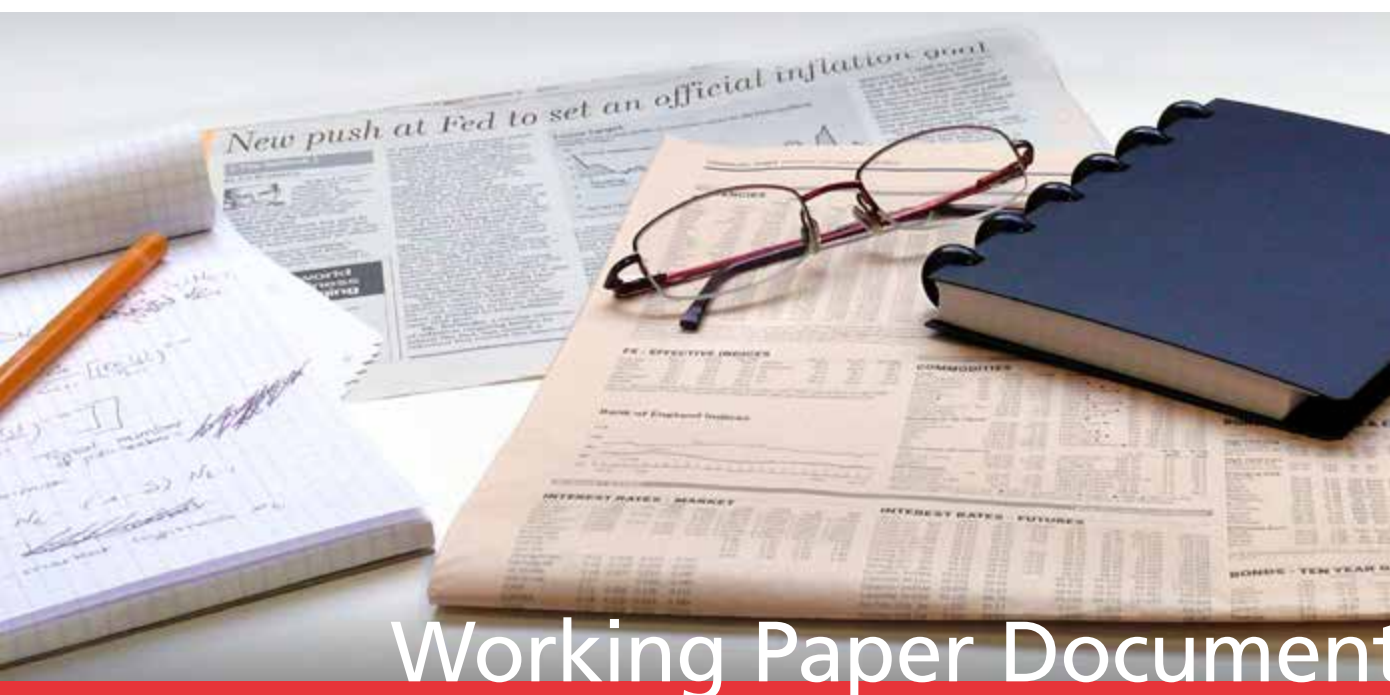


# ECONOMIC IMPORTANCE OF THE BELGIAN PORTS:

Flemish maritime ports, Liège port complex  
and the port of Brussels – Report 2011



## Working Paper Document

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## Abstract

This paper is an annual publication issued by the Microeconomic Analysis service of the National Bank of Belgium.

The Flemish maritime ports (Antwerp, Ghent, Ostend, Zeebrugge), the Autonomous Port of Liège and the port of Brussels play a major role in their respective regional economies and in the Belgian economy, not only in terms of industrial activity but also as intermodal centers facilitating the commodity flow.

This update paper<sup>1</sup> provides an extensive overview of the economic importance and development of the Flemish maritime ports, the Liège port complex and the port of Brussels for the period 2006 - 2011, with an emphasis on 2011. Focusing on the three major variables of value added, employment and investment, the report also provides some information based on the social balance sheet and an overview of the financial situation in these ports as a whole. These observations are linked to a more general context, along with a few cargo statistics.

Annual accounts data from the Central Balance Sheet Office were used for the calculation of direct effects, the study of financial ratios and the analysis of the social balance sheet. The indirect effects of the activities concerned were estimated in terms of value added and employment, on the basis of data from the National Accounts Institute. As a result of the underlying calculation method the changes of indirect employment and indirect value added can differ from one another.

The developments concerning economic activity in the six ports in 2010 - 2011 are summarised in this table:

Changes from 2010 to 2011 (in percentages)	Value added (current prices)	Employment (Full-time Equivalents)	Investment (current prices)	Tonnage (metric tonnes)
<b>Flemish maritime ports</b>				
Direct	- 2.4	- 1.1	- 9.6	+ 2.0
Indirect	+ 2.4	- 0.3		(seaborne)
Total	- 0.2	- 0.7		
<b>Liège port complex</b>				
Direct	+ 7.3	+ 0.7	+ 8.8	+ 1.9
Indirect	+ 14.5	+ 1.4		(inland)
Total	+ 10.8	+ 1.1		
<b>Port of Brussels</b>				
Direct	- 1.2	+ 1.1	- 14.2	+ 10.7
Indirect	+ 0.0	+ 1.9		(inland)
Total	- 0.6	+ 1.5		
<b>Belgian ports</b>				
Direct	- 1.6	- 0.9	- 8.7	+ 2.1
Indirect	+ 3.1	- 0.0		
Total	+ 0.5	- 0.4		

<sup>1</sup> Update of Mathys C. (July 2012), *Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels - Report 2010*, NBB, Working Paper No. 225 (Document series). All figures have been updated. This paper is available at the following address <http://www.nbb.be/doc/ts/publications/wp/wp225En.pdf>.

After the upturn in 2010, maritime cargo traffic in the Flemish ports continued to rise, albeit at a slower pace in 2011. Direct value added declined in the four ports in Flanders as a whole. Both maritime and non-maritime clusters as a whole were down. The only increase in value added occurred in the port of Zeebrugge. The value added of the non-maritime clusters in each port declined, while in the maritime cluster, the port of Antwerp was the only one to register a steep drop.

Direct employment in the Flemish ports as a whole declined during the year 2011. This is true of both the maritime and non-maritime cluster. Only the port of Ghent registered a rise in employment in both clusters.

Investment contracted in the Flemish ports as a whole for the third year in a row. The decline in investment was between 7 and 13 percent in the ports of Antwerp, Ghent and Ostend, whereas Zeebrugge recorded a negative rate of one-fifth in its investment levels in 2011.

The volume of cargo handled in the port of Liège increased slightly in 2011. Direct value added rose in both clusters, while employment registered a decline in the maritime cluster and a rise in the non-maritime cluster. After falling in 2010, investment picked up again in 2011 in both clusters.

The volume of cargo handled at the port of Brussels rose in 2011. Value added in the maritime cluster was up but contracted in the non-maritime cluster. Employment increased in both clusters. The drop in investment recorded since 2009 continued throughout 2011.

This report provides a comprehensive account of these issues, giving details for each economic sector, although the comments are confined to the main changes that occurred in 2011.

Key words: branch survey, maritime cluster, subcontracting, indirect effects, transport, intermodality, public investments.

JEL classification: C67, H57, J21, L22, L91, L92, R15, R34 and R41.

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Research results and conclusions expressed are those of the author and do not necessarily reflect the views of the National Bank of Belgium or any other institution to which the author is affiliated. All remaining errors are ours.

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## Foreword

Every year the National Bank of Belgium publishes an update of the study of the economic importance of the Flemish maritime ports, the Liège port complex and the port of Brussels. Two aspects of the sector's economic impact are highlighted: the direct effects and the indirect effects. The former concerns the activities resulting from the presence of maritime and non-maritime enterprises and public services in or near the ports, while the latter relates to the value added and employment generated by suppliers and subcontractors serving these enterprises and based in Belgium.

The statistical data covers the period 2006 - 2011, but only the main developments recorded in the period 2010 - 2011 are discussed in detail. The number of annexes is limited to:

- the detailed social balance sheet for 2011
- the list of NACE-BEL 2008 branches.

The methodology remains mainly unchanged: the criteria for selecting firms and the analysis are the same as in previous editions. The NACE-BEL 2008 code is used to select and classify companies by sector. Until report 2008 the selection of enterprises was based on NACE-BEL 2003<sup>4</sup>. A table with the demographic evolution of the enterprises in the Belgian ports for the period 2006 - 2011 is introduced in chapter 1. It gives an overview of changes in the sample population used for the study.

Following a brief introduction, the study is split into six parts devoted to the four Flemish maritime ports, the Liège port complex, and the port of Brussels. The principal trends identified in the "flash estimates" published in October 2012<sup>5</sup> are in line with this report.

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<sup>4</sup> For more information on the NACE-BEL 2008, please visit the "Statistics & Analyses" website of FPS Economy, SMEs, Self-employed and Energy (<http://statbel.fgov.be/en/statistics/figures/>)

<sup>5</sup> See <http://www.nbb.be/doc/TS/Enterprise/Press/2012/cp121022en.pdf>

# Introduction

## Objectives of the study and some comments on the methodology

The economic importance of the ports examined is analysed from three angles, namely the purely economic angle, and the social and financial angles. The study only covers firms belonging to branches of activity which have an economic link with the ports. That link is defined in relation to both a functional and a geographical criterion.

The main developments in the period 2006 - 2011 concern the study of the following variables:

- value added at current prices<sup>6</sup>: the value which a firm adds to its inputs during the financial year via the production process. The value added of a firm indicates its contribution to the wealth of the country or region (in percentages of GDP). In accounting terms, this is calculated as the sum of staff costs, depreciation and value adjustments, the operating profit or loss, provisions for liabilities and charges, and certain operating expenses;
- employment in full-time equivalents (FTE): the average workforce during the financial year. Direct employment only covers employees on the payroll of the businesses concerned, indirect employment also includes self-employed workers.
- investment at current prices<sup>7</sup>: this corresponds to the tangible fixed assets acquired during the year, including capitalised production costs<sup>8</sup>.

The economic impact of the ports under review is described on the basis of these three variables. Employment and the social balance sheet are also taken into account in the analysis of the social impact. That section deals in particular with working time, labour costs, the extent to which use is made of external personnel, and the composition, movements and training of the labour force.

The financial analysis forms the third angle of the study; it is based on the examination of three financial ratios and a financial health indicator, using a model designed by the Bank<sup>9</sup>. The ratios in question are the return on equity after taxes, liquidity in the broad sense, and solvency. The current edition presents a financial analysis of Belgian ports taken as a whole. Readers wishing to compare the financial ratios of an individual company with its sector ratios can find this information in the company reports published by the Central Balance Sheet Office. These company reports are composed of six parts<sup>10</sup>, one of which is devoted to comparing the financial ratios of the company with those of its sector, and another of which is devoted to situating the company in one of the six categories<sup>11</sup> of financial health based on its composite financial health indicator. This comparison is more relevant than a comparison based principally on geographic location, which would include a variety of business activities. The financial health indicator is based on Belgian companies' annual accounts. This indicator is designed as a weighted combination of variables, created by means of a model constructed in the same way as a failure prediction model. The model takes the form of a logistic regression discriminating between failing and non-failing companies. The indicator summarises each company's situation in a single value which takes account simultaneously of the solvency, liquidity and profitability dimensions.

The microeconomic data used were obtained from the annual accounts filed with the Central Balance Sheet Office<sup>12</sup> and from the statistics produced by the National Accounts Institute (NAI<sup>13</sup>). The most

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<sup>6</sup> Unless otherwise stated, the text always indicates value added at current prices. Developments at constant prices are explicitly mentioned. Value added at constant prices is calculated by means of the deflator of gross domestic product.

<sup>7</sup> Unless otherwise stated, investment is always indicated at current prices in the text. Developments at constant prices are explicitly mentioned. Investment at constant prices is calculated by means of the deflator of gross fixed capital formation.

<sup>8</sup> Decommissioning of assets is not taken into account.

<sup>9</sup> See Vivet D. (2011), *Development of a financial health indicator based on companies' annual accounts*, NBB, Working Paper No. 213 (Document series), Brussels.

