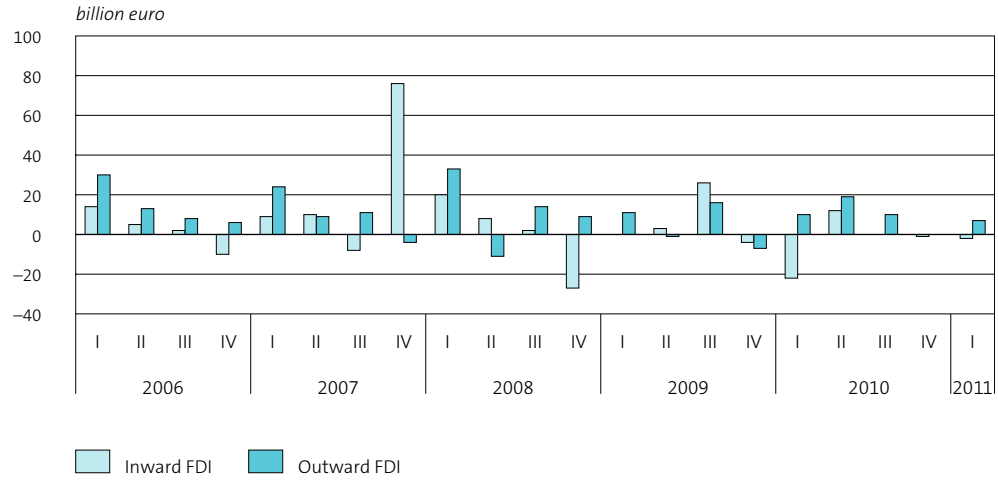
3.2 Recent developments in Dutch FDI

This section focuses mainly on recent developments. The long-term trends have been extensively discussed in the Internationalisation Monitor 2010, Chapter A3 'Trends in foreign direct investment'.

Inward FDI flow turns negative in 2010 as a result of one-off factors

The total Dutch inward FDI flow in 2009 was comparable with the mean flow of 21 billion euros in the 2002–2006 period, the years before the crisis. However, it turned negative in 2010 because of large disinvestments from Spain and the United States as a result of one-off factors. Inward FDI flows increased sharply in the fourth quarter of 2007, largely due to the purchase of ABN AMRO by Santander, Fortis and the Royal Bank of Scotland. On the other hand, inward FDI flows decreased substantially in the fourth quarter of 2008 because the Dutch part of Fortis was taken over by the Dutch government.

3.2.1 Quarterly Dutch FDI flows



Source: De Nederlandsche Bank.

Outward FDI flow on pre-crisis level

During the economic crisis, Dutch outward FDI flows declined to 19 billion euros in 2009. However, one year later the outward flow doubled to 38 billion euros. Graph 3.2.1 shows that this is the same magnitude as in 2007 and 2008. The fluctuations in the outward flows were mainly caused by EU countries. The outward flow to non-EU countries remains relatively stable at around 20 billion euros a year during the 2005–2010 period, with 2007 as the exception. This differs from outward FDI of the European Union as a whole: outflow from the European Union to non-EU countries declined from 551 billion euros in 2007 to 107 billion euros in 2010 (Eurostat 2011).

FDI flows recovering worldwide

FDI flows are recovering worldwide, but they are still 15 percent below the pre crisis average. UNCTAD predicts that they will approach the 2007 peak in 2013. It reasons that 'The record cash holdings of TNCs, ongoing corporate and industrial restructuring, rising stock market valuations and gradual exits by States from financial and non-financial firms' shareholdings, built up as supporting measures during the crisis, are creating new investment opportunities for companies across the globe'(World Investment Report 2011).

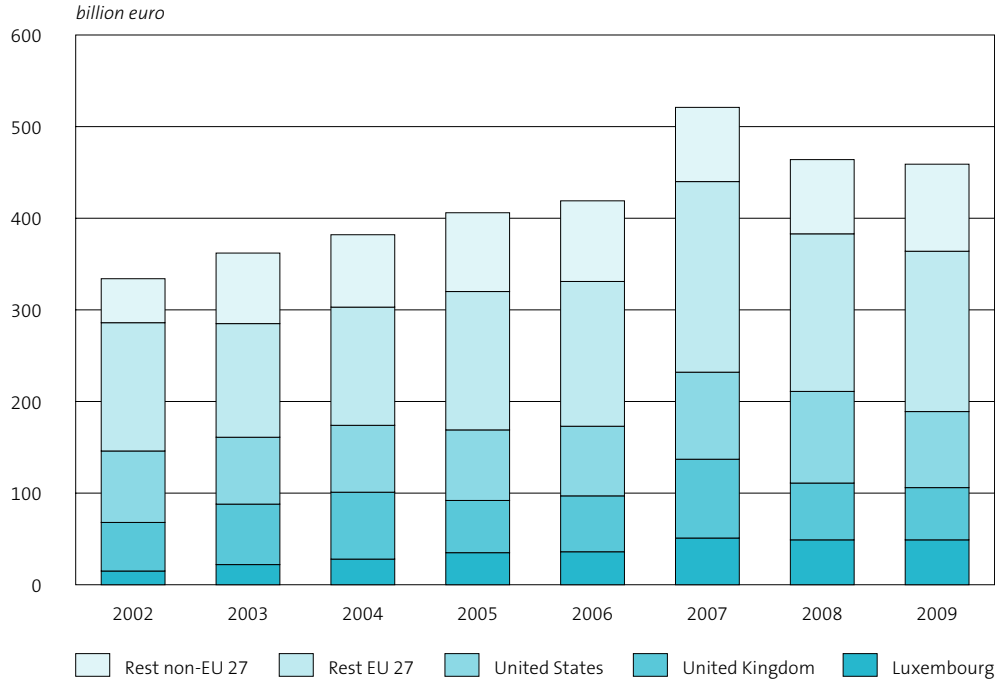
Inward stocks decrease as a result of one-off factors, but outward stocks increase in 2010

Although inward stocks decreased in 2009 and 2010, they did not decrease as much as in 2008. Again, it should be noted that a large part of the decrease in 2008 was the result of the Dutch government acquiring the Dutch part of the Belgian company Fortis. This caused a substantial decline in incoming investments from Belgium. In 2009 the inward flows were positive, but another component of the change in stocks, namely 'other mutations' (such as goodwill write-off), caused the total change in inward stocks to become negative. Outward stocks rose in 2009 after a temporary standstill in the previous year. They continued to rise in 2010.

We now turn to the distribution of Dutch FDI to and from countries. More detailed information on this subject can be found in 'Dutch FDI by country' in Chapter 11.

Graph 3.2.2 shows the three countries that have the most investments from the Netherlands: the United States, the United Kingdom and Luxembourg. The stocks of FDI from Luxembourg tripled between 2002 and 2009.

3.2.2 Dutch inward FDI stocks, major countries

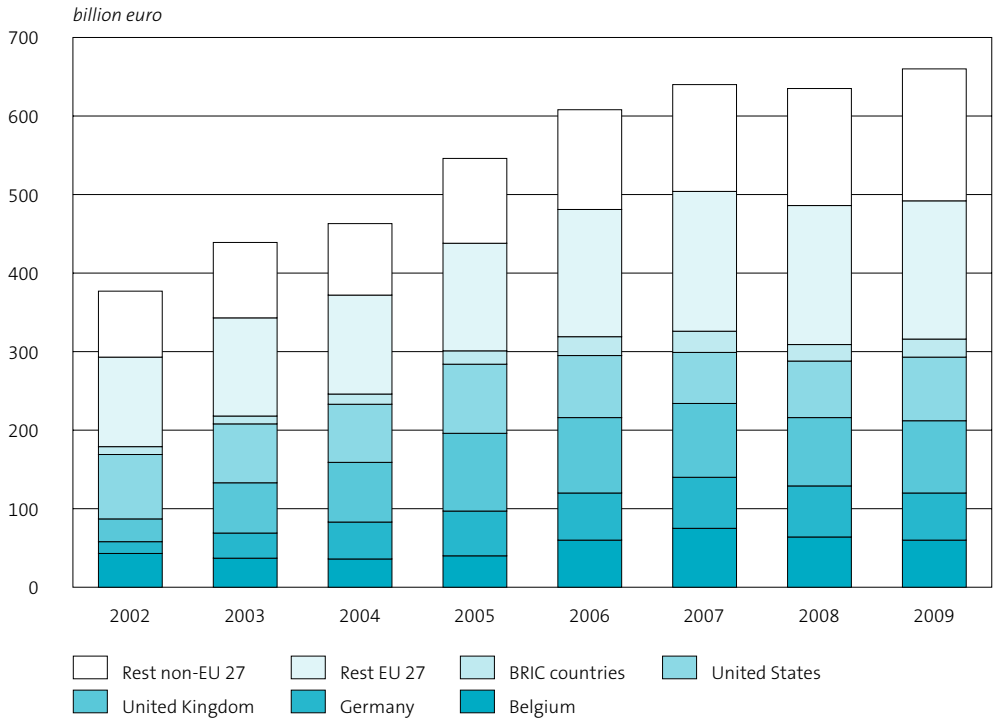


Source: De Nederlandsche Bank.

In the same period, the share of the BRIC countries in inward FDI stocks changed little. In 2009 it amounted to 0.1 percent, or 637 million euros, of total Dutch inward FDI stocks.

Graph 3.2.3 shows the four countries that have the most investments in the Netherlands: the United Kingdom, the United States, Germany and Belgium. Stocks of Dutch FDI in Germany and in the United Kingdom increased fourfold and threefold respectively in the 2002–2009 period. But stocks of Dutch FDI in the United States and Belgium remained roughly the same. The general trend for BRIC countries is that their share in Dutch outward FDI stocks is increasing. In 2009 it amounted to 3.5 percent, or 23 billion euros, of total Dutch outward FDI stocks. In particular the stocks of Dutch investments in China rose in recent years.

3.2.3 Dutch outward FDI stocks, major countries



Source: De Nederlandsche Bank.

Both inward and outward FDI are distributed approximately fifty-fifty between the manufacturing and the services sectors. The distribution of Dutch FDI among the economic sectors changed little in recent years, with one exception. The financial sector was affected more than FDI in most other sectors, which reflected a worldwide trend (World Investment Report 2011). However, note that the most important reason for fluctuations in inward stocks in that sector were the purchase of ABN AMRO by foreign enterprises, and the subsequent purchase of the Dutch part of Fortis by the Dutch government. More detailed information on trends in Dutch FDI by sector can be found in 'Dutch FDI stocks by economic sector' in Chapter 11.

3.3 Foreign Affiliate Statistics (FATS)

Foreign affiliate statistics (FATS) present detailed data on the activities of foreign affiliates, e.g. employment levels, turnover and value added. Inward FATS cover the private sector excluding the financial sector, the outward FATS cover the whole private sector. Note that FATS data only concern a sub-set of the entities involved in FDI, as explained in the Box.

Table 3.3.1 displays the inward FATS, which describe the activities of foreign controlled enterprises resident in the Netherlands. Control is defined as the ability to determine the general policy of an enterprise by appointing appropriate directors, if necessary (FATS regulation, article 2, 2007).

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

	2001	2002	2003	2004	2005	2006[1)]	2007	2008[1)]	2009
	%								
Number of enterprises	0.7	0.8	0.7	0.7	1.2	1.1	1.0	1.0	1.0
Number of persons employed	11.9	13.5	12.9	14.0	14.5	13.9	13.4	14.8	14.9
Turnover	23.7	25.1	25.3	27.1	26.7	29.9	29.4	30.9	30.9
Value added at factor costs	17.5	20.5	19.2	20.9	20.5	23.4	22.3	23.7	23.3
Gross fixed capital formation	16.9	19.2	15.4	17.6	17.8	20.0	20.6	22.0	22.9

Source: CBS, Inward FATS.

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

Share of foreign controlled enterprises in the Dutch private sector increases

The general trend is an increase in the share of foreign controlled enterprises in the Dutch private sector. In 2009, these enterprises generated a quarter of the added value in the private sector, which is one-and-a-third as much as in 2001. It amounts to 13 percent of the GDP against factor costs. It follows from the table that the average foreign controlled enterprise employs more people than a domestic controlled enterprise, and that its turnover is higher. Foreign controlled enterprises also display higher labour productivity, a difference that remains after correcting for size and economic sector of the enterprise (Fortanier and Van de Ven, 2009).

In 2009, around 803 thousand people were employed by foreign controlled enterprises. This is 3 thousand fewer than in 2008, but employment at Dutch controlled enterprises

decreased even more. Therefore, the share of employment at foreign controlled enterprises increased slightly. This share also increased during the 2001–2005 period, but decreased in the two years after that period. This decrease was not because these enterprises employed fewer people; in fact their employment levels grew. It was because the number of people employed by Dutch controlled enterprises rose even faster than at their foreign counterparts.

Bruls and Leufkens (2011) discuss the countries where the units that control the enterprises (UCI) in the Netherlands are located. They note that in 2008, the United States was the largest 'foreign employer'. In the EU, French and German controlled enterprises are the largest employers in the Netherlands. They also observed that the share of foreign controlled enterprises in the manufacturing industry turnover was 46 percent. However, hardly any turnover was generated by foreign enterprises in the construction sector. More information can be found in the FATS table on Statline, the free online database of CBS.

Foreign enterprises employ 803 thousand people

There are several workforce-related reasons for foreign enterprises to choose the Netherlands. The country has a highly educated, productive workforce. Foreign enterprises also appreciate that Dutch professionals have a good command of foreign languages and are open to international matters. This follows from interviews with enterprises that had already invested in the Netherlands (AmCham 2010, NL EVD International 2011).

On average, employment increases after a foreign takeover

Fears are often expressed that the number of jobs at an enterprise may decrease following a foreign takeover. However, Urlings et al. (2011) show that employment after a takeover tends to grow by an average of two percent. They studied foreign takeovers in the Netherlands using employment data for 2000–2007 (more recent data were not available). They also showed that the continuous rise in employment levels at foreign controlled enterprises is mainly related to the number of jobs at previously Dutch-owned enterprises that are acquired by foreign owners.

FATS and FDI: differences

Employment as described by Inward FATS is not all employment related to inward FDI. Inward FATS only consider enterprises that are controlled by a foreign enterprise (with more than 50% of the voting power), whereas inward FDI considers enterprises where a foreign enterprise has 10% or more of the voting power. Therefore, the number of enterprises in Inward FATS will be less than the number of enterprises engaged in inward FDI, as will 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. The UCI of the second Dutch enterprise is then Dutch, so it is not included in the FATS. However, the direct investor is German, so it is included in the FDI.

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

Dutch controlled enterprises abroad employ about 2–2.5 million people

The Outward FATS describe the activities of Dutch controlled enterprises resident in a foreign country outside the European Union. Eurostat expects to have information on the activities of Dutch controlled enterprises inside the European Union by the autumn of 2011 as well. It will use the mirror statistics of the inward FATS collected by other member states. Using a similar approach, CBS estimates that Dutch controlled enterprises abroad employed 2–2.5 million people worldwide in 2009. This is a rough estimate because not all data are available and some data are less recent.

In the European Union, the country with the most employees at Dutch controlled enterprises was Germany. These enterprises employed about 400 thousand people in 2008. Other countries with at least 100 thousand employees at Dutch controlled enterprises were Poland, Spain, the United Kingdom, France and Romania. Because of a lack of data, it was not possible to determine whether Belgium should also be included in the list. About two thirds of employees at Dutch controlled enterprises worked in the European Union.

Outside the European Union, the United States accounted for by far the most employees at Dutch controlled enterprises. More than one third of the workforce of Dutch controlled enterprises outside the European Union was employed here. The United States was followed by China and Brazil. India and Russia, the other two BRIC countries, were also in the top ten. One fifth of the workforce outside the European Union was employed in one of the BRIC countries.

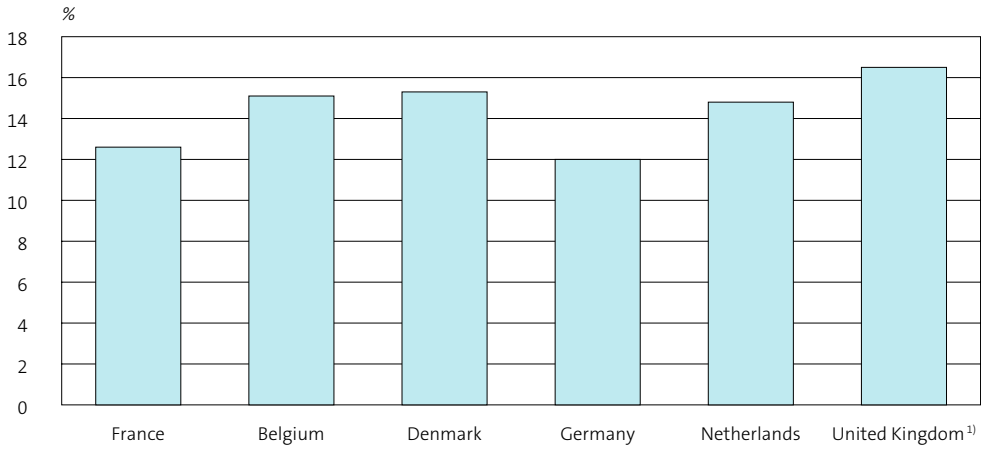
3.4 Employment at foreign controlled enterprises from an international perspective

This section places employment at foreign controlled enterprises (FCEs) in the Netherlands in an international perspective by comparing it with the following European countries: Belgium, Denmark, France, Germany, and the United Kingdom. The source data, Inward FATS from the Eurostat website, only refer to employment in the private sector excluding the financial sector. Therefore this also applies to this section. Because the data available only cover the 2006–2008 period, it is not possible to discern a general trend.

Share of FCEs in total employment is the same in the Netherlands, Belgium and Denmark

Graph 3.4.1 shows that a higher share of the workforce is employed at foreign controlled enterprises in the Netherlands than in France or Germany. However, this share is the same as in Belgium and Denmark.

3.4.1 Share of people employed at domestic enterprises controlled by foreign parents, 2008

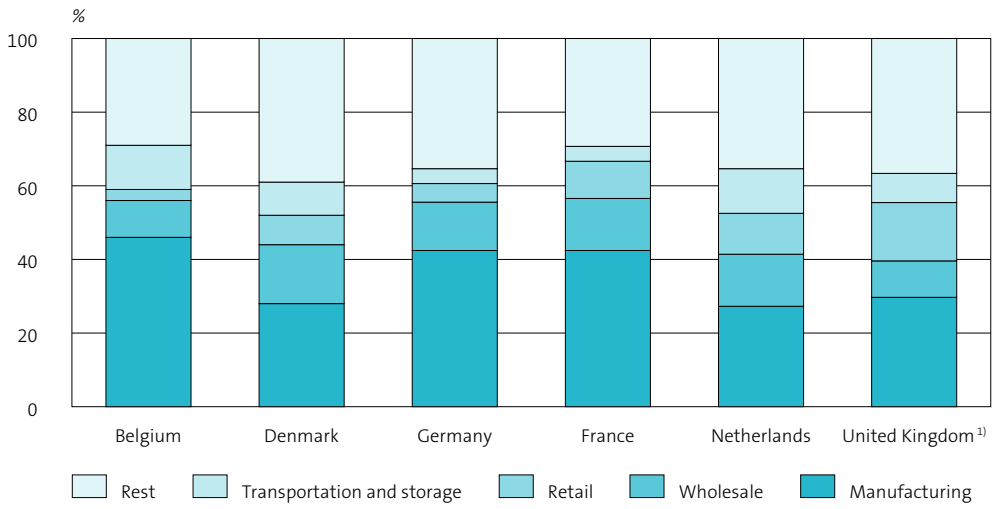


Source: adapted from Eurostat, Inward FATS.

1) United Kingdom data for 2007.

As can be seen in Graph 3.4.2, employment at foreign enterprises in the Netherlands is, compared with several benchmark countries, more concentrated in *transportation and storage*. The reason for this is that foreign enterprises control a larger part (as far as employment is concerned) of this economic sector in the Netherlands than in the other countries. It is not true that enterprises (domestic and foreign together) in this sector employ relatively more people in the Netherlands than in other countries. This is in spite of the image of the Netherlands as the 'Gateway to Europe'. The graph also shows that employment at foreign enterprises in the Netherlands is less concentrated in manufacturing than in other countries. This is not surprising. Data from Eurostat (not shown) show that the share of the manufacturing sector in the Netherlands in total employment is smaller than in most other countries, such as Germany.

3.4.2 Employment at foreign controlled enterprises, by economic sector, 2008



Source: adapted from Eurostat, Inward FATS.

1) United Kingdom data for 2007.

FCEs concentrate employment in manufacturing and wholesale

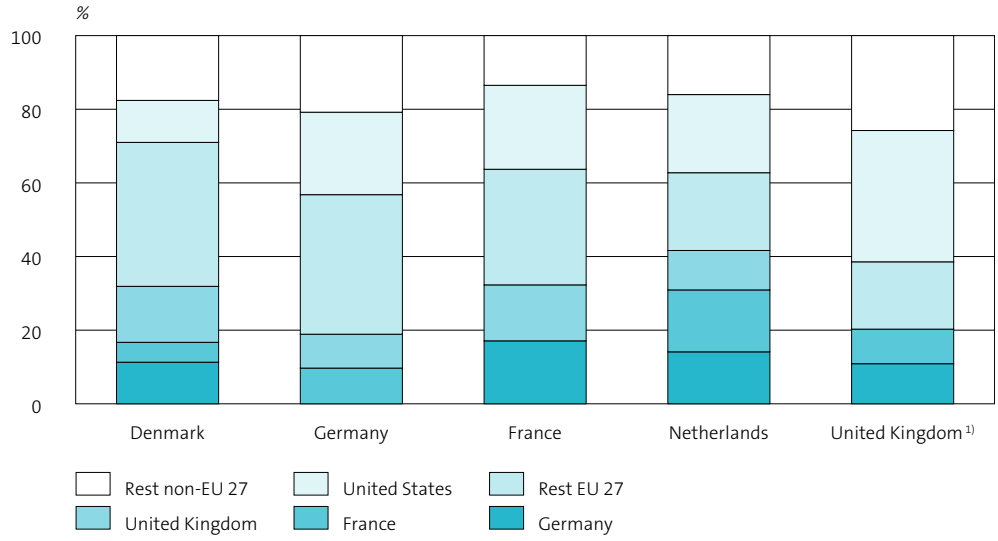
Other data from Eurostat (not shown) show that in every country, as regards total employment, the share of foreign controlled enterprises was high in the manufacturing and wholesale sectors. It is perhaps easier or more profitable to engage in these activities. Another explanation might be that the enterprises in these sectors are parts of global chains. In contrast, most employment in the retail sector was with domestic controlled enterprises. The average retail enterprise is not part of a global chain. Many retail enterprises are very small, such as bakeries. Therefore they are less interesting for large investors from abroad. Furthermore, every country still has its own large retail chains, such as Albert Heijn in the Netherlands, Carrefour in France and Sainsbury's in the United Kingdom.

French controlled enterprises employ relatively many people in the Netherlands

Graph 3.4.3 shows that French controlled enterprises employ more people in the Netherlands than in other countries. However, the share of enterprises from other EU countries is larger in other countries than in the Netherlands. For example, in Denmark

Swedish controlled enterprises are responsible for a quarter of employment at foreign enterprises. Not surprisingly, in the United Kingdom the employment at enterprises with an American parent is far higher than in the other countries in graph 3.4.3. Just as in inward FDI, the share of the BRIC countries remains small. Both in the Netherlands as in the benchmark countries, Brazil, Russia, India and China together employed less than 20.000 persons. That is around 2 percent of the total workforce at foreign controlled enterprises in the Netherlands.

3.4.3 Employment at foreign controlled enterprises, by controlling country, 2008



Source: adapted from Eurostat, Inward FATS.

1) United Kingdom data for 2007.

3.5 Conclusions and further research

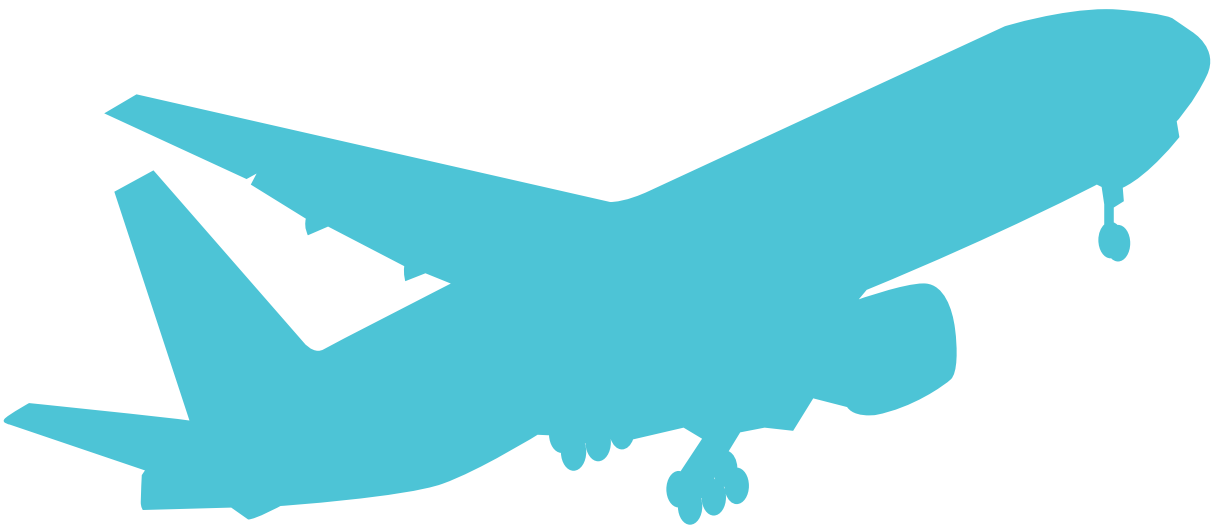
Both Dutch inward and outward FDI flows declined during the economic crisis. The inward flow in 2009 was comparable with that before the crisis; in 2010 it was negative because of one-off factors. The outward flow in 2010 was twice as high as in the previous year.

The share of foreign controlled enterprises in total employment in the Dutch private sector continued to grow, even during the crisis. In 2009, these enterprises employed about 803 thousand people. The Netherlands has relatively more jobs at these enterprises than Germany and France. However, in smaller, similar economies like Belgium and Denmark, the share of foreign controlled enterprises in total employment is about the same. Dutch controlled enterprises abroad employed about 2–2.5 million people in 2009.

Only limited information is available on enterprises that engage in FDI. The inward and outward FATS yield detailed information such as turnover, number of employees, number of enterprises, but the population they describe is different from the population in the FDI statistics. It is not known which enterprises are part of a multinational and which are not. Therefore CBS conducted an analysis to determine the whole population of enterprises with investments abroad (Lemmers 2011). It enables researchers to compare not only foreign enterprises with domestic enterprises, but also to compare foreign enterprises with domestic multinationals. It may be that the reason for the differences in productivity and wages is not the foreign control, but being part of a multinational. The newly constructed dataset is already being used in several projects, for example in 'A closer look at re-exports', a joint research project of CBS and the CPB Netherlands Bureau for Economic Policy Analysis. In general, enterprises that re-export tend to have more often foreign investments than enterprises that only export products 'made in Holland'.

Trends in labour immigration to the Netherlands

4



Trends in labour immigration to the Netherlands

The process of internationalisation is not only reflected in increased international trade and investment flows, but also in the increased movement of people across borders, often to take on jobs abroad (labour migration). Between 2000 and 2008, labour immigration to the Netherlands displayed a v-shaped trend, decreasing to a low of 32 thousand in 2004, and rising to 59 thousand in 2008. This trend mirrors the development of Dutch unemployment rates in this period. Many labour immigrants are Dutch nationals, and most likely returning emigrants. Poles accounted for the second largest group of labour immigrants in 2008. Almost 20 percent of labour immigrants of non-Dutch nationality work for a foreign-owned enterprise. In particular, Japanese (54 percent), Chinese (26 percent) and American (21 percent) labour immigrants tend to work at enterprises from their respective countries of origin.

4.1 Introduction: labour migration in context

The process of internationalisation is not only reflected in increased international trade and investment flows, but also in increased movement of people across borders, often to take on jobs abroad (labour migration). The free flow of people has been in place in the European Union since 1992. Cross-border labour migration is expected to increase in the coming decades, as an aging population leads to an absolute decrease in the working population (15–64 years) by one million in the Netherlands (CBS, Bevolkingstrends 2011). Labour migration may help to alleviate labour shortages.

Labour immigration may result from a person's own initiative or is instigated when a company attracts foreign employees. In both cases, it has an effect on the national labour market and provides enterprises with a growing pool of potential employees. The goal of this article is to examine trends in labour immigration to the Netherlands, and the characteristics of labour immigrants.

Section 4.2 describes the Dutch labour immigration in relation to the main labour market developments. Subsequently, a breakdown of labour immigration by nationality can be found in section 4.3. Sections 4.4 and 4.5 detail labour migration inflow by economic sector and the demographic characteristics of labour migrants. A regional breakdown, by province, of labour immigration is given in section 4.6. Section 4.7 examines the characteristics – in particular foreign ownership – of enterprises for which labour migrants

work and analyses the link between the nationality of the migrant and an enterprise's country of origin. Section 4.8 summarises the main findings .

labour immigration: definitions and methodology

The distinction between an immigrant and a visitor is defined according to the actual or intended duration of stay in the Netherlands, or by registering as a resident.
Labour immigration involves all immigrants who intend to stay in the Netherlands for more than 4 months, who register with the population register (GBA) and are employed within 12 months. Methodologically, defining a person as a labour migrant requires linking the population register (which includes information on migration status) with the Social Statistics Database, which includes the link between employees and their employers, to determine employment status. Self-employed migrants are excluded from the data.

4.2 Immigration developments and the labour market

The immigration trend to the Netherlands between 2000 and 2008 was v-shaped. Between 2000 and 2004 the number of immigrants decreased by 15 thousand from 47 thousand in 2000 to 32 thousand in 2004. In the subsequent four years the number of immigrants increased sharply to 59 thousand in 2008. Almost half were Dutch nationals returning to the Netherlands, and included people from the Netherlands Antilles and Aruba. The nationality of the immigrants also changed. Where in 2000 more labour migrants from non-EU countries moved to the Netherlands than migrants from EU countries, this later changed to a majority of EU migrants. The reason for this can be found in the enlargement of the EU which resulted in more migrants from new EU countries moving to the Netherlands.

4.2.1 Dutch labour immigration by nationality, 2000–2008

	Labour immigration by nationality of the employee			
	Netherlands	EU 26	Non-EU	Total
	x 1 000			
2000	18	14	15	47
2002	14	13	15	42
2004	12	11	9	32
2006	17	16	11	44
2008	27	17	15	59

Source: CBS, Demographic statistics.

Table 4.2.2 displays the immigration flows in relation to Dutch labour market developments over the same period. The trend for labour market developments is similar to that for immigration. Unemployment increased strongly between 2000 and 2004 and immigration declined. In the next four years immigration increased while unemployment fell and the employed labour force increased in size. This indicates that enterprises in the Netherlands meet their labour requirements to some extent with people from abroad.

4.2.2 Dutch labour force and labour immigration, 2000-2008

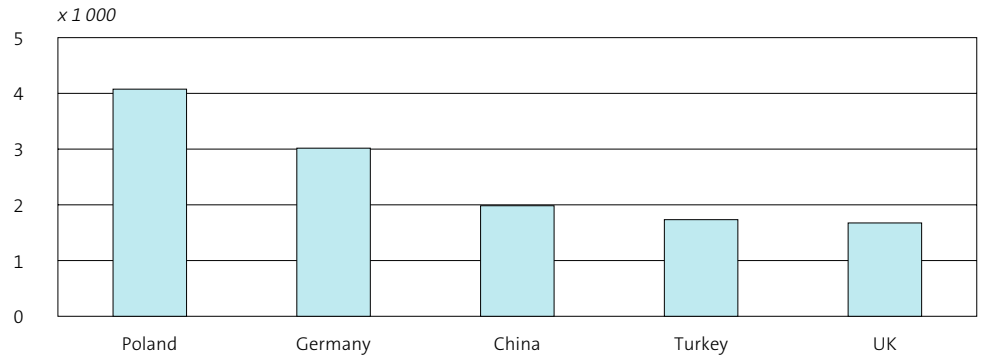
	Labour force		Vacancies	Employment growth	Labour immigration
	Employed	Unemployed			
	x 1 000				
2000	6 917	270	203	330	47
2002	7 010	302	150	93	42
2004	6 941	476	118	–69	32
2006	7 097	410	206	156	44
2008	7 501	300	240	404	59

Source: CBS, Labour Accounts.

4.3 Dutch labour immigration: a breakdown by nationality

Not only the number of immigrants changed over time, but also their country of origin. Where in the 2000 – 2006 period most labour immigrants were from neighbouring countries such as Germany, the UK and Belgium, Poland took the lead in 2008 with a share of 7 percent. As of 2007, changed legislation made it easier for Polish people to work abroad in the EU. The actual number of Polish workers is probably much higher, but most come for seasonal work and return home within a couple of months. As such they are not registered in the population register, and are not classified as labour migrants according to the definition. Moreover, the Polish labour immigrants who do stay, are not expected to stay here permanently. It is believed that almost 60 percent will return to their home country within the next ten years. The reason for this high percentage is because the economic situation in Eastern Europe is developing positively, and because of the free flow of employees within the EU, which means that labour migrants do not lose their right to migrate again when they re-migrate (Nicolaas, 2011).

4.3.1 Dutch labour immigration 2008: top 5 countries of origin



Source: CBS, Demographic statistics.

4.4 Immigrant distribution by sector

In addition to tracing the labour migration flows to the Dutch economy, we now look at the sectors and compare the figures with the overall Dutch labour force in 2008. It seems to be difficult for labour immigrants to find a steady job. More than a quarter of labour immigrants work in the *temporary employment agencies* sector, which is the largest sector and well above the Dutch labour force share of 7 percent of jobs in this sector. The second largest economic activity is *other business activities* and third is *trade and repair*. These figures are almost the same as in previous years.

In 2008, around 16 percent of the Dutch labour force was employed in *healthcare, social work and other services*. The share of labour immigrants in this sector is relatively low, which might be linked to language barriers or cultural differences. What is remarkable is the relatively high share of non-EU labour immigrants working in the *hotels and restaurants* sector compared with other labour immigrants, and with the Dutch labour market in general.

More than a quarter of the labour immigrants work at 'temporary employment agencies' sector

4.4.1 Dutch labour immigration in 2008 by economic activity and nationality

	Nationality				Dutch labour market 2008 breakdown by sector
	Netherlands	EU 26	Non-EU	Total	
	%				
Economic activity					
Agriculture, forestry, and fishing	1	3	2	2	2
Manufacturing	7	7	4	6	11
Construction	3	2	1	3	5
Trade and repair	12	11	9	11	16
Hotels and restaurants	6	7	12	8	4
Transport, storage and communications	6	4	2	4	6
Financial intermediation	3	2	3	3	4
Temporary employment agency	26	27	26	26	7
Cleaning service	3	3	7	4	2
Other business activities	14	18	20	17	10
Public administration	4	0	1	2	6
Education	3	6	5	4	7
Healthcare, social work and other services	7	3	2	5	16
Environment, culture and other services	4	3	3	3	4
Unknown	2	3	3	2	
Total 2000–2006	100	100	100	100	100

Source: CBS, Demographic statistics and Labour Accounts.

4.5 Labour immigrants: characteristics

Looking at the characteristics of labour immigrants – in particular at variables such as age and gender – compared with the overall Dutch labour force, we observe that immigrant employees tend to be relatively much younger than the overall Dutch labour force. For instance, half immigrant employees are under 30 years of age, compared with 26 percent of the overall Dutch labour force. The share of male immigrants is 22 percentage points higher than female immigrants, while this difference is only 10 percent for the Dutch labour force. The greatest difference between immigrant gender is to be found among non-EU migrants where two thirds are male.

4.5.1 Dutch international labour migration by age and gender 2008

	Labour immigration by nationality				Dutch labour market 2008 breakdown by sector
	Netherlands	EU 26	Non-EU	Total	
	%				
Under 20	5	3	2	4	7
20–30	40	51	51	46	19
30–40	28	29	33	30	24
40–50	18	12	11	14	26
50 and over	9	5	3	6	24
Male	63	54	67	61	55
Female	37	46	33	39	45
Total	100	100	100	100	100
Average age (in years)	33	31	31	32	

Source: CBS, Demographic statistics and labour statistics.

Table 4.5.2 gives a breakdown of labour contracts among immigrant employees compared with the overall Dutch labour force. Twenty percent of immigrant employees had a flexible contract as opposed to only 11 percent for the overall labour market. This is in line with the large number of immigrants who work through temporary employment agencies.

Part-time work is much less common among labour immigrants (30 percent compared with 40 percent for Dutch employees in general) although this is somewhat higher for labour immigrants of Dutch nationality.

4.5.2 Dutch international labour migration by labour contract, 2008

	Labour immigration by nationality				Dutch labour market 2008 Employee contracts
	Netherlands	EU 26	Non-EU	Total	
	%				
Full-time job	48	52	52	50	49
Part-time job	33	27	28	30	40
Flexible duration / hours[1)]	19	21	20	20	11
Total	100	100	100	100	100

Source: CBS, Demographic Statistics, Labour Accounts.

1) Mainly employees working through temporary employment agencies.

How labour markets adjust to fluctuations in the business cycle is reflected in the different kinds of labour contracts, and act as potential shock absorbers in monetary union. Labour market adjustment comprises wage flexibility and labour mobility. There are, in turn, several dimensions to labour mobility: geographic (or spatial) and non-spatial, proxied by job turnover, tenure and occupational mobility, which do not necessarily imply changing location. The flows into and out of the *other business activities* and *temporary employment agency* sectors are dynamic because they can be combined with all the other sectors in the Dutch economy, providing, in the process, flexibility, knowledge diffusion, and international orientation.

In addition to information on the type of labour contracts entered into by immigrant employees, Table 4.5.3 presents more details about their daily wage. There are differences in average daily wage among immigrant employees broken down by nationality in line with type of contract, sector, age, gender, or occupation, or all together. As a group, Japanese and American immigrants earn the highest average daily wage, and Japanese immigrants as a group earn by far the highest median daily wage. In particular, immigrant employees from the US and Japan tend to have full-time contracts. This and having the kind of occupation that generally requires high standards of education and skill, together with age, might explain this high average daily wage. Indian immigrants as a group also earn a relatively high average daily wage. This could be explained by their level of skills which are in demand. By comparison, Chinese immigrants earn on average half this amount, i.e. 81 euros per day. It seems that labour immigration from BRIC countries mainly involves highly skilled and high paid Indian workers, and less skilled and lower paid Chinese immigrants.

The lowest average daily wage is earned by labour immigrants from Morocco and the former Dutch colonies Surinam and Indonesia.

4.5.3 Dutch international labour migration by nationality and average daily wage, 2008

Nationality	Labour immigration by nationality of the worker		
	average daily wage	median	employees
	x 1 euro		
Japan	425	428	274
USA	334	184	740
Australia	268	139	204
UK	226	148	1,675
France	179	129	1,067
India	178	147	891
Ireland	176	133	190
Belgium	152	103	673
Spain	150	111	678
Italy	132	110	1,007
Netherlands	128	100	26,773
Germany	118	97	3,017
Portugal	100	90	947
Turkey	97	88	1,734
Greece	89	82	475
Poland	85	81	4,076
China	81	84	1,984
Indonesia	72	48	311
Morocco	64	60	814
Surinam	63	61	622
Other nationalities	.	.	10,373
Total	129	96	58,525
Dutch labour market	114		7,969,000
of which full-time contracts	152		3,928,000

Source: CBS, Demographic Statistics and Labour Statistics.

4.6 Migrant employees: origin and destination

Table 4.6.1 shows the regional destination of labour migrants. The Randstad provinces of North and South Holland and Utrecht, the economic heart of the Netherlands, seem to be the most attractive, with almost two thirds having settled there. This figure is much higher than the 47 percent of Dutch employees found there. The four large cities in particular are the destination for non-Dutch immigrant employees with over 30 percent

settling in these areas in 2008. This share is over 70 percent for immigrant employees from the US and the UK, while 85 percent of Japanese immigrant employees live in or close to Amsterdam.

4.6.1 Dutch labour immigration by regional destination over 2008

	Nationality				Dutch regional labour market
	Netherlands	EU 26	Non-EU	Total	Breakdown
	%				
Province					
Groningen	2	2	1	2	3
Friesland	1	1	1	1	3
Drenthe	1	1	0	1	2
Overijssel	3	3	3	3	7
Flevoland	4	4	3	4	2
Gelderland	7	6	5	6	12
Utrecht	8	7	8	8	8
Noord-Holland	30	31	36	32	18
Zuid-Holland	25	24	26	25	21
Zeeland	1	1	1	1	2
Noord-Brabant	11	13	10	11	15
Limburg	4	5	3	4	6
Total 2008	100	100	100	100	100
Of which Amsterdam, Rotterdam, The Hague and Utrecht city	30	30	35	31	

Source: CBS, Demographic statistics and Regional Accounts.

4.7 Migrant employees and enterprises

The Netherlands hosts many migrants from both EU countries and non-EU countries. Migration flows are nothing new, e.g. decolonisation and 'guest workers' in previous centuries, but today the driving force behind international migrations flows is changing. As stated in the introduction, the EU intends to become the most competitive and dynamic knowledge-based economy in the world and consequently member countries are looking for 'brains rather than brawn'. There may be personal reasons for labour

migration, but it can also be driven by enterprise decisions when parent companies abroad transfer employees to their Dutch subsidiary. Table 4.7.1 shows the extent to which labour immigrants work at foreign controlled firms rather than at Dutch owned firms after settling in the Netherlands. Non-Dutch employees tend to work at foreign owned enterprises more than Dutch employees. Almost 20 percent of European and non-European labour immigrants work for a foreign owned enterprise compared with 14 percent of immigrant Dutch nationals. In general, 11 percent of employees in the Dutch labour market were employed in a foreign controlled firm in 2008. In most cases, these were in firms with over 250 employees.

However, the majority of labour immigrants, and the Dutch labour force as a whole, are employed by a Dutch owned firm. Particularly immigrants of Dutch nationality work at rather large Dutch firms.

4.7.1 Dutch labour migration in 2008, by country of origin and size of enterprise

	Nationality				Dutch labour labour market
	Netherlands	EU 26	Non-EU	Total	Breakdown
	%				
Ownership and firm size					
Dutch-controlled firms	86	81	80	83	89
Small (<50 employees)	34	38	41	37	41
Medium (50-249 employees)	13	15	11	13	13
Large (>249 employees)	37	27	26	32	35
unknown size	1	1	2	1	.
Foreign-controlled firms	14	19	20	17	11
Small (<50 employees)	1	3	2	2	1
Medium (50-249 employees)	3	5	8	5	2
Large (>249 employees)	10	11	10	10	7
unknown size	0	0	0	0	.
Total 2008	100	100	100	100	100

Source: Statistics Netherlands, Demographic statistics and Labour Accounts.

54% of the Japanese immigrants start to work for a company of their mother country origin

Table 4.7.2 shows that over 21 percent of American, 26 percent of Chinese, and even 54 percent of Japanese immigrants work for a company from their country origin. This indicates perhaps that immigrants from those countries try to avoid cultural or language barriers, or they are expatriates. As an expatriate wage is usually higher than average, Table 4.5.3 indicates that Chinese immigrants are not expats but try to avoid cultural or language barriers.

4.7.2 Absorbtion of Dutch labour immigration by country of origin of enterprise[1], and nationality of migrant

	Total migrants		By nationality of migrant							
			Dutch	American	German	British	French	Chinese	Japanese	Other nationalities
	n	*%*								
Country of origin of enterprise ultimate controlling institute										
Netherlands	47,842	82	**85**	65	82	67	68	67	39	86
USA	2,832	5	4	**21**	6	12	12	1	3	5
Germany	1,214	2	2	3	**4**	3	1	0	1	2
UK	936	2	2	2	2	**5**	4	0	1	1
France	833	1	2	0	1	1	**6**	0	0	1
China	546	1	0	0	0	0	0	**26**	0	0
Japan	412	1	0	1	1	1	1	0	**54**	0
Other countries	3,004	5	5	4	4	6	5	2	1	6
Unknown	906	2	1	2	1	4	2	3	1	2
Total	58,525	100	100	100	100	100	100	100	100	100

[1] Country of origin of enterprise is defined as the country of the Ultimate Controlling Institute (UCI).

4.8 Main findings and conclusions

The aim of this chapter was to provide more information about labour immigration in the Netherlands and relate it to the size and structure of the labour force. In addition to information on the flows of employee migrants, more information is given about the characteristics of migrants: including age, gender, type of labour contract, wage and

region, and the characteristics of the enterprises that hire labour migrants, including industry, size and extent of foreign ownership.

A likely result of the enlarged EU is that the number of labour migrants from EU countries has increased rapidly in recent years. For example, the number of migrants from Poland is increasing rapidly. This supply of labour meets the demand for low and intermediate educated personnel in health, horticulture, construction and several manufacturing branches (Corvers, Mysken, Neubourg and Schliwen, 2009).

Over the last decade, the inflow of labour migration mirrored developments on the Dutch labour market. Labour migration also appears to contribute to the dynamics and flexibility of the Dutch labour market in other ways. Firstly, 26 percent of immigrant employees find work through a temporary employment agency, and work in a variety of sectors in the Dutch economy. Secondly, labour immigrants are younger than the average Dutch employee. Thirdly, the share of flexible labour contracts is relatively high among labour migrants.

Many immigrant employees are relatively low-paid: on average, labour migrants earn wages that are below the Dutch average. However, important exceptions are employees from developed countries such as the US, Japan or the UK who earn relatively high average wages. Labour migrants from India also earn high salaries. Immigrant employees are mainly concentrated in the four large cities where 31 percent of all labour migrants live.

Many labour immigrants work for a company from their home country. This applies to more than half the Japanese immigrants and a quarter of Chinese immigrants indicating that cultural or language barriers may play a role.

Enterprise demography and foreign ownership: effects on employment

5

Enterprise demography and foreign ownership: effects on employment

Current research has shown that foreign controlled enterprises are generally larger, employ more high-skilled employees and pay higher wages. However, a proper assessment of the employment consequences of firms requires consideration of longitudinal developments and demographic events such as births, deaths and acquisitions. In this paper we present differences in birth, mortality and acquisition rates between foreign and domestic firms, and examine how various employment indicators develop before and after such events. This highlights considerable differences between foreign and Dutch controlled enterprises with respect to their annual birth and acquisition rates, with most births being realised under Dutch control (twice as many), and more acquisitions being undertaken by foreign parties.

5.1 Introduction

The employment effects of inward foreign direct investment are generally studied in a cross-sectional comparative perspective. Studies analyse how foreign controlled firms differ in terms of number of employees, skill level, and wages from their domestically controlled counterparts, often concluding that foreign controlled firms are superior in all dimensions (see our previous research on wages and foreign ownership, Genee, Fortanier and Korvorst, 2010; Fortanier and Korvorst, 2009). Many questions on the employment consequences of foreign firms can, however, only be properly answered by also taking account of longitudinal developments and employment creation and destruction over time. This means, among other things, that demographic events such as births, deaths and acquisitions need to be included in the analysis.

This kind of data is hard to come by, particularly when the aim is to study an entire population of firms. But newly-developed micro data at CBS do enable such analyses to be conducted from 2000 onwards. Building on this new information, this paper gives an overview of the demography of enterprises in the Netherlands, including annual dynamics on new start-ups, takeovers and mortalities. In addition, these enterprise dynamics are broken down into the foreign or Dutch control of an enterprise. Moreover, key employment indicators are linked to the cohorts of enterprise dynamics in order to trace concurrent changes in workforce composition and wage levels in the years preceding and following such events.

The main research question of this paper is whether foreign and Dutch controlled enterprises differ with respect to enterprise dynamics (for instance in terms of birth rates) as well as employment development over time before and after such events. The analysis

also yields an initial gauge of the differences in impact of foreign firms by entry mode: greenfield investments (i.e. births) or acquisitions.

By defining different enterprise events and looking forward and back in time, a better understanding is gained of the link between enterprise dynamics and their influence on jobs and wages. Extending the linked employer-employee database for the Netherlands (CBS, 2009; CBS, 2010c) with enterprise information on births, mortalities and acquisitions leads to new angles of analysis. The key employment variables we analyse include the average number of jobs, the share of high-paid jobs, the share of female workers, share of flexible work contracts and average wage level per enterprise. The influence of foreign ownership is also assessed.

This paper is arranged as follows. First we briefly review some of the current literature on enterprise demography, in particular in relation to employment (section 5.2). Section 5.3 describes in more detail the various datasets that were used and integrated, as well as our method of analysis. The results are presented in 5.4, which provides descriptive information with respect to birth, death and acquisition rates. Section 5.5 presents the employment developments over time for enterprises involved in the three events, and in 5.6, we study the employment developments after acquisition in more detail using regression analysis, particularly in light of the concerns that are often expressed that since acquisitions are often made with a view to arriving at synergies and efficiency, employment may decrease substantially after such events. Section 5.7 concludes.

5.2 Theory and background

Firms' demographic data help analyse the dynamic impact of births, deaths and the growth of business on employment. Indeed, the current academic literature on enterprise demography draws a number of clear conclusions with respect to the employment consequences of firm dynamics. For instance, most new businesses are small in size, as is the case in our dataset. However, they are generally considered to be a main source of new employment opportunities (Reynolds et al. 2007). In particular, small to medium-size enterprise start-ups have persistent effects over time in terms of consistent employment growth, especially in metropolitan regions (Birch, 1981; Acs and Mueller, 2008; Henrekson and Johansson, 2010). These so-called Gazelles account for a large share of new jobs, particularly in the services sectors.

However, not all new firms contribute equally to employment creation. Similarly, many newly-created firms die (exit the market) within a few years, with negative effects for employment. Several factors may influence these processes. First of all, theories of industrial evolution (Jovanovic, 1982) suggest that potential entrants do not know how their firm will perform in the market, but only learn this once they actually start their firm. Hence, those start-ups that obtain favourable information about their performance grow, others decline and exit (die). However, differences may exist in levels of ex ante information about start-up conditions or uncertainties about future conditions. These may lead to different factor commitments. For example, we may expect that foreign firms, who already know about their own performance from their home market, may be less likely to enter the Dutch market (as those foreign firms that know that their performance is not good enough will refrain from entering), but that once they enter, they do so on a larger scale.

Secondly, after entry, survival rates (probability that a firm does not die) are dependent upon such initial conditions at entry. For example, Geroski et al. (2007), reviewing the literature on founding conditions on exit rates, find 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 competences compared with smaller firms. Therefore, if foreign firms are indeed larger at entry, we may expect their survival rates to be higher than those of Dutch entrants (i.e., lower mortality rates). Similarly, Weber and Zulehner (2009) find that the share of female employees has an effect on a firm's survival, and suggest that this is likely because firms that hire female employees have a cost advantage as a result of market discrimination against women.

In addition to births and deaths, a large part of enterprise dynamics is also caused by mergers and acquisitions. In fact, the Netherlands ranks high internationally with respect to acquisitions (CFI, 2011). Since acquisitions and mergers, whether by nationally-controlled or foreign controlled firms, are often motivated by efficiency gains and potential synergies, fears abound that they are accompanied by significant job losses. Current research on this has led to mixed results. For example, Conyon et al. (2000) analyse a sample of 400 mergers (including only the largest firms) in the UK, and find that they are associated with substantial and significant employment and output reductions. They do highlight however that differences may exist depending on the extent of complementarity of acquisition: employment loss may be more substantial in horizontal rather than in vertical (i.e. unrelated) acquisitions. Margolis (2006), using linked employer-employee data for France, also finds that acquired firms tend to lay off more workers in the short term, though these employees manage to secure another job relatively easily.

However, studies for various other European countries tend to find positive effects. Bandick and Karpaty (2007) detect positive employment effects in firms taken over by foreigners in Sweden, though more so for skilled labour than for less skilled labour. They suggest that foreign firms may strengthen the competitiveness of acquired firms due to transfers of technology knowledge and skills from the acquiring firms. Similarly, Huttunen (2007) examines the effect of acquisitions on wages and employment in Finland, and concludes that foreign acquisition has a positive effect on wages – again more so for high-skilled employees. These may be explained by firm-specific technologies (reflecting in greater productivity and wages) and by attempts to prevent labour migration to local firms (Fortanier and Korvorst, 2009, who document similar effects for the Netherlands).

5.3 Data and methodology

Construction of the dataset

In order to analyse the differences in employment (including number of jobs, wages, and composition of the labour force) before and after life events among firms, we integrated two datasets. First, we built on the linked employer-employee dataset (LEED) (as developed for earlier editions of the Internationalisation Monitor and updated with information up until 2008, the latest year currently available) that links enterprise information (size, sector of activity, and locus of control) with employee information (gender, age, type of contract, annual wage). The LEED database was then merged with a database with information on enterprise dynamics (Diederen and Ophuis, 2007). This database includes all enterprises in the General Business Register in each year between 2000 and 2005 and distinguishes three separate categories of enterprise dynamics: births, acquisitions, and mortalities (and continuations). Births involve the establishment of a new enterprise, whereas mortalities involve the closure of an enterprise without continuation. Acquisitions are defined as the takeover of one company by another, and involve only transactions between enterprise groups. The combination of the two datasets resulted in a micro dataset that includes information on enterprise dynamics for an average of 310,000 active enterprises each year (2000–2005) and employment indicators up to 2008 to facilitate longitudinal research. On average, approximately 5.5 percent new enterprises were born each year, 1.5 percent of enterprises died, and about 4 percent underwent acquisition.

Subsequently, separate selections were made to allow for analyses of each of the three main events: births, deaths and acquisitions, each of which require different analyses

of the data. In each case, the year of the event was set as t0, years before and after the events as e.g. t-1 or t-2, and t1 and t2, respectively. For births, we selected those firms born in the 2000–2005 period for which employee indicators were available for all (or all but one) subsequent years (up until t5), resulting in a total of 86,790 births. A substantial number of these births also died again in the period under investigation (20,989), and were excluded since the accompanying information on employment variables was no longer available for analysis.

For deaths, we selected those firms that died in the 2000–2005 period for which employee indicators were available for all (or all but one) preceding years (up until t-5), resulting in 89,943 deaths. A substantial number of these dying firms were born in the period under investigation (23,559), and were excluded from the analysis. Finally, we analysed those acquisitions in the 2000–2005 period for which employee indicators were available for at least three consecutive years including t0 (i.e., either [t-2, t0], [t-1, t1] or [t0, t2]), resulting in 45,403 acquisitions.

The selections of births, deaths and acquisitions are representative of all births, deaths and acquisitions in the 2000–2005 time frame, with respect to size class and sector of activity. However, it should be noted that the data matching procedure, in particular excluding births that died in the period of study, and deaths that were born in the period of study, does create a survival bias in our findings (i.e. we only analyse relatively successful births, and long-lived firms before death). It may positively bias the employment effect of both Dutch and foreign controlled births, as the disappearing firms and their jobs are not considered. A similar bias may exist for acquisitions. We chose to do so to make sure that the descriptive statistics in section 5.4 are comparable over time, as they refer to the same set of firms. However, only if the survival rate of foreign births and acquisitions firms differs from that of Dutch controlled firms, will our analysis that compares these two groups be flawed. We analysed these rates, and found that there was no significant difference in the 3-year survival probability between foreign and Dutch controlled births or foreign and Dutch acquisitions, although the probability was a slightly higher for Dutch controlled births and Dutch acquisitions).

Variables

We selected a set of key indicators to explore the effect these enterprise events (births, mortalities and acquisitions) had on employment. These include the average number of jobs per enterprise, the share of high-paid workers (i.e. in the upper two percentile ranges of the wage distribution) and female employees in the workforce, the percentage of employees with flexible labour contracts (flex workers, including employees with variable working hours, contracts less than one year, temporary agency workers, and stand-by and

substitute employees) and average annual wage level per employee. The mean share of high-paid workers was calculated as the total number of high-paid jobs as a percentage of the total number of jobs, hence effectively weighting the data by firm size. A similar approach was taken to determine the share of female and flexible employees. The wages per FTE were calculated as a simple average across firms (i.e. unweighted). Furthermore, the analyses were broken down by sector of activity (manufacturing, trading and services, see 5.3.1), firm size (small (<49 employees), medium (50–249 employees) and large (>250 employees)) and locus of control (Dutch versus foreign).

5.3.1 Sector classification

Category	Includes[1)]
Manufacturing	SBI 2-49 (fisheries, natural resource extraction, industry, utilities and construction)
Trading	SBI 51 (wholesale trade)
Services	SBI 1, 50, 52-99 (repairs, retail trade, hotels/restaurants, transport, storage, communication services, financial services, business services, government services, education, healthcare and other services)

1) Based on the old NACE Rev. 1.1 classification of the business enterprise sector.

Analysis

Our analysis consists of three parts. We first analyse trends in enterprise demography (rates on births, deaths and acquisitions) in the Netherlands for the years 2000 to 2005, in terms of total enterprises and number of employees involved, making a distinction between foreign and Dutch controlled enterprises. In the second step, we evaluate the longitudinal development in employment both preceding and after the three specific events (births, deaths, acquisitions). The timeframe in our study was 5 years. Finally, we conducted regression analyses for the sub-sample of acquisitions, assessing the impact of various factors on the number of jobs and wages after acquisition. The independent variables include the number of jobs and wages at to (the moment of acquisition); the firm's status before acquisition (a set of 5 dummy variables indicating if before acquisition; whether a firm experienced a decline or growth in number of employees (or was neutral), and if this decline or growth was small (≤ 3 employees) or large (≥ 4 employees))[1)]; and ownership before and after acquisition (a set of 4 dummy variables indicating if the acquisition involved the takeover of a) a Dutch-controlled firm by another Dutch firm (NL→NL); b) a Dutch firm by a foreign-controlled firm (NL→FOR); c) a foreign firm by another foreign

1) These divide the sample into roughly equal groups.

firm (FOR→FOR); or d) a foreign firm by a Dutch controlled firm (FOR→NL). This resulted in the following regression models:

$$\log(jobs_{ti}) = \alpha_{ti} + \beta_1 \log(jobs_{t0}) + \delta_s StatusBeforeAcquisition_{ti} + \delta_n Industry_{ti} + \delta_o Ownership_{ti} + \varepsilon_{ti}$$

$$\log(wage/fte_{ti}) = \alpha_{ti} + \beta_1 \log(wage/fte_{t0}) + \beta_2 \log(jobs_{ti}) \; \delta_s StatusBeforeAcquisition_{ti} + \delta_n Industry_{ti} + \delta_o Ownership_{ti} + \varepsilon_{ti}$$

where *i* is respectively 1,3 and 5 (i.e., we estimate our models for t1, t3 and t5), ∂_s the set of dummies for status before acquisition, ∂_n the set of industry dummies, ∂_o the set of ownership dummies, and ε the randomly distributed error term.

5.4 Enterprise demography in the Netherlands

The demographic trends are displayed in 5.4.1, which presents an overview of births, mortalities and acquisitions at foreign and Dutch controlled enterprises in the Netherlands for 2000–2005, expressed as shares of the total number of active foreign and Dutch controlled enterprises. The number of employees involved in enterprises involved in an event is also shown, expressed as a share of the total number of employees working at active enterprises. Dutch controlled enterprises show a higher birth rate than foreign controlled enterprises in the Netherlands, both in terms of enterprises and employees involved. This means that compared with the total population of Dutch controlled and foreign controlled enterprises, relatively more Dutch firms are established. Moreover, a greater share of all employees working at Dutch firms work at a newly-established firm, compared with employees working at foreign controlled enterprises. The birth rate of foreign controlled enterprises increased between 2000 and 2005, but the share of employees that were registered at these new start-ups remains constant in this period. Thus, the average number of employees at a newly-established foreign controlled enterprise in 2005 is lower than that of the average foreign enterprise that established itself in the Netherlands in 2000. The average number of employees has remained the same for newly-established Dutch controlled enterprises.

There are far more enterprise births under Dutch control than under foreign control

With respect to mortality rates, both Dutch and foreign controlled enterprises show a slight increase in the 2000–2005 period, with a steeper increase in 2004 and 2005 for the latter. Mortality rates measured in terms of shares of employees also grew but remain below the rates at the enterprise level, indicating that mortalities occur more frequently among smaller firms.

The greatest differences between Dutch and foreign controlled enterprises can be found in their acquisition rates. Foreign controlled enterprises are almost three times more likely to be acquired by another firm than Dutch controlled enterprises. The average share of acquisitions at Dutch controlled enterprises was almost 4 percent annually (implying that every year, 4 percent of the Dutch controlled enterprise population is acquired by another firm). In contrast, foreign controlled enterprises showed an average number of acquisitions of 11 percent. Acquisitions play an important role in the employment situation in the Netherlands. As can be seen in 5.4.1, on average 12 percent of people working for Dutch controlled enterprises are involved in an acquisition in any given year. For the employees of foreign controlled enterprises, this is even 20 percent of the workforce.

5.4.1 Demography of enterprises; share of enterprises and employees at foreign and Dutch controlled enterprises

	2000	2001	2002	2003	2004	2005
	%					
Dutch controlled						
Share of enterprises						
Birth rate	5.9	5.6	5.1	4.8	5.5	5.4
Mortality rate	0.8	1.1	1.4	1.3	2.2	2.3
Acquisition rate	3.6	6.1	3.7	3.1	3.0	3.4
Share of employees						
Birth rate	1.2	1.3	1.1	1.3	1.0	1.1
Mortality rate	0.4	0.4	0.6	0.5	1.6	1.7
Acquisition rate	13.9	14.1	13.1	11.2	10.3	9.8
Foreign controlled						
Share of enterprises						
Birth rate	1.8	2.0	2.0	1.8	2.9	2.9
Mortality rate	0.9	0.8	1.2	0.7	3.5	3.1
Acquisition rate	13.4	15.1	13.9	10.3	7.4	7.3
Share of employees						
Birth rate	0.5	0.3	0.8	0.2	0.2	0.6
Mortality rate	0.1	0.0	0.7	0.1	4.0	1.2
Acquisition rate	19.1	24.1	21.6	21.3	18.8	15.9

5.5 Employment development during enterprise events: births, deaths and acquisitions

Births

Table 5.5.1 provides an overview of the employment situation at newly-established enterprises in the Netherlands for the 2000–2008 period. Only the births of firms that did not die during this timeframe were included – hence the data reflect only the employment

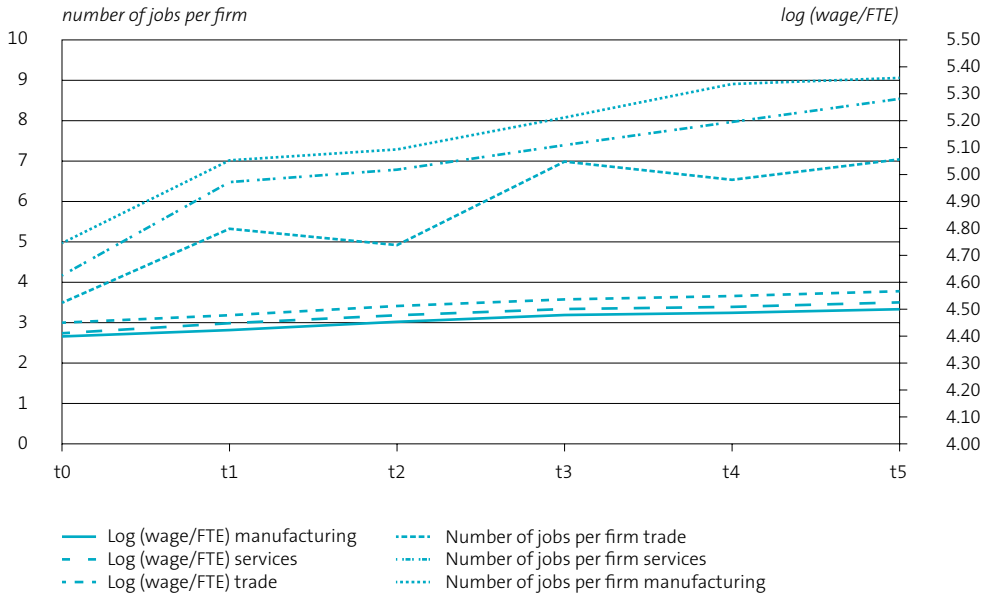
development among 'successful' births (since dying firms have very different employment development (see below) including them would change the results substantially). In 5.5.1 the employment situation at these newly-established firms (t0) is described for several key indicators such as the average number of jobs that are newly created, share of high-paid jobs, share of females, annual job growth rate per enterprise, average wage level and share of flex workers.

In general, enterprise births are characterised by a modest start-up. In their first year, enterprises employ an average of 4 workers, of whom only a small number (15 percent) is high-paid, and less than half are female. Moreover, less than 10 percent of workers have a flexible work contract and the average annual wage is about 30,000 euros. Over time, the size and composition of employment changes. As shown in 5.5.1, five years after start-up (t5) enterprises have on average doubled their workforce, pay higher wages and have a higher share of flexible workers. The share of female employees remains constant.

5.5.1 Births: employment development at surviving firms

	unit	t0	t1	t2	t3	t4	t5
Total births (N_{t0} = 65,081)							
Number of jobs per firm		4.2	6.4	6.7	7.4	7.9	8.5
Wage/FTE	*euro*	30,968	33,678	35,847	37,777	38,425	39,966
Log (wage/FTE)		4.41	4.45	4.48	4.50	4.51	4.53
Share of high-paid jobs	*%*	15.1	16.3	16.8	16.5	17.3	17.8
Share of female employees	*%*	42.3	41.0	41.5	42.4	42.0	42.0
Share of flexible jobs	*%*	8.4	11.0	12.7	11.6	11.7	12.8
Births under foreign ownership (N_{t0} = 344)							
Number of jobs per firm		40.6	68.1	41.2	36.1	41.8	55.1
Wage/FTE	*euro*	53,907	60,126	64,243	66,999	63,510	72,244
Log (wage/FTE)		4.66	4.70	4.73	4.75	4.73	4.74
Share of high-paid jobs	*%*	22.8	28.1	44.3	43.1	39.6	37.8
Share of female employees	*%*	42.4	34.3	28.1	31.0	33.1	36.4
Share of flexible jobs	*%*	0.4	0.4	1.6	0.5	0.5	0.6

5.5.2 Births: development in jobs and wages, by sector of activity



In contrast, births under foreign ownership in the Netherlands show a very different employment pattern. On average, newly-established foreign firms already begin with a substantial workforce at to, employing a staff of, on average, 40 workers, which also includes relatively more high-paid employees. This is likely to be because foreign firms are already relatively large in their home market before they invest abroad, and are able to start their business on a larger scale than Dutch start-ups that do not have such backing. Remarkably few employees at foreign controlled births have a flexible contract, and also as time progresses, foreign start-ups are not likely to hire flexible labour. The share of female workers is comparable to that of the overall sample of total births and remains stable over time. Five years after birth, foreign firms show steady increases in workforce size (on average 40 percent larger), share of high-paid jobs, and average annual wage.

In addition, most new start-up jobs are to be found in manufacturing, followed by services and trade sectors, as shown in 5.5.2. Furthermore, births in manufacturing and trade show a steady increase in workforce size five years after start-up, whereas the employment pattern in trade follows a less stable pattern. Interestingly, wages in all sectors of activity show a steady increase from to, with trade sectors paying on average the highest annual wages.

Deaths

Table 5.5.3 shows the employment patterns for dying firms. All enterprises that ceased to exist in the 2000–2008 period are included (but which were not born during 2000–2005). Again, as for births, the employment situation at these firms is described for several key indicators such as the average number of jobs, share of high-paid jobs, share of females, annual job growth rate per enterprise, average wage level and share of flex workers.

As shown in 5.5.3, a continuous drop in workforce size can be seen from as early as five years preceding the official death of an enterprise (t-5). In the year in which an enterprise is closed down only very few employees are left (for similar findings on lay-offs preceding enterprise death, see Scheele, van Gaalen and van Rooijen, 2008). Women seem to be among the first employees to leave, as their share among employees decreases over time up until to. Remarkably, the share of high-paid jobs remains unaffected by pending enterprise mortality and remains a constant 20 percent across all enterprises. The share of flexible employees increases up until 2 years before death, and then decreases. A picture emerges in which a firm in trouble reduces its workforce, potentially starting with lower paid support functions (explaining the reduction in the share of female workers who are overrepresented in such functions, as well as the slowly increasing average wages) and by replacing permanent staff with employees on flexible contracts. At the last moment (to) only the owner and one or two staff members are left.

5.5.3 Deaths: employment development of extinct firms (which were not born in 2000–2005)

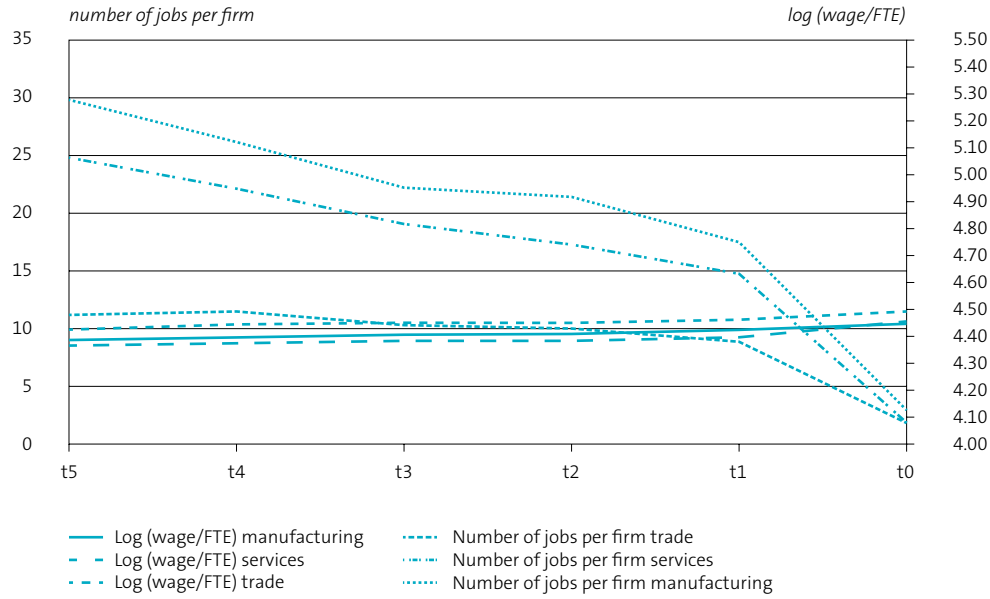
	unit	t-5	t-4	t-3	t-2	t-1	t0
Total deaths (N_{t0} = 66,384)							
Number of jobs per firm		24.4	21.8	18.8	17.2	14.6	2.0
Wage/FTE	*euro*	26,730	27,255	27,904	28,171	29,436	35,012
Log (wage/FTE)		4.37	4.38	4.39	4.39	4.41	4.46
Share of high-paid jobs	*%*	21.9	21.1	20.7	20.6	21.0	20.1
Share of female employees	*%*	44.0	43.4	42.7	42.8	43.5	36.9
Share of flexible jobs	*%*	4.4	5.0	5.5	6.2	5.8	5.1
Deaths under foreign ownership (N_{t0} = 587)							
Number of jobs per firm		120.3	101.1	92.9	93.9	80.3	15.7
Wage/FTE	*euro*	41,507	41,880	42,017	43,996	47,456	61,119
Log (wage/FTE)		4.58	4.58	4.59	4.60	4.62	4.72
Share of high-paid jobs	*%*	34.3	33.6	35.1	32.6	34.2	22.7
Share of female employees	*%*	26.6	26.8	24.8	25.7	26.5	29.8
Share of flexible jobs	*%*	1.6	0.7	0.8	1.1	1.1	9.1

Even though foreign controlled enterprises are generally much larger, mortalities among them follow a similar path with respect to the number of employees (large reductions

from as early as 5 years before death) and salaries (increasing up until to). The share of female employees remains stable over these five years, as does the share of flexible jobs (small). Only in the last year do we see a decline in the share of high-paid jobs (though not in salaries, indicating that a few, but very well paid individuals remain), in the share of female employees, and an increase in the share of flexible staff.

When looking at different sectors of activity, as shown in 5.5.4, it becomes clear that particularly among manufacturing and services firms, the number of employees decreases as much as five years before the actual death of a firm. Jobs in trade remain relatively stable almost until the end.

5.5.4 Deaths: development in jobs and wages, by sector of activity



Acquisitions

Table 5.5.5 describes the employment patterns of enterprises that were acquired in the 2000–2005 period. The average number of jobs per enterprise increases after an acquisition, particularly from t4 onwards. Similarly, average wage levels tend to rise over time (also reflected in the increasing percentage of high-paid jobs at acquired enterprises). The relative share of female employees is unaffected by a takeover event, and the share of flex workers seems to grow in the first years after a takeover before levelling off.

5.5.5 Acquisitions: employment development of acquired firms

	unit	t0	t1	t2	t3	t4	t5
Total acquisitions (N_{t0} = 22,755)							
Number of jobs per firm		43.4	43.7	43.4	43.3	45.6	45.5
Wage/FTE	*euro*	29,684	30,790	31,822	33,574	35,519	38,664
Log (wage/FTE)		4.44	4.46	4.48	4.50	4.52	4.55
Share of high-paid jobs	*%*	20.4	20.4	20.4	20.2	21.1	21.3
Share of female employees	*%*	40.4	40.8	41.0	41.0	39.8	40.0
Share of flexible jobs	*%*	6.6	8.8	8.9	9.2	8.6	7.9

Table 5.5.6 provides an overview of the key employment effects up to 5 years after an acquisition event, broken down by sector of activity (manufacturing, trade and services sectors). In general, acquired trading firms are smaller in terms of employee numbers than enterprises active in the manufacturing or – especially – services sectors. As can be seen in 5.5.6, employment figures tend to decline after a takeover in manufacturing sectors, whereas the opposite is true for services sectors (from to to t5).

In all industries, wages tend to increase steadily after a takeover. The share of high-paid employees increases from to to t5, particularly among trading firms. The share of female employees is stable after takeover, although levels differ across different industries, with relatively more women working in services and very few in manufacturing. The number of flexible jobs increases after a takeover, particularly in services, where the share of such jobs is already much higher than among manufacturing or trading firms.

Acquired firms in the Netherlands show growth in jobs and wages a few years after takeover

5.5.6 Acquisitions: employment development of acquired firms, by sector of activity

	unit	t-0	t-1	t-2	t-3	t-4	t-5
Manufacturing (N_{t0} = 6,019)							
Number of jobs per firm		40.9	40.0	39.6	38.7	38.2	37.9
Wage/FTE	*euro*	27,893	28,89	29,979	31,679	33,354	36,022
Log (wage/FTE)		4.43	4.45	4.46	4.49	4.51	4.54
Share of high-paid jobs	*%*	21.4	21.0	21.3	21.5	21.8	22.4
Share of female employees	*%*	18.3	18.4	18.4	18.4	18.5	18.7
Share of flexible jobs	*%*	0.9	1.2	1.2	1.1	1.2	1.1
Trade (N_{t0} = 3,614)							
Number of jobs per firm		19.5	19.6	19.6	19.6	19.7	19.8
Wage/fte	*euro*	30,677	32,190	33,318	35,193	37,211	41,514
Log (wage/FTE)		4.46	4.48	4.50	4.52	4.54	4.58
Share of high-paid jobs	*%*	25.0	25.1	25.2	25.7	26.8	28.2
Share of female employees	*%*	29.1	29.2	29.1	29.0	28.9	28.9
Share of flexible jobs	*%*	2.1	2.5	3.0	2.9	2.6	2.2
Services (N_{t0} = 13,122)							
Number of jobs per firm		51.2	52	51.8	52.0	56.1	56.1
Wage/FTE	*euro*	30,232	31,275	32,255	33,998	36,046	39,093
Log (wage/FTE)		4.44	4.46	4.47	4.49	4.51	4.55
Share of high-paid jobs	*%*	19.8	19.7	19.7	19.2	20.4	20.2
Share of female employees	*%*	49.7	50.0	50.2	49.9	47.6	47.7
Share of flexible jobs	*%*	9.1	12.1	12.3	12.6	11.5	10.6

When making a similar breakdown by size class (not shown), it is observed that particularly medium-sized enterprises (50–250 employees) tend to show a decline in employment after being acquired by other firms. Small firms (< 50 employees) continue to grow in terms of annual number of jobs, whereas large firms (> 250 employees) first experience a decline before showing further growth. In all firms included in the acquisition cohort, wages tend to increase over time. Moreover, particularly among small firms, the share of high-paid jobs tends to increase after takeover, though remains relatively low compared with medium and large size firms. The share of female employees in the workforce remains unaffected. The number of flexible jobs increases after takeover across all firm sizes, particularly in the second and third year after takeover. In addition, when looking at transitions between foreign and Dutch controlled enterprises, it is notable that foreign to foreign acquisitions in particular involve large firms (250 employees and more), whereas foreign to Dutch acquisitions are mainly realised in the small enterprise spectrum.

5.6 Regression analyses

Among the demographic enterprise events, acquisitions in particular are often publicly scrutinised for their potential effects on employment. We therefore conducted some further in-depth analyses with respect to the factors that influence employment and wages at acquired firms, both before and after the acquisition event. Using regression analysis (see 5.6.1), we analysed how jobs and wages at t1, t3 and t5 were influenced not only by firm size and industry, but also by the status of the firm before acquisition (successful and growing, or in decline), and the nature of the ownership change. Since all models include the value of the dependent variable at t0, the coefficients for the other variables represent growth rates.