<sup>10</sup> The six parts of the company report are: identifying company information, a brief survey of the major elements of the annual accounts, a comparison of company ratios with those of its economic sector, a table of receipts and expenditure, a list of companies in the same economic sector, the company's positioning in one of the six pre-defined categories of financial health based on its composite financial health indicator.

<sup>11</sup> Financial health indicator with ten categories as in this report will be soon introduced in the company report.

<sup>12</sup> A service of the National Bank's Microeconomic Information Department. See [www.nbb.be](http://www.nbb.be) / Central Balance Sheet Office.

recent annual accounts for the 2011 financial year included in this study were filed with the Central Balance Sheet Office in April 2013<sup>14</sup>. The data necessary to estimate the indirect effects up to 2011, are also published by the NAI with a low frequency and after a certain time lag. The results of the indirect effects are approximations and should be interpreted with caution. The latest updates were included in the calculations, while the methodology remained unchanged. For more information, see the 2004 report published in June 2006<sup>15</sup>.

The NACE-BEL 2008 classification is used for the purposes of selecting and ranking by sector the companies. NACE-BEL 2008 is the new classification system for economic activities employed by the National Accounts Institute. The NACE-BEL 2008 is part of a major revision of international and European nomenclatures for economic activities and products (NACE Rev.2) done by the European Commission and approved by the European Parliament and the Council<sup>16</sup>. Mid 2011, National Accounts started to publish statistics in NACE-BEL 2008. Nevertheless, some data needed for the implementation of this study are still in NACE-BEL 2003 as for instance the input output table 2005 or the majority of the supply and use tables. The new National Accounts aggregates on the contrary exist only in NACE-BEL 2008. The fact that we find both NACE-BEL versions in our data oblige us to do some conversion and that process is open to enlarge the margin of error in our estimation of indirect effects. More than ever, the reader must keep in mind that indirect effects must be interpreted with caution and should be regarded as a indicator of the importance of the ports for the national and local economy rather than as an absolute value.

The indirect effects have been calculated for each port separately. For ports with economic linkages between them, a portion of the indirect effect calculated by port is cancelled out when the calculation is done at a more aggregate level, i.e. for a group of ports. The sum of the indirect effects by port is thus greater than the total indirect effects calculated for the ports as a whole.

In view of the growing internationalisation of businesses, all foreign companies' branches and plants established in port zones that employ staff and meet the selection criteria have been included in this study. This of course means that there are some changes in the series in relation to the previous study. Moreover, establishments owned by foreign firms have also been included in the calculation of indirect effects this time. Overall, this has led to an increase in direct value added and employment as well as investment, with resultant variations in indirect value added and employment.

## International environment

### Global economic developments in 2011<sup>17</sup>

Following its contraction in 2009, the world economy managed to reverse the trend the following year, but its momentum slowed down considerably in 2011, both in the advanced countries and developing nations, although the latter were still the main driving force behind world growth. Among the advanced countries, in the United States, the shift in demand from the public to the private sector took longer than expected. So, production in the United States, which had grown by 2.4 % in 2010, remained well below

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<sup>13</sup> The National Accounts Institute (NAI) set up by the law of 21 December 1994, links three institutions: the National Statistical Institute (NSI, now FPS Economy, SMEs, Self-employed and Energy – Directorate General of Statistics and Economic Information), the National Bank of Belgium and the Federal Planning Bureau. The NAI's duties include drawing up the real national accounts and the input-output tables which are needed to estimate the indirect effects. The latest available data for calculating the indirect effects in this study were the IOT for 2005 and the supply and use table for 2007.

<sup>14</sup> Belgian firms are required to submit their annual accounts to the Central Balance Sheet Office by no later than seven months following the end of the financial year. A high proportion of firms -mainly small businesses or those in difficulties- fail to meet the obligation by that date. In April 2013, that percentage was close to zero and the impact on the figures is minimal.

<sup>15</sup> The methodology is presented in the introduction by Lagneaux F. (2006), Economic importance of the Belgian ports: Flemish maritime ports and Liège port complex – report 2004, NBB, Working Paper nr. 86 (Document series) and set out in full in annexes 1 to 4. The study is available on the following address: <http://www.nbb.be/doc/ts/publications/wp/wp86En.pdf>.

<sup>16</sup> REGULATION (EC) No 1893/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains.

<sup>17</sup> Main source for the section: IMF, *Annual Report 2012. Working together to support global recovery*, Washington DC (USA).



the 2 % mark for the year 2011. The financial markets turned out to be highly unstable. In several of the advanced economies, the sovereign debt crisis caused severe tension on the markets and forced several countries to take - sometimes drastic - action to rebalance their budgets. Moreover, the difficulties facing the euro area's banking sector led to major debt reduction efforts in the real economy and consequently to a drying up of bank lending. These factors in turn triggered a general loss of confidence, anaemic economic activity and a marked rise in unemployment. As a result, growth weakened in the euro area from the second quarter of 2011. Having been hit by a violent earthquake followed by a devastating tsunami at the beginning of the year, Japan went into recession for the second time in three years. Overall, production growth rates in the advanced countries was cut by half in 2011. The year 2012 was no better for the euro area, which, badly hit by the crisis in its southern member countries, even went back into recession. The United States, on the other hand, enjoyed a slight improvement. This upturn is expected to be confirmed in 2013 in the United States even if it slows down a bit, while economic activity in the euro area is likely to contract slightly.

Growth remained solid in the emerging economies and developing countries in 2011. In Central and Eastern Europe, it was even stronger than in 2010. Unfortunately, the problematic situation in the euro area had serious repercussions for these economies which suffered a sharp decline in growth in 2012. In Russia, the production growth rate remained stable in 2011, benefiting among other things from the rise in oil prices during the year while domestic demand remained fragile and capital movements had still not regained their pre-crisis vigour. In Asia and Latin America, economic growth slowed down a bit, notably because of the launch of less accommodating macroeconomic policies, and in the case of Latin America, because of a drop in commodity prices<sup>18</sup>. Furthermore, relatively high public debt levels in the Caribbean states limited governments' options for action. More generally speaking, the weakening of external demand affected growth rates. In the Middle East and North Africa, the social uprisings and geopolitical uncertainty further aggravated this trend. By contrast, sub-Saharan African economies continued to benefit from favourable commodity prices<sup>19</sup>.

## World trade

World trade had seen a strong recovery after the decline of 2009. But growth in world merchandise trade by volume progressively lost momentum in 2011. The average of annual percent change of world imports and exports dropped from 14.0 % in 2010 to 6 % in 2011. Slowdown in demand in advanced economies and overall weaker global economic growth are the major factors behind the deceleration of world trade. Besides the earthquake and tsunami in Japan, floods in Thailand and political turmoil in North Africa, particularly in Libya, disrupted supply chains. Import demand in some countries of Southern Europe started to contract at the end of 2011. All in all, import volumes in developed regions grew at a much slower rate than in 2010, with Japan recording the slowest growth and United States the fastest. Imports into the Commonwealth of Independent States and developing countries expanded at a much more vigorous pace. The gap between developed economies and developing and transition economies narrows when it comes to exports. Even if the growth in the volume of world merchandise exports dropped by more than half, China, South Korea and India recorded growth rates above 10 %. At the same time, the terms of trade strongly improved for some mineral exporters as prices of certain precious metals rose sharply, especially metals used as a store of value. Conversely, countries specialising in manufactured exports saw their terms of trade decline but they still benefited from steady growth in demand for their exports. Net food-importing economies suffered from agricultural commodity price levels which remained comparatively high in 2011 even if they went down during the year.

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<sup>18</sup> Food prices fell during the second half of 2011, with raw material prices in particular falling on account of the economic uncertainty, with the notable exception of oil.

<sup>19</sup> It should be remembered that prices of precious metals and crude oil had risen in 2011 on the back of escalating geopolitical risks to supply.

## Maritime freight services market<sup>20</sup>

This gloomy economic environment did not prevent a positive assessment for shipping trade during the year under review. Container trade flows rose by more than 8 % in 2011, supported principally by non-mainline trade as economic growth in both the United States and Europe remained sluggish. Dry bulk grew by more than 5 % as import demand for raw materials in large developing economies held up strongly. Tanker trade volumes, on the other hand, stagnated due to the diminishing crude oil volumes offset by increasing trade in refined petroleum products and gas. In total, world seaborne trade grew by 4 %.

While the developed economies' oil consumption declined slightly in 2011, it increased in developing countries. China continued with its diversification strategy, multiplying energy supplies through foreign investment. At the same time, this nation expanded its domestic tanker fleet to such an extent that it will be able to transport half the country's crude oil imports by 2015. Besides, the international tanker market has also had to face falling demand in the United States where consumption has stagnated while production of oil in North America has increased. As a result, crude oil shipments tailed off in 2011.

At a time of rising production of refinery throughputs in developing countries, OECD output has slackened off. Demand in Europe and United States fell and European refineries have had to find new markets in Africa and Western Asia. Moreover, there has been a mismatch between European gasoline supply and demand with the latter being more diesel-orientated. Not all the continents experienced such difficult times. The Asia-Pacific region and Western Asia enjoyed the largest capacity growth of refineries.

Even if oil prices rose in 2011, the monthly average daily tanker time charter rate declined during the year. Only ships of small size (48 000 dwt) did not experience the contraction. However, the movements of rates differed between routes. For instance, the monthly average spot rates for Suezmax ships on West Africa-North West Europe and West Africa-Caribbean/East Coast of North America routes never exceeded the average rate seen in December 2010. But on the Mediterranean-Mediterranean route, it reached a peak in March due to the military operations in Libya. If the tanker spot rates for December 2011 are compared to the December 2010 rates, nearly every ship size on every route experienced a drop. The smallest rate change between December 2010 and December 2011 appeared to be the VLCC/ULCC Persian Gulf-Caribbean/East Coast of North America route rate. The fall in rates was mainly due to tanker capacity over-supply.

While the import/export structure of refined petroleum products changed, the natural gas market developed. As LNG trade expanded noticeably, LNG shipments grew faster. Rising exports from Qatar and higher imports into the United Kingdom, Japan and South Korea were the driving force behind this trend. Interest in LNG as a more environmentally friendly alternative to other fossil fuels was still high. Five new liquefaction projects launched operations between 2010 and 2011 and new and expanding LNG-receiving terminals were established.

Rising demand in Qatar at the beginning of the year and afterwards in Japan too triggered a rise in LNG tanker rates. LNG tanker short-term rates performed very well in 2011 and experienced a persistent increase throughout the year. The medium-term rate continued along the growth path started at the beginning of 2011 throughout the year stayed. 2011 was thus a very good year for LNG shipments.

Dry cargo trade increased in 2011, sustained by the rise of world steel and global coal consumption. Total shipments of dry cargoes mainly consisting of iron ore, coal, alumina, bauxite, grain reached nearly 6 billion tonnes. China remained the main steel producer and user in 2011, and consequently it was also the main iron ore importer while the biggest iron ore exporters were Australia and Brazil. For coal cargoes, Indonesia and Australia were at the top of the list of exporters while the main importers

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<sup>20</sup> Main source: United Nations Conference on Trade and Development (2012), *Review of Maritime Transport 2012*, UNCTAD New York and Geneva.

were Japan and China. Imports of thermal coal into United States fell due to strict environmental regulations and low gas prices in the country. World trade in alumina and bauxite rose by 17 % in 2011 and phosphate rock by nearly 9 %. Higher grain consumption for food, feedstock and industrial uses and improved production levels helped hold grain demand steady. Minor bulk trade was crippled by poor sugar volumes while the other cargo categories (metals, minerals, agribulks, manufactures and fertilizers) expanded.

Dry bulk freight rates started the year 2011 at quite a low level. The Baltic Exchange Dry Index continued to decline in January 2011 after the fall of the last quarter of 2010. It steadied the following month before picking up in August helped, among other things by higher Asian demand for iron ore and coal and rising Japanese imports of raw materials for construction. But this improvement did not last and there was a new decline from October. However, performance differed between dry bulk vessel segments and small dry bulk carriers fared better. The Capesize vessel segment followed much the same pattern as the Baltic Exchange Dry Index. It stabilised a bit later in March and the pick-up and subsequent fall in the second half of the year were stronger than the movement in the general index. During some periods of the first half 2011, the daily price for a Capesize vessel was below the price of a smaller Panamax ship. Even though the number of routes used by the largest dry bulk vessels is limited and so freight rates vary noticeably with demand fluctuations on one route, the main factor behind the decline in freight rates for Capesize ships was the supply-side over-capacity: bulk carriers account for two-thirds of the volume of all newly built vessels delivered in 2011 and the majority of them were the largest ones. Panamax vessel rates fluctuated less than Capesize rates in 2011 but their prices remained weak all year. The Atlantic route suffered from slack European demand. Supramax and handysize vessels were more resilient in 2011 and their rates stayed stable by comparison with bigger ships.