The first panel of 5.6.1 shows the models with the (logarithmic value of) the number of jobs at t1, t3 and t5 as dependent variables. The results show that the initial level of number of jobs at t0 is the main predictor of development over time. Developments ***before*** the acquisition also play an important role in what happens after a takeover. Enterprises that have a declining workforce before a takeover show a rather higher annual growth rate after the event, compared with enterprises that were neutral or showed a small job growth before takeover. In other words, an acquisition by another firm seems to salvage jobs at declining firms (an alternative explanation may be that enterprises already reorganize their business ***before*** a takeover in order to become a more attractive target for investors). Enterprises that were already expanding substantially in terms of jobs before a takeover continue to grow more rapidly than enterprises that were neutral or show small annual growth rates before takeover.

There are no clear differences across industries with respect to the development of employment after a takeover. Similarly, no differences in employment development are observed after takeover with respect to the locus of control (Dutch versus foreign) of the acquirer or acquiree (see also 5.6.2). Only acquisitions of foreign firms by other foreign firms show higher employment growth rates (compared with Dutch-Dutch takeovers). Note however that there are only very few such cases and these firms tend to be disproportionately large at the outset.

The second panel of 5.6.1 shows the results for the models with (the logarithmic value of) average wages per employee as dependent. Again, the initial level of wages per employee per enterprise at t0 turns out to be the main predictor of wage development over time. The negative coefficient of firm size (measured as number of jobs) indicates that annual wage growth after acquisition is smaller among larger firms than among smaller firms (probably because wages tend to be higher at larger firms in the first place, leaving less

room for growth). Enterprises that were in decline before takeover, show lower growth in wages after takeover compared with firms that were either neutral or growing before takeover. However, rapidly growing firms do not differ significantly from neutral firms with respect to wages (in fact in the first year after acquisition a small wage correction seems to take place).

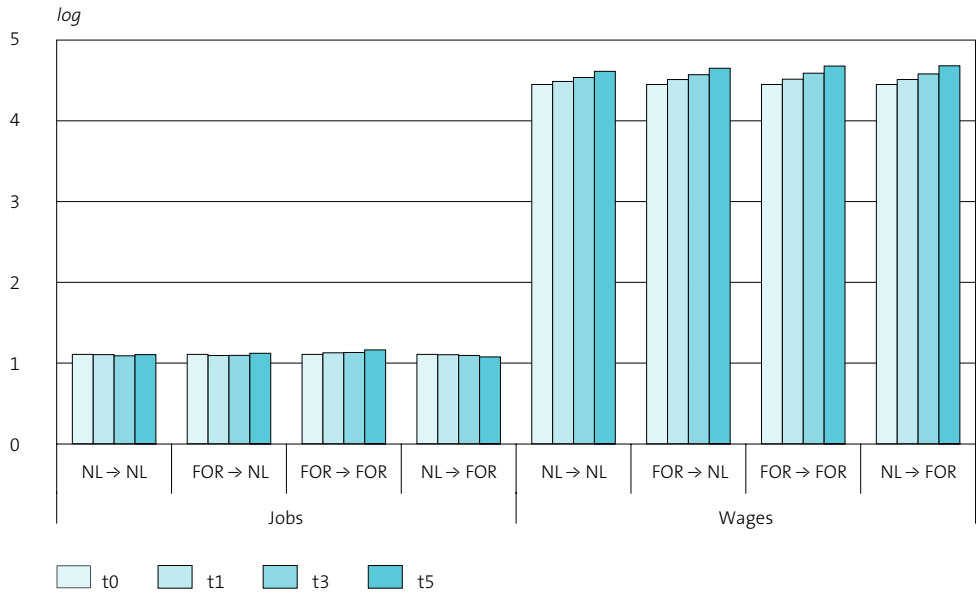
The effect of an acquisition on annual wages seems to differ across industries. Particularly among trading firms, wages tend to increase strongly (compared with manufacturing and services firms) after a takeover. All acquisitions with an international partner – be it the acquirer, the acquiree or both – result in larger wage growth in the years following the acquisition compared with acquisitions that only involve Dutch firms. The growth in wages appears to be the strongest when the acquirer is under foreign control (regardless of the control of the acquired firm) (see 5.6.2).

5.6.1 Regression results for jobs and wages at acquired firms

	Log (number of jobs per firm)			Log (wage/FTE)		
	At t1	At t3	At t5	At t1	At t3	At t5
Constant	0.067 ***	0.119 ***	0.147 ***	0.841 ***	1.242 ***	1.608 ***
	21.287	24.278	21.166	52.154	58.843	53.983
Log (wage/FTEe) (t0)				0.819 ***	0.740 ***	0.675 ***
				228.460	157.756	101.781
Number of jobs per firm (log) (t0)	0.936 ***	0.876 ***	0.865 ***	–0.008 ***	–0.015 ***	–0.038 ***
	416.299	250.292	175.283	–6.593	–9.309	–16.834
Status before acquisition (ref: neutral)						
Declining	0.032 ***	0.023 ***	0.024	–0.01 ***	–0.013 ***	–0.019 ***
	8.572	3.905	2.966	–4.894	–4.683	–5.27
Small decline	0.008 ***	0.006 ***	0.002	–0.005 ***	–0.005 ***	–0.008 ***
	5.615	2.665	0.644	–6.968	–4.769	–5.855
Small growth	–0.001 **	0.001	0.001	–0.002 ***	–0.001	–0.001 *
	–2.021	0.985	1.049	–4.313	–1.359	–1.735
Growing	0.003 ***	0.006 ***	0.005	–0.001 *	–0.001	0.000
	4.540	5.922	3.410	–1.706	–1.083	–0.156
Sector of activity (ref: manufacturing)						
Trade	0.000	0.001	0.003	0.006 ***	0.009 ***	0.015 ***
	–0.141	0.194	0.467	3.401	4.122	5.107
Services	0.001	–0.004	–0.001	0.001	–0.003 *	–0.002
	0.672	–1.074	–0.281	1.039	–1.933	–1.189
Ownership change at acquisition (ref: Dutch to Dutch)						
From foreign to Dutch	–0.011	0.006	0.017	0.024 ***	0.035 ***	0.038 ***
	–0.901	0.293	0.636	3.547	3.916	3.169
From foreign to foreign	0.023 **	0.041 ***	0.058 ***	0.028 ***	0.053 ***	0.065 ***
	2.250	2.635	2.663	5.039	7.228	6.369
From Dutch to foreign	–0.001	0.005	–0.028	0.025 ***	0.044 ***	0.069 ***
	–0.106	0.281	–1.089	4.277	5.900	5.708
R Square	0.908	0.784	0.753	0.666	0.491	0.422
F	27,225 ***	9,965 ***	4,920 ***	4,976 ***	2,414 ***	1,071 ***
N	27,509	27,499	16,167	27,417	27,485	16,140

t-values in brackets below coefficients.

5.6.2 Employment and wages after acquisitions by ownership change



5.7 Conclusion

This paper outlined a clear picture of the demography of enterprises in the Netherlands since 2000, showing longitudinal trends on birth, death and acquisition rates as well as their associated developments in employment. The locus of control of an enterprise (foreign versus Dutch) was taken into account, as was the effect of an ownership change during acquisitions on key employment indicators such as number of jobs, average wage levels, and workforce composition.

In general, foreign and Dutch controlled enterprises differ greatly with respect to their annual birth and acquisition rates: far more new start-ups occur under Dutch control, often starting out very small with only a few workers. Foreign firms enter relatively less frequently, but they are, on average, greater in size. This confirmed our expectations based on the industrial evolution literature: since foreign firms have more knowledge about their own performance (from their home market and potentially other international activities) they will enter less frequently than their Dutch controlled counterparts (who do not have such knowledge and will have to find out through trial and error) but once they enter, they do so on a larger scale. Foreign controlled enterprises are almost three times more likely to

be acquired by another firm than Dutch controlled enterprises. Acquisitions also play an important role in the employment situation in the Netherlands: on average 12 percent of people working for Dutch controlled enterprises are involved in an acquisition in any given year. This figure is 20 percent for employees in foreign controlled enterprises,.

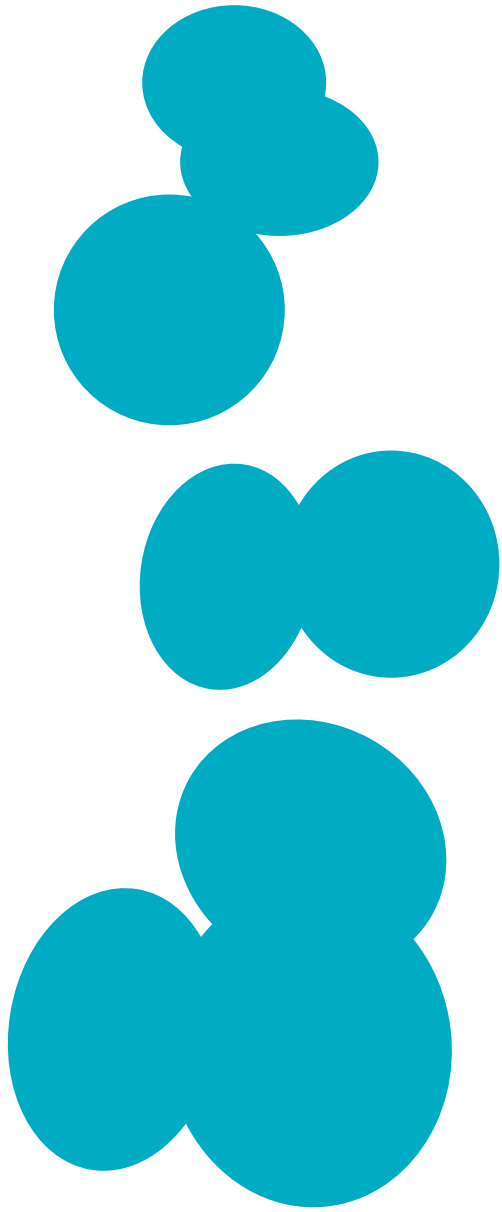
Employment development after start-up differs between foreign and Dutch controlled births. Five years after start-up, successful Dutch controlled births have, on average, doubled their workforce, pay higher wages and have a higher share of flexible workers. Foreign births also grow, though less rapidly. Remarkably few of the employees at foreign controlled births have a flexible contract, and as time progresses, foreign start-ups are also unlikely to hire flexible labour.

Deaths of firms can be anticipated from the negative developments in their workforce as early as five years preceding the official death of an enterprise. In the year in which an enterprise is closed down, only very few employees are left (for similar findings on lay-offs preceding enterprise death see Scheele et al. (2008)). Women seem to be among the first employees to leave. The share of high-paid jobs is unaffected by pending enterprise mortality and remains a constant 20 percent across all enterprises. The share of flexible employees increases up to 2 years before death, and then decreases. A picture emerges in which a firm in trouble reduces its workforce, potentially starting with lower paid support functions (explaining the reduction in the share of female workers who are overrepresented in such functions, as well as the slowly increasing average wages) and by replacing permanent staff with employees on flexible contracts. At the last moment (to) only the owner and one or two staff members are left. Even though foreign controlled enterprises are generally much larger, mortalities among them follow a similar path with respect to the number of employees and salaries.

Acquisitions also have important effects on employment. On the whole, the average number of jobs per enterprise increases after acquisition, particularly a few years after acquisition. One exception is however the manufacturing sector where employment decreases. Similarly, average wage levels tend to rise over time (also reflected in the increasing percentage of high-paid jobs at acquired enterprises). However, one of the key questions is whether there are any differences in the development of employment and wages depending on whether the acquiring firm is foreign or Dutch controlled. Using regression analysis to include a variety of controls, including the development in employment before takeover, we find that employment increases slightly after acquisition, and that this development does not differ with respect to ownership of either the acquirer or acquiree, suggesting that fears of job losses due to takeovers are not supported by the data.

International trade and employment: trade partner country effects on jobs and wages

6



International trade and employment: trade partner country effects on jobs and wages

Recent academic research has consistently identified trading firms – both exporters and importers – to be larger, and to pay higher wages than their non-trading counterparts. However, not all trade is equal: imports from low-wage countries may destroy employment, particularly among low-skilled workers. Similarly, export markets may vary with respect to their fixed set-up costs which may be reflected in different sizes and wages (skill levels) required for internationalisation. This chapter examines whether the country of origin and/or destination of international trade flows is an extra explanation for differences in employment and wages, in addition to enterprise size, locus of control and economic activity.

6.1 Introduction

There is abundant empirical evidence that demonstrates that exporting is positively related to profitability, enterprise size and the productivity of firms, and wages of their employees (see below). Similarly, many studies find that importers have similar characteristics to those of exporters. Bernard et al. (2007) state that importers, like exporters, are bigger, more productive, pay higher wages and are more skill and capital intensive than non-traders. This paper investigates the relationship between the trade patterns of enterprises and workforce characteristics for the Netherlands. We contribute to current findings by asking whether different working conditions, in terms of wages and types of contracts, are to be found at enterprises that have trade relations either with 'developed' countries or 'less developed' countries. Different demands are placed on the workforce when an enterprise does business in terms of importing and exporting (or both) with countries nearby, compared with worldwide trade relationships. With the latter requiring higher-skilled personnel in terms of foreign languages, higher productivity, faster time-to market etc, it is assumed that two-way traders, with a worldwide trade network, employ workers with remarkably different characteristics than for instance enterprises that only import or export to countries close to home. On the other hand, trade (particularly imports) with low-wage countries may be associated with the loss of low-skilled jobs in the Netherlands, or may result in downward competitive pressure on wages.

In order to answer these questions, we extend the linked employer-employee database for the Netherlands (see previous editions of the Internationalisation Monitor 2009/2010) with detailed information on geographic trade patterns per enterprise. Cluster analysis indicated that both for exports and imports, five clear groups can be distinguished with respect to the geographic distribution of trade relations. By analysing differences in wages, employees and characteristics of the workforce between these groups, we achieve a

better understanding of the link between trade patterns and employment characteristics and wages.

This chapter is organised as follows. First, we briefly review some of the current literature on this topic (section 6.2) and subsequently describe the data and methodology used for the empirical analysis (section 6.3). The initial results are presented in section 6.4, displaying descriptive statistics on various employment variables, including the job growth rate, the total number of employees per enterprise, the share of flex workers per firm, and employee wages. We make a distinction between importers, exporters, and two-way traders. Subsequently, sections 6.5, 6.6 and 6.7 present the results of the cluster analyses for imports and exports and their combination, respectively, and also give descriptive information on differences across the clusters for the selected employment variables. To ascertain whether these differences also persist when other factors are considered that might influence employment and wages, such as firm size, sector of activity and foreign ownership (Genee, Fortanier and Korvorst, 2010; Fortanier, Korvorst and Luppes, 2010; Fortanier and Korvorst, 2009), section 6.8 reports the results of several regression analyses. Section 6.9 concludes this chapter and presents the main findings.

6.2 Theory and background

The literature shows that exporters generally pay higher wages, hire more skilled personnel and are more productive than non-exporters (Bernard, Jensen and Schott, 2009). For instance, Du Caju, Rycx and Tojerow (2011) investigated the impact of international trade on wage dispersion within industries in a small open economy. They found wage differences between industries that could not only be explained by individual characteristics or rent sharing behaviour. International trade and the degree of openness were also found to have an impact on wages.

Not only the underlying employee characteristics in terms of education and skill level but also foreign control plays a role in the resulting wage level difference between trading and non-trading firms. When compared with domestic controlled exporting companies, wages are significantly higher in foreign controlled exporting firms in the Netherlands, even after controlling for industry and workforce size effects (Genee, Fortanier and Korvorst, 2010; Fortanier and Korvorst, 2009). This wage advantage is largely explained by the multinational status of an enterprise and is confirmed for other countries inside and outside the EU (Heyman, Sjoholm, and Tingvall, 2007; Earle and Telegdy, 2007; Lipsey, 2004; Andrews, Bellmann, Schank and Upward, 2007; Görg, Strobl, and Walsh, 2002).

Whether importing has the same unequivocal positive impact on firm performance and employment that exporting does, is not straightforward. Many studies find that importers have similar characteristics to those of exporters. Bernard et al. (2007) state that importers, like exporters, are bigger, more productive, pay higher wages and are more skill and capital intensive than non-traders. For Belgium, Muûls and Pisu (2007) find that importers, exporters and two-way-traders are larger in terms of value added and employment than non-traders. Belgian imports and exports are concentrated at the most productive firms. Furthermore, Martins and Opromolla (2009) showed that two-way traders in particular pay higher average wages, after controlling data for firm-fixed effects (Munch and Skaksen (2006) for additional evidence on human capital development and wages in exporting firms).

However, when imports are used to substitute for expensive domestic labour, employment might decrease, especially when these imports originate from low-wage countries. In such cases, it is the lower skilled workers who are at risk of losing their jobs. Biscoup and Kramarz (2007) found that French firms that imported finished goods from low-wage countries destroyed (low-skilled production) employment. Imports from abroad might lower production costs, which in turn could lead to an increase in profits. Whether a rise in profits is shared with remaining, higher skilled employees in terms of higher wages, is also questionable. Some studies have shown that higher import penetration per enterprise has a negative effect on wages, particularly if the imports originate from low-wage countries (Du Caju, Rycx and Tojerow (2011). Other studies show that wages increase after a rise in imports from abroad (e.g. Chapter 8 in this monitor).

6.3 Data and methodology

In order to investigate the relationship between the trade partner portfolio of enterprises and the employment characteristics of the workforce and wage levels, the integrated employer-employee dataset for the Netherlands has been expanded with trade information (see previous editions of the Internationalisation Monitor 2009/2010 for a detailed description of this database). In this dataset, employee-level information (e.g. wages, gender, age, ethnicity, type of labour contract, level of education etc.) is linked to employer-level information, such as enterprise size, economic activity, locus of control (foreign vs. domestic) and international trade status (importer, exporter, two-way trader). The dataset was originally created for 2000–2005 (IM2009), and updated for the Internationalisation Monitor 2010 with 2006/2007 data (Korvorst and Fortanier, 2010; Jaarsma, 2010). For the analysis in this and the following chapter, the dataset is extended further with more specific data on the international trade in goods, such as origin and/or destination of

the commodities traded, as well figures for the most recent year (2008). The resulting employer-employee dataset used in this chapter comprises a set of 450,731 enterprises from the GBR for which employment information was available in the SSB for 2008. This linked dataset includes approximately 9 percent importers (only) in 2008, 2 percent exporters (only), 10 percent two-way-traders (import and export activities) and 79 percent non-traders. The exact composition of the linked dataset on trade and employment for 2006–2008 is provided in 6.4.1.

We first present a set of descriptive tables that explore differences in key employment indicators such as employment growth, share of flex workers, number of employees and wages of importers, exporters, two-way traders and non-traders in 2006 and 2008.
Secondly, we take a closer look at the origin and destination of the international trade carried out by these enterprises by means of cluster analysis. K-means cluster analysis is used to group together observations based on common characteristics, in this case, the trade intensity and origin/destination of the trade flow of enterprises. For each firm, we calculated a series of trade intensity variables by dividing an enterprise's (log) imports from a selected number of countries of origin (or exports from a selected number of countries of destination) by the firm's number of employees. We calculated import and export intensity variables for trade with Belgium, China, Germany, India, Japan, the UK, the US, Brazil, Russia, the EU, non-EU, and BRIC countries (the latter three are non-exclusive country groupings). We show below that Dutch importing enterprises can be neatly grouped into five clusters (focal point of import origin), e.g. some enterprises mainly import from countries surrounding the Netherlands, while others are more diversified. Similar results were obtained for exporters.
Thirdly, we describe the basic employment characteristics of the enterprises in these import, export and two-way-trade clusters. Finally, we combine the various factors that influence employment in a regression analysis, in order to establish whether: 1) trading activities, 2) origin of trade, 3) destination of trade, and 4) trade pattern of two-way traders have a distinct influence on wages, share of flexible employees, and employment growth. The regression controls for firm-specific effects such as economic activity (industry), firm size and foreign control as well as for the average skill level of its employees.

6.4 Descriptive statistics

A description of the dataset on trade and employment for the Netherlands is given in 6.4.1 for 2006 and 2008. Overall, about 412 thousand active enterprises are registered in 2006 for which both trade (yes/no) and employment information was available. In 2008,

this number had increased to about 450 thousand enterprises. This amounts to about 7.5 million registered jobs belonging to these enterprises in 2006 and almost 8 million jobs in 2008.

The composition of the population of enterprises under study consists largely of non-trading enterprises, namely about 80 percent of all cases. They account for about 60 percent of jobs registered in the Netherlands in 2006, although non-traders show a slight decrease in employment in 2008. The remaining 20 percent of the enterprises mostly involve two-way traders, which employ the highest number of employees, namely about 30 percent of all registered jobs in the Netherlands in 2008. Two-way traders are enterprises that both import and export in a certain year. Concurrently, importers only do not export goods and vice versa.

All trading enterprise groups show a notable increase in employed personnel in 2008. Importers and exporters both display a considerable increase in the number of jobs, although the latter involve only a relatively small number of enterprises.

6.4.1 Composition of enterprise population and jobs per type of trader

	Enterprises		Employees	
	2006	2008	2006	2008
	#			
Importers only	26,569	39,002	859,918	1,234,384
Exporters only	6,376	9,612	89,728	137,247
Two-way traders	40,957	44,086	1,938,340	2,476,784
Non-traders	338,724	358,031	4,637,047	4,062,096
Total	412,626	450,731	7,525,034	7,910,511
	%			
Importers only	6.4	8.7	11.4	15.6
Exporters only	1.5	2.1	1.2	1.7
Two-way traders	9.9	9.8	25.8	31.3
Non-traders	82.1	79.4	61.6	1.4
Total	100	100	100	100

Table 6.4.2 shows descriptive and test statistics for the four categories of firms in terms of mean jobs and wages (Anova tests are reported in order to establish whether the differences across the groups are significant). It shows that two-way traders employ, on average, the most employees, have the highest employment growth per year, and pay the highest wages. The average annual salary paid by two-way traders was almost

39 thousand euros. Importers employ the highest share of flex workers, namely 6 percent of their workforce. Importers and exporters do not differ much in terms of employment growth, but importers are slightly larger in size (measured in terms employee numbers) and pay lower wages. Non-traders form the bulk of the dataset, and are the smallest in terms of employment (per enterprise; in total, non-traders are responsible for over 50 percent of the total workforce) and show the lowest job growth rates. The results in Table 6.4.1 are qualitatively very similar to those in Chapter B4 in the Internationalisation Monitor 2010 (CBS, 2010c).

6.4.2 Descriptive statistics, average job growth, number of jobs, share of flex workers and wages per type of trader, 2008

	Importers only	Exporters only	Two-way traders	Non-traders	F (Anova)
Job growth rate	0.14	0.15	0.17	0.12	28 ***
Share of flex workers	0.06	0.04	0.03	0.05	299 ***
Log employees	0.71	0.66	0.96	0.44	14,285 ***
Log wages	4.48	4.56	4.59	4.57	1,672,***
	38,876	9,601	43,971	356,027	

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

As shown in 6.4.3, Germany is the Netherlands' main trading partner, both in terms of imports and exports, and for all three types of traders. Belgium is an important source country for importers in particular, while two-way traders are also involved in trading activities with countries further away e.g. the US, new member states, Russia and China. Trading activities with India are not notably high in 2008. When compared with the group of enterprises that only engages in export activities, exports among two-way traders tend to be a little more focused on EU member states and the US. On the other hand, exporters seem to contribute a considerable share of their exports to China and other countries (rest of the world).

6.4.3 Origin and destination of trade by trader type, 2008

	Importers only	Exporters only	Two-way traders	
			Origin	Destination
	%			
Total	100	100	100	100
Germany	22.6	23.9	18.5	23.4
Belgium	16.4	3.8	9.1	10.3
UK	2.4	5.5	6.1	9.0
Other EU-15 member states	16.3	17.6	13.0	23.8
New member states	1.6	2.9	3.5	4.8
US	1.8	1.2	8.3	5.1
Japan	0.4	0.2	2.8	0.9
Brazil	0.9	0.1	1.6	0.3
Russia	1.0	2.9	4.7	1.6
India	0.3	0.2	0.8	0.4
China	2.4	2.7	6.4	1.1
Rest of the world	33.9	39.0	25.1	19.4

Source: CBS, Statline, International trade in goods.

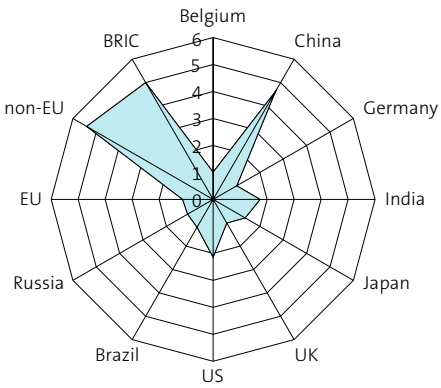
6.5 Import clusters

In order to assess whether the origin of imported goods has an impact on employment and wages, cluster analysis was conducted to compile groups of enterprises with similar import characteristics (i.e. origin and intensity). This resulted in five clusters of importing enterprises. The first cluster comprises enterprises that mainly import from China/BRIC countries. The second import cluster are enterprises that mainly import from the US and non-EU countries. Some enterprises import commodities from all over the world, which are found in cluster 3, referred to as worldwide importers. Cluster 4 comprises enterprises that mainly import goods from European origins. The fifth and last cluster consists of importers that buy their goods close to the Netherlands ('close to home'), i.e. Germany, Belgium and the UK.

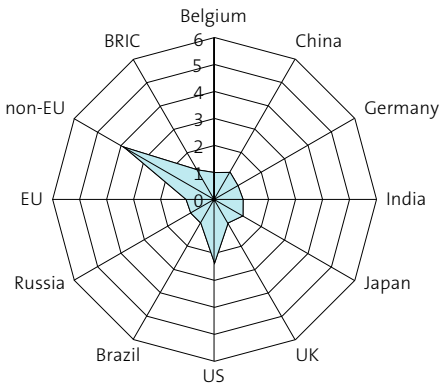
6.5.1 Import clusters (including TWT), 2008

Log import value per employee

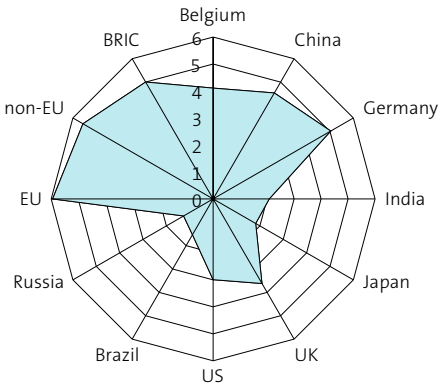
Mainly China/BRIC



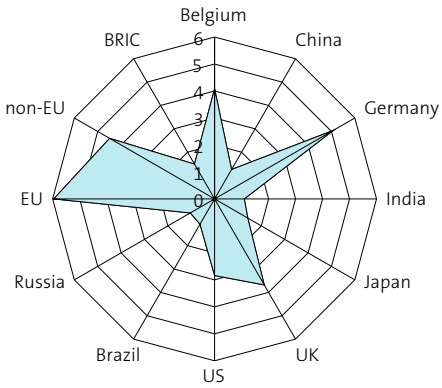
Mainly US/non-EU



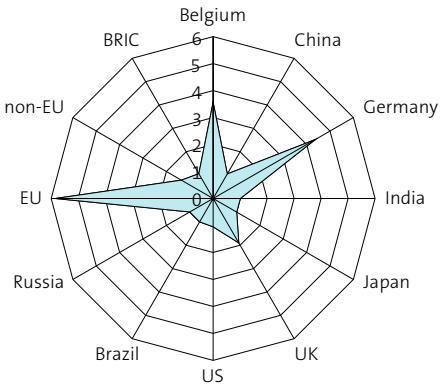
Worldwide importers



Mainly Europe



Close-to-home



	Job growth rate	Share of flex workers	Average number of log employees	Average log wages
Mainly China/BRIC	0.16	0.03	0.75	4.58
Mainly US/non-EU	0.18	0.03	0.90	4.60
Worldwide importers	0.15	0.02	1.46	4.65
Mainly Europe	0.19	0.01	1.41	4.66
Close-to-home	0.15	0.02	1.18	4.61
Anova F-test	1	38 ***	1,388 ***	165 ***

0.5% outliers were excluded
*** p < 0.01; ** p < 0.05; * p < 0.10.

Table 6.5.1 shows that employment growth was highest in firms that mainly import from Europe and the US (clusters 4 and 2). The relative share of flexible workers differs slightly between the five import clusters. Both wages and number of employees are highest in firms that import goods from all over the world (cluster 3) and firms that import mainly from European countries (cluster 4). These importers pay their employees an average annual salary of around 45 thousand euros and employ, on average, between 26 and 29 workers.

Enterprises that mainly import from China/BRIC countries are on average the smallest enterprises and pay the lowest salaries. In 2008, they paid on average 38 thousand euros per year and employed an average of 6 people. Firms that import from countries close to the Netherlands represent the average firm between the high-paying, large worldwide importers, and small firms importing from China/BRIC countries.

When looking at enterprise size, most importing enterprises in the Netherlands are small, i.e. employ less than 50 employees. However, this is less so for worldwide traders and enterprises that import from European countries. A third of these enterprises are medium or large in size, in terms of number of employees.

Enterprises that import from China and other BRIC countries pay on average the lowest wages. Worldwide importers pay the highest salaries

Enterprises that mainly import from the US are often active in services sectors. Importers from China and worldwide importers are mostly found in wholesale. However, importers from China are also often active in services sectors while worldwide importers are also active in manufacturing. Firms that import their goods from Europe are mainly active in wholesale and manufacturing (resembling worldwide importers), while close-to-home importers are evenly distributed across all economic sectors of activity.

6.6 Export clusters

Similar cluster analyses were carried out for exporting enterprises (including two-way traders). This also resulted in five clusters of enterprises, each including firms that are similar in their export destinations. These clusters are shown in 6.6.1. Enterprises in the first export cluster mainly export to European countries. Exporters in the second cluster mainly export to BRIC and non-EU countries. Non-EU countries such as Turkey, Russia and Switzerland, are the main export partners of exporters in cluster 3. Cluster 4 contains worldwide exporters. Lastly, cluster 5 incorporates enterprises that mainly export to the US/non-EU countries.

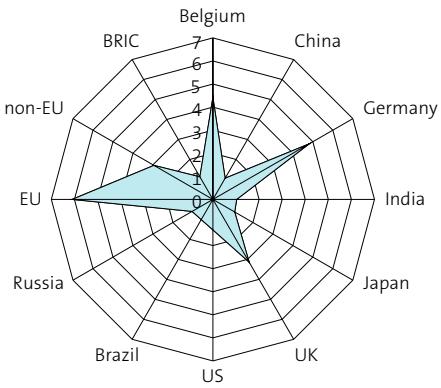
Graph 6.1.1 shows that the highest job growth rates were recorded for firms that export to countries all over the world – although the differences across the various clusters were not significant. The share of flex workers was also basically the same across the different clusters, while there were large differences in terms of employees and wages. Enterprises export goods to countries all over the world (worldwide exporters) and firms that mainly export to Europe (clusters 4 and 1, respectively) employ the highest number of workers, namely 35 and 17 respectively. Enterprises that mainly export to BRIC countries, non-EU countries and the US (clusters 2, 3 and 5 respectively) employ an almost equal number of workers (i.e. 9) and are hence significantly smaller than enterprises in export clusters 4 and 1. Average annual wages per employee are highest for worldwide exporters, i.e. almost 46 thousand euros. Enterprises that export to non-EU countries pay the lowest wages, i.e. less than 40 thousand euros.

Exporting firms are mainly active in manufacturing, namely 83 percent in 2008. Especially firms that export to BRIC, non-EU countries and the US are often manufacturers. This is interesting: export products destined for these countries go abroad by way of the manufacturing channel rather than via intermediaries such as wholesalers. This could indicate that a large share is produced domestically. Enterprises that export worldwide and those that export to Europe tend more often to be wholesalers. It is quite likely that these firms are active in re-exporting or merchanting, i.e. distributing goods across Europe or further via the Netherlands. Relatively few exporters are located in the services sectors.

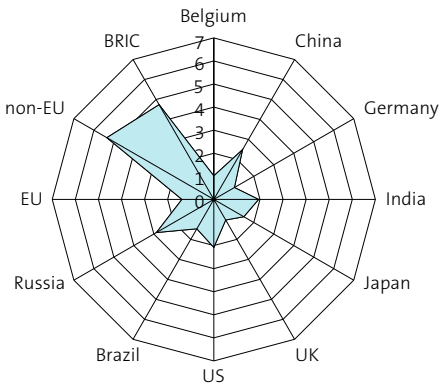
6.6.1 Export clusters (including TWT), 2008

Log export value per employee

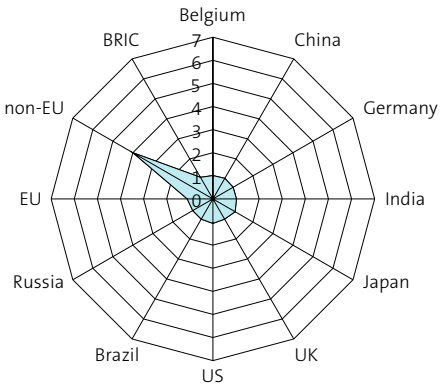
Mainly Europe



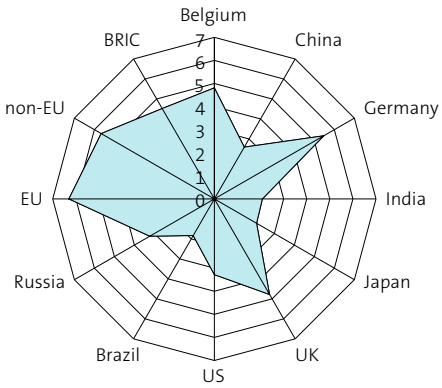
Mainly BRIC/non-EU



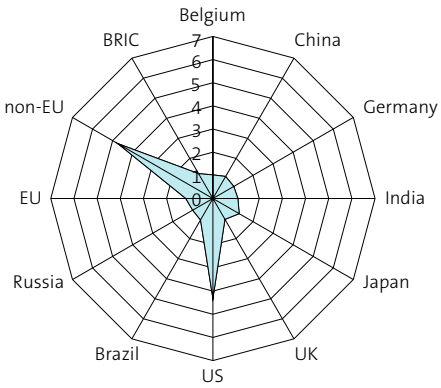
Mainly non-EU



Worldwide exporters



Mainly US/non-EU



	Job growth rate	Share of flex workers	Average number of log employees	Average log wages
Mainly Europe	0.15	0.02	1.24	4.63
Mainly BRIC/non-EU	0.15	0.02	0.97	4.64
Mainly Non-EU	0.16	0.02	0.96	4.60
Worldwide exporters	0.23	0.01	1.54	4.66
Mainly US/non-EU	0.13	0.02	0.98	4.63
Anova F-test	1	14 ***	608 ***	118 ***

0.5% outliers were excluded
*** p < 0.01; ** p < 0.05; * p < 0.10.

6.7 Combining import and export clusters (two-way traders)

In this section, the previously defined import and export clusters are combined and only the group of two-way traders is considered, in order to assess the relative influence of importing and exporting activities on jobs and wages. Combining import and export clusters implies that there are 25 possible trade patterns that can be distinguished for two-way traders. We only highlight and discuss the most 'popular' combinations (see Table 6.7.1).

Dutch traders can be classified into five very distinct groups, depending on their geographic portfolio of trading partners

In absolute numbers, most two-way traders are found in the combination of clusters, namely importing from US/non-EU countries and as well as exporting to non-EU countries. They employ on average 10 workers and pay their employees an average of 43 thousand euros annually. This is almost 4,000 euros more than enterprises in the second largest combination of trade flows (importing from BRIC and exporting to non-EU countries). In terms of employees, this second group is also smaller.

Employees working at two-way traders that import and export worldwide earn the highest salaries, i.e. almost 47 thousand euros annually. This is almost 8 thousand euros more than employees at the lowest paying two-way trading firms, namely those that import from BRIC/China and export to non-EU countries. They also employ far more people than the BRIC and non-EU oriented two-way traders, namely 50 workers compared with 7 employees in the latter firms. In addition, firms that import from BRIC/China and export to non-EU countries employ relatively more flex workers.

6.7.1 Descriptive statistics of two-way traders per trade portfolio, 2008*

Import clusters	Export clusters	N	% of total in import cluster	Job growth rate	Share of flex workers	Log employees	Log wages
1 Mainly BRIC/China (n=3842)	3 Mainly non-EU	1,783	46.41	0.18	0.03	0.82	4.59
2 Mainly US/non-EU (n=5246)	3 Mainly non-EU	2,841	54.16	0.17	0.02	1.01	4.63
3 Worldwide importers (n=2994)	1 Mainly Europe	1,162	38.81	0.13	0.02	1.44	4.64
3 Worldwide importers (n=2994)	4 Worldwide exporters	1,275	42.59	0.20	0.01	1.70	4.67
4 Mainly Europe (n=2819)	1 Mainly Europe	1,189	42.18	0.12	0.01	1.48	4.65
5 Close-to-home (n=2660)	1 Mainly Europe	1,552	58.35	0.20	0.02	1.33	4.63
Manova results	F-value Export			0.35	5.87 ***	92.45 ***	25.15 ***
	F-value Import			0.22	1.86	170.08 ***	16.08 ***
	F-value Export*Import			0.77	1.24	8.35 ***	3.64 ***

Table only shows most common combinations.
0.5% outliers were excluded.
*** p < 0.01; ** p < 0.05; * p < 0.10.

All other two-way traders resemble each other in terms of wages paid to employees, varying between 43 and 45 thousand euros. However, there are significant differences in terms of number of workers. Firms importing and exporting exclusively to US/non-EU countries are smaller than those that trade with European countries, such as Germany, the UK and Belgium. All the groups of two-way traders in Table 6.7.1 are predominantly active in the wholesale sector.

6.8 Regression results

Trading status

In our first regression model, we analyse the relationship between trading status and wages while controlling for enterprise effects such as firm size, foreign control and economic activity. The first column in Table 6.8.1 shows that of the four categories of trading status, all traders pay higher wages compared with non-traders – as we also concluded in Chapter B4 in the Internationalisation Monitor 2010 (CBS, 2010). However,

foreign control has a much stronger effect on wages than trading status, as does, for example, the share of skilled workers in the workforce.

6.8.1 Effect of trading status on employment characteristics, 2008

	Log wages	Log employees	Share of flex workers	Job growth rate
Constant	4,565 ***	0.551 ***	0.074 ***	0.218 ***
	(4,555.6)	(241.1)	(83.7)	(34.6)
Size class [1]	0.018 ***	1,259 ***	0.009 ***	0.042 ***
Medium	(8.9)	(279.2)	(5.3)	(3.4)
	0.010 ***	1,960 ***	0.004	–0.076 ***
Large	(2.5)	(211.5)	(1.2)	(–3.0)
Share high-skilled	0.169 ***	–0.227 ***	–0.049 ***	–0.098 ***
	(171.4)	(–101.0)	(–56.9)	(–16.0)
Foreign control	0.111 ***	0.262 ***	–0.016 ***	0.005
	(45.5)	(47.2)	(–7.5)	(0.3)
Trade status [2]				
Imports only	0.006 ***	0.142 ***	0.000	0.012 *
	(5.6)	(55.9)	(–0.3)	(1.7)
Exports only	0.006 ***	0.073 ***	–0.003 ***	0.007
	(6.0)	(31.1)	(–3.7)	(1.1)
Two-way traders	0.012 ***	0.108 ***	–0.004 ***	0.014 ***
	(29.4)	(118.6)	(–10.2)	(5.6)
F-value	3 899 ***	4 552 ***	484 ***	14 ***
N	394,982	394,982	394,982	338,408
R^2 adjusted	0.387	0.425	0.073	0.002

1) Reference category = Small enterprises.
2) Reference category = Non-traders.
All models include industry dummies (sbi 2 digit) (unreported).
*** p < 0.01; ** p < 0.05; * p < 0.10.

The second regression model estimates whether trading status has an impact on the size of an enterprise, estimated in terms of number of employees. Column 2 in Table 6.8.1 shows that international trade is positively related to the number of employees. Importing in particular is associated with high employment; ceteris paribus, importers only employ on average 39 percent more people than non-traders. Being a two-way trader is also positively associated with the number of employees, as well as exporting (only) but this effect is somewhat smaller. Foreign controlled firms are larger in terms of employment than Dutch controlled firms. There is a negative relationship between the share of highly educated workers and firm size.

The models with the share of flexible employees as well as job growth show that the indicators we included do not explain much of the variation across firms – R square values

are low. The models do seem to indicate that foreign controlled enterprises seem to have fewer flex workers in their workforce, and that the share of flex workers seems to be the largest among medium-sized firms. Exporters and two-way traders have fewer flex workers in their workforce than non-traders or importers. As to be expected, the rate of job growth also seems to decline with enterprise size, and two-way traders in particular appear to grow faster than non-traders.

Trade portfolios: clusters

In a second step, separate regression analyses were carried out to gauge the impact of specific trade patterns on jobs and wages in the groups of importing and exporting enterprises and two-way traders. Here, we again included the two-way traders in our importing and exporting categories, since here the partner country is of main interest (and in order to yield more observations). All regressions included firm effects (size class, economic activity, foreign control) as well as the skill level of employees, in the previous regression models. Table 6.8.2 shows only the coefficients for the various trade clusters. The first column in this table shows whether there are differences in the wages employees receive at the enterprises in the various import clusters (the importers in cluster 5, i.e. close-to-home are the reference cluster). The second column shows the impact of different export destinations on wages compared with enterprises in export cluster 1 (mainly Europe; reference cluster). The third column shows whether the various trade patterns of two-way traders influence wages. Here the reference group of two-way traders are those importing from close-to-home and exporting to Europe. Similar regressions are run with the (log) number of employees as dependent variable, which is shown in the second part of Table 6.8.2.

Ceteris paribus, enterprises that mainly import from China/BRIC countries pay lower wages than those that import from Germany, Belgium and the UK (close-to-home), namely an average of almost 10 percent less. Importing from the US (and other non-EU countries) is also negatively associated with wages. Enterprises that mainly import from Europe, as well as worldwide importers do not pay significantly different wages compared with enterprises that import from close-to-home (reference group).

In terms of employees, the regression results were somewhat more pronounced. Enterprises that import from China/BRIC or US/non-EU countries seem to have fewer employees than importers that source their goods close-to-home. Worldwide importers employed 20 percent more workers than the reference group, and importers from European countries are also bigger in terms of employee numbers, namely 13 percent.

6.8.2 Effect of trade portfolio on employment characteristics, 2008

	Log wages			Log employees		
	Importers (incl TWT)	Exporters (incl TWT)	Two-way traders	Importers (incl TWT)	Exporters (incl TWT)	Two-way traders
Import cluster						
IC 1 (Mainly China/BRIC)	–0.044 ***		–0.029 ***	–0.229 ***		–0.127 ***
	(–17.3)		(–7.9)	(–29.3)		(–11.0)
IC 2 (Mainly US/non-EU)	–0.033 ***		–0.008 **	–0.176 ***		–0.100 ***
	(–14.5)		(–2.3)	(–24.9)		(–9.0)
IC 3 (Worldwide importers)	–0.001		–0.009 **	0.116 ***		0.079 ***
	(–0.4)		(–2.4)	(11.9)		(6.7)
IC 4 (Mainly Europe)	0.005		0.001	0.066 ***		0.053 ***
	(1.5)		(0.4)	(6.8)		(4.5)
Export cluster						
EC 2 (Mainly BRIC/non-EU)		–0.010 ***	–0.001		–0.156 ***	–0.073 ***
		(–2.9)	(–0.0)		(–13.6)	(–5.7)
EC 3 (Mainly non-EU)		–0.035 ***	–0.024 ***		–0.168 ***	–0.090 ***
		(–15.0)	(–8.6)		(–22.5)	(–10.1)
EC 4 (Worldwide exporters)		0.014 ***	0.016 ***		0.078 ***	0.044 ***
		(4.5)	(4.9)		(7.9)	(4.4)
EC 5 (Mainly US/non-EU)		–0.014 ***	–0.005		–0.144 ***	–0.067 ***
		(–3.8)	(–1.1)		(–12.1)	(–5.1)
F-value	215 ***	103 ***	77 ***	693 ***	466 ***	388 ***
N	34,640	21,856	16,774	34,640	21,856	16,774
R^2 adjusted	0.278	0.226	0.234	0.554	0.570	0.605

Reference category import clusters: Close-to-home (cluster 5). Reference category export clusters: Mainly Europe (cluster 1).
All models include unreported controls for size class, industry (2 digit), ownership, and skill level (ibid. 6.8.1).
*** p < 0.01; ** p < 0.05; * p < 0.10.

Compared with the reference group (exporters to Europe), only employees working at firms that export worldwide seem to earn slightly higher wages (3 percent). All other types of exporters pay lower wages, particularly when non-EU countries are the main trading partners. Similar results were found in terms of firm size, as shown in the fifth column in Table 6.8.2. Worldwide exporters are larger in terms of number of employees than exporters in the reference group, ceteris paribus. Enterprises that export to BRIC, non-EU countries or the US are less than half the size (employee numbers) than enterprises that export to Europe.

Compared with the reference groups, wages and number of employees are the lowest at two-way traders that import from China/US and export to non-EU countries. Other things being equal, their wages were on average 9 percent lower, and the workforce at these firms was a third smaller. Two-way traders that import from Europe or close-to-home and export worldwide are among the best paying firms. However, in terms of enterprise size, worldwide traders dominate the population.

6.9 Conclusion

This chapter explored the extent to which the country of origin and/or destination of international trade flows has an additional impact on employees' jobs and wages, while controlling for enterprise effects, such as foreign control, size and sectoral activity.

We found that Dutch trading firms can be clustered into five distinct groups (both for exports and imports) with respect to the geographical origin and destination of their trade flows. For example, some firms only trade with our neighbours Belgium and Germany, whereas others trade with a multitude of countries around the globe. Analysis showed that both wages and the number of employees are highest in firms that import goods from all over the world and firms that import mainly from Europe. These importers pay their employees on average roughly 45 thousand euros in annual salaries and employ on average slightly less than 30 people. Enterprises that mainly import from China/BRIC countries are, on average, the smallest enterprises and pay the lowest salaries (6 people and 38 thousand euros respectively).

Export destination also has an impact on enterprise size and wages. Worldwide exporters and firms that mainly export to Europe employ the most workers, namely 35 and 17 respectively. Average annual wages per employee are highest for worldwide exporters (46 thousand euros). Enterprises that mainly export to BRIC countries, non-EU countries and the US resemble each other in terms of employee numbers, i.e. 9. Enterprises that export to non-EU countries pay the lowest wages, i.e. less than 40 thousand euros. Two-way traders that export worldwide pay the highest wages and employ the most workers. The wage premium is most pronounced for two-way traders that import from Europe and worldwide. Two-way traders that import from BRIC countries and particularly those that export to non-EU countries (i.e. the US) have on average the smallest number of employees and pay the lowest wages.

In addition, we ran several regression analyses to estimate the relationship between different trade portfolios on wages and employment while controlling for enterprise characteristics. All trading firms pay higher wages than non-traders, with two-way traders paying the highest wages. Furthermore, we found that international trade is positively related to the size of an enterprise in terms of the number of employees. Importing in particular seems to be associated with employment as importers employ on average 39 percent more people than non-traders. Being a two-way trader is also positively associated with the number of employees, as well as exporting, but this effect is somewhat smaller.

Finally, we assessed the impact of the geographical portfolio (i.e. the clusters) of each of the three types of traders on their wages and jobs, while controlling for firm effects and the skill level of employees. These regression results corroborated the descriptive statistics and showed that ceteris paribus, enterprises that import (either only importers, or two-way traders) from China/BRIC countries pay lower wages than enterprises that import from Germany, Belgium and the UK. This seems to suggest that imports from low-wage countries indeed does exert downward pressure on domestic wages. However, imports from the US (and other non-EU countries) are also associated with lower wages, which does not support this hypothesis. Importers that source their goods from China/BRIC or the US/non-EU countries are also both much smaller in terms of their number of employees, indicating that in addition to the large worldwide traders, importing from distant destinations may be a rather specialised activity. The largest importers are those that import goods from all over the world, i.e. they employ on average 20 percent more workers than the reference group.

Exploring whether the destination of exports affects wages and employment, we find that firms that export worldwide pay their employees the highest wages. Exporting to BRIC, the US and particularly non-EU countries seems to be negatively related to wages. Similar results were found in terms of firm size, namely that worldwide exporters are larger in terms of number of employees than exporters in the reference group. Exporters whose main trading partners are BRIC countries, the US or non-EU countries are smaller in terms of employee numbers than enterprises that export to Europe. This is a surprising finding. Since more remote destinations tend to be associated with higher fixed market entry costs, it is generally expected that, on average, only larger (and more productive, often also better paying) firms enter such markets. The results in this paper seem to suggest that in addition to the very large, worldwide traders that export to a large number of destinations (in line with theory), a substantial set of much smaller firms specialise in trade with only one or two of these distant destinations.

International trade and employment: the impact of product traded on jobs and wages

7

International trade and employment: the impact of product traded on jobs and wages

Enterprises that trade internationally employ more staff and pay higher wages than non-traders. However, as Chapter 6 showed, the relationship between international trade and various employment variables is not homogeneous. Adding to the previous analysis of the role of the portfolio of geographic origins and destinations of trade, this chapter analyses whether the type of product that is imported and/or exported by an enterprise provides an additional explanation for differences in employment and wages.

7.1 Introduction

Just as trading enterprises are not a homogeneous group of firms, neither are the products they import and/or export a uniform set of commodities. Some traders specialise in producing and trading a specific set of products, while other firms trade in a multitude of products but are less involved in their production. This indicates that although international trade has a positive impact on wages, productivity and profitability (Bernard et al., 2007; Wagner, 2005), differences in the magnitude of this positive relationship are to be expected within the population of traders. This chapter explores whether the type of product that is imported or exported by an enterprise is indicative of the wages it pays its employees and of its overall number of employees. We would expect that producing and trading technology-intensive products such as medical instruments or pharmaceuticals requires personnel with different skills than personnel that produce and trade unskilled-labour intensive products such as apparel or footwear. Since the latter appears to require less-skilled personnel in terms of a knowledge of languages, ICT, or productivity, it is likely that employees at such firms earn lower wages than employees in multinationals that produce high-tech products. In addition, we expect that firms that trade a multitude of products are larger in terms of employee numbers than firms that trade in a few products, particularly when a significant part of these products is also produced by such firms. However, when trade (and not production) is the main activity of a firm, as for a wholesaler, firm size in terms of employee numbers is expected to be more modest.

To explore the impact of an enterprise's product portfolio on the working conditions of its employees, we built on the existing linked employer-employee database for the Netherlands (see previous editions of the Internationalisation Monitor 2009/2010) by adding detailed product information of the trading enterprises. Implementing cluster analysis allowed for a clear allocation of firms into similar groups in terms of traded products. For importing firms, we were able to distinguish six distinct product clusters, compared with five product clusters for exporters. Analysing differences in wages, number of employees and characteristics of the workforce of the respective clusters helps

understand the link between product traded and employment characteristics and wages. Regression analysis determines whether the differences that were found still persist once we control for firm specific characteristics e.g. sectoral activity or foreign control. We make a distinction throughout this paper between importers, exporters and two-way traders.

The outline of this chapter is as follows. In section 7.2 we start with a brief review of the current literature on this topic. We then illustrate the dataset that was used in this chapter and explain the methodology behind the cluster analysis (section 7.3). The extent of trade concentration within the Dutch enterprise population, and also within the population of traders, is presented in section 7.4. Section 7.5 presents the results of the cluster analysis for importing firms, including descriptive statistics on various employment variables, including the job growth rate, the total number of employees per enterprise, the share of flex workers per firm and employee wages. It also provides descriptive information on differences across the clusters for the selected employment variables. The same is done in sections 7.6 and 7.7 for exporters and two-way traders. To determine whether differences between clusters apply when other factors that influence wages and employment are considered (Genee, Fortanier and Korvorst, 2010; Fortanier, Korvorst and Luppes, 2010; Fortanier and Korvorst, 2009), section 7.8 reports the results of several regression analyses. Section 7.9 sums up the main findings.

7.2 Theory and background

It is widely accepted that international trade is good for an economy and its workforce. Many studies also support this empirically, showing that exporters, and importers, pay their workers higher wages and are more productive and profitable than non-traders (Bernard et al., 2007; Wagner, 2005). Just as traders are not a homogeneous group of enterprises (Bernard, Jensen and Schott, 2009; Muûls and Pisu, 2007), there are also significant differences in the types of product traded by enterprises. Exporters of high-tech products are likely to be different from exporters of low-tech products, not only in terms of the people they employ (high-skilled versus low-skilled) but also in terms of growth and wages. Similarly, we may expect differences between the importers of high-tech products and the importers of low-tech products.

The previous chapter demonstrated that origin and destination of trade flows explain differences in wages and jobs at importing and exporting firms, while controlling for enterprise size, foreign ownership and economic activity. We found that enterprises that import from all over the world, and importers from Europe, pay the highest wages and

employ the most workers. Firms that mainly import from China and other BRIC countries are, on average, the smallest enterprises and pay the lowest salaries.

A few studies have already touched on this subject. Martins and Opromolla (2009) investigate the differences in wages between exporters, importers and non-traders in the manufacturing sector in Portugal. They find a positive relationship between the level of technology of the product exported and the wages paid to employees. The relationship between the level of technology of imported products and wages is an inverted U-shape, with the highest wages paid to workers at firms that import medium to high-tech products. Biscoup and Kramarz (2007) found that French firms that imported finished goods from low-wage countries destroyed (low-skilled production) employment. Imports from abroad might lower production costs, which in turn could lead to an increase in profits. Whether a rise in profits is shared with the remaining, higher-skilled employees in terms of higher wages, is also questionable.

7.3 Data and methodology

To determine whether the type of goods that are traded by an enterprise has an impact on jobs and employee wages, we updated the integrated employer-employee dataset which had already been constructed for previous Internationalisation Monitors. As described in Chapters 5 and 6, the Linked Employee-Employer Dataset (LEED) links individual information on employees (e.g. wages, gender, age) to the enterprise at which the individual works and provides employer-level information such as enterprise size, economic activity, locus of control and international trade status (importer, exporter, two-way trader). Table 6.1 in Chapter 6 shows the exact composition of the dataset for 2006–2008. The dataset was extended for this chapter to include, by enterprise, the type and value of goods that are traded. We make use of a product classification that classifies traded products 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[1)]. A brief description of these categories is given in the annex to this chapter.

1) The classification can be found at: http://www2.econ.uu.nl/users/marrewijk//eta/intensity.htm.

The next section presents a number of descriptive tables in order to explore the composition of Dutch trade flows in terms of the average number of products traded and their factor intensity. Secondly, we take a closer look at the products traded by these enterprises by means of cluster analysis. K-means cluster analysis is used to group together observations based on common characteristics, in this case, trade by factor intensity in the trade flow of enterprises. For each firm, we calculated a series of trade factor intensity variables by dividing an enterprise's (log) imports of each product group (e.g. primary product intensive or human capital intensive) by the firm's number of employees. Below we show that Dutch importing enterprises can be grouped into six clusters, e.g. some enterprises mainly import primary products, and others more unskilled labour intensive products or high-tech products. Similar results were obtained for exporters.

We ran several regression models in order to establish whether: 1) the type of product imported, 2) the type of product exported, and 3) the trade pattern of two-way traders influence wages, the share of flexible workers in the workforce, and employment (growth). The regressions control for firm-specific effects such as economic activity (industry dummies), firm size, skill level and foreign control.

7.4 Descriptive statistics

Trading firms account for only a small fraction of the total number of firms. Table 9.5.1 in Chapter 9 shows that approximately 10 percent of all firms in 2008 export, and roughly 16 percent of all firms import. In addition, trade is concentrated in a very small number of internationally active firms. As shown in Tables 1.6.1 and 1.6.2 in Chapter 1, the top 1 percent of traders account for 74 percent of total imports and almost 71 percent of total exports. Similar results have been found by Muûls and Pisu (2007) and Bernard et al. (2007 and 2009).

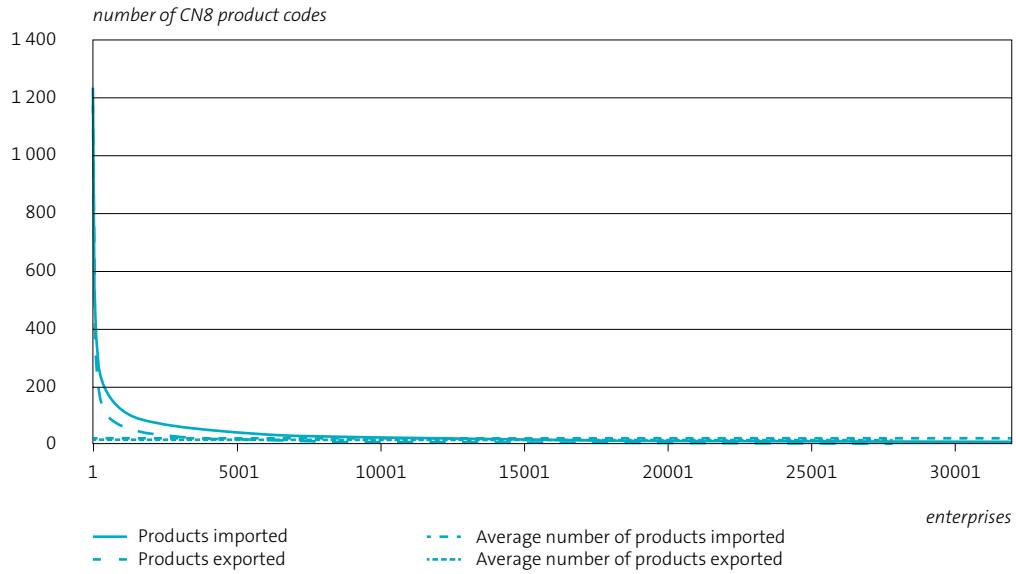
Importers and exporters trade relatively few products and with relatively few countries (section B1.4 and B1.5 in IM2009). Table 7.4.1 shows the product extensive margin for Dutch traders, i.e. the number of products firms import and/or export. The number of products traded declines rapidly with the number of trading firms; starting at roughly 1,200 products and rapidly declining to 1 product traded. Approximately 30 percent of exporters and 25 percent of importers traded one single product in 2008. The number of export products also seems to decline more rapidly than the number of imported products.

Approximately 30 percent of exporters and 25 percent of importers traded one single product in 2008

On average, Dutch exporters exported 12 products in 2008, whereas importers imported an average of 16 products. This is slightly more than Bernard et al. (2007) found in their US study for 2000, namely 8.9 exported products and 10 imported products. Muûls and Pisu find similar export figures among Belgian traders, but a higher average number of products imported, namely 34. The averages depicted in Table 7.4.1 are somewhat overestimated due to the fact that Intra-European traders are only observed if their trade value is above the survey threshold (> 900,000). As such, the smallest intra-European traders, which are likely to trade in only a few products, are not included in this analysis.

When looking at the composition of trade portfolios, it turns out that there are remarkable differences between importers, exporters and two-way traders. Table 7.4.2 shows that exporters are highly specialised in primary products such as food, beverages and petroleum products. Almost 72 percent of their exports consist of these, mainly domestically-produced, commodities. Exports of technology-intensive products and human-capital intensive products (e.g. cars, television/radio broadcast receivers) account for only a small part of their total exports. Moreover, the share of re-exports is relatively high for these products.

7.4.1 Number of products traded (CN8), 2008



Enterprises that only import, buy technology-intensive products (28.1 percent), human-capital intensive products (27.5 percent) and also primary products (24.0 percent). Examples of these products are office machines (e.g. computers), medical equipment and motor vehicles. These products are subsequently sold on to other Dutch enterprises or consumers, or incorporated in their own production process, with which other products or services are produced. Compared with exporters and two-way traders, unskilled labour intensive products account for a relatively larger share in the products imported by importers.

Two-way traders often trade primary products and technology-intensive products. The share of re-exports is over half for technology-intensive products, which indicates that two-way traders do not improve, refine or add value to these products. These Dutch enterprises serve as a hub between producers and consumers elsewhere in the world. The same applies to their trade in unskilled labour intensive products.

7.4.2 Type of commodities traded according to factor intensity level, by trader type, 2008

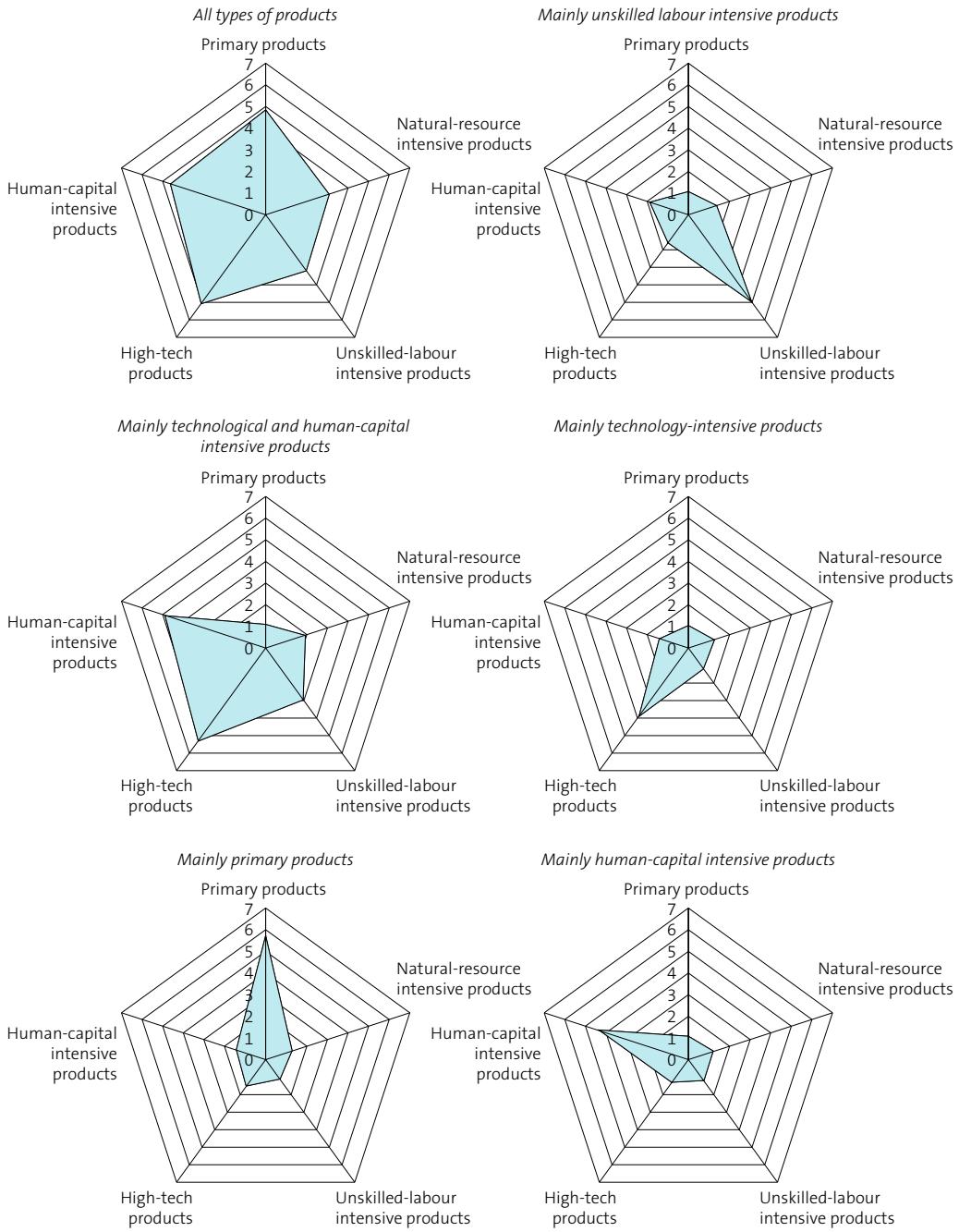
	Importers only	Exporters only		Two-way traders		
			of which re-exports	import value	export value	of which re-exports
	%					
Primary products	24.0	71.9	2.6	35.0	37.0	21.0
Natural-resource intensive products	5.5	0.3	0.4	3.1	2.0	24.9
Unskilled labour intensive products	14.7	2.4	8.1	6.7	5.9	56.6
Technology-intensive products	28.1	13.9	32.0	38.0	39.6	52.2
Human-capital intensive products	27.5	11.5	51.5	17.2	15.5	37.1
Total	100	100		100	100	

7.5 Import clusters

In order to assess whether the kind of imported goods has an impact on employment and wages, cluster analysis was conducted to compile groups of enterprises with similar import characteristics (i.e. with a similar product portfolio). The clusters shown in 7.5.1 should be interpreted as follows: e.g. the enterprises in cluster 5 (mainly primary products) import almost 500 thousand euros of primary products per employee (the log 10 of the import value per employee is 5.7, or almost 500,000 euros). They do import other types of products, but much less, so we categorised them as primary product intensive importers.

7.5.1 Import clusters (including TWT), 2008

Log import value per employee



	Job growth rate	Share of flex workers	Average number of log employees	Average log wages
All types of products	0.18	0.02	1.47	4.64
Mainly unskilled labour intensive products	0.15	0.04	0.84	4.55
Mainly technological and human-capital intensive products	0.16	0.02	1.11	4.63
Mainly technology-intensive products	0.21	0.02	1.01	4.63
Mainly primary products	0.16	0.03	0.96	4.61
Mainly human-capital intensive products	0.13	0.03	0.93	4.59
Anova F-test	2	50 ***	397 ***	180 ***

0.5% outliers were excluded
*** p < 0.01; ** p < 0.05; * p < 0.10.

Table 7.5.1 shows that job growth was the highest in enterprises that mainly import technology-intensive products (cluster 4). The number of jobs at enterprises in this cluster increased on average by 21 percent compared with 2008. Enterprises that mainly import human-capital intensive products grow the slowest (cluster 6), i.e. their average number of jobs increased by 13 percent in 2008. However, the differences in job growth between the six clusters were not statistically significant. Differences in the relative share of flex workers between the six clusters of importers were significant, but only slight
Both wages and number of employees were the highest in firms that import all types of products (cluster 1), although the wage premium was only slightly higher than enterprises in clusters 3 and 4 (human-capital and/or technology-intensive products). Enterprises that import all kinds of goods employed an average of 30 workers and paid average annual salaries of 44 thousand euros. It obviously takes a substantial enterprise to process or implement such a wide range of different products. The smallest and lowest paying firms are those that mainly imported unskilled labour intensive products. They employed on average 7 people and average annual wages were 35 thousand euros. They tend to employ relatively more flex workers, and their job growth rate was average.

7.6 Export clusters

Similar cluster analyses were carried out for exporting enterprises (including two-way traders). This resulted in five clusters of enterprises, each including firms that are similar in their export product portfolio. Five clusters can be identified, including enterprises that mainly export: 1) technology and human-capital intensive products; 2) primary products; 3) technology-intensive products; 4) unskilled labour intensive products, and 5) human-capital intensive products.

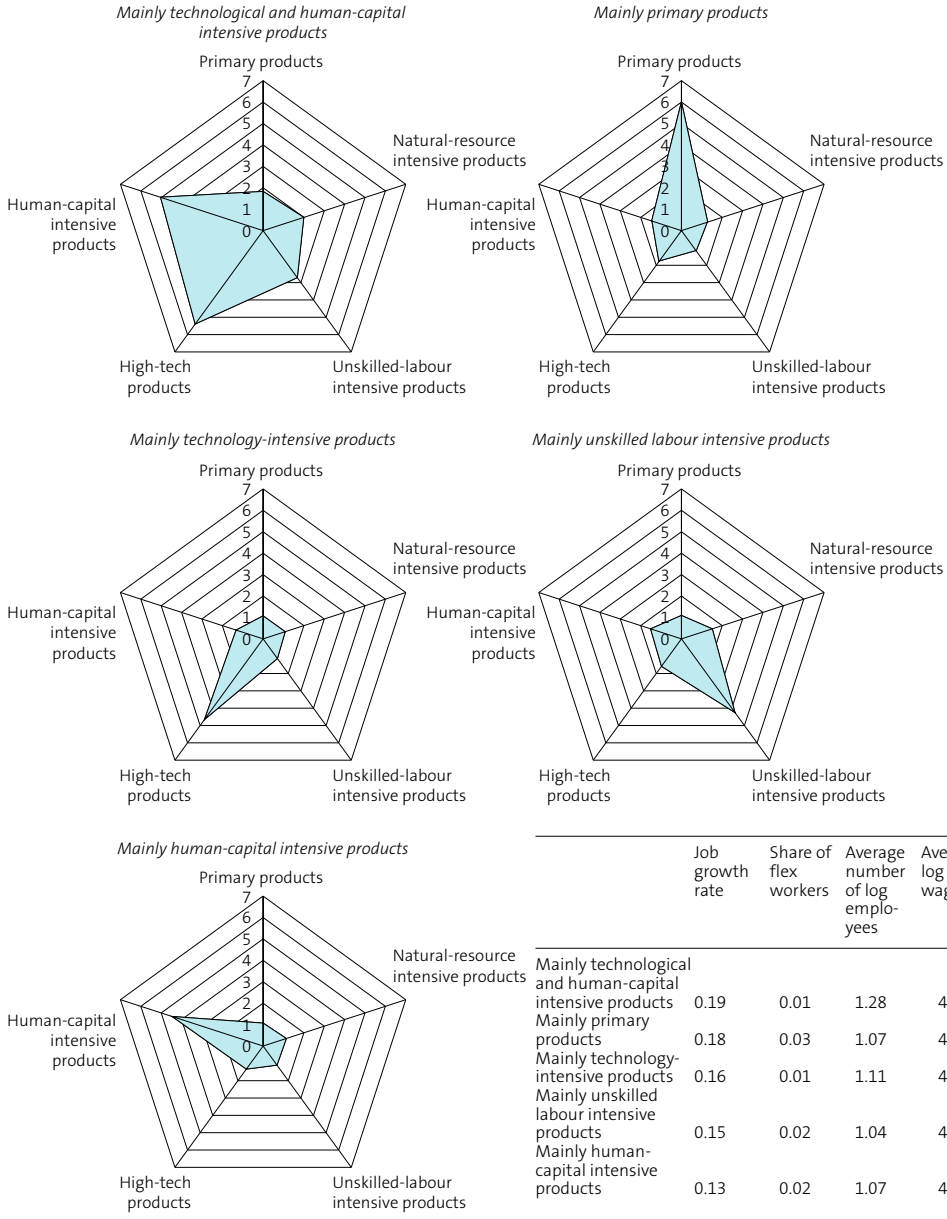
Graph 7.6.1 shows that enterprises in cluster 2 export primary products at an average value of 933 thousand euros per employee (log 10 of 5.97). Enterprises that mainly export human-capital intensive products (cluster 5) export these products at a value of almost 30 thousand euros per employee (log 10 of 4.5).

As was also found for importers, there were differences in job growth between the clusters of exporting firms, although they are not statistically significant. Job growth was the highest in enterprises that mainly export technological and human-capital intensive products (cluster 1), namely 19 percent in 2008. As with importers, the slowest growing exporters were those that primarily export human-capital intensive products. Differences in the relative share of flex workers were also minor, but significant. In fact, the share of flex workers is very low to begin with.

Exporters of technological and human-capital intensive products generally employ the most people, i.e. an average of 19 in 2008. Together with exporters of solely technological products (cluster 3), they paid their employees the highest wages of all exporter types, namely on average almost 45 thousand euros.

7.6.1 Export clusters (including TWT), 2008

Log export value per employee



	Job growth rate	Share of flex workers	Average number of log employees	Average log wages
Mainly technological and human-capital intensive products	0.19	0.01	1.28	4.65
Mainly primary products	0.18	0.03	1.07	4.61
Mainly technology-intensive products	0.16	0.01	1.11	4.65
Mainly unskilled labour intensive products	0.15	0.02	1.04	4.58
Mainly human-capital intensive products	0.13	0.02	1.07	4.59
Anova F-test	1	32 ***	91 ***	185 ***

0.5% outliers were excluded
*** p < 0.01; ** p < 0.05; * p < 0.10.

7.7 Combining import and export clusters (two-way traders)

Combining the previously defined import and export clusters (i.e. considering only the two-way traders and their import and export portfolio), 30 possible trade patterns can be distinguished. We only highlight and discuss the most 'popular' combinations (see Table 7.7.1).

An important conclusion that can be drawn from Table 7.7.1 is that for two-way traders, the portfolio of imported goods is very similar to that of exported goods. For instance, almost 89 percent of enterprises that mainly import primary goods also export primary goods. Indeed, within each group of firms in Table 7.7.1, wholesale is the main sector of activity.

As was seen for importers and exporters separately, two-way traders that specialise in the trade of unskilled labour intensive products or human-capital intensive products pay their employees the lowest wages, namely around 40 thousand euros (which is somewhat more than only importers or only exporters of these goods).

7.7.1 Descriptive statistics of two-way traders per trade portfolio, 2008*

Import clusters	Export clusters	N	% of total in import cluster	Job growth rate	Share of flex workers	Log employees	Log wages
1 All types of products (n=2047)	1 Mainly technological and human-capital intensive products	807	39.40%	0,32	0,01	1,61	4,66
1 All types of products (n=2047)	2 Mainly primary products	632	30.90%	0,21	0,02	1,64	4,65
2 Mainly unskilled labour intensive products (n=1879)	4 Mainly unskilled labour intensive products	1,379	73.40%	0,15	0,02	1,03	4,60
3 Mainly technological and human-capital intensive products (n=5449)	1 Mainly technological and human-capital intensive products	2,292	42.10%	0,17	0,01	1,37	4,66
3 Mainly technological and human-capital intensive products (n=5449)	3 Mainly technology-intensive products	1,780	32.70%	0,14	0,01	1,20	4,66
4 Mainly technology-intensive products (n=4241)	3 Mainly technology-intensive products	2,881	67.90%	0,17	0,01	1,15	4,66
5 Mainly primary products (n=1927)	2 Mainly primary products	1,707	88.60%	0,18	0,03	1,12	4,64
6 Mainly human-capital intensive products (n=1949)	5 Mainly human-capital intensive products	1,212	62.20%	0,09	0,03	1,12	4,60
Manova results	F-value Export			0,34	2,24 *	0,45	30,18 ***
	F-value Import			2,19 *	2,74 *	129,61 ***	9,14 ***
	F-value Export*Import			0,81	0,73	5,70 ***	4,55 ***

Table only shows most common combinations.
0.5% outliers were excluded.
*** p < 0.01; ** p < 0.05; * p < 0.10.

Two-way traders that trade in all kinds of products and those that trade in human-capital and/or technology-intensive products generally pay the highest wages, namely around 46 thousand euros. Although their wage payments are similar, two-way traders that specialise in the trade of either technological or human-capital intensive products have on average 10 employees less than enterprises that trade in both (on average 23 employees). The largest enterprises are those that import all types of products, as was also determined for importers. Particularly when enterprises export primary products such as oil, they employed many people (especially compared with two-way traders specialised in the trade of primary products).

7.8 Regression results

The results of the regression analyses, for importers, exporters (both including two-way traders), and two-way traders, are shown in 7.8.1, with wages and employees as dependent variables. All models confirm earlier findings and show that, controlled for differences in skills of employees, larger firms pay higher wages, and employ more people, that wages in wholesale and services firms are, on average, larger than in manufacturing firms, but the number of employees is much lower, and that foreign controlled enterprises pay both higher wages, and are on average larger in terms of number of employees. Two-way traders are both larger and pay higher wages than firms that only import or export.

Ceteris paribus, the importers of unskilled labour intensive products pay the lowest wages and employ fewer employees than all other import clusters. Employees at these firms receive roughly 13 percent lower wages than employees at firms that import primary products (reference group) and the workforce is, on average, 6 percent smaller.
Importers in the other clusters also pay lower wages than importers of primary products, when controlled for differences in skill, sector and size, but these differences are much smaller. This seems to suggest that imports of unskilled labour intensive products exert downward pressure on domestic wages.

As is to be expected, enterprises that import all types of products turn out to be the largest of all import clusters. Compared with importers of primary products, they employ on average 36 percent more people.

As was found for importers, exporters of unskilled labour intensive products also pay lower wages than exporters of primary products. Workers at such firms receive on average 11 percent lower wages than employees at similar firms in the reference group, when controlled for firm specific effects and differences in skills. Another notable difference in wages seems to exist between exporters of primary products (reference category) and exporters of human-capital intensive products, where the latter pay on average 8 percent lower wages. When such a firm also exports technology-intensive products, the wage difference disappears, which indicates that certain human-capital intensive products are more technological in nature and require more skilled (and high-paid) employees to produce, while other products are more capital intensive.

In terms of employees, only exporters of technology-intensive products are significantly larger than exporters in the reference group. All other export clusters do not differ from exporters of primary products in terms of employees.