World container trade expressed in 20-foot equivalent units continued to grow in 2011 albeit at a slower pace. However, there were big differences between routes. The volume of container shipments increased on all the routes except for the trans-Pacific. Two other main routes, Asia - Europe and trans-Atlantic, expanded moderately. Growth was actually mainly generated by developing regions. That is why the strongest rise in trade took place on intraregional, North-South and non-mainlane East-West routes. Despite this increase in the volume of container shipment, the time charter rates for container ships started to decline in May and did not recover until the end of year 2011. The New ConTex index, a condensed container freight rate indicator covering a wide range of ship sizes, continued to rise at the beginning of the year 2011 but fell from May to December. One of the main explanations for this was the steady expansion of global container carrier capacity whereas the recovery of demand after the 2008 and 2009 crisis was still hesitant. And so, even though bunkering prices increased noticeably, aggressive pricing policies were used in order to win market share. But industry tested other options to make up for insufficient demand. Shipping line alliances sought to rationalise business, share costs and bundle capacity. They also widened their markets by competing with specialised reefers thanks to reefer containers. As refrigerated cargo helped fill container ships, this put pressure on freight rates for large reefer ships. As a result, the average age of the reefer fleet was old and investment for this kind of ship was almost nil.

### Structure of the world fleet

The capacity of the world fleet increased by a tenth in 2011. The conventional general cargo fleet was the only major vessel type to decline in 2011. Dry bulk carriers are the ships with the strongest development: their growth of tonnage reached one-sixth of their capacity. For most of the dry bulk cargoes, freight costs are an important component of the price, which is why distant suppliers seek to use as large ships as possible with the aim of economies of scale to improve competitiveness. A major iron ore mining group had ordered the largest bulk carriers ever built with a capacity up to 400 000 dwt. Six ships were delivered in 2011: two from Chinese shipbuilders and four from Korean producers. These boats are limited to only a few deep-water ports and the Chinese authorities decided in January 2012 to ban dry bulk carriers with capacity exceeding 300 000 tonnes from entering Chinese ports. In any case,

these new vessels were blamed by shipping companies for driving down freight rates. More ships of this size (Valemax) were delivered in 2012.

The capacity of oil tankers and container ships increased by about 7 %. In dollar terms, container ships accounted for about the half of the seaborne trade in 2011 whereas in terms of deadweight tonnage, about an eighth. As for bulk carriers, the size of the ship increased to achieve economies of scale. New container ships delivered in 2011 were one-third larger than those from the previous year. The average vessel size continued to increase. Even if the proportion rose only slightly in comparison with 2010, the ships were mostly gearless.

Owing to geopolitical uncertainty and increasing production in Latin America, oil stocks increased and oil tankers were partly used for storage in 2011. This relieved the excess tonnage supply.

As for other types of vessels, the LNG carrier fleet enjoyed growth of the average global fleet capacity. The last deliveries of Q-Flex and Q-Max were back in 2010. The year 2011 was from that point of view quieter. But with the incentive of high freight rates, vessel orders were boosted to achieve a total of 55 orders for new-build conventional and FSRU vessels.

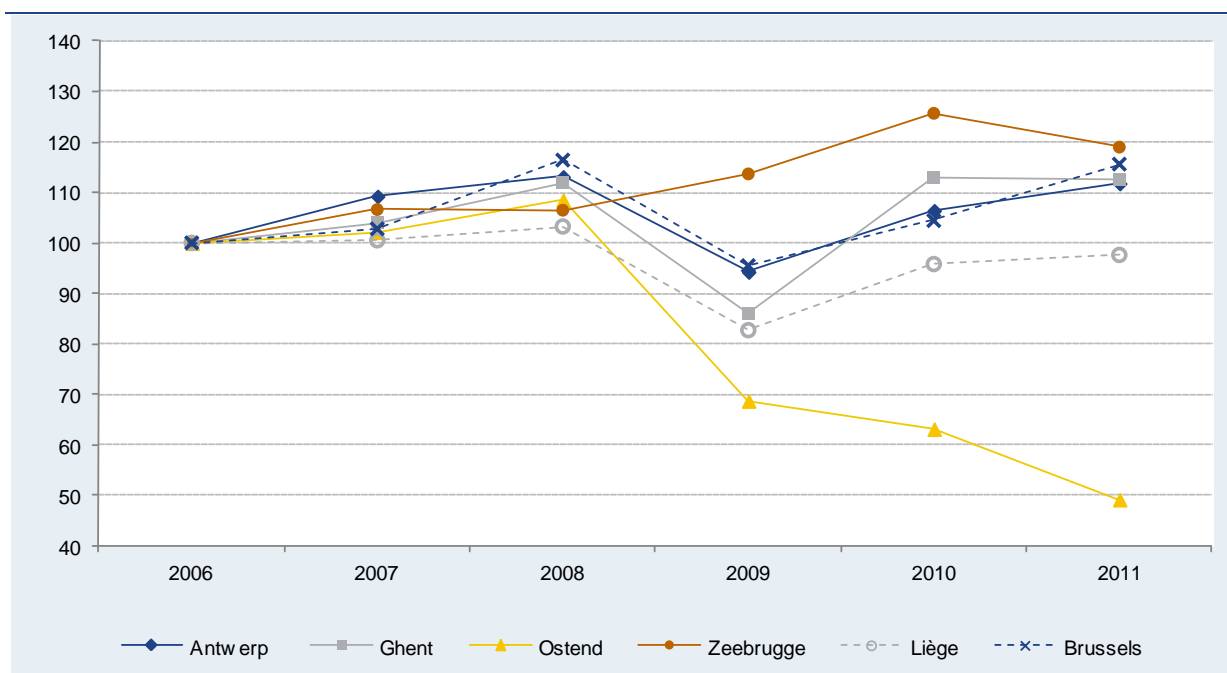
# 1 ECONOMIC IMPORTANCE OF THE BELGIAN PORTS

Traffic in and out of Belgium's ports continued to grow in 2011 albeit at a slower pace than in 2010. While the ports of Antwerp and Brussels again recorded strong growth in 2011, the traffic volume increases in the other ports tailed off, or even reversed in the case of Zeebrugge. The port of Ostend is still not managing to stem the decline in volumes transshipped in its port area.

## 1.1 Traffic in the Belgian ports

**CHART 1 CARGO TRAFFIC IN THE BELGIAN PORTS**

(indices 2006 = 100)



Sources: *De Vlaamse havens - Feiten, statistieken en indicatoren voor 2011* of the Vlaamse Havencommissie, Port of Brussels and Autonomous Port of Liège.

Traffic in the port of Antwerp increased by 5 % in 2011, making it the only Flemish port to have seen any expansion of its traffic volumes. In the port of Ostend, traffic continued on a downward path (-22.1 %) while after two years of strong growth in the port of Zeebrugge, the trend reversed and traffic volumes fell by 5.3 %. In the port of Ghent, traffic levels remained relatively stable (-0.3 %). Taken as a whole, the Flemish ports enjoyed a 2 % increase in volumes transshipped, which brought them close to their 2008 results, albeit with major differences between ports: the port of Ostend is still well below 2008 levels, while the port of Zeebrugge, despite its decline in 2011, boasts traffic volumes well above the 2008 figures.

Container traffic in and out of all the Flemish ports together fell by 0.9 %, because the decline expressed in tonnes in the port of Zeebrugge was more than the growth recorded in the port of Antwerp: the volume of containers transshipped in Antwerp increased by 2.5 % but fell back by as much as 13.9 % in Zeebrugge. The port of Ghent could not match its excellent figures for 2010 and recorded a slight drop in 2011. The same observation can be made from looking at figures for container traffic expressed in 20-foot equivalent units (TEU).

Non-containerised general cargo traffic rose sharply in the port of Antwerp (+14.8 %) and also in the port of Ghent (+7 %) where it is now at its highest level for the last ten years. The same goes for the port of Zeebrugge although the increase was weaker (+3.7 %). In the port of Ostend, after the strong rise enjoyed in 2010, volumes were slashed by a third and thus fell back to more usual figures for this port.

By contrast, roll-on/roll-off traffic remained relatively stable in the Flemish ports over the year 2011. An analysis of volumes by port shows sustained growth, of between 5.9 and 14.0 %, for this category in the ports of Antwerp, Zeebrugge and Ghent, but a decline of one-third at Ostend. This surge in traffic

enabled the port of Antwerp once again to exceed the threshold of four million tonnes transshipped, representing more than a million vehicles, and the port of Zeebrugge to surpass thirteen million tonnes, which is more than 1.7 million vehicles. This port thus posted its second best score for the last ten years.

Dry bulk was down 3 % in the Flemish ports in 2011. Ostend was the only one to see an increase (+9.4 %) in volumes transshipped in this category. The other three ports recorded declines ranging from 2.4 % in Zeebrugge's case to 3.5 % for the port of Antwerp. The Flemish ports have lost one-fifth of their traffic compared with 2008; the port of Antwerp saw the steepest drop (-30 %), failing to make the 20 million tonne mark for annual transshipments.

Liquid bulk expanded by 10.4 % in 2011 in the Flemish ports. With the exception of the port of Ostend, where transshipment of this type of merchandise has become largely symbolic in any case, all the Flemish ports have recorded an increase. With more than 46 million tonnes handled, the port of Antwerp is now at a ten-year peak. A similar trend can be noted in the ports of Ghent and Zeebrugge, the former having posted 5 % growth and the latter having crossed the mark of 8 million tonnes handled.

**TABLE 1 MARITIME TRAFFIC IN THE FLEMISH PORTS IN 2011**

(in thousands of tonnes, unless otherwise stated)

	Antwerp	Ghent	Ostend	Zeebrugge	Total	Change from 2010 to 2011 (in p.c.)	Share in 2011 (in p.c.)
Containers .....	105,109	545	0	22,743	128,397	- 0.9	48.4
Change 2010 - 2011 (p.c.) .....	+ 2.5	- 2.4	n.	- 13.9			
Roll-on/roll-off <sup>21</sup> .....	4,244	1,637	2,256	13,131	21,269	+ 1.0	8.0
Conventional general cargo <sup>22</sup> .....	12,780	3,431	39	1,151	17,401	+ 11.8	6.6
Liquid bulk .....	46,016	4,450	5	8,281	58,752	+ 10.4	22.2
Dry bulk .....	19,086	17,128	1,543	1,653	39,410	- 3.0	14.9
TOTAL .....	187,152	27,192	3,844	46,957	265,144	+ 2.0	100.0
Change 2010 - 2011 (p.c.) .....	+ 5.0	- 0.3	- 22.1	- 5.3			

Source: *De Vlaamse havens - Feiten, statistieken en indicatoren voor 2011* of the Vlaamse Havencommissie.

The Liège port complex's maritime traffic was slightly up for the year 2011. The Liège port authority noted a particularly dynamic first half-year with volumes up significantly and a slower pace in the second half of the year with the announcement of the closure of ArcelorMittal's liquid steel production (hot phase) in Liège and shutting-down of the Chertal steelworks. The steel production cutbacks in the Liège region is reflected notably in a drop in the quantity of ores transshipped in the public port as well as certain types of solid fuels. By contrast, agricultural products have put on robust growth with a 15 % increase and non-metallic mineral products, the leading category of goods for the port, were up by 8 %

In the port of Brussels, waterway traffic rose by practically 11 % in 2011; closing in on its 2008 record. The volume of construction materials loaded and unloaded expanded by almost one quarter. Building materials thus account for an increasing share of the port's business. Transshipment of containers, on the other hand, is in decline (down 22 % in TEU terms), so it has not been possible to keep up the 2010 record. During the course of the year 2011, the Netherlands reinforced its position as the port's key trading partner.