Trade in unskilled labour intensive products is generally negatively associated with employees' wages and firm size in terms of jobs

Columns three and six show the regression results specifically for two-way traders. Again, trade in unskilled labour intensive products seems to be least beneficial for employees' wages, as the average wage difference between these firms and two-way traders in primary goods is 13 percent. Not included in this analysis, but interesting to investigate, is the impact of re-exports in this regard. As shown in Table 7.4.3, the share of re-exports in the trade in unskilled labour intensive products was 56.6 percent for two-way traders in 2008. In such cases, not much value added is produced in the Netherlands. It is interesting to investigate what part is still carried out by Dutch employees and what wages they earn.

Compared with both reference groups, two-way traders that export human-capital intensive and/or technology-intensive products (clusters 1 and 3) pay similar wages. Neither do they differ substantially in terms of workforce. Differences between the number of employees working at the various two-way traders are the biggest for enterprises that import all kinds of products and export primary products.

7.8.1 Effect of trade portfolio on wages and employment, 2008*

	Log wages			Log employment		
	Importers (incl TWT)	Exporters (incl TWT)	Two-way traders	Importers	Exporters (incl TWT)	Two-way traders (incl TWT)
Constant	4,522 ***	4,534 ***	4,571 ***	0.926 ***	0.859 ***	1 144 ***
	(1,275.3)	(1,152.2)	(1,214.7)	(86.3)	(69.1)	(95.1)
Size (1)						
Medium	0.012 ***	0.009 ***	0.002	0.998 ***	0.939 ***	0.884 ***
	(4.3)	(3.0)	(0.5)	(120.6)	(102.1)	(92.1)
Large	0.003	0.015 ***	0.011 **	1723 ***	1648 ***	1575 ***
	(0.6)	(2.8)	(2.1)	(113.0)	(99.5)	(93.1)
Sector (2)						
Wholesale	0.034 ***	0.040 ***	0.041 ***	–0.195 ***	–0.188 ***	–0.184 ***
	(16.0)	(17.5)	(16.4)	(–30.0)	(–25.9)	(–22.9)
Services	0.011 ***	0.029 ***	0.034 ***	–0.124 ***	–0.160 ***	–0.153 ***
	(4.9)	(10.8)	(11.4)	(–17.9)	(–19.2)	(–16.0)
Share high-skilled	0.179 ***	0.152 ***	0.154 ***	–0.197 ***	–0.180 ***	–0.197 ***
	(73.9)	(50.6)	(45.9)	(–27)	(–19.0)	(–18.4)
Foreign control	0.096 ***	0.074 ***	0.070 ***	0.230 ***	0.210 ***	0.185 ***
	(36.1)	(25.0)	(23.5)	(28.6)	(22.6)	(19.6)
Two-way trader	0.007 ***	0.006 ***		0.044 ***	0.089 ***	
	(10.5)	(4.9)		(21.0)	(25.0)	
Import cluster (3)						
IC 1 (All types of products)	–0.016 ***		–0.020 ***	0.133 ***		0.146 ***
	(–3.9)		(–3.9)	(10.8)		(8.8)
IC 2 (Unskilled labour intensive products)	–0.060 ***		–0.029 ***	–0.027 ***		0.024
	(–17.7)		(–4.5)	(–2.6)		(1.2)
IC 3 (Technological and human-capital intensive products)	–0.025 ***		–0.023 ***	0.054 ***		0.082 ***
	(–8.0)		(–4.1)	(5.6)		(4.7)
IC 4 (Technology-intensive products)	–0.018 ***		–0.017 ***	0.045 ***		0.057 ***
	(–5.8)		(–3.1)	(4.7)		(3.2)
IC 6 (Human-capital intensive products)	–0.029 ***		–0.021 ***	–0.008		0.031
	(–8.5)		(–3.4)	(–0.8)		(1.6)
Export cluster (4)						
EC 1 (Technological and human-capital intensive products)		–0.004	–0.000		0.057 ***	0.004
		(–1.1)	(–0.1)		(5.7)	(0.2)
EC 3 (Technology-intensive products)		–0.007 **	–0.006		0.011	–0.030 *
		(–2.4)	(–1.2)		(1.2)	(–1.9)
EC 4 (Unskilled labour intensive products)		–0.049 ***	–0.039 ***		–0.013	–0.037 **
		(–14.2)	(–7.0)		(–1.2)	(–2.1)
EC 5 (Human-capital intensive products)		–0.036 ***	–0.030 ***		–0.014	–0.054 ***
		(–11.1)	(–5.7)		(–1.4)	(–3.2)
F-value	791 ***	466 ***	273 ***	3,215 ***	2,537 ***	1,558 ***
N	34,706	21,872	16,828	34,721	21,874	16,830
R^2 adjusted	0.245	0.190	0.196	0.526	0.610	0.582

Reference group 1: Small traders. Reference group 2: Manufacturers. Reference group 3: Importers of primary goods. Reference group 4: Exporters of primary goods.
0.5% outliers were excluded.
*** p < 0.01; ** p < 0.05; * p < 0.10.

7.9 Conclusion

Dutch international trade in goods is concentrated among a relatively small number of firms. In 2008, the top 1 percent of traders accounted for 74 percent of total imports and almost 71 percent of total exports. In addition, within this group of traders, only a few firms trade in a large number of products. Approximately 30 percent of exporters and 25 percent of importers traded one single product in 2008. On average, the product extensive margin for Dutch exporters is 12 products in 2008, whereas importers imported on average 16 products.

Products that are traded internationally can be categorised according to their factor intensity, i.e. the factor of production which is primarily used to produce the commodity (capital, labour, primary resources etc). Section 7.4 showed that importers, exporters and two-way traders all have quite different product portfolios. Trade in technology-intensive products tends to be carried out more often by two-way traders than by importers or exporters. A larger share of two-way-trader export also consists of re-exports, indicating that these firms are more active as distributors and intermediaries rather than producing products themselves. Exporters are specialised in primary products such as food, beverages and petroleum products while importers mainly import technology-intensive products, human-capital intensive products and also primary products.

One important objective of this chapter was to determine whether the type of product that an enterprise trades internationally provides an additional explanation for differences in wages and jobs at otherwise similar importing and/or exporting enterprises. Cluster analysis showed that of all importing firms, firms that import a multitude of products are the largest in terms of employee numbers and pay their workers the highest salaries, followed by firms that import human-capital and/or technology-intensive products. The smallest and lowest paying firms are those that mainly import unskilled labour intensive products.

Exporters of technological and human-capital intensive products employ on average the most people. Together with exporters of solely technological products, they pay their employees the highest wages. Exporters of unskilled labour intensive products are the lowest paying exporters.

Regression analyses confirm these descriptive findings in that, for example, trade in unskilled labour intensive products is associated with lower employee wages. The impact ranges from 13 percent lower wages at importing and two-way trading firms, to 11 percent lower wages at exporting firms (compared with traders in primary products). Importing

unskilled labour intensive products is also negatively associated with the number of employees. These findings suggest that imports of unskilled labour intensive products exert downward pressure on domestic wages and employment.

Exporting only human-capital intensive products seems to be negatively associated with wages. When these exporters also export technology-intensive products, wages resemble those of the best paying exporters (exporters of primary products). This indicates that certain human-capital intensive products are more technological in nature and require more skilled (and high-paid) employees to produce, while other products are more capital intensive.

Two-way traders that import a wide range of products and export primary products are the largest in terms of employee numbers. They are also among the best paying two-way traders.

Further research should explore several points in more detail. For example, an important extension would be to include more explicitly the role played by re-exports. Some products are merely shipped through the country, destined for another market. Re-exporting yields significantly less value added for the Dutch economy than domestic production (even if it relies on the import of intermediate products) and is likely to be associated with different workforce characteristics.

ANNEX

7.1.1a Composition of factor intensity categories

Factor intensity	Examples of products (among other things)
Primary products	Live animals, food, beverages, tobacco, cloth, fabric, wood, stone, ores, crude minerals, (refined) petroleum products, coal, briquettes, natural gas, electricity
Natural-resource intensive products	Radio-active materials, construction materials, leather (manufactures), mineral manufactures fur, nickel, silver, aluminium, copper, lead, zinc, uranium, tin, wood materials
Unskilled labour intensive products	Knitted or woven textiles and garments, apparel, footwear, glass, pottery, ships, furniture, toys, childrens' products
Technology-intensive products	Dyes, paints, articles of rubber, perfumes, soap, motorcycles, trailers, motor- and railway vehicles for passengers and freight, rails and railway track, radio and television receivers, watches, art, jewellery, musical instruments, iron/steel/metal/alumin
Human-capital intensive products	(An)organic chemicals, alcohols, medicinal and pharmaceutical products, medical appliances and equipment, fertilizers, polymers, explosives, (electric) machines and apparatus, machines to refine or process products (e.g. food, textile, paper), engines, mo

Source: Van Marrewijk, 2002,; http://www2.econ.uu.nl/users/marrewijk//eta/intensity.htm.

International sourcing and employment effects – a micro data linking approach

8

International sourcing and employment effects – a micro data linking approach

8.1 Introduction

8.2 Literature review on international sourcing

8.3 Concepts and methodology

- Concept of international sourcing
- Micro data linking approach
- Grouping design
- Regression analysis
- International sourcing in 2001–2006

8.4 Labour market effects of international sourcing

- Labour volume
- Wages
- Labour composition

8.5 Discussion of results and implications for future research

This study finds that employment growth in domestic enterprises decreases as a result of international sourcing while wage growth increases, indicating that lower paid jobs are more prone to international sourcing. This is confirmed by the data that show a diminishing share of low paid workers in enterprises involved in international sourcing, while this share increases, albeit slightly, in enterprises that were not involved in international sourcing in the 2001–2006 reference period. At the same time, enterprises that sourced internationally show an increase in the share of high paid workers, while enterprises in the control group display a decrease.

8.1 Introduction

In recent years innovations in transportation and communications technology launched a new stage in the internationalisation of the global economy. While international trade – until then – mainly involved the export and import of complete goods, it now increasingly entails trade in tasks. Production processes are being split into separate activities, each of which is localised in – from a business economic perspective – the most appropriate place in the world. Activities that need cheap labour are localised in places where there is a sufficient supply of cheap labour. In recent decades we have seen a shift in these parts of the value chain from industrialised economies to developing economies in Eastern Europe and South-East Asia. Activities such as R&D and product design, which require high-skilled labour, are performed at those locations where there is a sufficient supply of high-skilled workers. It is no longer obvious for these activities to be bound to western industrialised economies, since developing economies have displayed a considerable increase in numbers of motivated and well-educated young people. Not only access to labour, but environmental, infrastructural, political or fiscal motives also play a role in restructuring the value chain. This leads in receiving countries to more welfare, increasing consumption levels, and new market opportunities, adding access to markets as another motive for moving activities abroad (sales and distribution). These developments lead to structural changes in our economy. However, industrial transformation is nothing new. It is inherent to economic development. Technological innovations continuously change enterprises, their organisational structure and the way they generate income.

Nevertheless, the impact of relocation on the labour market is now one of the major issues of concern for policymakers and public opinion. In particular, the rapid and permanent restructuring of multinational enterprises arouses uncertainty about the domestic labour market and welfare standards. This uncertainty leads to fear and worry among the public at large, not in the least as a result of extensive media attention to anecdotal

evidence of enterprises moving activities abroad. International sourcing therefore has a negative image among the public at large. The lack of statistics about this phenomenon does not improve the situation and neither does it enhance the quality of public debate about international sourcing and its effects on domestic welfare. So the need for facts, i.e. statistics, among academics, policymakers and the public at large about the globalising economy and its impact is apparent and pressing. The domestic-focused nature of national statistics means it is exceedingly difficult to measure the cross-border behaviour of economic actors. In this study we combine several data sources on enterprise level in order to assess the impact of international sourcing on labour volume, wages, and labour composition.

Section 8.2 gives a brief overview of the current academic debate on international sourcing and its effects on labour volume and domestic wages. Section 8.3 explains the terminology and definitions and elaborates on the methodologies applied for analysing the effects of international sourcing on enterprise level. In 8.4 we provide an overview of the linked micro data and present the results of statistical analyses. This chapter concludes in 8.5 with a discussion of the results and suggestions for further research.

8.2 Literature review on international sourcing

One indicator for the increased fragmentation of value chains over the world and hence the rise in offshoring is the increase of international trade in intermediate goods (Sturgeon & Gereffi, 2009). The trade in intermediate goods has shown a steep increase since the mid-1990s, indicating that final products are increasingly composed of parts that are made in different locations throughout the world. Hijzen et al. (2010) argue that the rise in offshoring has been an important factor behind the growth of total world trade. Several studies have used figures on trade in intermediate goods as a proxy for offshoring and global value chains. However, difficulties and ambiguity arise when defining intermediate goods, since some products could be goods for both intermediate and final consumption.

Offshoring is a phenomenon that entails the organisational and technological ability to relocate specific tasks and coordinate a geographically dispersed network of activities. It decouples the linkages between economic value creation and geographic location (Levy, 2005). Levy argues that offshoring is not just a macro-economic phenomenon

driven by new telecommunication technologies and falling costs, but that it also is closely related to the development of enterprise-level organisation and managerial capabilities to coordinate geographically dispersed networks of tasks and productive activities (Levy, 2005). Particularly multinational enterprises display an increasing organisational and technological capacity to separate and coordinate a network of contractors performing an intricate set of activities (Levy, 2005). The fragmentation of production offers enterprises benefits through the improvement of the primary production factors by allowing enterprises to specialise in the activities they perform well. This reflects the Ricardean model of comparative advantage. According to Mankiw and Swagel (2006), offshoring is 'only the latest manifestation of the gains from trade that economists have talked about at least since Adam Smith'. Mankiw and Swagel argue that offshoring can lead to welfare gains in the aggregate, just as trade. However, when referring to the academic literature on international economics we also know that trade produces winners and losers and increases inequalities in income distribution. So who are the winners and who are the losers in the international sourcing story?

Agrawal and Farrel (2003) argue that 'companies move their business services offshore because they can make more money – which means that wealth is created for the US as well as for the country receiving the jobs.' This indicates that enterprises will profit from sourcing internationally, but it says nothing about the gains (or losses) of the other actors involved. In this respect, Levy (2005) states that the creation of global labour markets for specific skill groups shifts the balance of market power among enterprises, workers and countries and reduces the bargaining power of workers in relation to their employers. So while enterprises (i.e. shareholders) make more profit after sourcing, employees in the home country may not benefit. Saving labour costs in industrialised economies by moving jobs from expensive to cheap labour countries simply transfers income from workers in the domestic country to workers abroad and to shareholders in the offshoring enterprise (Levy, 2005). This is primarily a short-term effect and raises the question: what happens with domestic workers in the medium and long term?

Most attention of policymakers and the public at large seems to concentrate on the employment effects of international sourcing. The wave of media attention to offshoring has focused on a widespread concern that this phenomenon is threatening a wide range of jobs in western industrialised economies (Bernstein, 2004; Swann, 2004; Levy, 2005). According to Levy (2005), real income in industrialised countries could increase if those people displaced by offshoring are able to shift to more productive employment. Several studies bear out the short-term negative employment effects of international sourcing. However, medium and long-term effects are difficult to monitor.

Sethupathy (2011) describes the results of a micro data analysis and finds no evidence that international sourcing has an effect on employment. However, he finds that operating

profits per domestic worker (profitability) and average domestic wages rose (more for treatment than for control enterprises) at offshoring enterprises between 1993 and 1997. According to Sethupathy, increased productivity generates higher wages. Offshoring is comparable to the introduction of a new technology that enterprises acquire by paying some initial costs (R&D, licence, machinery etc.). This kind of technology would replace workers, but would make the enterprise as a whole more productive by lowering its marginal costs of production. This yields a competitive advantage for the offshoring enterprises resulting in higher profits. Assuming that profitability is tied to wages, average wages would rise in offshoring enterprises. Grossman (2006) also compares offshoring activities with technological progress. He identifies a productivity effect of offshoring that leads to factor-cost savings, just as new technologies do. In contrast, Feenstra and Hanson (1996) argue that higher wages are the result of a labour composition effect, i.e. that offshoring of lower skilled work leads to a higher average skill in the remaining work in the domestic enterprise, assuming that job skill level correlates with wage.

In this study we attempt to contribute towards the discussion about the effects of international sourcing on domestic employment and wages by linking several statistical sources on enterprise level. We want to establish what happens with employment in enterprises that move activities abroad. Do jobs disappear? And which jobs are prone to international sourcing? What are the effects on wages in the enterprises involved? Does international sourcing lead to a shift in composition of the labour force?

8.3 Concepts and methodology

Concept of international sourcing

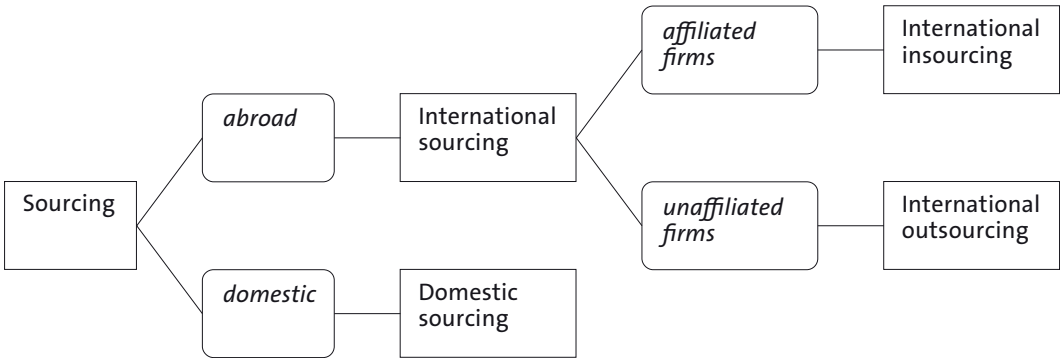
One of the complicated aspects of measuring international sourcing is the existence of different terms and definitions: sourcing, outsourcing, international sourcing, international outsourcing, offshoring, relocation, restructuring etc. In this study we apply the term international sourcing: see box for the definition [1]. The word 'movement' indicates a dynamic event; we talk about changes in the structure of an enterprise. The business function is a new type of unit in the statistical world. It was originally based on Michael Porter's generic business functions and the empirical findings from the EMERGENE project

[1] This definition is adopted from Eurostat studies about international sourcing and global value chains.

(Huws, 2003). It refers to the different types of activities that enterprises perform. Each enterprise has core and support functions. A core function incorporates the production of final goods or services for the market. Support functions are carried out in order to permit or facilitate the core business. Examples of support functions include ICT, marketing, (after) sales, distribution and logistics, administration, management, engineering and R&D. The business functions concept is closely related to enterprises' way of working, which makes it easy for respondents to understand. The resident enterprise is the respondent located in the home country, which may have sourced business functions. We only consider business functions that are moved abroad. The schedule in 8.3.1 shows the different types of sourcing. In this chapter we limit our scope to international sourcing, both to affiliated and unaffiliated enterprises. International sourcing is often referred to as offshoring in the literature. International insourcing is sometimes called intra-firm offshoring and international outsourcing could be called arm's-length offshoring.

International sourcing is referred to as the total or partial **movement** of (core or support) **business functions** currently performed in-house or currently domestically sourced by the **resident enterprise** to either non-affiliated (external suppliers) or affiliated enterprises located **abroad**.

8.3.1 Different types of sourcing



Micro data linking approach

Some contributions to the academic literature in this field apply a macro-economic approach, based on national accounting. However, the aggregated level of these figures (or the lack of detail) renders this approach ambiguous since the causal effect of international sourcing is hard to identify. The effects of international sourcing on macro-level may be counteracted by trends in the opposite direction or reinforced by other trends (e.g. the 2008 economic crisis) in the same direction.

This research will contribute to the need for statistical evidence through a new approach. We link data on enterprise level from a survey[2] on international sourcing conducted in 2007 with data on employee level from administrative registers in the Netherlands. The linked dataset contains information on the characteristics of more than eight million employees in the Netherlands, including the identification code of their employer, which makes it possible to link employee characteristics to enterprise characteristics. In this study we use aggregated employee data for the 1000 responding enterprises in the 2007 International Sourcing survey, of which 156 sourced internationally in the 2001 – 2006 period. Labour volume and average annual wage are the main variables of interest in this study. Further, the linked micro dataset is enriched with enterprise data from several statistical sources. Structural Business Statistics provide input for a variable that controls for enterprise size (based on turnover). Statistics on international trade in goods are added to control for export behaviour. The general business register provides information on the activity of the enterprise, based on the NACE classification. Variables are available for the time series 2001 – 2008 and on some occasions the year 2000 is also available.

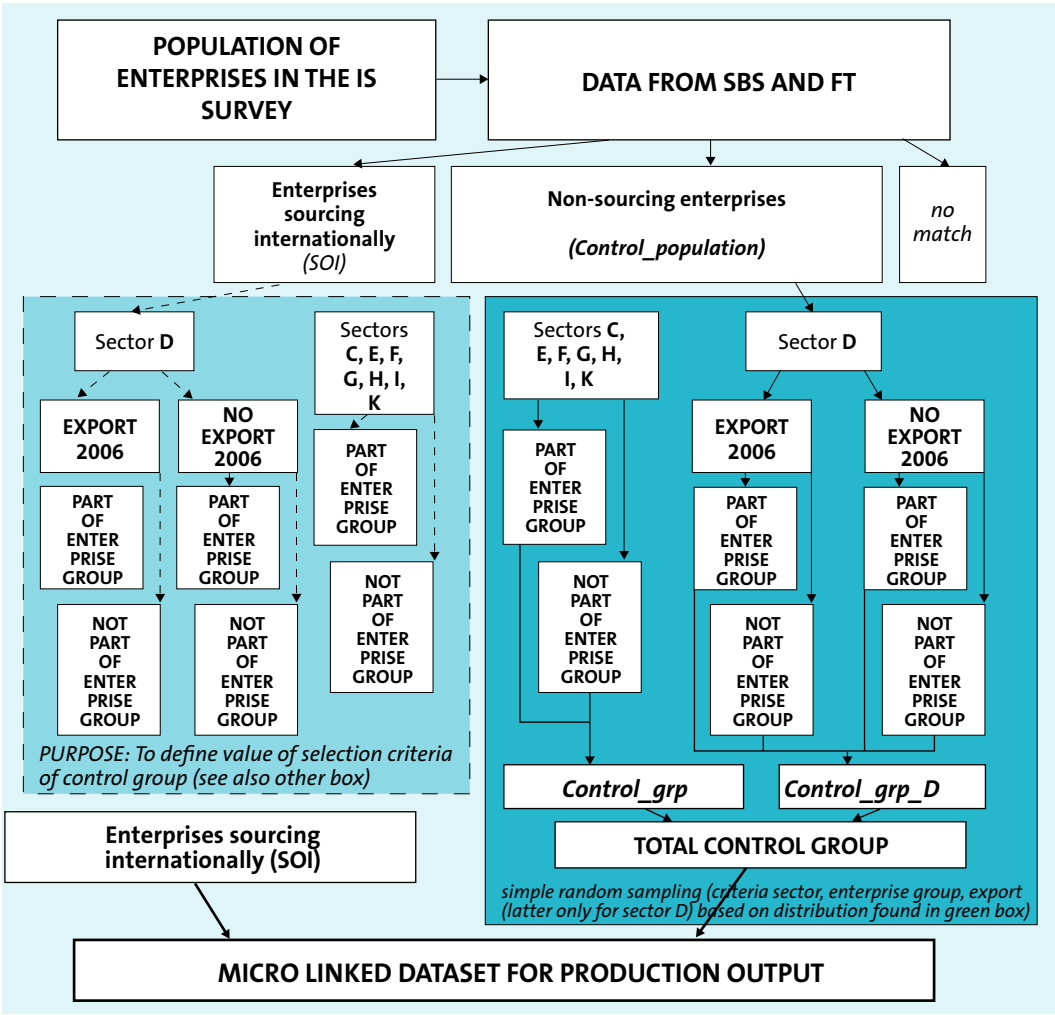
Grouping design

The principle methodological approach in this study is based on a grouping design of one group containing enterprises that sourced internationally (in 2001 – 2006) and a comparable control group with enterprises that did not source internationally in the reference period. We expected, and found, that enterprises active in the manufacturing sector tend to source internationally more often than enterprises in other sectors. Further, we found that there is a correlation between exporting enterprises and enterprises in the manufacturing sector that sourced internationally. Furthermore, being a member of an enterprise group correlates with enterprises that source internationally. We therefore took account of these indicators when selecting the control group. In schedule 8.3.2[3] we show how we constructed the two groups. The group with enterprises sourcing internationally contains 156 enterprises. Via a random selection procedure, a control group of equal size was extracted from enterprises in the sample that did not source internationally. This yields two groups that are comparable on several control variables, but differ on the binary international sourcing variable. Graphical presentations and statistical tests can now be applied to describe the effects of international sourcing on the variables of interest.

[2] See the joint publication of results by Statistics Netherlands, Statistics Denmark, Statistics Finland, Statistics Norway and Statistics Sweden (2008).

[3] Sector C (Mining and quarrying), sector D (Manufacturing), sector E (Electricity, gas and water supply), sector F (Construction), sector G (Wholesale and retail trade), sector H (Hotels and restaurants), sector I (Transport, storage and communication), sector K (Real estate, renting and business activities).

8.3.2 Schedule of grouping design



Regression analysis

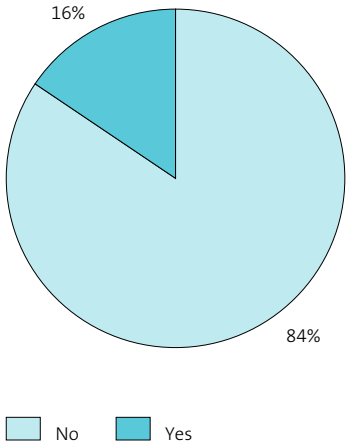
The second approach involves applying ordinary least square regression analyses on the complete sample of the survey, where the binary variable international sourcing (0 = no, 1 = yes) is the explanatory variable in the models. Since we want to test and explain the effect of international sourcing on employment, we take labour volume and wage as dependent variables (in separate models). Further, an indicator for skill-biased technical change is constructed to analyse the effect of international sourcing on the enterprises' labour

composition. The control group described above is not needed for regression analysis since the regression models control for variables that may influence the dependent variables. We use all the observations from the international sourcing survey in the regression models.

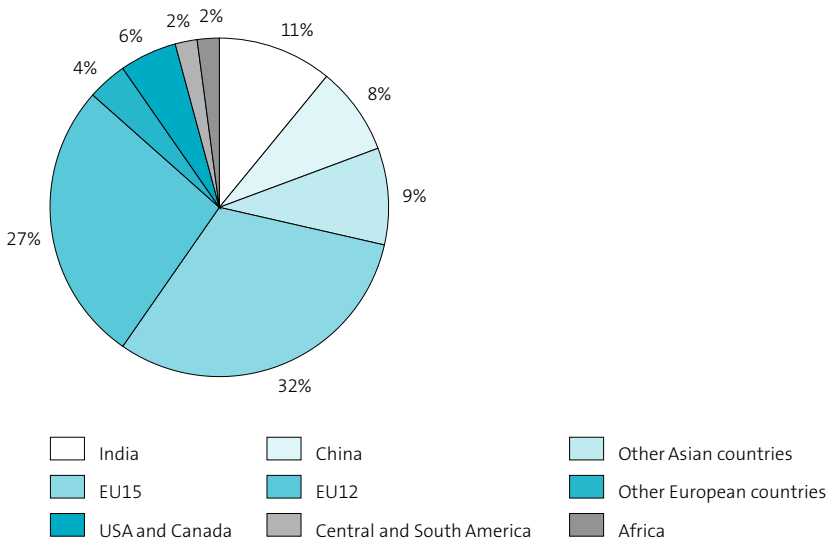
International sourcing in 2001–2006

The population of this study is limited to enterprises active in the Dutch non-financial sectors, with over 100 employees. The results of the 2007 International Sourcing survey show that 16 percent of the enterprises in the sample sourced internationally (core or support business function) in the 2001–2006 period. For the enterprises that indicated that they sourced activities internationally we only know that it took place in this reference period; no information is available about the year of sourcing. Sixty-three percent of all sourcing events had a European destination; 28 percent of the enterprises sourced to Asia, where India and China are the most popular countries. One important remark is that we know nothing about the sourcing behaviour of the enterprises in the sample before and after the 2001–2006 period. So the effects of sourcing activities outside this reference period may interfere with the results in this study.

8.3.3 Enterprises having sourced business functions internationally in 2001-2006



8.3.4 Destinations of international sourcing in 2001-2006

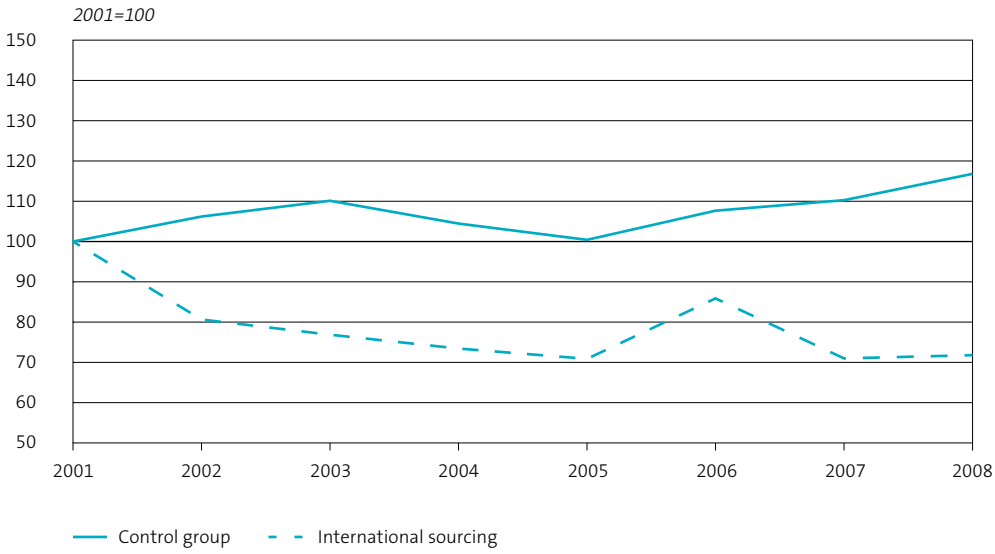


8.4 Labour market effects of international sourcing

Labour volume

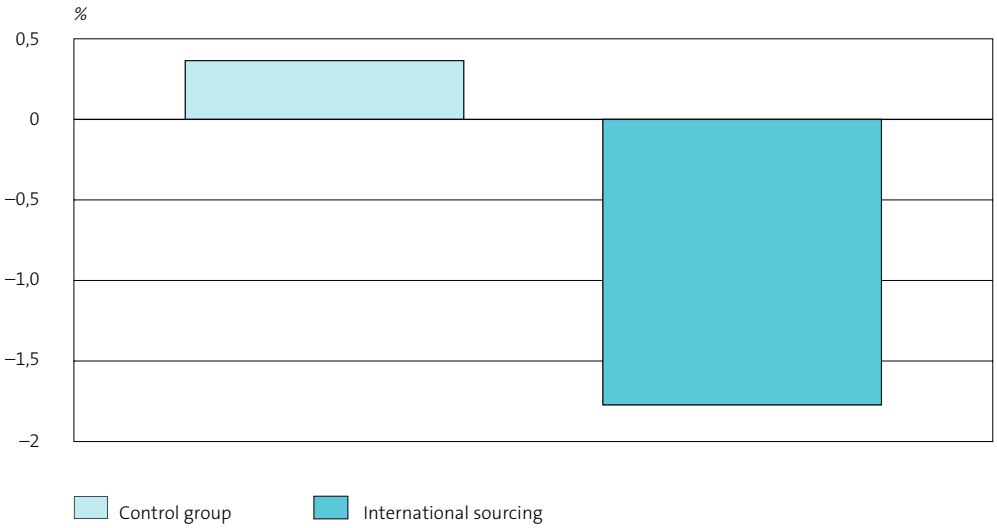
The indexed figures in 8.4.1 – based on mean values – indicate that labour volume decreases for enterprises involved in international sourcing, while it increases for the control group of enterprises not involved in international sourcing. Bear in mind that the population in this study is defined as non-financial enterprises in the Netherlands with over 100 employees (in the reference year 2007). Although, unsurprisingly and in line with our expectations, this figure seems to confirm that international sourcing has a negative effect on employment in the enterprises investigated in the period under study.

8.4.1 Index based on mean values of labour volume (FTE)



The average annual growth rates for the 'international sourcing' group are clearly lower than the growth rates for the control group, as can be seen in 8.4.2.

8.4.2 Average annual growth of labour volume



The ordinary least square (OLS) regression model has the average annual growth of labour volume between 2002 and 2007 as dependent variable and the dummy variable *International sourcing* as the explanatory variable, in addition to several control variables: *Enterprise group (yes/no),* sector based on NACE classification (Manufacturing, Services or Other), and *Turnover* (average turnover in 2001–2007). Controlling for these factors, the regression analysis confirms that international sourcing has a negative effect on the growth of domestic labour volume. The models in 8.4.3 show that coefficients for the dummy variable *International sourcing* are negative with a p-value lower than the 1-percent significance level. The coefficients are stable at minus three percent. This indicates that labour volume growth was three percentage points a year lower in the 2001 – 2007 period in enterprises that source internationally compared with enterprises that did not source internationally. This table also shows that domestic labour volume growth is declining in enterprises active in the manufacturing sector, compared with enterprises in the services or other sectors.

8.4.3 Ordinary least squares regression models (dependent variable: labour volume growth 2001–2007)

	Regression models				
	(1)	(2)	(3)	(4)	(5)
Constant	0.063	0.054	0.084	0.078	0.016 ***
	(0.055)	(0.055)	(0.055)	(0.055)	(0.004)
International sourcing (ref. no international sourcing)	–0.027 ***	–0.025 ***	–0.029 ***	–0.027 ***	–0.029 ***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Enterprise group (ref. no member of enterprise group)	0.013		0.008		
	(0.008)		(0.008)		
Sector of activity (ref. services sector)					
Manufacturing sector	–0.034 ***	–0.033 ***			
	(0.007)	(0.007)			
Other sector	–0.016	–0.015			
	(0.014)	(0.014)			
Turnover	–0.002	–0.001	–0.004	–0.004	
	(0.003)	(0.003)	(0.003)	(0.003)	
N	611	611	611	611	611
R Square	0.056	0.052	0.021	0.019	0.017

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

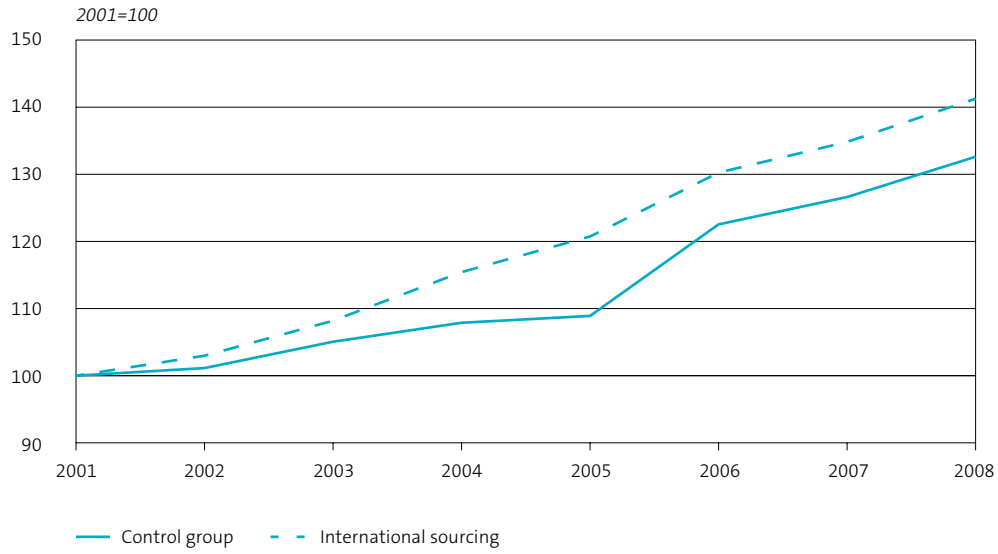
International sourcing has a negative impact on domestic labour volume growth

The R-square for this model is low, which indicates that we have to be careful when drawing conclusions from the data. However, it is clear that employment growth is affected by several micro, meso and macro economic phenomena and that international sourcing is just one of them. So we do not expect a high R-square.

Wages

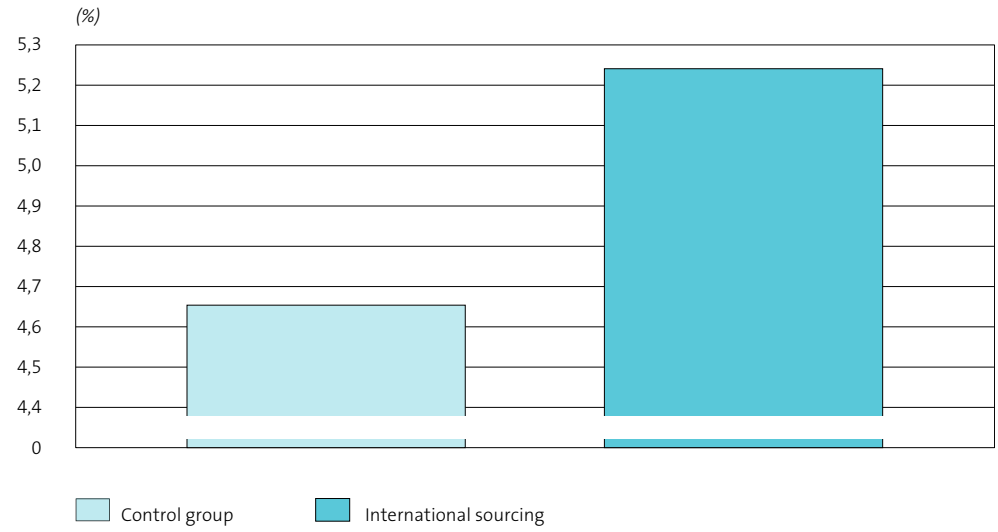
In addition to the labour volume effect of international sourcing, we are also interested in the impact on wages. Several studies – as described in the literature overview above – find significant effects of international sourcing on domestic wages. Graph 8.4.5 shows higher growth rates of average annual fiscal wage per full-time-equivalent for enterprises that have sourced activities internationally than for enterprises in the control group. However, relative differences between the two groups are not as large as for the labour volume indicator.

8.4.5 Index based on mean values of average fiscal wage



The average yearly wage growth rates per full time equivalent (FTE) in 8.4.6 also indicate that enterprises that have sourced activities internationally experience higher wage growth than enterprises in the control group.

8.4.6 Annual growth of average fiscal wage



The OLS models in 8.4.7 explain the effect of international sourcing on annual fiscal wage growth, controlling for the same variables as in the model on labour volume.