## 1.2 Competitive position of the Belgian ports

To refine the analysis of the competitive position of the Flemish maritime ports, all cargo traffic is compared with that of the other ports in the Hamburg - Le Havre range<sup>23</sup>. The share of the four Flemish

<sup>21</sup> Abbreviated as ro-ro. Horizontal handling of goods using wheeled equipment inside and outside the ship, unlike lo-lo (lift on/ lift-off), which entails vertical handling. The ro-ro data presented in this report do not take into account containerised cargo, this category of goods being included in the line entitled "containers".

<sup>22</sup> The term "general cargo" comprises the following categories: containerised goods, ro-ro and conventional general cargo.

<sup>23</sup> For the purposes of this study, the range comprises the ports of Amsterdam, Antwerp, Bremen, Dunkirk, Ghent, Hamburg, Le Havre, Rotterdam, Zeebrugge, Ostend, and the Zeeland Seaports complex (port of Terneuzen and Flessingue).

ports in that range was down very slightly and was now close to 23 % in 2011. The growth in the volume transhipped was therefore slightly lower than the average for the range.

In the Hamburg – Le Havre range, the ports of Bremen and Dunkirk posted double-digit growth in their traffic while the port of Le Havre showed a decline. The ports of Hamburg and the Zeeland Seaports complex recorded also strong growth while the growth rate of the port of Rotterdam was 1 %. Out of the eleven ports covered, four show negative trends and three out of these four ports are in Flanders.

**TABLE 2 TOTAL MARITIME TRAFFIC IN THE HAMBURG - LE HAVRE RANGE (INCLUDING OSTEND AND ZEELAND SEAPORTS)**

(in millions of tonnes, unless otherwise stated)

Port	2006	2007	2008	2009	2010	2011	Annual average change from 2006 to 2011 (in p.c.)	Change from 2011 to 2010 (in p.c.)	Average share in the range from 2006 to 2011 (in p.c.)	Share in 2011 (in p.c.)
Antwerp .....	167.4	182.9	189.4	157.8	178.2	187.2	+ 2.3	+ 5.0	16.2	16.4
Ghent .....	24.1	25.1	27.0	20.8	27.3	27.2	+ 2.4	- 0.3	2.3	2.4
Ostend .....	7.8	8.0	8.5	5.4	4.9	3.8	- 13.2	- 22.1	0.6	0.3
Zeebrugge .....	39.5	42.1	42.0	44.9	49.6	47.0	+ 3.5	- 5.3	4.0	4.1
<b>Total Flemish ports ....</b>	<b>238.8</b>	<b>258.1</b>	<b>266.9</b>	<b>228.8</b>	<b>260.0</b>	<b>265.1</b>	<b>+ 2.1</b>	<b>+ 2.0</b>	<b>23.2</b>	<b>23.3</b>
Amsterdam <sup>24</sup> .....	61.0	65.4	75.8	73.4	72.7	74.7	+ 4.1	+ 2.8	6.5	6.6
Bremen .....	64.6	69.1	74.5	63.1	68.9	80.6	+ 4.5	+ 17.1	6.4	7.1
Dunkirk .....	56.6	57.1	57.7	45.0	42.7	47.5	- 3.5	+ 11.2	4.7	4.2
Hamburg .....	134.9	140.4	140.4	110.4	121.2	132.2	- 0.4	+ 9.1	11.9	11.6
Le Havre .....	73.9	78.8	80.5	73.8	70.2	67.6	- 1.8	- 3.8	6.8	5.9
Rotterdam .....	381.8	409.1	421.1	387.0	430.2	434.6	+ 2.6	+ 1.0	37.6	38.2
Zeeland Seaports <sup>25</sup> .....	30.2	33.0	33.3	28.8	33.0	35.5	+ 3.3	+ 7.7	3.0	3.1
<i>Total for the 12 ports ....</i>	<i>1041.8</i>	<i>1110.9</i>	<i>1150.3</i>	<i>1,010.2</i>	<i>1,098.8</i>	<i>1,137.8</i>	<i>+ 1.8</i>	<i>+ 3.5</i>		
<i>Total world traffic</i>	<i>7,700.3</i>	<i>8,034.1</i>	<i>8,229.5</i>	<i>7,858.0</i>	<i>8,408.9</i>	<i>8,747.7</i>	<i>+ 2.6</i>	<i>+ 4.0</i>		
Share for the 12 ports in world traffic (in p.c.) ...	13.5	13.8	14.0	12.9	13.1	13.0				

Sources: For the traffic in the range: port authority data - including the port of Rotterdam statistics - and *De Vlaamse havens - Feiten, statistieken en indicatoren voor 2011* of the Vlaamse Havencommissie; for world traffic (tonnes loaded): Unctad, *Review of Maritime Transport 2012*.

The **port of Bremen** has reported an increase in volumes transhipped of more than 17 %, the highest figure for the entire range of ports. The amount of merchandise unloaded increased by slightly more than 6 million tonnes and volumes loaded show a similar trend, with a consequently faster growth rate. This sharp growth is attributable to general cargo (including containers), since bulk traffic was stagnating. Ores, minerals and building materials are by far the leading categories of (non-containerised) bulk goods handled in the port. Container traffic (+ 21 %) has played a large part in the rise in the port's traffic volumes. Furthermore, the increase in tonnage is quite fairly shared between loading and unloading. The number of vehicles loaded and unloaded in the port also increased considerably. Last, in 2011, the Far East was the main region with which the port traded, followed by North America's Atlantic Coast.

Traffic in the **port of Dunkirk** grew by 11 % in 2011. Liquid bulk, dry bulk and general cargo (including containers) all expanded. In the liquid bulk category, transshipment of hydrocarbons grew by almost a half. Overall, loading and unloading of liquid bulk enjoyed a 44 % rise. In the solid bulk cargo category, volumes of ores handled remained stable while coal and grains posted increases of respectively 18 and 16 %. The overall tonnage handled for this type of merchandise (solid bulk) increased by 4 %. Non-containerised general cargo has not stood still, recording a 9 % growth rate. Roll-on roll-off traffic benefited at the end of the year from the Seafrance ferry company in Calais closing down and expanded

<sup>24</sup> The figures stated here refer to the port of Amsterdam only, and not the entire complex which also includes the ports of Beverwijk, Velsen/IJmuiden and Zaanstad.

<sup>25</sup> Zeeland Seaports = Vlissingen and Terneuzen

by 5 %. Containerised traffic increased by more than a quarter, thus hitting a new record. Expressed in TEU, the increase comes to more than 30 %

Total tonnage handled in the **port of Hamburg** rose by 9 % in 2011; exclusively as a result of general cargo, and more specifically containerised traffic which grew by 15 % during the year under review. Although imports of conventionally loaded metals held up extremely well, the drop in conventionally stowed citrus fruits led to an overall reduction in non-containerised general cargo. Bulk cargo was down by 2 %. Liquid bulk fell back slightly (-1 %) while agricultural products transported in bulk saw a 6 % decline. Volumes unloaded and loaded were higher in this German port in 2011: up by 8 % in the case of the former and 10 % for the latter. All in all, the port posted its fourth best result ever. While Asia was still the port of Hamburg's main trading region for containerised trade flows (expressed in TEU) in 2011, trade with the United States expanded considerably while trade with the rest of Europe declined.

Despite the decline in containerised and ro-ro traffic, the volume of cargo transshipped at **Zeeland Seaports** expanded by about 8 % in 2011. Bulk cargo (dry and liquid) as well as non-containerised general cargo both followed positive trends. Oil, which is the main category of cargo for the port, was up by 11 % and fertilisers by 15 %. Solid fuels traffic grew by one-fifth. In the main categories, only chemicals and agricultural products lost ground, with a 7 % and 1 % contraction of volumes respectively. Maintenance work carried out by Dow Benelux in Terneuzen is one of the reasons behind this decline. Both imports and exports of goods at the Zeeland Seaports complex have enjoyed a rise.

The **port of Amsterdam** saw its traffic expand by 3 % in 2011. Liquid bulk recorded a 5 % increase, mainly on the back of refined products. Dry bulk was up slightly (+1 %), with the rise in the quantity of coal unloaded having been offset by reductions in other categories of cargo such as oilseeds. Tonnage of containers transshipped was down by 27 % but, on the other hand, ro-ro traffic increased by 8 %. Overall, general cargo, including containers, shrank by 7 %. Liquid bulk is still the port's main type of cargo.

Volumes transshipped in and out of the **port of Rotterdam** rose by 1 % in 2011, enabling it to clock up a new absolute record. Liquid bulk was down 5 %; crude oil and mineral oil products were among the categories affected. Dry bulk, on the other hand, grew by 3 % thanks notably to coal trade helped along by mine closures in Germany and to agribulk. Poor harvests in Europe and the absence of Russian exports during the first half of the year boosted grain imports into the port. Moreover, a new bioethanol firm, Abengoa, started up business. All in all, bulk (liquid and dry bulk taken together) declined by 3 %. Conversely, transshipment of containers registered a 10 % increase and non-containerised general cargo was up 12 %. Despite a disappointing economic situation, these results helped the port of Rotterdam to its ninth increase in traffic in the space of ten years.

Affected by a difficult global and domestic economic situation and by the negotiations held at the beginning of the year on the implementation of the port reforms, **Le Havre** suffered a 4 % contraction in its traffic volume in 2011. Liquid bulk, which accounts for 40 % of the port's total tonnage, shrank by 2 %. This contraction is reflected in several product categories such as crude oil, refined petroleum products and chemicals. Containerised traffic was hit particularly badly during the first quarter of the year. But the recovery in the following quarters was not enough to wipe out the bad start to the year and annual traffic was down. By contrast, the number of vehicles handled actually showed an increase in 2011. Although not so important for this port, solid bulk was down notably as a result of the sharp decline in transshipment of coal.

Table 3 reveals the major impact of the year 2011 on traffic at the inland ports. The port of Brussels recorded the strongest growth at nearly 11 %. The ports of Liège and Duisburg experienced smaller increase, with rates of 1.9 and 2.4 % respectively. The traffic at the Ports of Paris was up by 7.1 %.



**TABLE 3 CARGO TRAFFIC BY SHIP IN THE PORTS OF DUISBURG, PARIS, LIÈGE AND BRUSSELS**

(in thousands of tonnes, unless otherwise stated)

Port	2006	2007	2008	2009	2010	2011	Annual average change from 2006 to 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)
Duisburg <sup>26</sup> .....	50,300	52,900	51,000	34,500	49,200	50,400	+ 0.0	+ 2.4
Paris .....	22,257	21,921	19,778	20,214	20,865	22,338	+ 0.1	+ 7.1
Liège <sup>27</sup> .....	19,932	20,033	20,578	16,484	19,095	19,455	-0.5	+ 1.9
Brussels .....	4,200	4,317	4,889	4,011	4,385	4,855	+ 2.9	+ 10.7

Sources: Port of Duisburg, Autonomous Port of Paris, Liège Port Authority and Brussels Port Authority.

The total volume of handled goods in the **port of Duisburg** increased to 50 million tonnes (+2 %). In addition to container handling, coal, mineral oil and chemical products were major drivers of growth. In the year under review, the ship area had grown stronger than rail transport. One of the causes for this to be is to find in the transport quantities for inland waterways from packing logistics as well as heavy cargo and project logistics<sup>28</sup>.

Waterway traffic through the **Ports de Paris** grew by 7 % in 2011, despite the delicate economic outlook. Chemicals and fertilisers were up by a quarter. Building materials, a category which makes up three-quarters of the merchandise transshipped in the port, posted a 12 % increase thanks mainly to the success of ready-mix concrete and aggregate. Agricultural products, on the other hand, fell by 13 % - almost back down to the 1.9 million tonne mark. However, this is by no means a sign of Paris region grain carriers pulling the waterways out of their logistics options. And while ores, waste and metal products are expanding, petroleum products and solid minerals fuels are shrinking. Containerised traffic, expressed in TEU, grew by 19 % in the year under review.

Trading partners since 2009, the ports of Paris, Rouen and Le Havre have now decided to step up cooperation by joining forces within a new logistic and industrial group called HAROPA. Its objective is to supply an integrated and ecological logistics chain from the maritime shoreline to Greater Paris.

### 1.3 Direct and indirect value added in the Belgian ports

Following the contraction of the Belgian economy in 2009 and the improvement seen in 2010, the volume of gross domestic product lost momentum but grew by a further 1.8 % in 2011. Construction and market services performed particularly well. Activity in industry was up by 2.4 %. Investment by private enterprises and public administrations recovered. The expansion of imports and exports continued, even though net exports remained stable. The volume of labour (number of hours worked) increased in 2010 by 1.9 % and total employment expanded. However, paid employment in industry contracted for the third consecutive year<sup>29</sup>.

The direct value added generated in the Belgian ports was down by 1.6 % in 2011. It remained stable in the non-maritime cluster and declined in the maritime cluster. A decline in value added in industry in the Belgian ports was recorded, while trade, land transport and other logistic services were up. The port of Antwerp was hit by a slump in car manufacturing and shipping companies. On the other hand, chemicals and trade rose markedly and made up for the losses in the non-maritime cluster. So, it was this steep decline in the maritime cluster that influenced the overall result. In the ports of Ghent and Ostend, direct value added suffered from a fall in metalworking industry. Value added in the port of Zeebrugge held steady. Other logistic services and land transport suffered a drop in value added, but trade, the maritime cluster and, to a lesser extent, industry were all up. The slight decline in the port of Brussels was attributable notably to the contraction of value added in the other logistic services segment. In the Liège

<sup>26</sup> The traffic considered here is the total of the cargo handled in all Duisburg Ports, thus, totalling the duisport Group and the private company ports.

<sup>27</sup> The traffic considered here is the total of the cargo handled on the public and the private quays.

<sup>28</sup> Source: Duisport Magazine, issue 1/2012, Duisburg Hafen AG.

<sup>29</sup> Source: National Accounts Institute (2012), *National accounts. Part 2 - Detailed accounts and tables 2011*.

port complex, value added remained stable in the maritime cluster. In the non-maritime cluster, it was down in the land transport sector but expanded in trade, other logistic services and industry thanks to the energy and fuel production segments.

Indirect value added was 3.1 % up, at € 14.4 billion. However, that figure needs to be taken as just a guide, because indirect value added is calculated on the basis of various estimates or even approximations. Indeed, owing to the changes concerning Nace in the national accounts, the calculation of the indirect effects entailed a redistribution according to Nace 2003 of certain aggregates published in Nace 2008. Moreover, in the absence of detailed data, the last year also has to be estimated on the basis of an approximation. More than ever, the reader must keep in mind that indirect effects must be cautiously handled, more as a indicator of the importance of the ports for the national and local economy than as an absolute value.

The value added of businesses located outside the ports increased by 18.3 % in 2011 thanks to shipping companies. The pattern was not the same in all segments. Shipping companies recorded a strong rise in value added thanks to the market of the LNG tankers and a newcomer. The segment comprising auxiliary services for transport by waterway suffered from a decline of value added of a few important enterprises and was down sharply. Value added of both fishing and shipbuilding and repair contracted by less than 10 %.

**TABLE 4** VALUE ADDED IN THE BELGIAN PORTS  
(in € million - current prices)

	2006	2007	2008	2009	2010	2011	Relative share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>15,737.6</b>	<b>16,856.2</b>	<b>16,948.7</b>	<b>15,114.7</b>	<b>16,748.8</b>	<b>16,482.0</b>	<b>100.0</b>	<b>- 1.6</b>	<b>+ 0.9</b>
Antwerp .....	9,142.7	9,853.3	10,192.5	8,749.7	9,970.7	9,660.1	58.6	- 3.1	+ 1.1
Ghent .....	3,503.3	3,777.6	3,306.2	3,145.6	3,435.9	3,402.9	20.6	- 1.0	- 0.6
Ostend .....	402.9	430.5	471.3	453.1	497.9	475.2	2.9	- 4.6	+ 3.4
Zeebrugge .....	850.1	921.9	1,015.8	926.0	954.3	962.5	5.8	+ 0.9	+ 2.5
Liège .....	1,264.6	1,367.6	1,415.5	1,309.5	1,351.4	1,449.5	8.8	+ 7.3	+ 2.8
Brussels .....	574.0	505.4	547.5	530.8	538.6	531.9	3.2	- 1.2	- 1.5
Outside the ports (p.m.) <sup>30</sup> ...	53.5	59.7	98.9	85.0	118.5	140.3	-	+ 18.3	+ 21.3
<b>2. INDIRECT EFFECTS .....</b>	<b>12,708.4</b>	<b>13,442.3</b>	<b>13,924.1</b>	<b>13,773.7</b>	<b>13,948.5</b>	<b>14,377.4</b>	<b>-</b>	<b>+ 3.1</b>	<b>+ 2.5</b>
<b>TOTAL VALUE ADDED .....</b>	<b>28,446.0</b>	<b>30,298.5</b>	<b>30,872.8</b>	<b>28,888.4</b>	<b>30,697.3</b>	<b>30,859.4</b>	<b>-</b>	<b>+ 0.5</b>	<b>+ 1.6</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

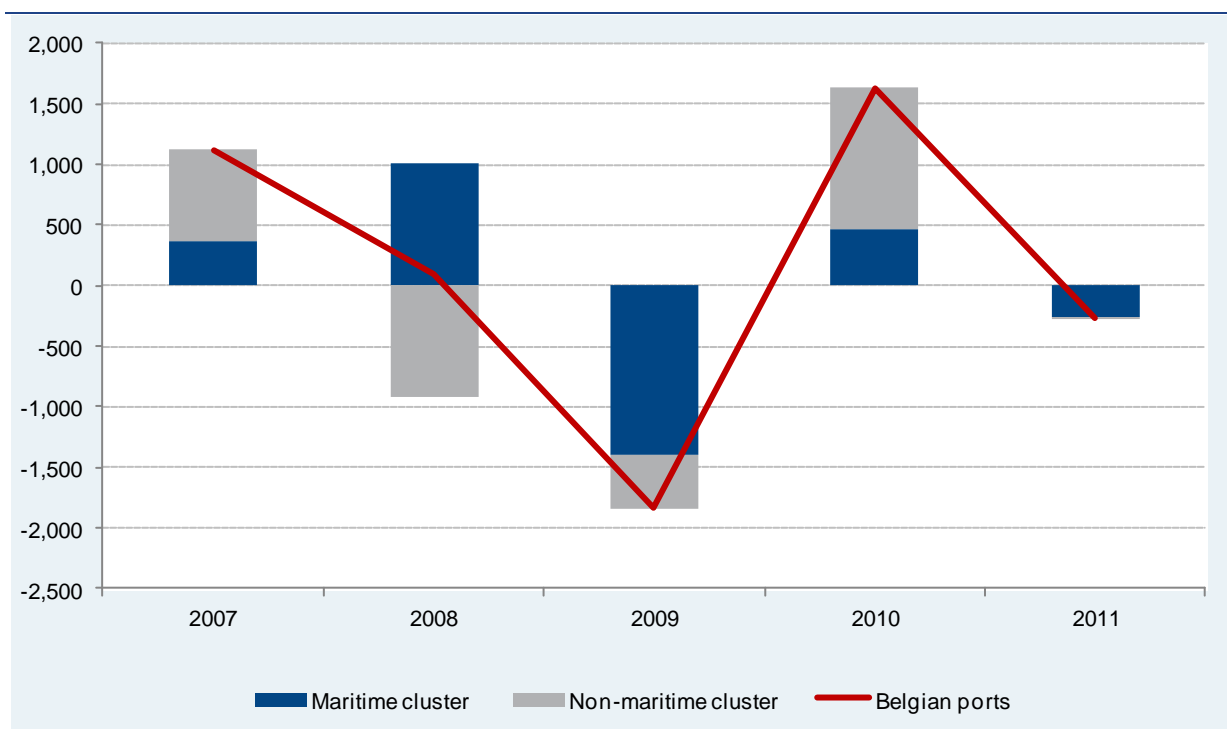
The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

By volume, the direct value added of the Belgian ports was down by 3.4 %. The total value added of the ports was 0.5 % up, disregarding the price effect. In volume, value added declined by 1.3 %. The volume of indirect value added grew with 1.2 %, and thus moderated the decline of the direct value added. The share of direct value added in Belgium's GDP was down by 0.2 percentage point at 4.5 %. Total value added represented 8.3 % of Belgium's GDP (-0.3 percentage point).

<sup>30</sup> The firms in certain maritime branches may be selected from anywhere in the country, since their definition is sufficient in itself to link them to the port activity. These are branches directly connected with the activity of the seaports. Their results are therefore allocated among the Flemish ports, using the formula for the allocation of value added per branch. For each year and for each branch, this formula is calculated on the basis of the ratio between the direct value added generated in a given Flemish port and the direct value added generated in all the Flemish maritime ports. The line "Outside the ports (p.m.)" included in the tables 4, 5 and 6 collates these data, which are also allocated respectively in the tables showing value added, employment and investment in chapters 2 to 5 on the line entitled "Allocation (p.m.)".

**CHART 2 CHANGE IN DIRECT VALUE ADDED**

(in € million, current prices)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

#### 1.4 Direct and indirect employment in the Belgian ports

Direct employment was down slightly by 0.9 % in 2011 and total employment including indirect effects decreased by 0.4 %. Indirect employment remained stable, supported by the number of workers at national level but depressed by the contraction in the ports. The segments with the largest number of job creations were other logistic services, shipping agents and forwarders, chemicals and trade. Job losses were highest in car manufacturing (-1,500 FTE), construction, cargo handling and shipbuilding and repair.

In the port of Antwerp, car manufacturing suffered particularly heavy job losses, but the maritime cluster was also hit. Employment was down in seven segments out of ten in this cluster. Cargo handling and shipbuilding and repair recorded a drop by more than one hundred jobs each. On the contrary, the number of FTE (full-time equivalents) increased in other logistic services by more than 300. In the port of Ghent, car manufacturing which had lost jobs in 2010 rose by more than 500 FTE. Employment in other logistic services and maritime cluster expanded also noticeably. In the port of Ostend, the maritime cluster, trade and industry had a negative impact on employment. Cargo handling and shipbuilding and repair continued to decline for the fourth consecutive year unlike other logistic services. In the port of Zeebrugge, there was a significant fall in the case of cargo handling, construction and road transport. Employment contracted in many segments in this port, with only trade recording a big rise. In the Liège port complex, the expansion of employment in trade and industry made up for a light slowdown in the maritime cluster and land transport. In the port of Brussels, job losses were significant in trade, road transport and other industries but it increased by the shipping agents and forwarders and in other logistic services segment. In total, employment in this port held steady.

**TABLE 5 EMPLOYMENT IN THE BELGIAN PORTS**  
(FTE)

	2006	2007	2008	2009	2010	2011	Relative share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>120,665</b>	<b>122,906</b>	<b>123,950</b>	<b>120,712</b>	<b>116,645</b>	<b>115,600</b>	<b>100.0</b>	<b>- 0.9</b>	<b>- 0.9</b>
Antwerp .....	63,270	64,516	64,366	63,213	61,474	60,010	51.9	- 2.4	- 1.1
Ghent .....	27,117	27,370	27,785	26,870	26,000	26,638	23.0	+ 2.5	- 0.4
Ostend .....	4,546	4,755	4,933	5,043	4,989	4,887	4.2	- 2.1	+ 1.5
Zeebrugge .....	10,376	10,578	11,053	10,723	10,176	9,943	8.6	- 2.3	- 0.8
Liège .....	10,829	11,123	11,208	10,456	9,703	9,771	8.5	+ 0.7	- 2.0
Brussels .....	4,526	4,564	4,606	4,406	4,303	4,351	3.8	+ 1.1	- 0.8
Outside the ports (p.m.) <sup>31</sup> ..	2,265	2,338	2,442	2,459	2,342	2,164	-	- 7.6	- 0.9
<b>2. INDIRECT EFFECTS .....</b>	<b>141,156</b>	<b>146,440</b>	<b>150,170</b>	<b>141,291</b>	<b>140,851</b>	<b>140,782</b>	<b>-</b>	<b>- 0.0</b>	<b>- 0.1</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>261,822</b>	<b>269,345</b>	<b>274,120</b>	<b>262,003</b>	<b>257,496</b>	<b>256,382</b>	<b>-</b>	<b>- 0.4</b>	<b>- 0.4</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

In 2011, the workers employed in the Belgian ports represented 2.9 % of Belgian domestic employment<sup>32</sup>. That is a drop with 0.1 percentage point. Altogether (including indirect employment), the Flemish ports accounted for 9.8 % of employment in Flanders, and the Belgian ports represented 6.4 % of employment in Belgium. These last two shares were down 0.2 and 0.1 percentage point against 2010 respectively.