8.4.7 Ordinary least squares regression models (dependent variable: average annual fiscal wage growth 2001–2007)

	Regression models				
	(1)	(2)	(3)	(4)	(5)
Constant	0.012	0.010	0.010	0.008	0.041 *
	(0.017)	(0.017)	(0.017)	(0.016)	(0.001)
International sourcing (ref. no international sourcing)	0.005 *	0.006 **	0.005 *	0.006 **	0.006 **
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Enterprise group (ref. no member of enterprise group)	0.005		0.005 *		
	(0.003)		(0.003)		
Sector of activity (ref. services sector)					
Manufacturing sector	0.003	0.003			
	(0.002)	(0.002)			
Other sectors	0.002	0.002			
	(0.005)	(0.005)			
Turnover	0.001	0.002 *	0.002	0.001 **	
	(0.001)	(0.001)	(0.001)	(0.001)	
N	471	471	471	471	517
R Square	0.032	0.026	0.029	0.023	0.010

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

It appears that the average wage per full-time-equivalent increases as a result of international sourcing. The different models give coefficients for the international sourcing variable with a positive value of 0.6 percent. So in the 2001 – 2007 period, average fiscal wage growth was 0.6 percentage point per year higher in enterprises that sourced internationally compared with enterprises that did not source internationally. This might indicate that lower paid jobs disappear as a result of international sourcing and higher paid jobs remain, increasing the average wage in the enterprise. Another explanation for the wage rise – according to the literature – may be that international sourcing leads to productivity gains and hence to higher profitability. Profitability is assumed to be tied to average wages paid in the respective enterprise.

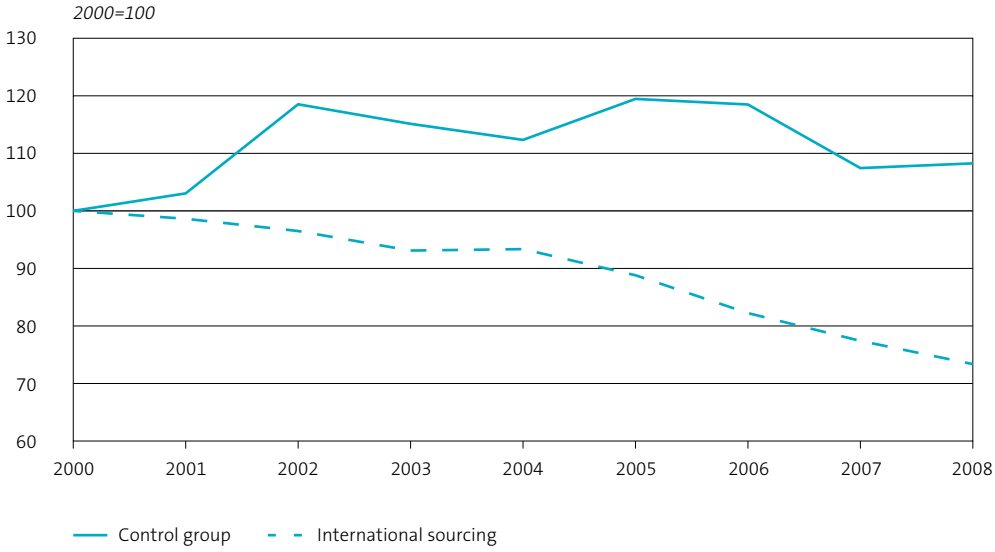
Average fiscal wage per full-time-equivalent increases as a result of international sourcing

Labour composition

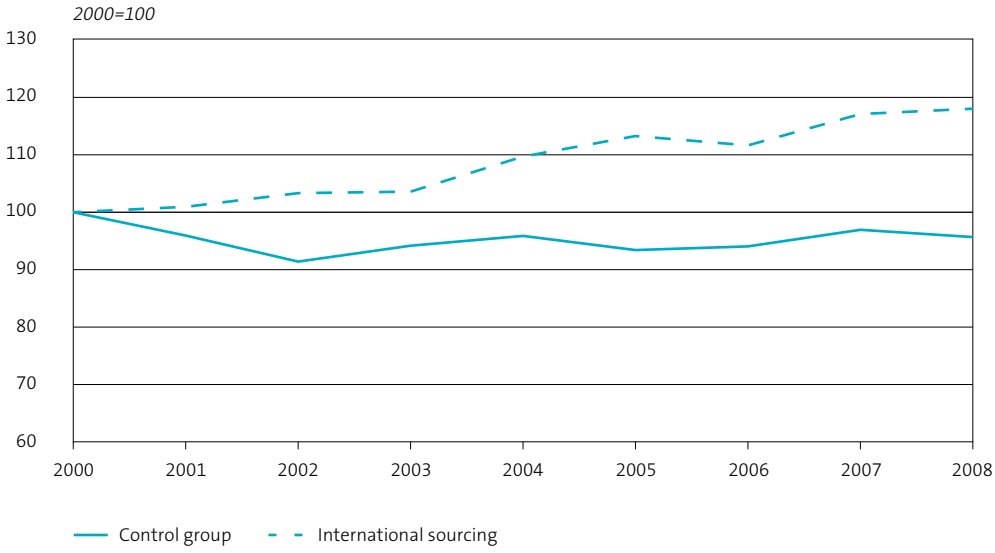
The analyses of the labour volume development and domestic wage development seem to confirm our expectations – and results found in other studies as described in the literature – that international sourcing has a negative impact on domestic employment growth in the enterprises involved and a positive impact on average wages. These findings could indicate that lower than average paid jobs are sourced internationally relatively more. This is in line with findings in the literature that assume a correlation between the average skill of a job and the salary paid. So according to this theory, low-skill jobs are more prone to international sourcing than high-skill jobs.

Graph 8.4.9 shows that the share of low paid people declines in the international sourcing group, while it increases for the control group. At the same time, according to 8.4.10, the share of high paid people increases in the enterprises involved in international sourcing, while it decreases in the control group. Low paid people are defined as the lowest 30 percentiles in the wage distribution for each individual enterprise; high paid people are defined as the upper 30 percentiles.

8.4.9 Share of low paid persons of total employed persons



8.4.10 Share of high paid persons of total employed persons



So the figures on labour volume, wages and shares of low and high paid employed people seem to confirm that employment declines as a result of international sourcing. The

average wage increases could be explained by a labour composition effect: lower paid jobs are more prone to be sourced internationally than higher paid jobs, so the higher paid jobs remain behind and the average wage increases. In order to test this labour composition effect we construct an indicator for skill-biased technical change by dividing the absolute growth of the share of high-paid people between 2002 and 2007 by the absolute growth of the share of low-paid people in the same period. The linear regression model in 8.4.11 confirms that the ratio between high and low paid people changes as a result of international sourcing. We find positive and stable coefficients for the international sourcing indicator with p-values lower than the 5-percent significance level, indicating that international sourcing leads to a labour composition shift towards higher skilled jobs.

8.4.11 Ordinary least squares regression models (dependent variable: skill-biased technical change 2002–2007)

	Regression models				
	(1)	(2)	(3)	(4)	(5)
Constant	2.597	2.265	3.182	2.846	1.217
	(10.524)	(10.474)	(10.458)	(10.400)	(1.543)
International sourcing (ref. no international sourcing)	4.303 **	4.410 ***	4.191 **	4.294 **	–3.288
	(1.742)	(1.714)	(1.731)	(1.701)	(3.693)
Enterprise group (ref. no member of enterprise group)	0.570		0.536		
	(1.633)		(1.626)		
Sector of activity (ref. services sector)					
Manufacturing sector	–0.506	–0.468			
	(1.411)	(1.405)			
Other sectors	1.081	1.117			
	(2.776)	(2.772)			
Turnover	–0.930	0.052	–0.136	–0.094	
	(0.617)	(0.605)	(0.609)	(0.595)	
N	606	606	606	606	721
R Square	0.011	0.011	0.011	0.011	0.001

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

8.5 Discussion of results and implications for future research

This study provides evidence that employment growth in domestic enterprises decreases as a result of international sourcing and that wages increase, suggesting that lower paid (and lower skilled) jobs are more prone to international sourcing. This is confirmed by the observation that the share of low paid workers decreases in enterprises involved in international sourcing, while it increases, albeit slightly, in enterprises that were not involved in international sourcing in the 2001–2006 reference period. At the same time, international sourcing enterprises show an increase in the share of high paid workers, while enterprises in the control group show a decrease. We find evidence for skill-biased technical change towards higher skilled jobs. The reason for the wage rise after international sourcing seems to be the changing labour composition, possibly interwoven with a wage rise as a result of increased productivity and hence higher competitive advantage and operating profits.

These short-term enterprise level effects indicate that domestic workers (in particular low-skilled) in these enterprises seem to be experiencing negative effects from international sourcing. The medium and long-term effects of international sourcing on meso and macro levels have not yet been studied, but are very important for assessing the net effects of international sourcing on a country's economy and labour market. Enterprises may benefit shortly after moving business functions abroad, but they might suffer from international sourcing in the medium and long term, rescinding the short-term cost savings, for example as a result of a lack of control over the overseas activities, increasing wages abroad, lower than expected quality of production or service. The negative effects for domestic workers who lose their jobs as a result of international sourcing and for the economy as a whole may not be so negative in the medium and long term, when the low-skilled workers who lost their jobs find employment elsewhere soon after being laid off. In addition, the higher competitiveness and profitability as a result of increased productivity could stir enterprises that sourced internationally to initiate more productivity-boosting activities, such as export and R&D (CBS, 2010c). This could further enhance the enterprise's performance and may lead it to expanding its domestic employment, thereby cancelling the short-term employment reduction. So in order to assess the effects of international sourcing for the whole economy, all gains and losses have to be compared. Further research is needed in order to reveal the full picture of the complex dynamics in global value chains.

International trade in goods by enterprises

9

International trade in goods by enterprises

This chapter presents information on the developments of international trade in goods by enterprises in the Netherlands. Data on international trade flows between 2002 and 2009 are discussed, with a focus on enterprise characteristics, such as economic activity, size class and country of ownership, i.e. domestic or foreign control. In 2009, total import and export values declined by 18 and 16 percent respectively. The share of imports generated by foreign controlled enterprises remained over 50 percent in 2009, while their share in exports was stable at around 48 percent. Large enterprises showed the biggest decline in trade value, namely –22 percent for imports and almost –25 percent for exports. Trade by SMEs declined less drastically.

9.1 Introduction

This chapter describes the pattern of international trade in goods of enterprises in the Netherlands, and examines the developments of trade in goods and the breakdown of the Dutch trading population. Data on international trade flows between 2002 and 2009 are enriched with enterprise characteristics, such as economic activity, size class and country of ownership: domestic or foreign control. The results presented here are only preliminary because the process of integrating data from international trade statistics and the General Business Register (GBR) is still in the making.

Statistics on international trade in goods represents the value and volume of goods crossing the Dutch border. Approximately 9,500 thousand commodities and around 250 different trading partners can be distinguished on an annual basis. To obtain these data, Statistics Netherlands conducts a monthly survey of intracommunity trade and obtains information on extra-EU trade flows, mainly from customs.

Around 82 percent of import and 77 percent of export flows in 2009 could be attributed to enterprises registered in the General Business Register. This is slightly more than in 2008, where 80 percent of imports and 75 percent of exports could be matched to enterprises.

Some trade flows cannot be assigned to an enterprise in the GBR. Certain international traders are not registered in the GBR because they have, for instance, no establishment or office in the Netherlands. Another reason may be the fact that some economic activities e.g. farmers, medical professionals or attorneys, are also not registered in the GBR.

Methodology

Over the years, the methodology of linking data from registrations and surveys to the international trade statistics data, has undergone change and improvement. Furthermore, new sources of information have become available and this has been of great value in this matching process. The General Business Register, the main source of information about size class and economic activity, for example, has undergone significant changes as of 2006. This has resulted in significant improvements to 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 as of 2005. Company control is based on the concept of the Ultimate Controlling Institute (UCI), as defined by the FATS Regulation.

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

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 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.

Foreign controlled vs. Dutch 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.

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

The total value of imports, exports and re-exports in the Netherlands for 2002–2009 was subject to a distinction between Dutch and foreign control, as depicted in 9.2.1. Whereas total import value increased annually by approximately 10 percent until 2008, 2009 showed a strong decrease of over 18 percent. In 2009, the proportion of the Dutch and foreign controlled share of imports did not change much compared with the previous year. Over the years, foreign controlled enterprises are responsible for an increasing share of Dutch imports. Starting at 40 percent in 2002, their contribution rose to 53 percent in 2009.

A similar trend can be established for exports. With a total export value of over 309 billion euros, figures dropped by more than 16 percent in 2009 compared with 2008, only slightly less than the decline in import value. Also comparable to import value, the share of Dutch and foreign control in exports has not changed significantly since 2005. This means that the observed decline in export value and in import value is incurred by Dutch and foreign controlled traders equally. The trade surplus, i.e. export value minus import value, amounted to 35 billion euros in 2009. This is the same as the trade surplus in 2008, but is not as high as the 40 billion euros attained in 2007.

In terms of number of enterprises, foreign controlled companies account for less than 4 percent of the 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 (53 percent) while for export value, foreign enterprises contribute just under half the total value.

Total re-export value decreased by 11 percent in 2009, which is less than the decline in export value. The share of re-exports conducted by foreign controlled enterprises is significantly higher than the exports of goods as a whole. In 2008, around 60 percent of re-exports were handled by foreign controlled enterprises. Unfortunately, a distinction could not be made between the re-export value of Dutch and foreign controlled enterprises for 2009. A change in the definition of re-exports in 2008 explains the marked decrease in re-exports and the increase in foreign ownership between 2007 and 2008.

9.2.1 International trade in goods: foreign controlled versus Dutch controlled enterprises

	Import value	of which		Export value	of which		Re-export value	of which	
		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled
	billion euro	*%*		*billion euro*	*%*		*billion euro*	*%*	
2002*	205.6	60	40	232.7	60	40	98.1	53	47
2003*	206.9	58	42	234.2	60	40	98.0	54	46
2004*	228.2	56	44	255.7	59	41	110.9	54	46
2005*	249.8	49	51	281.3	54	46	122.0	44	56
2006*	285.4	49	51	319.0	53	47	140.0	44	56
2007*	307.3	48	52	347.5	54	46	155.3	45	55
2008*	335.9	46	54	370.5	51	49	154.8	40	60
2009*	274.0	47	53	309.4	52	48	137.5	.	.

Re-exports are defined as goods in temporary custody of a Dutch resident, which are transported through the Netherlands without any significant industrial processing. Re-exports are goods that are cleared for customs by, for instance, Dutch distribution centres and distributed to other countries, mostly European member states. Contrary to quasi-transit trade, re-exports are part of Dutch international trade (National Concept). Quasi-transit trade refers to goods entering and exiting the Netherlands, without domestic ownership. As of 2008, the definition of re-exports has been extended to include trade conducted by Dutch affiliates of foreign enterprises.

9.3 International trade in goods by size class

In 2009, the import of goods by SMEs and large enterprises decreased by 11 and 22 percent respectively. This is a significant deterioration compared with previous years. Between 2002 and 2008, SMEs displayed an annual average import growth of almost 6 percent, exceeding 11 percent at the peak in 2008. Large enterprises posted growth figures of almost 15 percent in the same year.

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 increased from 59 percent in 2002 to 64 percent in 2009. Also for SMEs, the role of foreign controlled enterprises in imports has become more important over the years. In 2002, about 30 percent of imports were carried out by these enterprises

and this share increased to 45 percent in 2009. In 2009, Dutch controlled SMEs only just dominate the import of goods.

The total export value of SMEs in 2009 amounted to almost 149 billion euros, which represents a decrease of just 5 percent compared with the previous year. At the same time, large enterprises saw their export value drop from 120.6 to 90.6 billion euros, a decline of almost 25 percent. This deterioration in export value among large enterprises is even stronger than was the case for imports.

Imports and exports of Dutch controlled enterprises of all sizes decreased faster than the trade of foreign controlled firms

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 export value could be assigned to foreign controlled enterprises. In 2009, 44 percent of the total export value of 148.8 billion euros was generated by small and medium-sized foreign traders. Development over time was exactly the opposite for large exporters. In 2002, foreign controlled companies still generated 59 percent of export value, gradually declining to 53 percent in 2006 and 54 percent in 2007 and 2008. This could not be explained by a decrease in the number of foreign controlled exporters (on the contrary), but was caused by an increase in export value held by Dutch owned exporters. However, a slight increase was observed again in 2009, with foreign controlled enterprises attaining a share of 56 percent of export value.

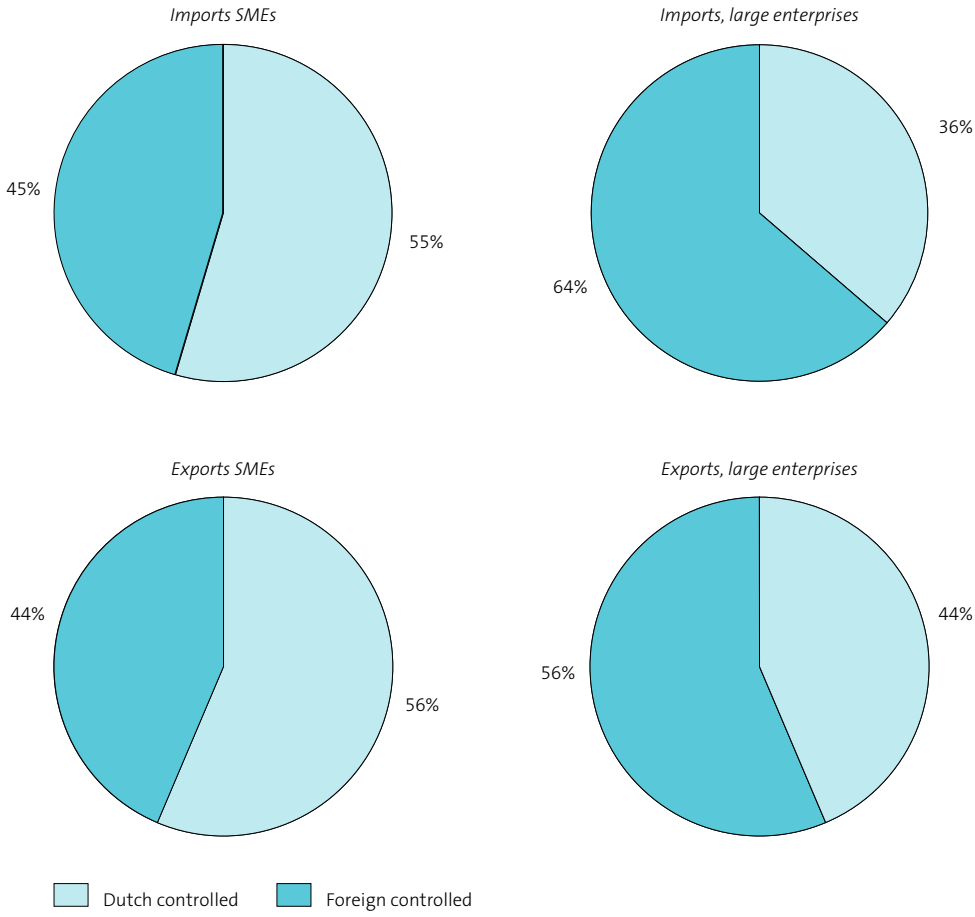
Finally, there are still some imports and exports that could not be attributed to enterprises in the business register. The import value of unknown origin declined by 38 percent, resulting in a value of nearly 58 billion euros in 2009 (i.e. 20 percent of total import value). The remaining exports dropped from 92.7 to 80.2 billion euros (i.e. 25 percent of total export value), a decline of almost 14 percent.

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

	SMEs	of which		Large enterprises	of which		Unknown[1)]
		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled	
	billion euro	*%*		*billion euro*	*%*		*billion euro*
Import value							
2002*	109.2	70	30	65.1	41	59	31.3
2003*	108.4	70	30	63.1	42	58	35.4
2004*	114.9	66	34	67.0	40	60	46.3
2005*	125.6	57	43	75.9	39	61	48.3
2006*	138.4	57	43	87.4	45	55	59.6
2007*	135.6	59	41	100.2	40	60	71.5
2008*	151.2	56	44	115.0	37	63	69.7
2009*	134.6	55	45	89.6	36	64	57.9
Export value							
2002*	106.5	72	28	80.1	41	59	46.1
2003*	108.0	72	28	74.1	42	58	52.1
2004*	114.3	69	31	77.3	42	58	64.1
2005*	131.5	62	38	79.4	42	58	70.4
2006*	139.3	60	40	95.2	47	53	84.5
2007*	140.0	63	37	105.3	46	54	102.2
2008*	157.2	58	42	120.6	46	54	92.7
2009*	148.8	56	44	90.6	44	56	80.2

1) See introduction.

9.3.2 Import and export value of goods by size class and origin of the parent company, 2009*



9.4 International trade in goods by industry

As 9.4.1 shows, enterprises in *wholesale trade* and *manufacturing* contributed most of the import value of goods in 2009, namely 80.6 and 64.2 billion euros, respectively. However, these branches also showed a considerable fall in import value in 2009. Enterprises in the *energy*, *construction*, *retail trade*, *hotels and restaurants* sector bore the brunt of the economic crisis. The import value of these traders declined by almost a third. Although it is a small sector in terms of trade, *financial intermediation* is the only sector that managed to retain positive import growth in 2009.

Over half the import value of goods could be linked to enterprises under foreign control, which is comparable to 2008. However, the share of foreign controlled traders in *transport*, *storage and communications* and *financial intermediation*, expanded somewhat. On the other hand, the share of Dutch controlled enterprises in *energy, construction, retail trade, hotels and restaurants* increased from 55 to 64 percent.

Total export value in 2009 amounted to 309.4 billion euros, of which *manufacturing* and *wholesale trade* are by far the largest trading branches. Respectively 91.9 and 84.8 billion euros of exports could be attributed to these two sectors in 2009. Compared with 2008, changes were most noteworthy for *public administration, education, healthcare, social work and other services*, although it should be emphasised that this is a small group of exporters with a total export value of 0.3 billion euros. *Energy, construction, retail trade, hotels and restaurants* (–32.4 percent) and *manufacturing* (–19.2 percent) also experienced a significant decrease in export value in 2009.

Approximately one quarter of export value could not be attributed to known enterprises, which is slightly more than is the case for import value (21 percent).

When exporting enterprises are differentiated in terms of Dutch and foreign control, the most notable changes in 2009 could be observed in *agriculture, hunting, fishing, mining and quarrying* and in *energy, construction, retail trade, hotels and restaurants*. The share of Dutch controlled enterprises in the export of the agricultural sector was 76 percent in 2008, and this share rose to 81 percent in 2009. In the energy sector, the share of Dutch enterprises in exports increased considerably, from 77 percent in 2008 to 88 percent in 2009. The influence of foreign controlled enterprises in exports expanded slightly for *financial intermediation* and for *public administration, education, healthcare, social work*

and other services. However, the most conspicuous increase is to be found in *transport, storage and communications*, where several prominent enterprises came under foreign ownership. For this economic sector, the share of foreign controlled enterprises in export value amounted to 44 percent in 2008, whereas 64 percent was established in 2009.

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

	2002 *			2008 *			2009 *		
	Total value	of which		Total value	of which		Total value	of which	
		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled
	billion euros	*%*		*billion euros*	*%*		*billion euros*	*%*	
Import value	205.6	60	40	335.9	46	54	274.0	47	53
Economic activity (NACE Rev.1.1)									
Agriculture, hunting fishing, mining and quarrying	2.0	89	11	1.4	83	17	1.4	82	18
Manufacturing	54.1	42	58	81.2	44	56	64.2	42	58
Energy, construction, retail trade, hotels and restaurants	22.5	66	34	36.7	55	45	24.4	65	35
Wholesale trade	68.6	67	33	98.8	48	52	80.6	48	52
Transport, storage and communications	17.0	56	44	35.4	43	57	33.2	35	65
Financial intermediation	0.8	94	6	1.9	64	36	2.3	55	45
Real estate, renting and business activities	8.5	80	20	10.2	55	45	9.3	55	45
Public administration, education, healthcare, social work and other services	0.8	89	11	0.7	90	10	0.7	88	12
Unknown (see introduction)	31.3	–	–	69.6	–	–	57.9	–	–
Export value	232.7	60	40	370.5	51	49	309.4	52	48
Economic activity (NACE Rev.1.1)									
Agriculture, hunting fishing, mining and quarrying	7.4	96	4	3.5	76	24	3.3	81	19
Manufacturing	83.0	46	54	113.7	47	53	91.9	46	54
Energy, construction, retail trade, hotels and restaurants	8.5	76	24	28.1	77	23	19.0	88	12
Wholesale trade	64.4	63	37	98.7	50	50	84.8	51	49
Transport, storage and communications	12.8	64	36	18.8	56	44	17.0	36	64
Financial intermediation	0.5	98	2	1.1	72	28	1.2	69	31
Real estate, renting and business activities	9.8	78	22	13.4	53	47	11.6	49	51
Public administration, education, healthcare, social work and other services	0.3	95	5	0.5	87	13	0.3	86	14
Unknown (see introduction)	46.1	–	–	92.7	–	–	80.2	–	–

9.5 International goods traders in the Netherlands

The total number of enterprises in 2009 amounted to 844 425, almost 6 percent more than in 2008. The highest increase in the number of enterprises was in *real estate, renting and business activities*. With almost 18 thousand enterprises more, the population size increased by 9 percent. As in 2008, most enterprises were active in *energy, construction, retail, trade, hotels and restaurants*. However, relatively few of these enterprises had exported goods abroad in those years (6 percent). With 19 percent of the enterprises active in importing, this trade activity appears to be more common in this economic sector. This is only a minor increase of 1 percentage point for importers and exporters in 2009.

Importers constituted 17 percent of the total enterprise population, while 11 percent also exported. This is a slight increase compared with 2008. 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 55 percent importers and 48 percent exporters. Almost 40 percent of manufacturers import, and a third also export.

Financial intermediation shows the largest growth when it comes to the number of importers and exporters. In 2009, 30 percent of almost 18 thousand enterprises in this branch had imported goods into the Netherlands. This is twice as much as in 2008. The share of exporters increased even more, from 9 to 21 percent in 2009. Enterprises in *financial intermediation* include (financial) holdings. Reporting the international trade of a large enterprise group by the holding instead of the manufacturer, leads to confusion in the assignment of trade to sectors. It seems that in 2009 a significant share of trade is reported by (or assigned to) holdings compared with previous years.

The import and export of goods is the least important in *public administration, education, healthcare, social work and other services*, with only 7 percent of enterprises involved in importing activities and even less (3 percent) in exporting. Trading also plays a minor role in *agriculture* and *real estate*.

Enterprises 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. A different methodology is used to obtain the number of active enterprises for certain sectors, such as agriculture.

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

	2002 *			2008 *			2009 *		
	total	importers	exporters	total	importers	exporters	total	importers	exporters
	%								
Total	693,430	14	9	797,840	16	10	844,425	17	11
Economic activity (NACE Rev.1.1)									
Agriculture, hunting, fishing, mining and quarrying	103,145	3	3	93,065	6	5	93,065	7	5
Manufacturing	46,440	33	28	47,600	39	31	50,155	39	33
Energy, construction, retail trade, hotels and restaurants	210,545	14	5	237,500	18	5	254,080	19	6
Wholesale trade	55,965	53	44	59,860	57	47	62,315	55	48
Transport, storage and communications	27,850	8	8	29,045	9	8	29,860	10	8
Financial intermediation	14,535	7	5	16,880	15	9	17,940	30	21
Real estate, renting and business activities	134,290	7	6	197,725	8	6	215,635	9	6
Public administration, education, healthcare, social work and other services	100,660	4	2	116,165	6	2	121,375	7	3

International trade in services by enterprises

10

International trade in services by enterprises

This chapter presents information on the developments of international trade in services by enterprises in the Netherlands. In particular, it provides further insight into the composition and evolution of the population of international services traders. Data on international trade in services statistics between 2006 and 2009 are enriched with enterprise characteristics such as economic activity, size class and Dutch or foreign control. However, the created linked dataset and its results are still under development, which implies that the findings presented in this chapter are only preliminary.

10.1 Introduction

The statistics on international trade in services provide information about the Dutch import and export values of services from and to a foreign country respectively. Each quarter, 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 CBS business survey and the UCI (Ultimate Controlling Institute).

The business survey is according to the size value of the international trade in services, based on two groups. 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 on 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 questioned based on a 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.

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

The developments of total Dutch imports and exports of international trade in services are illustrated in 10.2.1. Between 2008 and 2009, the export of services declined remarkably from almost 86 billion euros to 82 billion euros. This indicated an economic downturn for the export of services in 2009. The effects of the recession were less apparent for import, which continued to grow, although the annual growth rate was relatively small (2.0 percent) in 2009. Despite the decrease in exports, the Netherlands still had a trade surplus in services between 2006 and 2009.

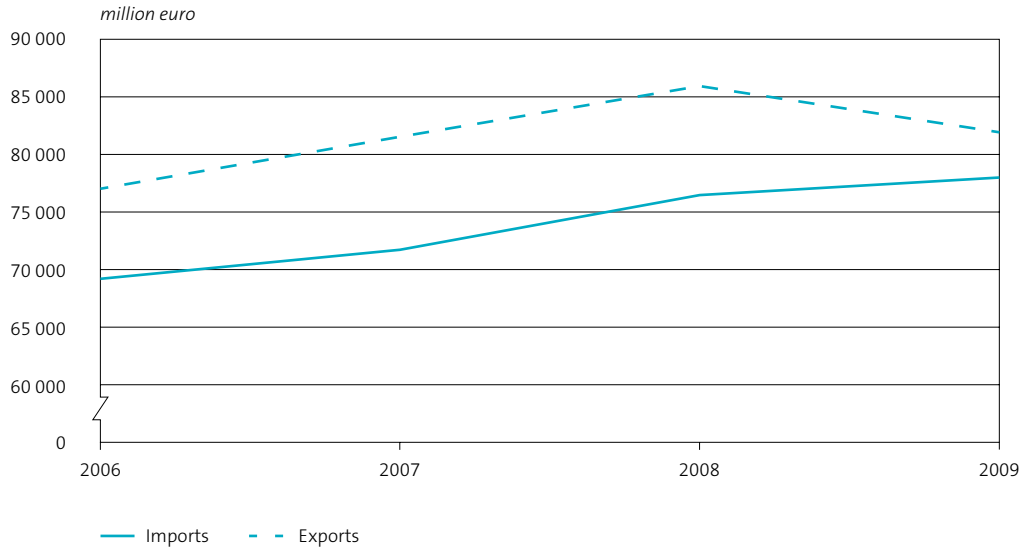
Dutch controlled enterprises more involved in export than in import

The share of Dutch and foreign controlled enterprises in our sample is shown in 10.2.2. In 2006–2008, approximately 55 percent of the import value was attributed to Dutch controlled enterprises and 45 percent to foreign controlled enterprises. In 2009, the share of the domestically controlled enterprises decreased slightly by 2 percentage points to 53 percent. As far as exports are concerned, a considerable share of the export value could also be ascribed to Dutch controlled enterprises (58 percent). This share even increased to 60 percent in 2009.

Overall, Dutch controlled enterprises are represented relatively more in export than in import.

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 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 55 percent of the total import value and 73 percent of the total export value.

10.2.1 Total Dutch imports and exports of international trade in services



10.2.2 International trade in services by origin of the parent enterprise

	Total	Imports		Total	Exports	
		Dutch controlled	foreign controlled		Dutch controlled	foreign controlled
	million euros	*%*		*million euros*	*%*	
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

10.3 International trade in services by size class

10.3.1 illustrates that in 2009 over two thirds of trade in services, both import and export, was conducted by large enterprises. These percentages were similar to those for 2006–2008.

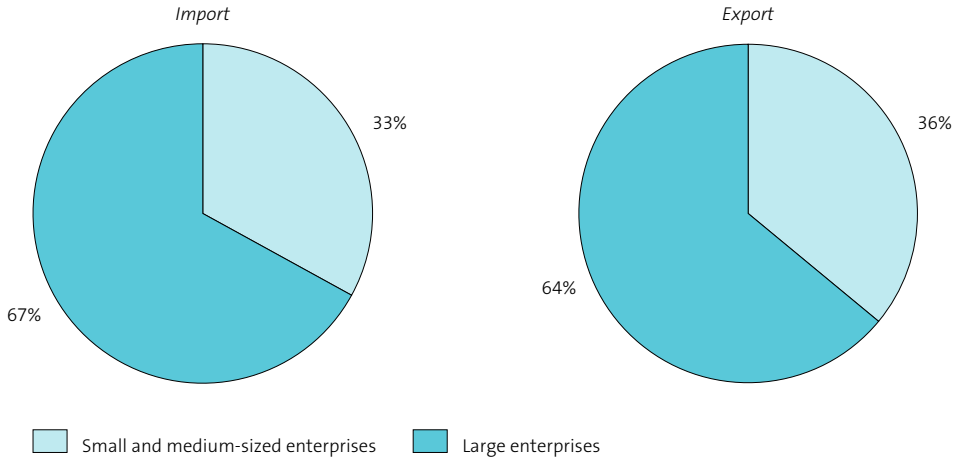
Where imports are concerned, equal distributions were found between Dutch and foreign controlled enterprises in the small to medium-size class in 2008. However, the value of imports carried out by foreign controlled, small to medium-sized enterprises, increased significantly in 2009. As a consequence, 56 percent of the imports of services were to be found among small to medium-sized foreign controlled enterprises. In 2008, Dutch controlled enterprises accounted for around 57 percent of the imports of large enterprises, and this share remained almost the same in 2009.

In terms of exports, 56 percent of the export value in the small to medium-size class can be found among Dutch controlled enterprises in 2008. In 2009, the share of these domestically controlled enterprises decreased slightly by 2 percentage points to 54 percent.

The share of exports conducted by Dutch controlled, large enterprises, increased significantly between 2008 and 2009. In 2008, approximately 58 percent of exports among large enterprises were carried out by Dutch controlled enterprises. This share increased to 63 percent in 2009 mainly because the exports carried out by large foreign controlled enterprises decreased in value.

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

10.3.1 Import and export value of international trade in services by size class, 2009



10.3.2 Imports and exports of international trade in services by size class and origin of the parent enterprise

	2008		2009	
	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
	%			
Import				
Small and medium-sized enterprises	50	50	44	56
Large enterprises	57	43	58	42
Export				
Small and medium-sized enterprises	56	44	54	46
Large enterprises	58	42	63	37

10.4 International trade in services by industry

In 2009, 33 percent of the import value of international trade in services was performed by enterprises in the *agriculture, mining and manufacturing* industry. The second largest share of trade (28 percent) was carried out by enterprises in the *transport, storage and communication* sector, see also 10.4.1.

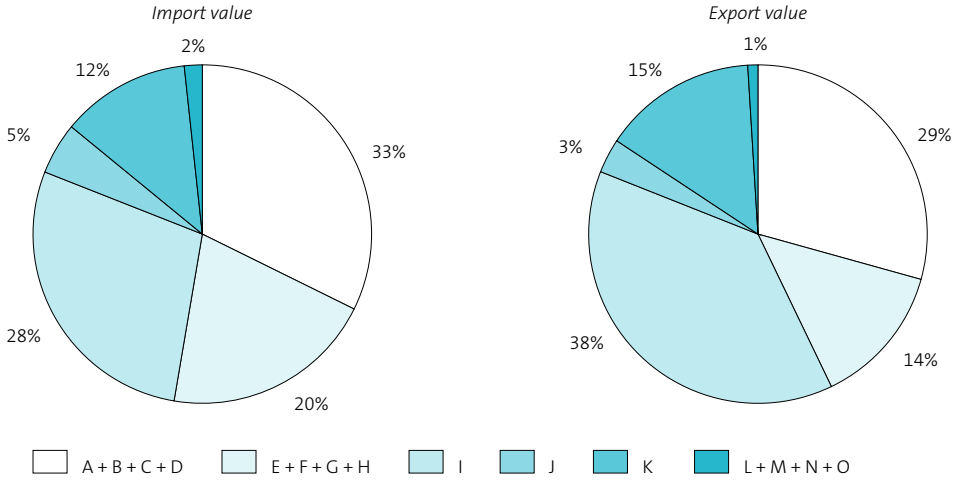
The opposite results were found for export in 2009. The *transport, storage and communication* sector accounted for 38 percent of the total export value, whereas enterprises in the *agriculture, mining and manufacturing* industry amounted to 29 percent of the export value.

In 10.4.2, a subdivision was made for the import of international trade in services by origin of the parent enterprise and industry in 2008 and 2009. In both periods, the Dutch controlled enterprises dominated with 70 percent the largest sector being *agriculture, mining and manufacturing*. In the *transport, storage and communication* sector, 53 percent of the import value was held by Dutch controlled enterprises in 2008, and this share remained stable in 2009. In the *financial intermediation* and *public administration, education, healthcare, social work and other services* sectors, the largest share of imports was carried out by Dutch controlled enterprises. However, the imports carried out in both sectors by foreign controlled enterprises increased significantly in value in 2009. As a consequence, in 2009, the share of the imports of services carried out by foreign controlled enterprises in the *financial intermediation* industry rose by 7 percentage points to 28 percent. Furthermore, the share of the imports of services carried out by foreign controlled enterprises in the *public administration, education, health, social work and other services* sector increased by 14 percentage points to 48 percent.

10.4.3 shows that in 2008 the foreign controlled enterprises dominated with 54 percent the largest export sector being *transport, storage and communication*. In 2009, this share remained almost the same. The following sectors comprised relatively more Dutch controlled enterprises in 2008: *agriculture, mining and manufacturing*; *financial intermediation*; *real estate, renting and business activities*; and *public administration, education, health, social work and other services*. No major differences were seen in 2009 among these sectors, apart from the *financial intermediation* sector. In this sector, exports conducted by Dutch controlled enterprises increased significantly in value in 2009.

Subsequently, the share of the exports of services held by Dutch controlled enterprises in the *financial intermediation* industry rose by 12 percentage points to 74 percent in 2009.

10.4.1 International trade in services by industry, 2009



10.4.2 Imports of international trade in services by industry and origin of the parent enterprise

		2008		2009	
		Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
		%			
Industry (NACE Rev. 1.1)					
A + B + C + D	Agriculture, mining and manufacturing	70	30	70	30
E + F + G + H	Utilities, construction, trade and hospitality	31	69	32	68
I	Transport, storage and communication	53	47	53	47
J	Financial intermediation	79	21	72	28
K	Real estate, renting and business activities	42	58	40	60
L + M + N + O	Public administration, education, health, social work and other services	66	34	52	48

10.4.3 Exports of international trade in services by industry and origin of the parent enterprise

		2008		2009	
		Dutch controlled	foreign controlled	Dutch controlled	foreign controlled
		%			
Industry (NACE Rev. 1.1)					
A + B + C + D	Agriculture, mining and manufacturing	87	13	88	12
E + F + G + H	Utilities, construction, trade and hospitality	40	60	40	60
I	Transport, storage and communication	46	54	47	53
J	Financial intermediation	62	38	74	26
K	Real estate, renting and business activities	51	49	53	47
L + M + N + O	Public administration, education, health, social work and other services	53	47	54	46

10.5 International services traders in the Netherlands

The enterprise population increased with more than 16 percent in the 2006–2009 period. In addition, the *real estate, renting and business activities* sector, achieved with 30 percent the largest growth in the number of active enterprises in the Netherlands.

In 2006, 1.7 percent of all active enterprises imported services from abroad and this percentage remained almost the same in 2009. Approximately 2.0 percent of all enterprises exported services to a foreign country in 2006. In 2009, this share decreased slightly to 1.8 percent.

Of all industries, the *utilities, construction, trade and hospitality* sector contained the largest number of active enterprises in 2006 and 2009. However, only 1.3 percent of all these enterprises were importing or exporting services traders in both years.

Highest share of services traders in transport, storage and communication

The *transport, storage and communication* sector accounted for the highest share of importing services traders (6.2 percent) in 2006 and this share remained the same in 2009. In addition, exporting services traders were also to a large extent (9.5 percent) present in this sector. In 2009, this share decreased slightly by 0.2 percentage points.

In 2006, *financial intermediation* was the second largest industry for importing (3.1 percent) and for exporting services traders (3.5 percent). Furthermore, these shares even increased in 2009 by 2.1 and 0.7 percentage points for import and export respectively. In terms of enterprises, this was an increase of 95 percent in the number of importers and 44 percent in the number of exporters. The lowest share of international services traders was found in the *public administration, education, health, social work and other services* sector, for imports and for exports.

General business register (GBR): The general business register comprises all enterprises in the Netherlands that contribute to the domestic product. Several characteristics are recorded for each enterprise, such as 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. In 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 industry as a percentage of the total number of economically active enterprises in the CBS general business register. Each enterprise in the sample is defined as a unique international services trader. It should be noted that these results give a good indication of the **minimum** percentage of international services traders by industry in the Netherlands. The word 'minimum' is used because when designing the international trade statistics some enterprises were omitted from the statistics which are indeed involved in the international trade in services. These enterprises are mainly marginal international services traders.

10.5.1 Share of international services traders by industry

		2006			2009		
		GBR	International services traders		GBR	International services traders	
			imports	exports		imports	exports
		n	%		n	%	
Total		725,635	1,7	2,0	844,425	1,8	1,8
Industry (NACE Rev. 1.1)							
A + B + C + D	Agriculture, mining and manufacturing	141,890	1,9	1,9	143,220	2,4	1,3
E + F + G + H	Utilities, construction, trade and hospitality	269,205	1,3	1,3	316,395	1,3	1,3
I	Transport, storage and communication	27,240	6,2	9,5	29,860	6,2	9,3
J	Financial intermediation	15,215	3,1	3,5	17,940	5,2	4,2
K	Real estate, renting and business activities	166,285	1,9	2,9	215,635	1,7	2,4
L + M + N + O	Public administration, education, health, social work and other services	105,800	0,7	0,4	121,375	0,7	0,4

Foreign Direct Investments

11

Foreign Direct Investments

The share of the Netherlands in worldwide inward and outward FDI decreased in 2009. The Netherlands is a country with more outward than inward FDI. Since 2000, Dutch outward FDI has increased more strongly than Dutch inward FDI. Relative to GDP, inward FDI was lower in 2010 than in 2009, whereas outward FDI increased. The level of openness of the Dutch economy, measured by the ratio of inward and outward FDI to GDP, has clearly increased since 2000. The main investment partners, both inward and outward, are the EU countries and the United States. Inward FDI is linked more with these 'traditional' partners than outward FDI.

11.1 Introduction

The tables in Chapter 11 describe patterns in the Netherlands' foreign direct investments. These investments are first compared with those of other countries. This is followed by the value of flows and stocks and their share in GDP. Chapter 11 ends with a description of the Netherlands' foreign direct investments by country and by economic sector, respectively. The data take the year 2000 as a reference year, and cover the 2005–2009 period. 2010 was also included where possible. We focus mainly on recent developments and less on long-term trends, which are discussed at length in the Internationalisation Monitor 2010. The Special Purpose Entities (see Chapter A3) are excluded for detailed figures.

The leading authority on measuring FDI in the Netherlands is De Nederlandsche Bank (**DNB**), which collects and compiles the data in line with the IMF Balance of Payments Manual (**BPM5**, IMF 1993).

Foreign direct investment (FDI) 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% of the voting power of the direct investment enterprise (OECD, 2008).

Inward FDI are the foreign direct investments in the reporting economy. **Outward FDI** are the direct investments from the reporting economy abroad.

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

Stocks of foreign direct investments 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 BPM5.

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.

11.2 The Netherlands' share in worldwide FDI

The share of the Netherlands in global inward FDI stock decreased in 2009 compared with 2008, from 4.1 to 3.4 percent. Germany and Spain also experienced declining shares, whereas the shares of France and Belgium increased. The United Kingdom retained its share. As a whole, the share of the European Union in global inward FDI stock declined between 2008 and 2009.

Outside the European Union, the share of the US in total worldwide inward FDI recovered slightly from its substantial decrease in 2008. The shares of Brazil and China also grew, while those of Australia and Japan decreased compared with 2008. The Russian Federation retained its share in 2009 after halving in 2008. The lower inward FDI of the Russian Federation in 2008 was related to valuation changes (BOFIT, 2009). Firstly, the Russian rouble depreciated by 16 percent against the dollar. Secondly, the price of oil and raw materials also fell. These sectors are important for the Russian Federation because mining and mineral extraction industries account for a large share of its inward FDI.

In outward FDI stock, the share of the Netherlands also decreased, from 5.1 percent in 2008 to 4.5 percent in 2009. Countries similar in size to the Netherlands, e.g. Belgium

and Denmark, also experienced declines, as did larger EU countries such as Germany and the UK. France held a higher share. The share of the European Union decreased between 2008 and 2009, but still accounted for almost half worldwide outward FDI.

Outside the European Union, the share of the United States recovered from a substantial fall between 2007 and 2008. Of the BRIC countries, Brazil's share declined, that of the Russian Federation and India remained relatively stable, and China's share in outward FDI stock increased in 2009.

There are considerable differences in the balance between inward and outward FDI stocks across countries. In general, emerging countries, such as China and Brazil, have relatively higher inward shares than outward shares, whereas the United States, Germany and the Netherlands are countries with relatively more outward FDI. Since 2000, the share of the Netherlands' outward FDI in global stocks also increased more strongly (0.7 percentage point) than the share of the Netherlands' inward FDI (0.1 percentage point).

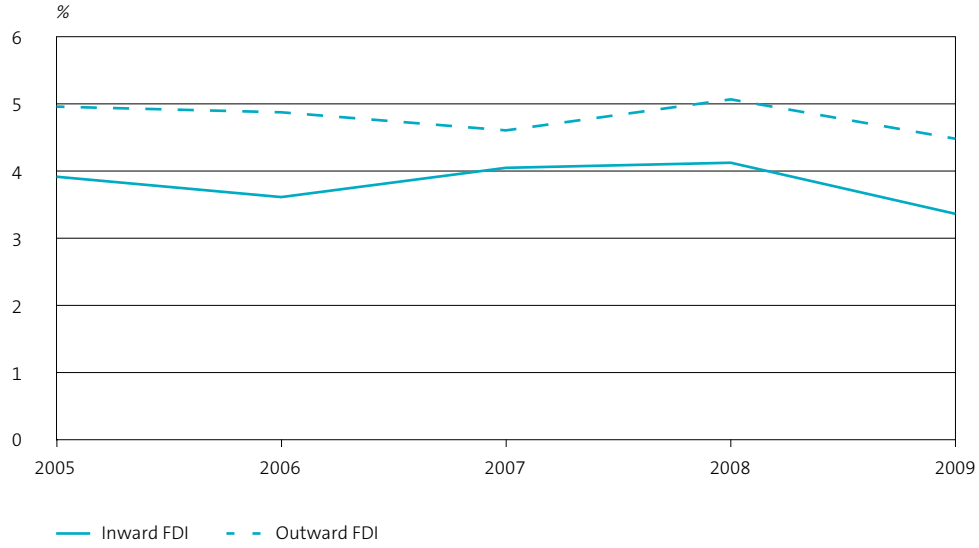
The Netherlands does not generally include SPEs in FDI, but most other countries do. If SPEs are included in Dutch FDI, the share of the Netherlands in worldwide FDI would be higher.

11.2.1 Share in worldwide FDI

	2000	2005	2006	2007	2008	2009
	%					
Inward stocks						
World	100	100	100	100	100	100
eu15	29.7	37.9	38.4	38.1	38.1	37.4
Netherlands	3.3	3.9	3.6	4.0	4.1	3.4
Austria	0.4	0.7	0.8	0.9	1.0	0.9
Belgium	.	3.3	3.4	4.5	4.3	4.7
Denmark	1.0	1.0	0.9	0.9	1.0	0.9
France	5.3	7.7	7.8	7.0	5.9	6.4
Germany	3.6	4.1	4.1	3.9	4.3	4.0
Italy	1.6	1.9	2.1	2.0	2.2	2.2
Spain	2.1	3.3	3.2	3.3	4.0	3.8
Sweden	1.3	1.5	1.6	1.6	1.8	1.7
United Kingdom	5.9	7.3	8.0	6.9	6.3	6.3
Switzerland	1.2	1.5	1.9	2.1	2.8	2.6
Brazil	1.6	1.6	1.5	1.7	1.9	2.3
China	2.6	2.4	2.0	1.8	2.4	2.7
India	0.2	0.4	0.5	0.6	0.8	0.9
Russian Federation	0.4	1.6	1.9	2.7	1.4	1.4
Australia	1.6	2.1	2.1	2.1	2.0	1.8
Canada	2.9	3.0	2.6	2.9	2.9	3.0
Japan	0.7	0.9	0.8	0.7	1.3	1.1
United States	37.4	24.5	23.1	20.0	16.5	17.6
Outward stocks						
World	100	100	100	100	100	100
eu15	43.8	46.2	46.0	45.2	48.2	46.1
Netherlands	3.8	5.0	4.9	4.6	5.1	4.5
Austria	0.3	0.6	0.7	0.8	1.0	0.9
Belgium	.	3.9	3.9	3.4	3.8	3.5
Denmark	0.9	1.0	0.9	0.9	1.2	1.1
France	11.6	9.9	10.3	9.3	8.1	9.1
Germany	6.8	7.5	6.9	6.9	8.1	7.3
Italy	2.3	2.4	2.4	2.7	3.2	3.0
Spain	1.6	2.5	2.8	3.0	3.7	3.4
Sweden	1.5	1.7	1.7	1.7	2.0	1.9
United Kingdom	11.3	9.7	9.3	9.5	9.4	8.7
Switzerland	2.9	3.5	3.6	3.5	4.7	4.2
Brazil	0.7	0.6	0.7	0.7	1.0	0.8
China	0.3	0.5	0.5	0.5	0.9	1.2
India	0.0	0.1	0.2	0.2	0.4	0.4
Russian Federation	0.3	1.2	1.4	1.9	1.3	1.3
Australia	1.2	1.7	1.7	1.8	1.5	1.8
Canada	3.0	3.1	2.8	2.7	3.2	3.0
Japan	3.5	3.1	2.9	2.8	4.2	3.9
United States	33.8	29.3	28.5	27.3	19.2	22.7

Source: UNCTAD.

11.2.2 Dutch share (stocks) in worldwide FDI



Source: UNCTAD.

11.3 Dutch FDI: stocks and flows

Like most other developed countries, the Netherlands has more outward than inward FDI (see Table 11.3.1). In 2010, outward FDI stocks accounted for 714 billion euros and inward FDI stocks for 439 billion euros. The difference between outward and inward FDI stocks increased during the 2000–2010 period.

The Netherlands has more outward FDI than inward FDI

Both the value of inward FDI stocks and its share in GDP were lower in 2010 than in 2009. This was caused by foreign parent enterprises withdrawing funds from their Dutch

subsidiary enterprises. The value of stocks of outward FDI was 8 percent higher in 2010 than in 2009. Therefore its ratio to Dutch GDP was also higher because the GDP (in current prices) only grew by 3 percent.

The ratio of inward FDI to GDP and the ratio of outward FDI to GDP are often considered to be measures for the openness of an economy (OECD, 2008). According to this statistic, the openness of the Dutch economy with respect to both inward and outward FDI clearly increased between 2000 and 2010. However, the inward FDI/GDP ratio seems to have levelled off since 2005.

FDI flows are more vulnerable to large transactions than FDI stocks, and hence varied substantially during the 2000–2010 period. One example is the acquisition of ABN AMRO in 2007 by foreign enterprises 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 one headquarters in The Hague. Activities in the United Kingdom were then reclassified as foreign investments of the Netherlands abroad.

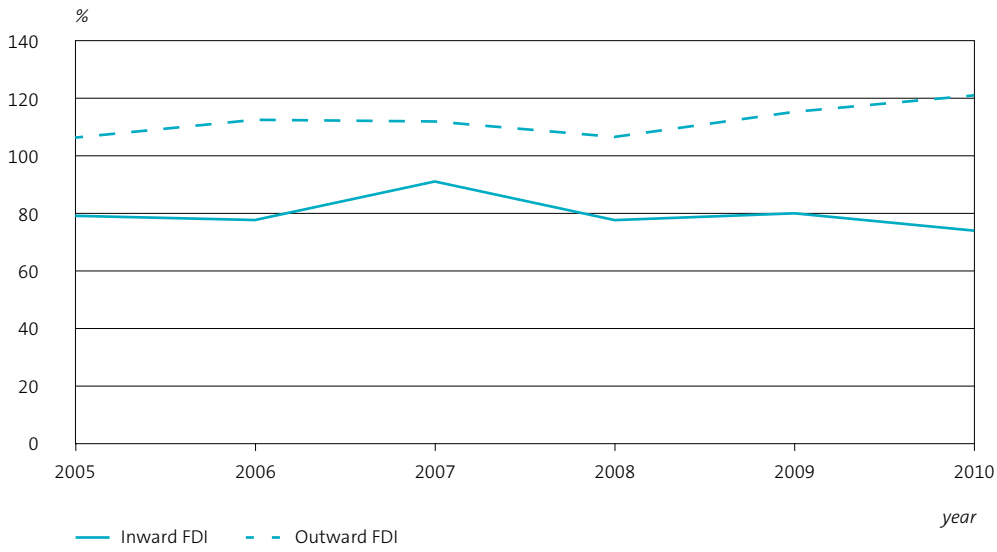
The considerable fluctuations of FDI flows diminish the relevance of the indicators that compare the size of flows with GDP. In the past these indicators would give information about the relative attractiveness of economies, both that of the Netherlands and that of foreign countries. However, the current fluctuations in these indicators cannot be separated from sudden flows caused by large acquisitions or from the decrease in FDI caused by the economic crisis.

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

	2000	2005	2006	2007	2008	2009	2010
	million euros						
Value							
Inward FDI, flows	69,307	31,398	11,141	87,226	2,442	24,845	–11,811
Outward FDI, flows	82,094	98,964	56,736	40,629	46,070	19,383	38,245
Inward FDI, stocks	261,937	406,392	419,702	520,766	463,065	457,660	439,494
Outward FDI, stocks	328,276	545,828	607,793	639,960	635,364	659,342	714,392
	%						
Share in GDP							
Inward FDI, flows	17	6	2	15	0	4	-2
Outward FDI, flows	20	19	11	7	8	3	6
Inward FDI, stocks	63	79	78	91	78	80	74
Outward FDI, stocks	79	106	113	112	107	115	121

Source: De Nederlandsche Bank (FDI) and CBS (GDP), calculated by CBS.

11.3.2 Dutch FDI (stocks) relative to GDP



Source: De Nederlandsche Bank (FDI) and CBS (GDP), calculated by CBS.

11.4 Dutch FDI stocks: by country

The distribution of Dutch outward FDI stock across countries clearly differs from that of Dutch inward FDI stock. For example, in 2009, Switzerland, the United Kingdom, Germany and the emerging countries Brazil, Russian Federation, India and China (the BRIC countries) are important destinations for Dutch outward FDI, whereas the United States, France and Luxembourg are more important origins of foreign investment in the Netherlands.

EU countries and the United States are the main investors in the Netherlands. Together these countries account for 363 billion euros, or 79 percent of total Dutch inward FDI stocks in 2009. Compared with 2008, the share of the United States dropped by 3 percentage points and that of the European Union remained constant. The investments of the BRIC countries or the countries that joined the European Union in 2004 or 2007 remained relatively small.

The total share of the European Union in Dutch inward FDI was 61 percent in 2009. Particularly remarkable is that the share of Luxembourg more than doubled during the

2000–2009 period, whereas the Belgian share practically halved. Furthermore, between 2006 and 2008, Belgian inward FDI fluctuated strongly because of ABN-AMRO and Fortis (see 11.4.1). Of all the EU member states, the United Kingdom still had the largest share in Dutch inward FDI in 2009.

Outward FDI stocks are also concentrated among the EU countries and the United States. Together they accounted for 469 billion euros, or 71 percent of total Dutch outward FDI stocks in 2009. Compared with 2008, the share in the United States increased by 1 percentage point and that in the European Union decreased by 3 percentage points. The shares in the BRIC countries are still relatively small.

Dutch outward FDI in the US decreased from 26 percent in 2000 to 12 percent in 2009. For example, Dutch firms such as Ahold, ABN-AMRO and Reed Elsevier sold their American subsidiary enterprises, respectively US Foodservices, La Salle and Harcourt in 2007 (DNB, 2008). Outward FDI in the European Union increased by 6 percentage points between 2000 and 2009. In the European Union, Luxembourg and the United Kingdom had the strongest growth. Outside the EU, the share in Switzerland increased substantially.

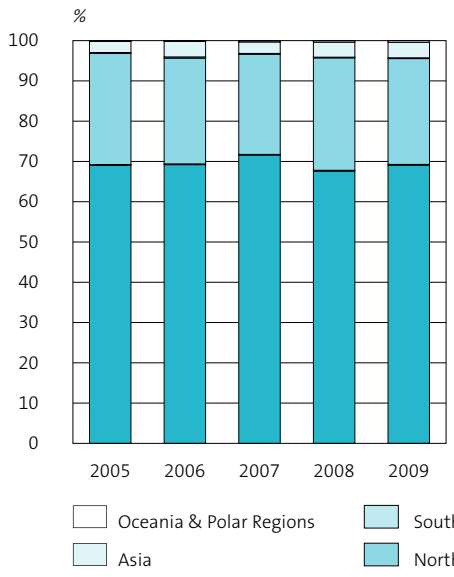
It should be taken borne in mind that some of the shifts, particularly in outward FDI, are caused by changing exchange rates. For example, the dollar lost more than a third of its value against the euro during the 2000–2009 period. So even if investments in the United States were to have retained their value in dollars, their value in euros would have decreased.

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

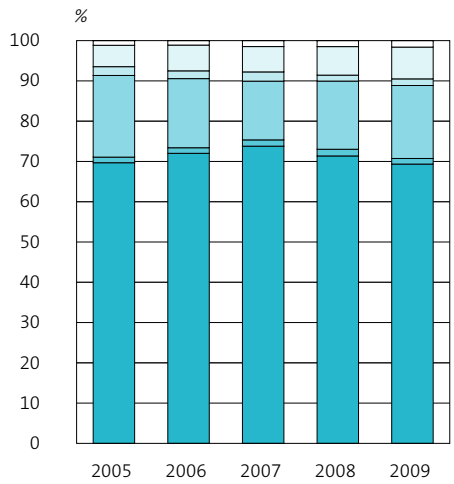
	Value						Share (2009)
	2000	2005	2006	2007	2008	2009	
	million euros						*%*
Inward FDI							
World	261,937	406,392	419,702	520,766	463,065	457,660	100
Total European Union	161,860	242,951	255,812	345,201	282,888	280,271	61
Belgium	40,490	38,946	48,581	59,885	37,772	36,258	8
Germany	35,867	42,666	44,139	44,633	37,978	34,096	7
France	13,467	28,525	21,920	42,227	45,856	43,615	10
Ireland	8,362	15,429	17,056	19,366	21,177	21,160	5
Italy	1,064	2,197	3,016	2,570	2,974	2,542	1
Luxembourg	8,877	34,586	36,410	50,775	49,138	48,842	11
Spain	807	9,290	9,587	24,493	9,101	9,519	2
United Kingdom	41,630	57,154	61,261	86,424	61,955	56,761	12
Sweden	6,418	3,934	3,826	4,403	6,291	16,034	4
Other EU countries	4,878	10,224	10,016	10,425	10,646	11,444	3
Russian Federation	3	117	40	240	304	319	0
Switzerland	12,531	18,312	19,523	17,381	13,955	20,065	4
Other European countries	3,144	19,117	15,425	10,676	15,985	18,196	4
United States	56,765	77,265	76,381	94,527	99,635	82,815	18
Dutch Antilles and Aruba	7,896	7,772	7,881	8,145	10,138	9,744	2
Japan	9,187	7,428	9,736	8,630	8,931	10,662	2
Brazil	176	837	960	861	315	248	0
China	33	23	70	96	128	64	0
India	26	1	1	8	10	6	0
Other countries	10,316	32,569	33,873	35,001	30,776	35,270	8
Outward FDI							
World	328,276	545,828	607,793	639,960	635,364	659,342	100
Total European Union	174,403	333,328	377,871	411,981	394,393	387,943	59
Belgium	35,242	39,649	60,147	74,989	64,090	59,699	9
Germany	32,932	57,097	60,321	65,343	65,493	59,740	9
France	19,636	32,428	35,839	37,612	34,422	32,841	5
Ireland	11,018	12,173	11,096	12,300	12,210	12,282	2
Italy	5,846	15,017	20,678	21,419	20,029	17,680	3
Luxembourg	5,487	17,791	23,438	32,533	43,242	45,287	7
Spain	9,729	24,401	25,406	28,859	26,405	26,059	4
United Kingdom	34,234	99,093	95,575	93,917	87,460	92,206	14
Sweden	2,631	7,020	7,026	5,876	5,333	4,720	1
Other EU countries	17,648	28,659	38,345	39,133	35,709	37,429	6
Russian Federation	1,871	5,646	11,733	9,014	7,277	7,026	1
Switzerland	15,999	35,533	39,389	42,852	43,411	53,194	8
Other European countries	4,043	4,960	8,251	8,021	8,007	8,129	1
United States	84,545	87,939	78,979	65,136	71,593	80,632	12
Dutch Antilles and Aruba	2,110	1,886	1,937	2,393	2,241	2,273	0
Japan	1,248	1,577	2,544	3,338	5,321	5,955	1
Brazil	4,886	8,229	8,816	11,562	6,231	7,672	1
China	1,800	1,827	2,218	4,367	5,098	6,437	1
India	531	1,254	1,607	2,167	1,938	2,068	0
Other countries	36,840	63,649	74,448	79,129	89,854	98,013	15

Source: De Nederlandsche Bank (FDI), calculated by CBS.

11.4.2 Origin of inward FDI (stocks) by share



11.4.3 Destination of outward FDI (stocks) by share



Source: OECD, calculated by CBS.

11.5 Dutch FDI stocks: by economic sector

EU countries such as the United Kingdom, Germany and Luxembourg, but also the United States, are important partner countries for FDI. However, the distribution across economic sectors of Dutch inward FDI from, and outward FDI to these countries differs substantially. For example, outward FDI to the United Kingdom and Luxembourg is mainly made by Dutch manufacturing enterprises, whereas services enterprises are the main Dutch investors in most other countries. As for inward FDI, the United States and the United Kingdom belong to the few countries that invest as much in Dutch manufacturing as in Dutch services.

The value of Dutch inward FDI stocks in manufacturing was slightly lower in 2009 than in 2008. Compared with 2000, the share of manufacturing in inward FDI rose from

35 percent to 46 percent. In the *food products* manufacturing sector the value of inward FDI doubled, whereas in the *mining and quarrying, petroleum and chemical products* sector the value increased by over a quarter. In particular investments in the manufacturing of petroleum and chemical products increased strongly. One of the reasons for this rise was the restructuring of Shell in 2005 (see 11.3).

Dutch FDI is increasingly made by specific sectors

As for services, the value of Dutch inward FDI was also slightly lower in 2009 than in 2008. The share of services in inward FDI also declined. In the 2000–2009 period the value of inward FDI halved in the *trade* and *other services* sectors but doubled in the *transport, storage and communication* and *monetary intermediation and insurance* sectors.

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* (particularly the manufacturing of petroleum and chemical products) and *monetary intermediation and insurance*. The total share of Dutch manufacturing in outward FDI rose from 43 to 51 percent in the 2000–2009 period, whereas the share of Dutch services declined.

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 Table 11.4, 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.

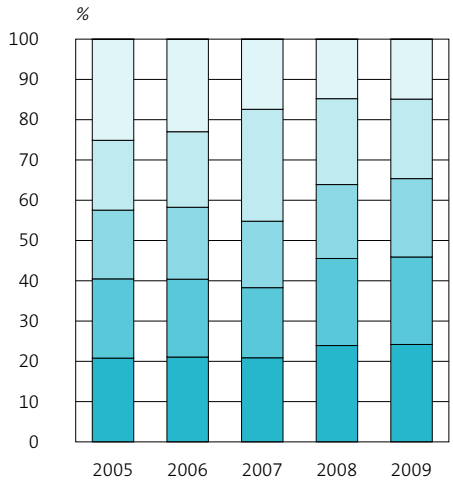
Note that the economic sector for outward FDI is the sector of the Dutch enterprise investing abroad. Besides that, the destination sector in the other country does not have to be the same as the economic sector of the Dutch enterprise.

11.5.1 Dutch FDI (stocks), by economic sector

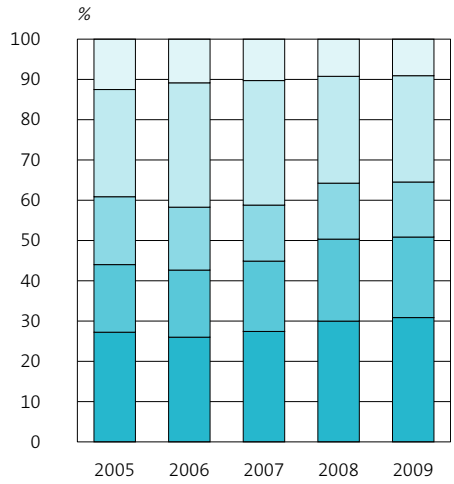
	Value						Share (2009)
	2000	2005	2006	2007	2008	2009	
	million euros						*%*
Inward FDI							
Total	256,787	406,392	419,702	520,766	463,065	457,660	100
Manufacturing	89,702	164,503	169,539	199,406	210,877	210,114	46
Mining and quarrying, petroleum and chemical products	47,397	84,540	88,418	108,761	110,768	110,709	24
Electro technical and metal products	15,464	23,098	20,632	17,271	22,312	23,018	5
Food, beverages and tobacco	13,321	33,299	36,158	48,298	48,323	47,386	10
Other	13,519	23,567	24,331	25,076	29,473	29,001	6
Services	167,085	241,889	250,163	321,360	252,188,	247,546	54
Trade	40,744	44,392	44,595	43,688	42,045	46,873	10
Transport, storage and communication	18,284	24,948	30,371	42,249	42,940	42,180	9
Monetary intermediation and insurance	18,774	70,460	78,723	144,706	98,760	90,364	20
Other	89,283	102,089	96,473	90,717	68,443	68,129	15
Outward FDI							
Total	318,833	545,828	607,793	639,960	635,364	659,342	100
Manufacturing	136,322	240,255	259,291	287,254	319,881	335,379	51
Mining and quarrying, petroleum and chemical products	54,858	148,653	158,029	175,494	190,551	203,492	31
Electro technical and metal products	33,137	34,858	41,273	39,946	44,306	43,047	7
Food, beverages and tobacco	32,028	38,057	38,028	48,760	56,610	60,116	9
Other	16,298	18,686	21,961	23,054	28,415	28,725	4
Services	182,511	305,573	348,502	352,706	315,483	323,963	49
Trade	29,857	42,619	45,962	39,180	32,626	33,465	5
Transport, storage and communication	24,954	49,384	48,975	49,837	55,677	56,630	9
Monetary intermediation and insurance	57,360	145,277	187,652	197,856	168,544	174,031	26
Other	70,341	68,292	65,914	65,833	58,636	59,836	9

Source: De Nederlandsche Bank (FDI), calculated by CBS.

11.5.2 Inward FDI by economic sector



11.5.3 Outward FDI by economic sector



Other services
Monetary intermediation and insurance
Trade and transport
Other manufacturing
Mining and quarrying, petroleum and chemical products

Source: De Nederlandsche Bank (FDI), calculated by CBS.

International traffic and transport flows

12

International traffic and transport flows

The worldwide crisis is clearly reflected in declining trends in the international air transport of passengers and freight between the 15 EU member states in 2009. The annual growth of transported air passengers since 2002 was interrupted by a steep decline of 6.7 percent in 2009 compared with 2008. The crisis in international air freight and mail transport in 2009 was even more evident: almost 1.7 million transported tonnes (13 percent) less than in 2008. The international transport of goods or freight to and from the Netherlands showed a 13 percent drop in transported volumes in 2009. The share of Dutch transport companies also continued to decline. Road transport companies lost 3 to 4 percent market share since 2006. After a 70 percent growth between 2000 and 2008, maritime container transport experienced a decrease of 11 percent in 2009.

12.1 Introduction

This chapter examines the general trends and developments in Dutch international traffic and transportation flows. As in other areas of international activity, the economic crisis of 2009 hit Dutch transport and traffic hard. Positive growth rates in air passenger and freight transport, as well as in road, air and container shipments turned substantially negative in 2009. The tables and graphs in this chapter present the statistics behind these trends. Recent developments in the international transport statistics facilitate an understanding of the composition and evolution of transport flows.

The global crisis hit international transport to and from the Netherlands in 2009

The traffic and transport sector is an important sector for the Dutch economy. The international trade in goods, through all the different modalities, is a pillar of Dutch economic growth. In 2009, land, water, air and supporting transport activities generated 3.7 percent of the total value added of the Dutch economy, and employed over 359 thousand people. The sector's total output amounted to 49 billion euros, 40 percent of which was

accounted for by land transport, 11 percent by water transport, and 15 percent by air transport services.

Section 12.2 of this chapter starts with a general survey of international air passenger flows from and to the Netherlands, and continues with a benchmark top 15 of European airports in order to measure the relative comparative position of the Dutch market area. Air passenger figures have been calculated in a way that excludes double counting of national and intra-EU passenger transport. This avoids passengers being counted twice: reported once by the origin airport as departures, and once again 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, a person flying from Paris to London will be counted in France as a 'departure passenger' and in the UK as an 'arrival passenger', but only once at EU-27 level.

Section 12.3 looks at the Dutch position in international goods and mail transport by air in a European comparative perspective. Fifteen European airports are distinguished as well as the continent of origin/destination of freight and mail. Special attention is given to the Dutch position in this transport flow. Double counting is avoided in the intra-EU 27 and total EU-27 aggregates by considering departure declarations only. Because of difficulties gathering data on freight and mail, the data for the main airports in Paris (Charles de Gaulle and Orly) are underestimated. This also affects the aggregated freight data for France. Data collection is based on the first origin/destination of freight, and not on the actual origin/destination should there be flight connections.

The transport flow of goods to and from the Netherlands by modality and nationality of the transporter is covered in section 12.4. 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 undergone significant growth since the mid-1970s. Vessels are now gigantic, with the latest capable of carrying 15 thousand standard containers. Containerisation has reduced the cost of shipping goods, thereby facilitating the creation of global supply chains, and spurring international trade. The Netherlands has become 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. Associated commercial partners and suppliers benefit from each other's existence and compete with each other for market share. Container transport flows to and from the Netherlands by sea is covered in section 12.5.

EU 15 includes the following member states: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, the UK, and the Netherlands.

EU 27 includes the EU 15 plus the new member states: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

12.2 International air-passenger transport

The economic crisis reduced the total number of passengers transported by air from and to the EU 15 member states by 6.7 percent in 2009 (i.e. 57 million) to less than 800 million. This interrupted the average annual growth rate of 4.5 percent since 2002. However, first quarterly data for 2010 indicate that air transport is beginning to recover.

International intra-EU 27 transport was more strongly affected by the crisis than extra-EU 27 transport, with declines of nearly 8 percent and 3.7 percent respectively.
The majority of international air passenger transport of the EU 27 countries stays intra-EU. But the share of passengers transported to and from extra-EU destinations grew slowly: from 44 percent in 2007 to 46 percent in 2009.

After the dip in 2009, air transport showed signs of recovery in 2010

The UK continues to lead the EU-15 countries and handles almost 20 percent of all passengers in international air-passenger transport. The Netherlands ranks sixth. When comparing individual airports and not countries, Amsterdam Schiphol Airport is the largest handler of EU international air passengers with intra-EU origins or destination. Schiphol handled over 24 million passengers in 2009, placing it ahead of Charles de Gaulle in Paris, and London Heathrow. The latter handles the most passenger transport to and from extra-EU 27 countries.

In recent years, regional airports in the Netherlands have become more important in the handling of international air-passenger transport in the Netherlands. Several low cost carriers now fly to Rotterdam-The Hague Airport and Eindhoven Airport. In fact, Eindhoven Airport was the only Dutch airport that witnessed an increase in the number of transported passengers in 2009.

The information in this table is primarily based on On Flight Origin/Destination (OFOD) data, supplemented by Flight Stage (FS) data and airport declarations. Data are collected on the basis of the first origin/destination of passengers, and not on the final origin/destination should there be flight connections.

12.2.1 International transport of passengers through EU-15 airports

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

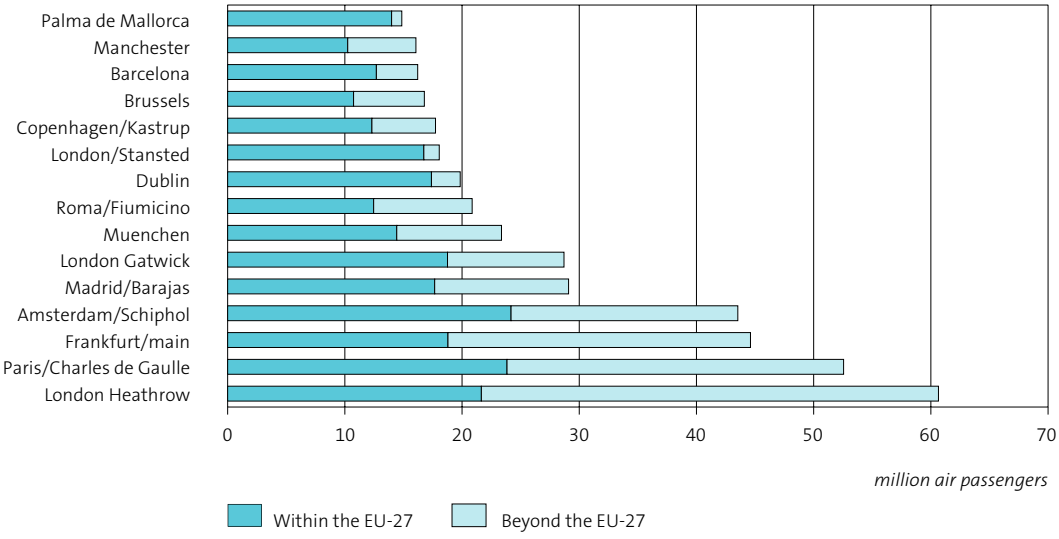
Source: CBS, Eurostat.
Double counting is excluded in the intra-EU and total aggregates by only taking account of departure declarations.

12.2.2 International air-passenger transport between the Netherlands and the continents

	Amsterdam Schiphol Airport			Other Dutch Airports [1]		
	2008	2009	2010	2008	2009	2010
	1 000					
Total transported	47,392	43,523	45,137	3,034	2,933	3,455
Europe	31,725	28,990	29,772	3,028	2,931	3,449
Africa	2,556	2,539	2,764	4	0	3
America	7,923	7,132	7,295	0	0	2
Asia and Australia	5,188	4,862	5,305	2	1	1

Source: CBS.
[1] Maastricht-Aachen Airport, Rotterdam-The Hague Airport, Eindhoven Airport and Groningen Airport Eelde.

12.2.3 International passenger transport through EU-27 airports, top 15 airports, 2009



Source: Eurostat.

12.3 International air freight and mail transport

Air freight and mail transport play a key role in national, intra and extra-EU transport. However, aircraft are an expensive mode of transport in terms of tonne-kilometres, so most freight transport from and to the Netherlands is still done by sea shipping (70 percent). Generally, it can be said that air freight and mail transport become more important as the distance to be covered increases.

The economic crisis is also reflected in air freight and mail transport statistics. Air freight and mail transport fell by 13 percent in the 15-EU member states combined, with some countries, such as Belgium, showing even greater declines (22 percent) – from 1.1 million transported tonnes in 2008 to 0.8 million in 2009. Table 12.3.1 shows that in 2009 each member state transported fewer air freight and mail tonnes than in 2008. The greatest decrease in absolute tonnes of international transported goods was in the Netherlands: 277 thousand tonnes less than in 2008.

Destinations to extra-EU member states represented the most important segment of freight and mail market, at around 78 percent in recent years. Neither did this change in recent years: the geographic distribution of the transport of goods in intra and extra-EU transport of the 15 member states by world regions in 2009 is very similar to the geographic distribution of two years previously. Around 40 percent of transported goods are from or to Asia (and Australasia), and about 26 percent from and to countries in Europe (intra and extra-EU transport). The share of North America decreased slowly, from 21 percent in 2007 to 19 percent in 2009.

The Netherlands, Luxembourg and Austria are mainly responsible for the considerable volume of transported goods to and from Asia in 2009. For each of these three countries, over 50 percent of their total air freight and mail was transported to or from Asia (and Australasia).

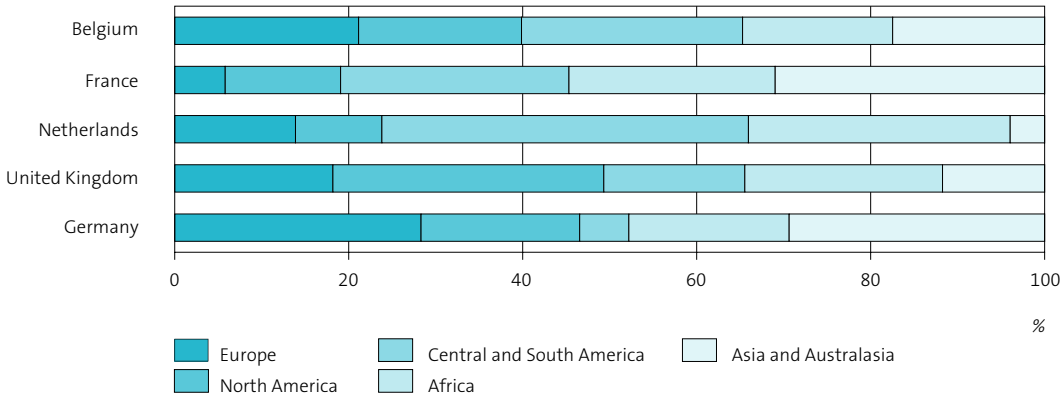
In the Netherlands, Amsterdam Schiphol Airport continues to be the most prominent player in the market. Maastricht Aachen Airport is the largest of the four regional Dutch airports and handled nearly 4 percent of goods transported to and from the Netherlands in 2010.