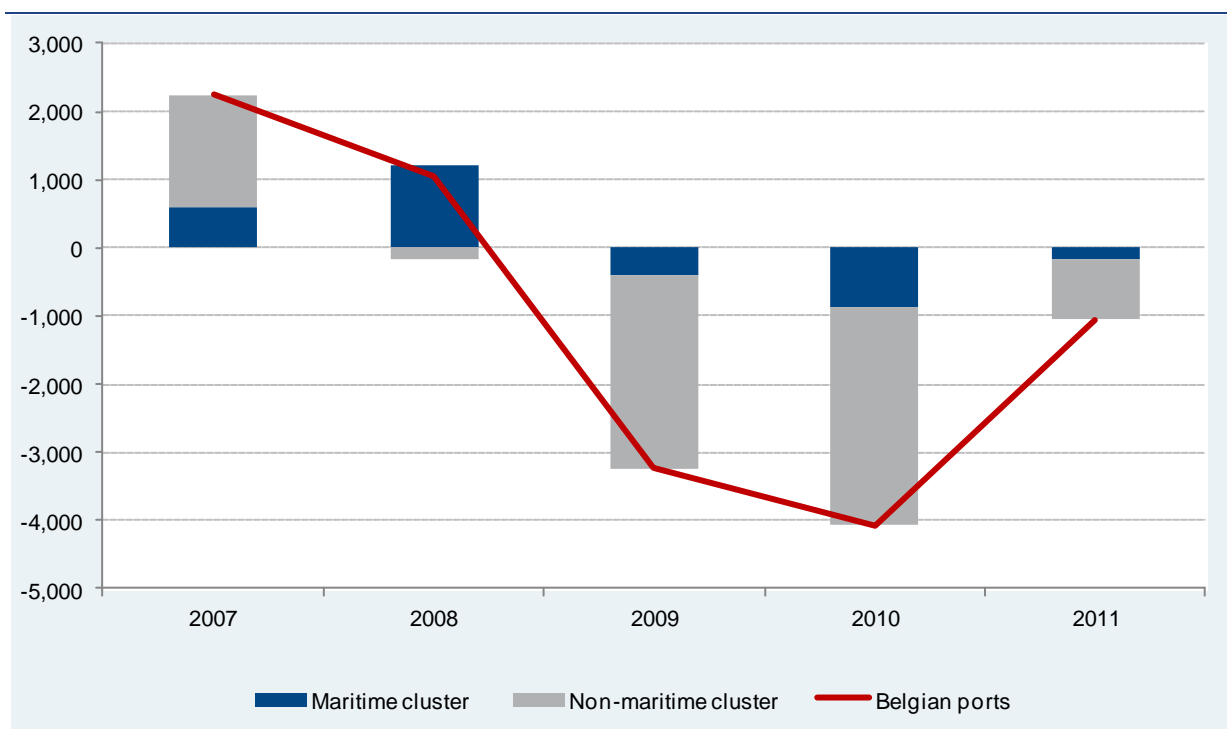
In companies located outside the ports, employment was down by 7.6 %. This decline affected all sectors of activity other than shipping companies. The biggest job losses were in the segment comprising auxiliary services for transport by waterway in which a big firm moved part of its business activities to the port of Antwerp.

Indirect employment remained stable despite a reduction in direct employment. There were few significant variations between branches. Indirect employment declined in car industry, but expanded in other segments such as transport services, some business services and chemicals. However, the reader must keep in mind that indirect effects must be cautiously handled, more as an indicator of the importance of the ports for the national and local economy than as an absolute value.

<sup>31</sup> These figures stand for the activity of the maritime enterprises located outside the port limits and are divided among the Flemish ports according to the breakdown of value added.

<sup>32</sup> Source: National Accounts Institute (2012), *National accounts. Part 2 - Detailed accounts and tables 2011*.

**CHART 3** CHANGE IN DIRECT EMPLOYMENT  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

### 1.5 Investment in the Belgian ports

Direct investment in the Belgian ports was down by 8.7 %. The fall in investment in the ports slowed down in 2011 but this was the third consecutive year of decline. In the maritime cluster, the largest fall in the amount invested was attributable to the shipping company segment. In the non-maritime cluster, investment held steady in other logistics services following a particularly depressed year in 2010. In industry, investment was down again, reaching its lowest point for the last six years. The segments most affected were energy, fuel production and other industries. Land transport saw investment expand for the second consecutive year. Investment in the other land transport segment was at its highest level for six years. Conversely, investment in trade fell.

In the port of Antwerp, it was mainly the maritime cluster - comprising shipping companies - that recorded a drop in investment. But investment in cargo handling and in port construction and dredging were up. In the non-maritime cluster, investment in energy was back up to the 2008 level of expenditure, while in the fuel industry it was at its lowest point for the last six years. But thanks to the chemicals sector, investment in industry held steady while it declined in land transport and other logistic services. In the port of Ghent, investment declined in both clusters, but it was the maritime cluster that recorded the most dramatic reductions: every segment of that cluster declined. Investment in trade and industry was down by around 13 % but it was up in land transport and other logistic services. The largest fall in the amount invested was in the energy and other industries segments while car manufacturing enjoyed a huge increase. In the Ostend maritime cluster, investment in port construction and dredging and in the public sector, with the end of the work to improve the port entrance, recorded a steep decline. Overall, investment in this cluster was down by 47 %. Conversely, investment in every segment of the non-maritime cluster recorded a rise. In the port of Zeebrugge, investment decreased in both clusters. After a great year for the segment, investment in cargo handling was cut by half. Total investment in the maritime cluster was down by 31 % despite an increase in the public sector. In the non-maritime cluster, it remained stable in trade, rose in land transport and declined in industry and other logistic services. Investment in energy - the biggest segment in industry - declined by more than a quarter. In contrast, it grew by 50 % in other industries. After a sharp fall in 2010, investment in the Liège port complex was up by 9 % in 2011. It expanded in the maritime cluster thanks to cargo handling where the amount invested more than doubled. In the non-maritime cluster, it grew in all sectors. By segment, it was only down in fuel production, chemicals, construction and other industries. Finally, the port of Brussels could not stop the fall in investment. Both clusters recorded reductions. In the maritime cluster, the biggest decline was

in the port authority segment. In the non-maritime cluster, investment expanded in land transport and other logistic services. The drop in trade and industry was so steep that other logistic services became the most important sector in the port of Brussels.

After a fairly exceptional year, the amount invested by firms located outside the ports contracted. Investment rose in the maritime transport supporting activities but declined in all other segments of activity, but the fall in investment by shipping companies was dramatic.

**TABLE 6 INVESTMENT IN THE BELGIAN PORTS<sup>33</sup>**  
(in € million - current prices)

	2006	2007	2008	2009	2010	2011	Relative share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
Antwerp .....	2,594.1	3,383.0	3,634.1	2,983.8	2,527.2	2,339.3	68.9	- 7.4	- 2.0
Ghent .....	394.9	704.4	706.2	592.8	505.4	439.1	12.9	- 13.1	+ 2.1
Ostend .....	75.4	155.6	184.4	121.1	102.1	92.6	2.7	- 9.3	+ 4.2
Zeebrugge .....	306.5	310.5	263.0	170.6	336.2	268.2	7.9	- 20.2	- 2.6
Liège .....	162.9	344.8	436.9	564.4	188.0	204.5	6.0	+ 8.8	+ 4.7
Brussels .....	94.2	53.6	73.7	63.1	58.5	50.2	1.5	- 14.2	- 11.9
<i>Outside the ports (p.m.)<sup>34</sup> ..</i>	<i>155.5</i>	<i>243.4</i>	<i>195.8</i>	<i>245.7</i>	<i>485.6</i>	<i>302.7</i>	<i>-</i>	<i>- 37.7</i>	<i>+ 14.2</i>
<b>DIRECT INVESTMENT .....</b>	<b>3,628.0</b>	<b>4,952.0</b>	<b>5,298.4</b>	<b>4,495.9</b>	<b>3,717.4</b>	<b>3,393.8</b>	<b>-</b>	<b>- 8.7</b>	<b>- 1.3</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).

## 1.6 Demography of the Belgian ports

The table entitled 'Demography of the Belgian Ports' gives an overview of changes in the sample population used for the study over the last six years. The public sector is not taken into consideration in this table. As a reminder, besides Belgian commercial enterprises, the study also covers a limited number of legal entities such as non-profit organisations or branches of foreign firms. The two columns, entitled '2006' and '2011', with the heading "Population" indicate the number of legal persons (regardless of the legal form of the entity) included in the study for the years 2006 and 2011 respectively. In both the maritime and non-maritime clusters, the number of entities is higher in 2011 than in 2006. However, per activity, divergent trends can be observed: the survey population in the 'fishing', 'port trade', and 'car manufacturing' segments for example is down sharply. Activities where the number of entities grew the most were 'port construction and dredging', 'shipbuilding and repair', 'energy' and 'other logistic services'. The 'Migrate-out' column lists firms that left the population during the period 2007 - 2011. Obviously, it is the other way round for the 'Migrate-in' column. There are several explanations justifying the exclusion from the survey population from one year to the next: the company has moved, changed activity, merged with another firm already established in the port (in which case, only the surviving company continues to feature in the study). The three last columns of the table give the number of firms affected by corporate restructuring (absorption, merger, takeover or split), by a stoppage or failure. The firms included in the 'Migrate-in' column can either be newly established firms (after 2006) coming into the population studied or existing companies that have, for instance, started activities or taken over other enterprise in the port. The 'Missing account' column adds the number of firms that have not filed their annual accounts for the year 2011 and which, as far as we know, should not be excluded from the study<sup>35</sup>.

<sup>33</sup> Investment by the public authority Flemish Region is limited to the projects linked to a specific port.

<sup>34</sup> These figures stand for the activity of the maritime enterprises located outside the port limits and are divided among the Flemish ports according to the breakdown of value added.

<sup>35</sup> See Coppens F., Verduyn F. (2009), *Analysis of business demography using markov chains: an application to Belgian data*, NBB, Working Paper No. 170 (Research series), Brussels.

**TABLE 7 DEMOGRAPHY OF THE BELGIAN PORTS FOR THE PERIOD 2006 - 2011**  
(Number of firms)

Sectors	Population <sup>36</sup>					Death		
	2006	Migrate-In	Migrate-Out	Missing account	2011	Restructuring	Stoppage	Failure
<b>MARITIME CLUSTER .....</b>	<b>1,574</b>	<b>600</b>	<b>405</b>	<b>27</b>	<b>1,742</b>	<b>74</b>	<b>121</b>	<b>56</b>
Shipping agents and forwarders	583	265	152	8	688	40	35	17
Cargo handling .....	328	111	81	5	353	19	28	7
Shipping companies .....	340	116	83	5	368	9	37	15
Shipbuilding and repair .....	110	72	39	4	139	1	8	8
Port construction and dredging	11	4	1	0	14	0	1	0
Fishing .....	144	18	31	2	129	3	9	7
Port trade .....	51	14	18	3	44	2	3	2
Port authority .....	7	0	0	0	7	0	0	0
Public sector .....	n.	n.	n.	n.	n.	n.	n.	n.
<b>NON-MARITIME CLUSTER .....</b>	<b>1,998</b>	<b>1,094</b>	<b>884</b>	<b>32</b>	<b>2,176</b>	<b>139</b>	<b>163</b>	<b>81</b>
<b>TRADE .....</b>	<b>621</b>	<b>262</b>	<b>255</b>	<b>12</b>	<b>616</b>	<b>46</b>	<b>43</b>	<b>29</b>
<b>INDUSTRY .....</b>	<b>598</b>	<b>242</b>	<b>201</b>	<b>2</b>	<b>637</b>	<b>32</b>	<b>42</b>	<b>11</b>
Energy .....	8	14	2	0	20	0	0	0
Fuel production .....	12	0	1	0	11	1	0	0
Chemicals .....	89	22	14	0	97	1	6	0
Car manufacturing .....	25	2	10	0	17	1	4	0
Electronics .....	21	4	4	1	20	1	0	0
Metalworking industry .....	117	41	36	0	122	7	9	2
Construction .....	184	115	84	1	214	8	9	7
Food industry .....	30	4	6	0	28	1	3	0
Other industries .....	112	40	44	0	108	12	11	2
<b>LAND TRANSPORT .....</b>	<b>172</b>	<b>77</b>	<b>65</b>	<b>2</b>	<b>182</b>	<b>11</b>	<b>13</b>	<b>14</b>
Road transport .....	170	75	65	2	178	11	13	14
Other land transport.....	2	2	0	0	4	0	0	0
<b>OTHER LOGISTIC SERVICES.</b>	<b>607</b>	<b>513</b>	<b>363</b>	<b>16</b>	<b>741</b>	<b>50</b>	<b>65</b>	<b>27</b>
<b>TOTAL .....</b>	<b>3,572</b>	<b>1,694</b>	<b>1,289</b>	<b>59</b>	<b>3,918</b>	<b>213</b>	<b>284</b>	<b>137</b>

Migrate-In = New in population after 2006.

Migrate-Out = Left the population in the period 2007-2011. This category includes the category 'Death' and the enterprises who moved their activities outside the port area.

Death = legal situation at the closing date of this report

Restructuring = Absorption + Takeover + Merger + Split

Source: NBB (calculations based on the Crossroads Bank for Enterprises CBE).

It will be noted that, over the whole period surveyed, there were more firms coming into the research population than there were leaving. Three-tenths of the exits from the maritime cluster were due to companies ceasing activities. In the case of the non-maritime cluster, this accounted for just over one-sixth of all firm exits. The bankruptcy rate expressed as a percentage of total firm exits is highest in the maritime cluster. In this cluster and in the trade sector, its representativeness exceeds the ten percent mark. It is even as high as 20 % in land transport. The segments in which there have been proportionally the most firms ceasing activities are cargo handling, shipping companies, chemicals, car manufacturing and the food industry. Looking at the proportion of bankruptcies to total exits per segment, the rate is particularly high in shipbuilding and repair, fishing, shipping companies and road transport. Company restructuring efforts peaked in 2008 while the high point for firms ceasing activities and for bankruptcies was reached in 2011.

<sup>36</sup> The results of the public sector are not included in this table.

## 1.7 Breakdown of the variables by company size<sup>37</sup>

Note that the distribution of the firms according to size depends on the format of the annual accounts filed by the firms. Thus, companies submitting their annual accounts to the Central Balance Sheet Office in the full format are considered to be large firms. The SME category covers companies submitting their annual accounts in an abbreviated format. In 2011, large firms represented 38.7 % of the total number of firms, 95.1 % of value added and 94.1 % of investment. In terms of jobs, they employ 91.7 % of workers. Compared to 2010, the number of large firms stabilised, whereas the number of small and medium sized enterprises grew. The representativeness of large firms for value added has therefore slightly decreased over a year while it remained stable for employment. Only the percentage of investment was up.

**TABLE 8 BREAKDOWN OF FINDINGS IN THE BELGIAN PORTS IN 2011**

Ports	Number of firms <sup>38</sup>		Direct value added (in € million)		Direct employment (FTE)		Direct investment (in € million)	
	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs
Antwerp .....	832	1,048	9,073.7	349.3	53,018	3,522	1,968.9	73.6
Ghent .....	272	319	3,214.2	161.7	24,285	2,033	387.2	35.2
Ostend .....	54	160	370.2	45.0	3,347	592	65.0	18.5
Zeebrugge .....	147	263	750.0	90.7	6,782	1,226	175.6	20.3
Liège .....	99	81	1,416.3	33.2	9,234	537	197.9	6.6
Brussels .....	110	245	470.5	57.0	3,483	786	38.5	11.6
Outside the ports .....	36	335	81.1	59.2	1,661	503	275.1	27.6
<b>TOTAL .....</b>	<b>1,550</b>	<b>2,451</b>	<b>15,376.0</b>	<b>796.1</b>	<b>101,810</b>	<b>9,199</b>	<b>3,108.2</b>	<b>193.5</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).

## 1.8 Social balance sheet in the Belgian ports<sup>39</sup>

The social balance sheet presents a coherent set of data on various aspects of employment in firms: composition of the workforce, staff rotation, type of employment contracts, standard of education, working time, labour costs and training efforts. The results presented below concerning direct employment in the six Belgian ports are not exhaustive. The figures are based on a constant sample<sup>40</sup> relating to the period 2009 - 2011. The detailed figures for 2011 are shown in Annex 1. The national data is calculated from a constant sample of filed annual accounts with the Central Balance Sheet Office. The findings per individual port, on the other hand, are based on the study's population.

### 1.8.1 Working time and labour costs

This trend in employment is in line with the results at national level. Yet it has highlighted major divergences between branches of activity, notably a contraction of staff numbers in the fishing and construction segments and to a lesser extent in trade and land transport while it recorded a rise in other logistic services. The average number of employees in the ports of Antwerp, Ghent and Brussels, taken individually, increased on the staff register, unlike in the ports of Ostend and Zeebrugge. Only the port of Zeebrugge posted an decrease in the number of hours actually worked. The average number of hours

<sup>37</sup> Enterprises are deemed large if they use the full model to file their annual accounts.

<sup>38</sup> For each port, this is the number of firms located in the port zone. A firm may in fact be recorded in more than one port. The sample for the year 2011 comprises 1.470 large firms and 2.448 small and medium-sized firms, totalling 3.918 firms. The results of the public sector are not included in this table.

<sup>39</sup> The national data mentioned were taken from Delhez. Ph., Heuse P. and Zimmer H. (2012). The comparisons are merely an indication, since only firms filing their social balance sheet for a period of 12 months ending on 31 December were taken into account in that study. Moreover, NACE-BEL 78 branches (employment-related activities), 84 (public administration and defence; compulsory social security) and 85 (education) are excluded in that study.

<sup>40</sup> The constant sample was determined on the basis of the firms which filed full-format accounts throughout the period 2009 - 2011, and the financial year must comprise a period of twelve months. The employer's organisations (i.e. Cepa), with NACE-BEL 78200, are included in the constant sample. The constant sample comprises 920 firms and 96,690 FTEs, or 23.4 % of the firms considered for this study in 2011 and 83.6 % of the direct employment calculated in this study. As a result of the closure of the Antwerp car assembly plant in 2011, General Motors Belgium is not included in the constant sample.



worked per annum per full-time equivalent remained stable. The slight contraction in the non-maritime cluster was counterbalanced by the rise in the maritime cluster.

Staff costs in the Belgian ports taken as a whole are on the rise. The rate of change is quite high. An important company in the energy segment has paid a big amount of money into the employees' pension fund. This one-shot payment increased the staff costs of the segment by one quarter. This had also an impact on the overall staff costs. That's why the change in staff cost, the average annual staff costs per full-time equivalent and the average staff costs per hour worked should be interpreted with caution. In every segment of activity, the average staff costs per hour worked was up. It rose up the most in the shipping companies and energy segments.

**TABLE 9 HOURS WORKED AND ASSOCIATED COSTS OF INTERNAL HUMAN RESOURCES**  
(reduced population: constant population)  
(percentage change compared with the previous year, unless otherwise stated)

	2009	2010	2011
Change in the average number of employees on the staff register (p.c.) .....		-2.7	+1.1
Change in the number of hours actually worked (p.c.) .....		+1.2	+1.1
Change in staff costs (p.c.) .....		+1.7	+5.6
Average number of hours worked per annum per full-time equivalent ( <i>hours</i> ) .....	1,448	1,505	1,505
Average annual staff costs per full-time equivalent ( <i>euros</i> ) .....	68,196	71,295	74,500
Average staff costs per hour worked ( <i>euros</i> ) .....	47	47	50

Source: NBB (full presentation accounts only).

### 1.8.2 Composition of the workforce

**TABLE 10 INTERNAL WORKFORCE AT THE END OF THE FINANCIAL YEAR**  
(reduced population: constant population)  
(share as a percentage of the total)

	2009	2010	2011
By professional category			
<i>White-collar</i> .....	42	43	43
<i>Blue-collar</i> .....	54	54	53
<i>Other staff</i> .....	4	3	4
By sex			
<i>Males</i> .....	84	84	84
<i>Females</i> .....	16	16	16
By working time			
<i>Full-time</i> .....	90.6	90.3	90.1
<i>Part-time</i> .....	9.4	9.7	9.9
By educational level			
<i>Males</i>			
<i>Primary education (p.c.)</i> .....	19.6	20.1	20.8
<i>Secondary education (p.c.)</i> .....	56.3	55.2	54.0
<i>Higher non-university education (p.c.)</i> .....	16.3	16.7	16.4
<i>University education (p.c.)</i> .....	7.8	8.1	8.8
<i>Females</i>			
<i>Primary education (p.c.)</i> .....	8.9	8.0	7.0
<i>Secondary education (p.c.)</i> .....	46.8	45.2	45.4
<i>Higher non-university education (p.c.)</i> .....	31.2	32.7	32.5
<i>University education (p.c.)</i> .....	13.1	14.1	15.1

Source: NBB (full presentation accounts only).

The proportion of blue-collar workers in the Belgian maritime ports has decreased to the benefit of other staff workers. This tendency came from the port of Antwerp. In the ports of Liège and Ostend, the proportion of white-collar workers increased and in the other ports, the proportions remained stable.

Overall, the male/female proportion remained stable. In the ports of Antwerp, Liège and Brussel, the share of female workers was rising slightly whereas it was down in the ports of Ostend and Ghent. The percentage of full-time staff was shrinking in all the ports except Brussels. Among male staff, the proportion of those with secondary education qualifications or higher non-university education was shrinking in the ports taken as a whole and the proportion of those with primary education rose up. Within the female ranks, the proportion of those with diplomas of secondary or university education was increasing.

### 1.8.3 External staff

The share of external staff in total employment was up in 2011, as was their number of hours actually worked. This tendency has so far not been confirmed in the port of Ostend where the proportion of external staff and their number of hours actually worked were declining. All the segments of activity except port authority and energy recorded an increase in the share of external staff. The number of hours actually worked was up in every segment except port authority, energy, metalworking industry and road transport. In the ports of Ostend, Zeebrugge and Brussels, the change in costs has been negative.

**TABLE 11 HIRED TEMPORARY STAFF AND STAFF PLACED AT THE ENTERPRISE'S DISPOSAL**  
(reduced population: constant population)  
(percentage change compared with the previous year, unless otherwise stated)

	2009	2010	2011
Share of external staff in total employment (on the basis of the number of hours actually worked) (share as a percentage of the total) .....	10.3	12.2	13.5
Change in the number of hours actually worked .....		+ 23.2	+ 12.9
Change in costs .....		+ 21.8	+ 11.3

Source: NBB (full presentation accounts only).

### 1.8.4 Staff turnover

Staff turnover was positive in 2011, contrary to the results of 2009 and 2010. The number of entries was greater than the number of departures in all the ports except for Ostend and Zeebrugge. The causes of staff departures from the company were still mainly classed in the "other reasons"<sup>41</sup> category. The drop in the cases of early retirement and redundancies went on. The proportion made up by staff taking retirement contracted. The proportion of redundancies in the total is lowest in Liège and highest in Brussels. In the port of Liege, the proportion of ends of career (retirement and early retirement) in the reasons for departures was the highest of all ports with round 18 percent, which is higher than the national figures, especially compared with the national industry results.

**TABLE 12 STAFF TURNOVER**  
(reduced population: constant population)  
(share as a percentage of the total, unless otherwise stated)

	2009	2010	2011
Net number of staff hired during the year (FTE) .....	- 4,860	- 96	+ 2,465
Staff leaving, by reason for termination of contract			
Retirement .....	4.8	6.1	5.7
Early retirement .....	13.1	6.4	5.1
Dismissal .....	22.1	18.8	14.6
Other reason .....	60.1	68.7	74.5

Source: NBB (full presentation accounts only).