12.3.1 International transport of freight and mail through EU-15 airports by continent of origin or destination, 2009

	Europe	North America	Central and South America	Africa	Asia and Australasia	Total	growth 2008–2009
	1,000 tonnes						*%*
Germany	1,041.1	583.4	108.6	112.2	1,386.2	3,231.5	–6.03
United Kingdom	422.9	630.2	49.0	161.7	774.6	2,038.5	–10.83
Netherlands	88.2	220.7	139.9	215.3	707.1	1,371.2	–16.82
France	271.0	291.6	94.2	183.3	452.6	1,292.7	–15.10
Belgium	279.2	97.4	8.0	154.8	296.2	835.6	–21.96
Italy	273.2	81.6	16.8	17.3	253.2	642.1	–14.01
Luxembourg	48.9	119.3	54.6	75.1	328.2	626.0	–20.58
Spain	168.4	54.1	112.3	15.6	67.6	418.0	–4.62
Austria	62.0	14.6	0.1	1.4	123.8	201.8	–1.70
Denmark	79.6	27.1	0.0	0.0	46.6	153.3	–39.06
Sweden	84.6	12.6	0.0	0.1	46.0	143.3	–22.26
Finland	56.4	6.7	0.0	0.3	59.9	123.2	–14.57
Ireland	71.6	28.3	0.0	0.0	4.9	104.8	–11.99
Portugal	56.6	4.6	25.9	16.9	0.0	103.9	–9.09
Greece	57.7	5.2	0.0	1.1	19.2	83.1	–12.01

Source: Eurostat.

12.3.2 International transport of freight and mail through EU-15 airports by continent of origin or destination; top 5 member states, 2009



Source: Eurostat.

12.3.3 International transport of freight and mail between the Netherlands and the continents

	Amsterdam Schiphol Airport			Other Dutch Airports [1]		
	2008	2009	2010	2008	2009	2010
	1,000 tonnes					
Total transported	1,568	1,286	1,512	56	54	62
Europe	75	57	72	12	19	33
Africa	189	179	179	44	34	26
America	409	351	422	0	0	1
Asia and Australia	895	700	838	0	1	3

Source: CBS.
[1] Maastricht-Aachen Airport, Rotterdam-The Hague Airport, Eindhoven Airport and Groningen Airport Eelde.

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

The global economic crisis is clearly reflected in international transport volumes. In 2009 the volume of goods transported to and from the Netherlands decreased by 13 percent (from 1.1 billion tonnes to 950 million tonnes) compared with 2008, thereby reaching the 2004/2005 level.

Transporting goods to and from the Netherlands is not the exclusive domain of Dutch enterprises with transport equipment. Foreign enterprises with transport equipment also compete to load and unload goods in the Netherlands. In fact, the majority of goods are transported by non-Dutch transport equipment enterprises. In 2009, 77 percent of the total unloaded weight in the Netherlands was transported by foreign transport-equipment enterprises. Of the total loaded weight, 46 percent is transported by non-Dutch transport equipment enterprises.

Transport by road

Dutch registered vehicles handle the majority (56 percent) of transportation of goods by road. There has been a three percentage point decrease since 2006. Over the past few years we have observed an increase in road transport by German and Polish registered vehicles. Even in the crisis year, when the total volume handled by Dutch road transport companies decreased by 13 percent in 2009, the volume of goods transported by international road transport companies increased by 1 percent in 2009 to 69 million tonnes.

Vehicles registered in Germany, Belgium and Poland account for a third of the total incoming transport flow by road. Between 2008 and 2009, the share of unloaded goods by German registered vehicles increased by 1.7 percentage points to almost 19 percent, whereas Belgian trucks had a stable share of 11 percent, and the share of transport vehicles with Polish licence plates increased to just over 5 percent of the goods flow towards the Netherlands.

The volume of goods transported abroad from the Netherlands continues to be mainly in Dutch hands (with a share of 61 percent), although this is declining (4 percent since 2006). This decline was compensated for by German (14 percent), Belgian (9 percent) and Polish (5 percent) trucks, whose overall share increased from 24 percent in 2006 to 28 percent in 2009.

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. Just 3 percent of the volume of goods transported towards and 10 percent of goods transported from the Netherlands are carried by ships flying under the Dutch flag. Instead, many ships are registered in Panama, the Bahamas, Liberia or Greece.

In contrast, the transport of goods on inland waterways is mainly done by Dutch registered transport equipment. Two thirds of all carried goods loaded in the Netherlands were transported by a Dutch vessel. Over 73 percent of the goods on inland waterways unloaded in the Netherlands that crossed the border with Germany or Belgium were shipped by inland vessels flying under the Dutch flag. Most foreign transporters in this mode of goods carriage were Belgian or German.

Transport by other modes

Goods transported by rail and pipeline are 100 percent Dutch business, and more than half (54 percent) the air freight and mail weight is transported by planes registered in the Netherlands. Air transport-equipment registrations from Asian (25 percent), American (12 percent) and European (9 percent) countries account for the remainder.

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

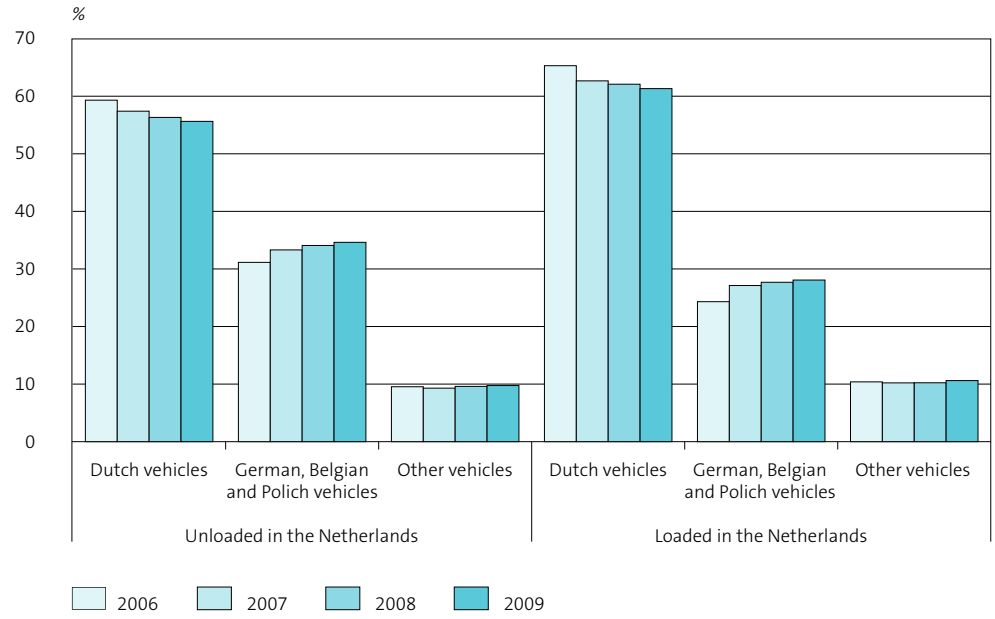
12.4.1 Weight of transported goods by nationality of transport equipment, 2009

	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]
	1,000 tonnes									
Total	513,140	356,176	56,212	79,531	21,221	438,941	153,351	88,392	86,963	110,235
Dutch transport equipment	119,252	12,953	41,193	44,244	20,862	237,928	13,553	61,070	53,326	109,979
Foreign transport equipment	393,888	343,223	15,019	35,287	359	201,012	139,798	27,322	33,636	256
Europe	213,513	163,129	15,016	35,287	81	131,543	70,551	27,320	33,636	36
EU 14	137,222	95,504	14,188	27,466	64	93,723	44,154	25,664	23,883	22
incl.	0									
Belgium	17,792	817	8,349	8,613	13	19,673	1,750	10,527	7,386	10
Denmark	9,208	8,973	–	235	0	5,760	5,506	–	254	0
Germany	29,508	9,864	4,806	14,833	5	34,267	8,310	13,854	12,101	2
France	5,974	4,628	683	663	0	3,024	1,544	528	952	0
Greece	28,282	28,282	–	–	0	4,488	4,488	–	–	0
United Kingdom	32,444	32,444	–	–	–	17,271	17,271	–	–	–
Sweden	4,376	4,262	–	114	0	1,243	1,129	–	114	0
other European countries	76,291	67,625	828	7,821	17	37,819	26,397	1,656	9,753	13
incl.										
Cyprus	12,824	12,824	–	0	0	7,061	7,059	–	1	1
Malta	23,146	23,146	–	–	0	8,038	8,038	–	–	0
Norway	20,131	20,075	–	56	0	5,873	5,783	–	90	0
Poland	4,258	136	34	4,088	0	5,087	108	55	4,924	0
Russia	3,370	3,370	–	–	0	829	829	–	–	0
Africa	40,375	40,369	–	–	6	13,435	13,433	–	–	2
incl.										
Liberia	39,875	39,875	–	–	–	13,091	13,091	–	–	–
America	87,990	87,901	–	–	89	37,591	37,521	1	–	69
incl.										
Antigua and Barbuda	8,090	8,090	–	–	–	11,297	11,297	–	–	–
Bahamas	27,792	27,792	–	–	–	6,085	6,085	–	–	–
Panama	44,769	44,769	–	–	–	15,667	15,667	–	–	–
Asia	36,191	36,008	–	–	183	11,009	10,861	–	–	148
incl.										
Singapore	12,307	12,267	–	–	40	5,003	4,972	–	–	31
Hong Kong	13,654	13,648	–	–	6	3,367	3,359	–	–	8
Oceania and others	15,817	15,817	–	–	0	7,433	7,433	–	–	0
incl										
Marshall Islands	14,281	14,281	–	–	–	7,336	7,336	–	–	
	%									
Total	100	100	100	100	100	100	100	100	100	100
Dutch transport equipment	23	4	73	56	98	54	9	69	61	100

Source: CBS, Eurostat.

[1] Transport by air, railway and pipelines*.

12.4.2 Share of Dutch road transport by vehicle registration



12.5 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 trade. Container traffic along the European coasts (Short Sea Shipping, SSS) and long distance container traffic (Deep Sea Shipping, DSS) is developing rapidly. In the 2000–2008 period, SSS container transport through the Netherlands increased by 61 percent, while DSS transport grew by 72 percent.

In 2009, the crisis resulted in a 13 percent decrease in total (inward and outward) SSS, and in a 10 percent fall in DSS. Both declined more strongly for imports (inward shipping) than for exports (outward shipping).

Short sea traffic

Poland joined the top 10 inward SSS partner countries in 2009. Compared with 2008, 30 thousand additional containers were shipped from Poland to the Netherlands, partly because better container facilities made feeder traffic via Poland more attractive. Apart from Poland (and Sweden and Norway), fewer containers were shipped from SSS countries to the Netherlands.

Transport flows from the Netherlands towards SSS countries also changed in 2009. Flows declined to Finland (–51 percent) and Russia (–21 percent), whereas transport to Belgium increased by 141 percent, Germany by 28 percent, and Norway by 21 percent.

More than half the SSS containers handled in the Netherlands came from and went to the UK and Ireland, but this share has been decreasing since 2003. The total share of the top 10 SSS partner countries increased in this period at the expense of 'other countries' (see Table 12.5.1).

Deep sea traffic

As indicated above, Deep Sea Shipping of containers also decreased during the crisis: compared with 2008, 10 percent (or 418 thousand) fewer containers were shipped in 2009. DSS with the top-10 loading partner countries declined even more (–13 percent). For example, Japan shipped 80 thousand containers fewer to the Netherlands in 2009. The only positive exception to this trend was Hong Kong, with an increase of 18 percent (after a decline in 2008).

The number of containers shipped to the top 10 DSS destinations decreased by 7 percent in 2009. Brazil in particular posted a sharp decline (24 percent, or 20 thousand containers). Taiwan was the only positive exception with DSS growth of 19 percent. Similar to SSS, Deep Sea Shipping is also concentrated among a few countries: the top 10 loading and unloading countries accounted for over 83 percent of total Dutch DSS in 2009.

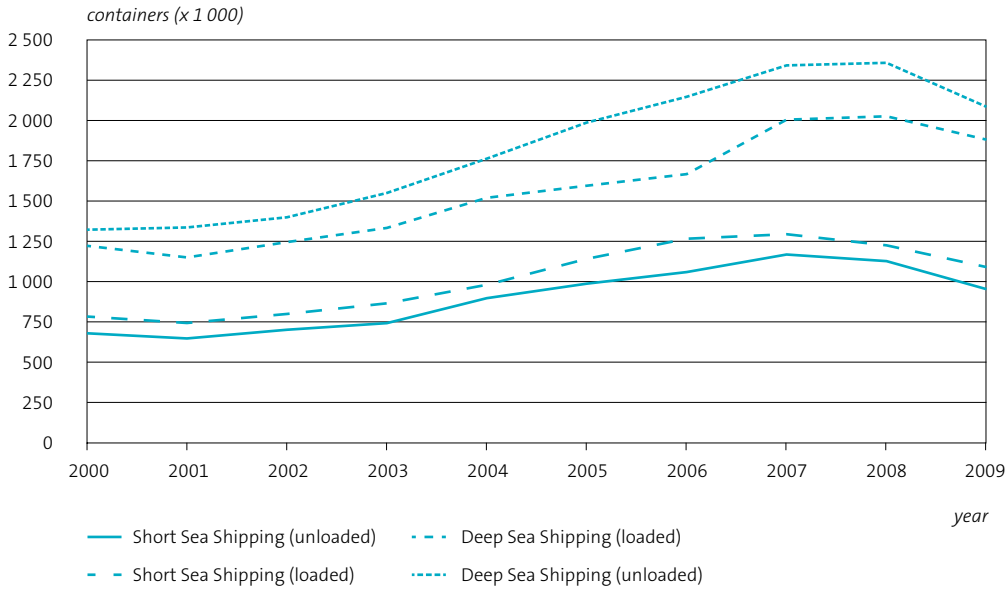
Containers are registered according to the principle of loaded in NL and unloaded in NL. 'Short Sea Shipping or Coastal Shipping' (SSS) includes all partner ports situated in geographical Europe, on the Mediterranean and the Black Sea. 'Deep Sea Shipping' (DSS) is the complementary geographical aggregate. 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').

12.5.1 Container transport to and from the Netherlands in Short Sea Shipping and Deep Sea Shipping

	2000	2003	2006	2007	2008	2009
	1,000 containers					
Total	4,006	4,490	6,138	6,809	6,737	6,010
Unloaded in the Netherlands	2,001	2,293	3,205	3,510	3,485	3,039
Short Sea Shipping	679	742	1,059	1,168	1,127	953
Unloaded in the Netherlands and loaded in:						
Top-10 countries	544	621	907	1,013	994	808
United Kingdom	250	298	378	382	354	264
Ireland	100	145	181	180	165	137
Russia	19	23	90	112	133	94
Finland	25	18	43	73	95	67
Norway	37	32	46	48	43	47
Spain	41	44	62	77	65	46
Sweden	29	14	30	48	44	45
Iceland	20	20	35	45	47	40
Poland	1	0	3	7	8	38
Portugal	23	26	39	42	40	31
Other countries	134	122	152	155	133	145
Share of the top 10 countries (%)	80.2	83.6	85.7	86.8	88.2	84.8
Deep Sea Shipping	1,322	1,550	2,147	2,342	2,358	2,085
Unloaded in the Netherlands and loaded in:						
Top-10 countries	1,066	1,229	1,776	1,949	1,966	1,706
China	157	304	601	755	768	684
Singapore	206	170	254	239	236	221
United States	207	218	247	254	262	221
Hong Kong	145	129	154	152	136	160
Malaysia	27	68	100	121	121	86
Japan	131	118	134	137	156	85
Brazil	45	68	87	97	96	77
Taiwan	61	54	79	77	72	72
South Korea	64	58	71	76	66	54
South Africa	23	42	48	43	52	44
Other countries	257	321	370	393	392	380
Share of the top 10 countries (%)	80.6	79.3	82.8	83.2	83.4	81.8
Loaded in the Netherlands	**2,005**	**2,197**	**2,933**	**3,299**	**3,252**	**2,971**
Short Sea Shipping	783	865	1,266	1,294	1,225	1,090
Loaded in the Netherlands and unloaded in:						
Top-10 countries	616	728	1,065	1,104	1,066	919
United Kingdom	250	313	421	424	390	330
Ireland	99	144	169	175	151	125
Spain	54	63	101	113	112	90
Russia	19	25	100	104	121	88
Sweden	46	31	33	66	57	58
Norway	34	35	42	40	45	54
Portugal	46	47	63	54	65	53
Germany	30	27	64	38	35	45
Belgium	7	13	35	24	16	40
Finland	31	31	35	66	74	36
Other countries	167	137	201	190	160	171
Share of the top 10 countries (%)	78.7	84.2	84.1	85.3	87.0	84.3
Deep Sea Shipping	1,222	1,333	1,667	2,005	2,026	1,881
Loaded in the Netherlands and unloaded in:						
Top-10 countries	922	1,035	1,367	1,661	1,694	1,572
China	81	140	369	561	601	551
United States	233	231	228	226	231	199
Singapore	172	145	197	183	215	189
Malaysia	27	64	78	113	112	124
Japan	123	122	111	125	125	119
Hong Kong	102	95	158	181	131	110
Taiwan	70	97	76	70	78	93
South Korea	53	47	76	84	69	81
Brazil	18	42	38	76	81	61
United Arab Emirates	43	51	37	42	51	46
Other countries	300	298	300	345	333	309
Share of the top 10 countries (%)	75.4	77.7	82.0	82.8	83.6	83.6

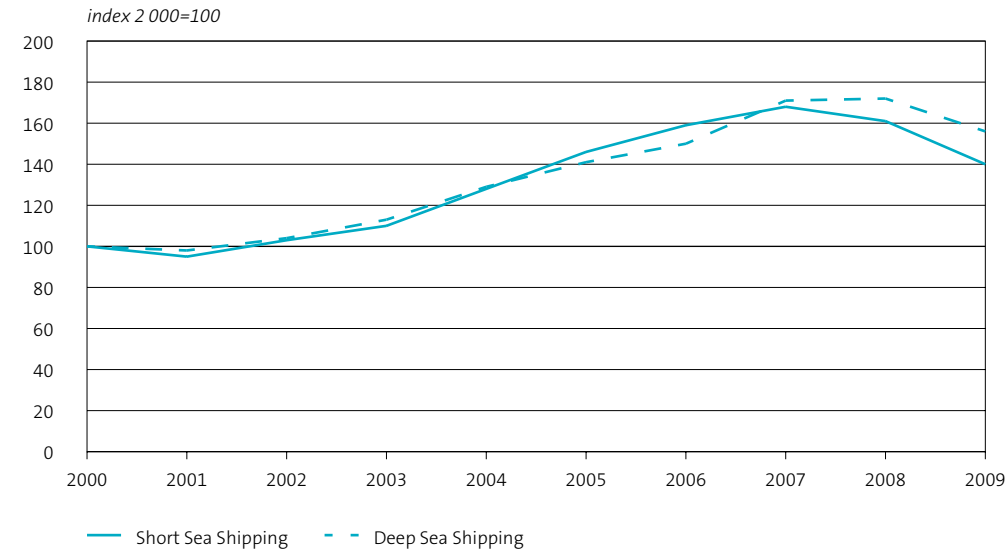
Source: CBS, Maritime Statistics.

12.5.2 Sea container transport to and from the Netherlands



Source: CBS.

12.5.3 Growth of sea container transport to and from the Netherlands



Internationalisation and employment

13

Internationalisation and employment

The linked employer-employee database developed at CBS enables in-depth analyses of the effects of internationalisation on employment in the Netherlands. Figures for foreign and Dutch controlled enterprises are presented, with developments of enterprises, jobs and average enterprise size from 2006–2008. Furthermore, key findings are highlighted for workforce composition and wage levels at foreign and Dutch controlled enterprises. Foreign-controlled enterprises accounted for a 12 percent share of jobs in the Dutch economy in 2008. Their workforce consisted of, on average, 120 jobs per enterprise (mostly foreign multinationals). Employment growth at foreign controlled enterprises was achieved in the financial intermediation, trade and repairs; transport, storage and communications, and the chemicals and plastic products sectors.

13.1 Linked employer-employee data for the Netherlands

Statistically analysing the consequences of internationalisation for employment involves bridging the gap between economic indicators on enterprises and social indicators on people and working life. In recent years CBS has made a great leap forward here by constructing a linked employer-employee database (LEED). This LEED consists of a linked base of enterprises and jobs, which has been enriched with detailed information on ownership (foreign versus Dutch-controlled enterprises), trade (imports and exports, and two-way traders), worker characteristics (e.g. gender and age) and job dynamics (inflow and outflow). The dataset was created by linking business and social data using the unique enterprise identifier (BEID) as matching variable.

The data make it possible to analyse the consequences of internationalisation for employment in the Netherlands at the micro level. The following tables show in particular the differences in employment between Dutch and foreign controlled firms in the Netherlands. The variable Ultimate Controlling Institute (UCI), which identifies the country in which strategic decision-making takes place, has been used to describe the differences between Dutch and foreign controlled enterprises. The UCI is determined on an annual basis by combining enterprise information from various sources, a combination of CBS conducted surveys (SFGO: Survey Financial Statistics of Large Enterprise Groups, and CIS: Community Innovation Survey) and external sources (Dunn & Bradstreet database). This merger of enterprise information with registered jobs in the Social Statistical Database results in a match for more than 90 percent of the total population of enterprises for which

the locus of control can be determined. A weighting procedure was subsequently developed to scale the merged employee-enterprise data to the total set of registered jobs in the Netherlands, for which ownership of the corresponding enterprise can then be determined.

The number of enterprises registered in the General Business Register in the Netherlands showed an 8 percent growth rate from 2006 to 2008. Tables 13.1.1 and 13.1.2 illustrate how Dutch controlled enterprises keep in line with this upward trend, showing an increase of about 36 thousand enterprises in the three-year period. In contrast, foreign controlled enterprises, albeit smaller in absolute numbers, showed a steeper growth of about 17 percent, with an estimated total of 7.7 thousand enterprises in 2008.

The largest growth rates (10 to 15 percent) for Dutch controlled enterprises were in real estate, renting and business services, financial intermediation, hotels and restaurants and transport, storage and communication. The same sectors showed the highest increase for foreign controlled enterprises in the Netherlands, although their growth was much higher, about 20 to 30 percent, along with about 15 percent growth in the construction and other manufacturing utilities.

13.1.1 and 13.1.2 present an overview of the estimated share of foreign and Dutch controlled enterprises with registered jobs in the Netherlands, based on the linked employer-employee dataset (LEED). Weighted figures are broken down by size class and industry for the years 2006–2008.

13.1.1 Enterprises in the linked employer-employee dataset (weighted) by size class

	2006	2007	2008
	# enterprises		
Total	451,567	480,905	488,917
Dutch controlled enterprises	444,962	474,449	481,205
0–4 employees	313,194	320,805	345,245
5–9 employees	63,765	75,874	65,627
10–19 employees	35,122	40,256	36,849
20–49 employees	20,791	23,381	21,235
50–99 employees	6,055	6,828	6,252
100–249 employees	3,533	4,438	3,422
> 250 employees	2,502	2,866	2,575
Foreign controlled enterprises	6,605	6,456	7,712
0–4 employees	1,284	1,131	1,730
5–9 employees	812	762	941
10–19 employees	1,005	956	1,208
20–49 employees	1,336	1,277	1,476
50– 99 employees	805	850	907
100–249 employees	795	871	818
> 250 employees	568	609	631

13.1.2 Dutch controlled and foreign controlled enterprises in the linked employer-employee dataset (weighted) by industry

	2006	2007	2008
	# enterprises		
Total	451,567	480,905	488,917
Dutch controlled	444,962	474,449	481,205
Agriculture, mining and quarrying	18,949	19,418	18,683
Food and beverages	3,695	3,706	3,563
Paper, paper products and publishers	4,325	4,392	4,211
Chemicals and plastic products	1,578	1,672	1,623
Metal products	4,955	5,318	5,240
Machinery and equipment	3,163	3,341	3,284
Other manufacturing and utilities	10,377	10,841	10,675
Construction	29,417	31,988	31,678
Trade and repairs	94,933	100,030	98,699
Hotels and restaurants	27,366	28,904	28,953
Transport, storage and communication	14,363	15,507	15,196
Financial intermediation	71,081	73,883	78,369
Real estate, renting and business services	97,505	109,114	113,596
Other services	63,255	66,335	67,434
Foreign controlled enterprises	6,605	6,456	7,712
Agriculture, mining and quarrying	59	57	67
Food and beverages	108	108	117
Paper, paper products and publishers	156	152	177
Chemicals and plastic products	312	307	337
Metal products	111	102	121
Machinery and equipment	252	226	261
Other manufacturing and utilities	388	397	451
Construction	121	111	140
Trade and repairs	2,556	2,479	2,802
Hotels and restaurants	68	60	87
Transport, storage and communication	503	470	572
Financial intermediation	543	509	679
Real estate, renting and business services	1,271	1,324	1,720
Other services	157	155	181

13.2 Employment at Dutch and foreign controlled enterprises

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 in most countries linked to job creation and retention, and is therefore often considered to have a positive effect on employment and welfare (Görg, 2000; Radosevic et al., 2003; Fortanier and Korvorst, 2009; Genee, Korvorst and Fortanier, 2010).

Table 13.2.1 shows an overview of the employment situation in the Netherlands at Dutch and foreign controlled enterprises (2006–2008), with information on enterprises and jobs and average enterprise size. The number of jobs in the Dutch economy increased by 5 percent in the 2006–2008 period, from 7.5 million in 2006 to about 7.9 million in 2008 registered in the Netherlands. Furthermore, foreign controlled enterprises showed a slight increase in their share of jobs in the Dutch economy: rising from 10 to 12 percent.

Foreign controlled enterprises in the Netherlands have a consistently larger workforce than Dutch controlled enterprises

Foreign controlled enterprises in the Netherlands, which are mostly MNEs, are consistently larger in size and as a consequence generally have a bigger workforce than Dutch controlled enterprises. Their average size measured in number of registered jobs is around 120 jobs per enterprise, with upward trends in recent years.

Table 13.2.2 gives a more detailed breakdown of the employment situation at Dutch and foreign controlled enterprises in the Netherlands from 2006 to 2008, broken down by

activity sector. There are more jobs at foreign enterprises across all industries. However, the greatest differences in firm size between Dutch and foreign controlled enterprises can be found in the hotels and restaurants sector, and also, to a similar extent, in the food and beverages sector and transport, storage and communication sectors.

When looking at the developments over time, employment growth in the financial intermediation sector is particularly noteworthy, with an increase from an average of 71 jobs per enterprise in 2006 to an average of 110 jobs in 2008. Foreign firms in sectors such as trade and repairs; transport, storage and communications; and the chemicals and plastic products sectors also show high growth rates.

In contrast, Dutch controlled enterprises did not grow as fast as foreign-controlled enterprises in that period, and only displayed a slight increase in the average number of jobs in the machinery and equipment, and hotels and restaurants sectors. The largest declines were found in the chemicals and plastic products sectors and financial intermediation sectors in that period.

Table 13.2.1 summarises the job situation at Dutch and foreign controlled enterprises in the Netherlands for 2006–2008. In 13.2.2 average employment was calculated as the (weighted) average number of jobs per year, by locus of control (foreign vs. Dutch) and industry of the enterprise.

13.2.1 Employment situation at Dutch and foreign controlled enterprises (weighted)

	2006	2007	2008
Total Dutch economy			
# enterprises	451,567	480,905	488,917
# jobs	7,525,034	7,852,727	7,910,511
average # of jobs per enterprise	17	16	16
Dutch controlled enterprises			
# enterprises	444,962	474,449	481,205
# jobs	6,740,133	7,070,589	6,960,169
average # of jobs per enterprise	15	15	14
Foreign controlled enterprises			
# enterprises	6,605	6,456	7,712
# jobs	784,901	782,138	950,342
average # of jobs per enterprise	119	121	123

13.2.2 Average employment in foreign and Dutch controlled enterprises by industry (weighted)

	2006		2007		2008	
	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled
	average number of employees					
Total	119	15	121	15	123	14
by industry						
Agriculture, mining and quarrying	75	6	75	6	75	6
Food and beverages	225	27	232	27	226	27
Paper, paper products and publishers	151	16	148	17	158	15
Chemicals and plastic products	144	34	144	32	157	28
Metal products	128	16	131	16	129	16
Machinery and equipment	95	21	106	23	101	22
Other manufacturing and utilities	189	29	194	29	174	29
Construction	142	12	146	12	130	12
Trade and repairs	75	11	80	11	87	11
Hotels and restaurants	467	9	519	10	402	9
Transport, storage and communication	202	22	192	23	213	21
Financial intermediation	71	4	62	4	110	3
Real estate, renting and business services	141	14	141	13	120	12
Other services	102	37	106	37	96	37

13.3 Workforce composition at Dutch and foreign controlled enterprises

The composition of the workforce at Dutch and foreign controlled enterprises is relatively similar with respect to age and employee nationality. However, substantial differences can be observed across sectors of activity, and for certain variables.

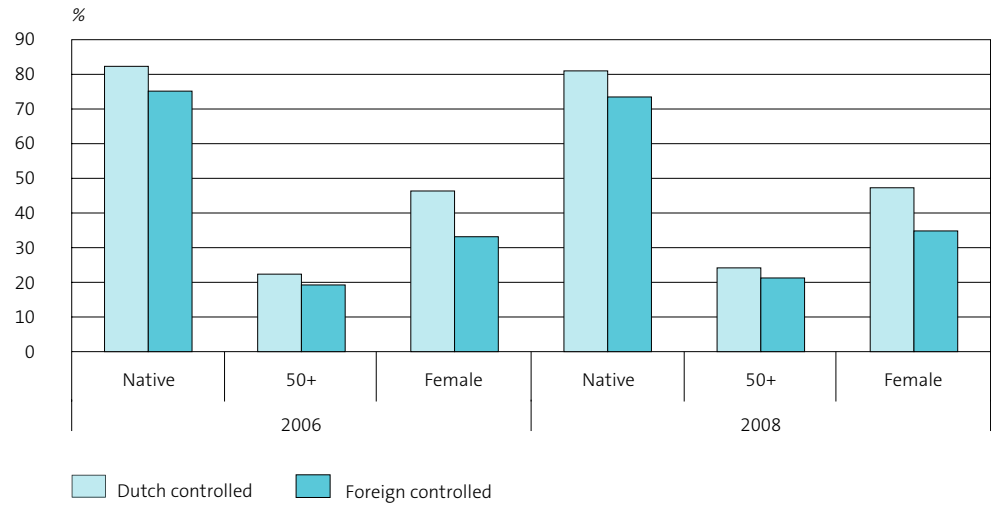
On average, Dutch and foreign controlled enterprises have an equal share of older workers, which make up about 20 to 25 percent of their workforce, as shown in 13.3.1. However, a substantially higher share of older employees work for foreign controlled enterprises in the agriculture, mining and quarrying, metal products, machinery and equipment and hotels and restaurant sectors compared with their Dutch counterparts, see 13.3.2. Conversely,

there is a substantially higher share of older employees working for Dutch controlled companies in the transport, storage, financial intermediation and other services sectors.

There is a considerable difference in the share of female employees at Dutch and foreign controlled enterprises, also shown in 13.3.1. Overall, Dutch controlled enterprises employ far more female workers: almost one in two employees is female compared with one in three at their foreign controlled counterparts. This might be explained by the fact that part-time contracts (often involving women) are more common among Dutch controlled enterprises. The share of female workers is highest in the trade and repair, hotels and restaurants, financial intermediation, real estate, renting, business and other services sectors (in both Dutch and foreign controlled enterprises).

Perhaps not surprisingly, the share of native Dutch employees working at foreign controlled enterprises is lower than that at Dutch controlled enterprises (an 8 percent difference in 2008). This could be due to a larger share of expatriate workers – the working language or international orientation of foreign enterprises attracts or necessitates more foreign employees. Nevertheless, the share of native Dutch workers is still relatively high at 73 percent in 2008, with differences in the relative share of Dutch native workers most pronounced for very small enterprises (0–4 employees).

13.3.1 Share of female, older (50+) and native Dutch employees working at Dutch and foreign controlled enterprises (weighted)



The composition of the workforce describes the characteristics of employees in an enterprise. Useful information is obtained about different groups of employees by linking the characteristics of employees. From the globalisation perspective it is of interest whether the composition of the workforce differs depending on the locus of control of an enterprise (foreign versus Dutch controlled).

The mean share of female employees in the Netherlands was calculated as the (weighted) average percentage of women in the total workforce in the Netherlands at the end of the year, by locus of control. Similar calculations were made for the share of older (50 and over) and native Dutch employees. In addition, separate ratios were then calculated for each category of interest, i.e. industry and size class.

13.3.2 Share of female, older (50+) and native Dutch employees working at foreign and Dutch controlled enterprises by industry and size class, 2008 (weighted)

	Female		older (50+)		native Dutch	
	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled
	%					
Total	35	47	21	24	73	81
by industry						
Agriculture, mining and quarrying	23	28	27	18	80	83
Food and beverages	24	37	25	24	76	81
Paper, paper products and publishers	31	34	28	27	81	85
Chemicals and plastic products	23	22	26	27	79	79
Metal products	10	12	29	25	78	81
Machinery and equipment	13	12	26	24	80	85
Other manufacturing and utilities	13	23	31	33	77	82
Construction	11	9	25	26	81	90
Trade and repairs	46	47	16	17	76	84
Hotels and restaurants	59	52	20	11	65	72
Transport, storage and communication	32	24	26	29	73	83
Financial intermediation	42	39	22	26	77	85
Real estate, renting and business services	36	41	16	18	64	69
Other services	42	67	18	30	76	85
by size class						
0–4 employees	34	43	23	23	66	81
5–9 employees	31	45	21	19	73	83
10–19 employees	30	40	18	20	75	83
20–49 employees	29	38	19	21	75	81
50–99 employees	29	40	19	23	74	80
100–249 employees	28	44	20	25	72	80
> 250 employees	37	55	22	27	74	81

13.4 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: 35 percent and 20 percent respectively in 2008, as shown in 13.4.1. 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.

35 percent of employees working at foreign controlled enterprises are high-paid

This wage gap might be a result of FDI requiring more highly-skilled labour and therefore higher paid personnel in host countries. In addition, foreign firms are often said to pay higher wages to avoid labour migration to nearby enterprises or in order 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 (Genee, Korvorst and Fortanier, 2010).

When comparing the ratio of high versus low-paid workers by industry, the differences between Dutch and foreign controlled enterprises are most pronounced in the agriculture, mining and quarrying, food and beverages, other manufacturing, hotel and restaurant and trade and repair sectors. The agriculture sector in particular stands out, where foreign enterprises employed about 5 times more highly-paid workers than Dutch controlled enterprises in 2008. The hotels and restaurant sector is also conspicuous, for both foreign and Dutch controlled enterprises alike, in that they have a disproportionate share of low-paid workers, and very few high-paid workers.

There appears to be a positive correlation between enterprise size and relative share of high-paid workers, at least for the medium to large Dutch controlled enterprises in 2008,

see 13.4.2. However, in foreign controlled businesses, the highest share of high-paid workers is to be found in small (5–9) and very small (0–4) businesses.

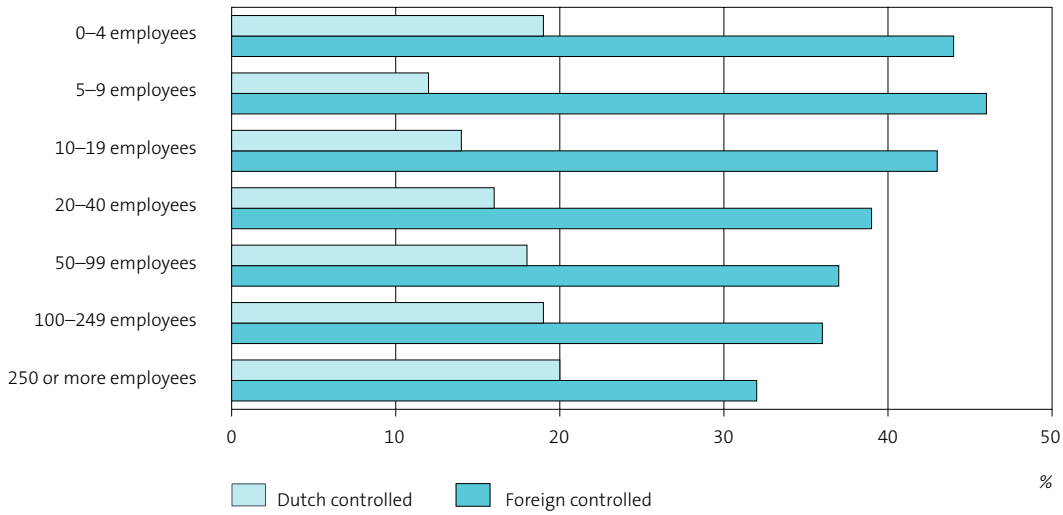
Employees and their jobs are classified as high-paid if their wage is in the 81st percentile or higher of all registered jobs in the Netherlands. Jobs are classified as low-paid if they are at or below the 30th wage percentile.

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. industry and size class.

13.4.1 Share of high and low-paid employees working at Dutch and foreign controlled enterprises by industry, 2008 (weighted)

	High-paid		Low-paid	
	foreign controlled	Dutch controlled	foreign controlled	Dutch controlled
Total	34	18	19	32
Industry				
Agriculture, mining and quarrying	51	10	5	43
Food and beverages	43	19	4	28
Paper, paper products and publishers	38	24	8	15
Chemicals and plastic products	54	34	3	10
Metal products	29	17	3	13
Machinery and equipment	34	30	5	11
Other manufacturing and utilities	44	19	4	16
Construction	44	23	4	10
Trade and repairs	26	11	30	47
Hotels and restaurants	5	2	47	72
Transport, storage and communication	27	19	15	24
Financial intermediation	61	47	3	15
Real estate, renting and business services	32	22	25	35
Other services	20	17	22	28

13.4.2 Share of high-paid employees at Dutch and foreign controlled enterprises by size class, 2008 (weighted)



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