### 1.8.5 Training<sup>42</sup>

The percentage of firms reported training activities increased in 2011. Once again, this percentage was still well above - more than double - the national average. The rate of participation in training was still

<sup>41</sup> Spontaneous departures, death in service, expiry of the period of fixed-term contracts, provided that they are not immediately followed by a new contract and the completion of the work for which the contract was concluded.

<sup>42</sup> Here, training is meant in the formal sense, i.e. courses in premises reserved for that purpose, within the firm or outside. For example, on-the-job training, mentoring and self-training study are outside the scope of this study.

higher among male staff members. The net cost per hour of training continued to rise in 2011. This trend is in line with developments noted at national level. The number of hours of training per person continued to fall, just as is the case at national level. The end-result is a rise in the percentage of hours worked actually spent training and in the share of training costs in total staff costs. It should be noted that the training course participation rate fell only in the port of Zeebrugge.

**TABLE 13 EFFORTS DEVOTED TO FORMAL TRAINING**  
(reduced population: constant population)  
(share as a percentage of the total, unless otherwise stated)

	2009	2010	2011
P.c. of firms reporting training on the social balance sheet .....	57.7	57.4	59.0
Participation rate .....	53.3	52.5	57.3
<i>Males</i> .....	54.3	53.4	58.4
<i>Females</i> .....	48.5	48.2	51.9
Number of hours' training per person ( <i>hours</i> ) .....	34.1	33.3	32.4
<i>Males (hours)</i> .....	34.9	34.2	33.4
<i>Females (hours)</i> .....	29.7	28.7	26.9
Training costs per hour (euros) .....	59.6	64.1	66.9
<i>Males (euros)</i> .....	59.9	64.3	66.9
<i>Females (euros)</i> .....	57.7	62.8	67.1
P.c. of the number of hours worked devoted to training .....	1.3	1.2	1.3
Training costs as a percentage of total staff costs .....	1.6	1.6	1.7

Source: NBB (full presentation accounts only).

## 1.9 Financial ratios in the Belgian ports

The ratios presented below show the net return on equity after tax, liquidity in the broad sense, and solvency. The first ratio concerns the firms' ability to generate profits, and to give shareholders an idea of the firm's return after tax. The second ratio shows the firm's ability to mobilise in due time the cash resources that it needs in order to meet its short-term liabilities. Finally, the third ratio gives an idea of the firm's ability to honour all its financial commitments in the short and long term. This section gives information on the movement in the ratios for the six Belgian ports together<sup>43</sup>.

The study of the financial ratios is based on a constant sample<sup>44</sup> composed for the years 2009 to 2011. Consequently, the firms studied in the financial section of this report are not the same as those in the constant sample of the previous report, which may explain some discrepancies between the figures in the two publications. To permit comparison with the national data, i.e. all Belgian non-financial firms companies, the same calculation method – namely globalisation – was used.

The constant sample excludes head office activities (NACE-BEL 70100). This branch, previously made up of coordination centres, now contains an important number of companies that generally provide banking or treasury management services within a group of companies. In recent years, these companies have seen substantial capital inflows due to the creation of the notional interest deduction. Consequently, on the national level, in 2010 the head office activities branch represented more than one-third of companies' equity capital, but barely more than 1 % of value added and employment. This means that this branch has a significant impact on certain aggregate financial statistics but a limited real economic impact. As a result, it has been excluded from the statistics presented in this section.

<sup>43</sup> Note that readers wishing to compare the financial ratios of a firm with those in the sector where it operates can find that information in the company file published by the Central Balance Sheet Office.

<sup>44</sup> The constant sample composed for the study of the ratios includes all firms which filed their annual accounts in 2009, 2010 and 2011 and whose annual accounts items meet the conditions for the calculation of these ratios. For example, for the purpose of calculating profitability, the financial year must comprise 12 months and the equity must be strictly positive. This constant sample covers 2,533 firms, € 14,919.8 million of value added and 100,785 FTEs, or 64.5 % of the firms considered for the Belgian ports in 2011, 90.5 % of the direct value added and 87.2 % of the direct employment examined here.

After the recovery of 2010, the net return on equity of firms in the Belgian ports went downwards again at the Belgian ports viewed overall. Nevertheless, the picture varies from port to port. In the port of Zeebrugge, the change is quite light as the result of a decline in the maritime cluster counterbalanced by an improvement in the non-maritime cluster. In the ports of Brussels and Antwerp, the reduction was more severe. The drop was very important in the maritime cluster. In the port of Antwerp, the ratio for the shipping companies and for the port authority became negative. Conversely, in the port of Ostend, the ratio was up in the maritime cluster and fell in the non-maritime cluster. In the port of Ghent, both clusters were deeply down. The exceptional growth recorded for 2010 in some segments as a result of the sale of assets was not maintained in 2011. The port of Liège was the only port with an improvement of the ratio thanks to the non-maritime cluster and more specifically in trade, industry and other logistic services. Regarded the ratio of net return on equity after taxes in all ports as a whole, four segments of activity were negative in 2011: shipping companies, port authority, metalworking industry and other land transport. The ratio declined in most segments of the maritime cluster, in industry and in other logistic services. It improved in trade and land transport. Nevertheless, the ports' net return on equity still exceeded the national average.

The ratio of liquidity in the broad sense remained stable in 2011, while lightly rising at the national level. It actually picked up in the ports of Antwerp, Ghent and Zeebrugge. Conversely, it saw a net deterioration in the ports of Ostend and Liège. In the port of Brussels, the ratio barely changed. In the port of Antwerp, a deep drop was recorded in the shipping companies, fishing, energy and metalworking industry segments. In the port of Ghent, it increased in the maritime cluster and remained quite stable in the non-maritime cluster with a drop in other logistic services. In the port of Zeebrugge, it contracted a little in trade and to a bigger extent in land transport. In the port of Ostend, the ratio was up in the maritime cluster and down in all sectors of the non-maritime cluster. In the port of Liège, industry has made a major contribution to the downwards trend. In Brussels, the ratio for the maritime cluster was down but held steady in the non-maritime cluster.

**TABLE 14 FINANCIAL RATIOS IN THE BELGIAN PORTS FROM 2009 TO 2011**  
(reduced population: constant population)

Ports	Return on equity after taxes (in p.c.)			Liquidity in the broad sense			Solvency (in p.c.)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Antwerp .....	17.4	16.5	10.1	0.83	0.90	0.92	35.7	36.7	41.2
Ghent .....	4.6	26.3	5.4	1.30	0.89	0.91	43.7	35.1	36.6
Ostend .....	10.8	16.7	9.8	1.21	1.23	1.05	44.5	45.7	45.7
Zeebrugge .....	3.5	8.6	7.8	1.23	1.04	1.07	51.2	49.4	51.0
Liège .....	7.4	5.4	6.7	0.96	0.81	0.67	34.9	34.7	38.9
Brussels .....	2.6	8.0	6.0	1.15	1.27	1.26	34.7	39.3	37.0
<b>Belgian ports .....</b>	<b>13.6</b>	<b>16.1</b>	<b>9.0</b>	<b>0.93</b>	<b>0.90</b>	<b>0.90</b>	<b>37.1</b>	<b>36.7</b>	<b>40.6</b>
<b>Non-financial corporations<sup>45</sup> .....</b>	<b>8.0</b>	<b>8.8</b>	<b>6.7</b>	<b>1.13</b>	<b>1.18</b>	<b>1.20</b>	<b>41.1</b>	<b>41.3</b>	<b>42.8</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

The solvency ratio improved in 2011. This trend is in line with the evolution of the globalised ratio of non-financial corporations. The increase was larger in the ports than at national level and so the ratio gets closer to the national one. The rise was particularly marked in the ports Antwerp and Liège. In the ports of Ghent and Zeebrugge, it was less steep. The ratio held steady in the port of Ostend and it contracted in the port of Brussels. In the port of Antwerp, the ratio increased in the non-maritime cluster thanks mostly to the industry, on the contrary to the maritime cluster which suffered from a deep drop in the shipping companies and port authority segments. In the port of Liège, it increased in both clusters but the rise was especially great in industry and other logistic services. In the port of Ghent, the solvency ratio was up in most of the segments. In the port of Zeebrugge the ratio increased in both clusters, but decreased in trade and land transport sectors. In the port of Ostend, the increase in the maritime cluster was offset by the decrease in the non-maritime cluster due to trade and industry sectors. In the port of Brussels, the solvency ratio was down in both clusters and each sector but the contraction was higher in other logistic services.

<sup>45</sup> See Vivet D., *Results and financial situation of firms in 2011*, NBB, Economic review, December 2012, Brussels.

## 1.10 Financial health in the Belgian ports

The financial health indicator is designed as a weighted combination of variables, created by means of a model constructed in the same way as a failure prediction model. The model takes the form of a logistic regression discriminating between failing and non-failing companies. The definition of failure is based on a legal criterion, namely that a company is considered to have failed if it has faced bankruptcy or judicial administration in the past.

The indicator summarises each company's situation in a single value which takes account simultaneously of the solvency, liquidity and profitability dimensions. Those dimensions are complementary in the establishment of a financial diagnosis, as a high debt level, for example, may be offset by a plentiful cash flow, and vice versa. The indicator also takes account of the companies' age and size, particularly through interaction variables.

The indicator constitutes a strictly financial assessment of the companies at a given moment. That assessment is based on data from the annual accounts, and therefore disregards any other fundamental elements, such as development prospects, competition, management calibre or shareholders' willingness to provide financial support. In that respect, it must be regarded as one of the factors enabling an overall appraisal of a firm's situation.

The financial health classes are to be used in the enterprise files compiled by the Central Balance Sheet Office<sup>46</sup>. The sample of firms for which the financial health index was calculated is naturally much smaller than in the national study. Consequently, the results are more volatile. The result for a particular firm can therefore be obtained from the company file<sup>47</sup> and compared to the distribution of firms by financial health class in the ports, or in Belgium as a whole.

**TABLE 15 FINANCIAL HEALTH IN THE BELGIAN PORTS - IN % OF THE NUMBER OF COMPANIES**  
(reduced population)

	2006	2007	2008	2009	2010	2011
Class 1 .....	8.3	8.6	10.0	11.3	11.1	11.2
Class 2 .....	19.3	20.7	19.6	20.5	20.9	21.7
Class 3 .....	17.5	18.1	18.9	16.2	18.8	17.4
Class 4 .....	16.6	17.1	16.0	16.0	14.8	15.9
Class 5 .....	23.0	20.8	21.3	20.4	21.0	20.7
Class 6 .....	9.8	9.3	8.3	9.6	8.0	7.8
Class 7 .....	3.3	3.7	4.0	3.7	3.6	3.2
Class 8 .....	1.4	0.9	1.2	1.2	1.1	1.2
Class 9 .....	0.6	0.6	0.5	0.7	0.6	0.5
Class 10 .....	0.2	0.2	0.3	0.5	0.2	0.4
<b>TOTAL .....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

<sup>46</sup> See Vivet D. (2011), *Development of a financial health indicator based on companies' annual accounts*, NBB, Working Paper No. 213 (Document series), Brussels.

<sup>47</sup> The company file compares the financial position of an enterprise with the financial position of the activity sector the enterprise belongs to. For more information, see introduction.

**TABLE 16 FINANCIAL HEALTH IN THE BELGIAN PORTS - IN % OF WORKERS ENTERED IN THE STAFF REGISTER<sup>48</sup>**  
(reduced population)

	2006	2007	2008	2009	2010	2011
Class 1 .....	10.4	6.6	7.0	7.2	12.6	9.4
Class 2 .....	37.3	35.2	37.5	35.4	33.3	32.9
Class 3 .....	20.8	31.1	24.9	25.4	28.9	22.5
Class 4 .....	13.4	14.1	10.8	15.6	11.9	15.9
Class 5 .....	15.1	10.3	16.6	12.8	10.6	16.8
Class 6 .....	2.0	2.0	2.3	2.4	2.0	1.7
Class 7 .....	0.8	0.4	0.5	0.7	0.5	0.5
Class 8 .....	0.2	0.1	0.2	0.1	0.2	0.1
Class 9 .....	0.1	0.1	0.0	0.1	0.1	0.1
Class 10 .....	0.0	0.0	0.1	0.1	0.0	0.0
<b>TOTAL.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

<sup>48</sup> Full-time equivalents (item 9087)

## 2 PORT OF ANTWERP

### 2.1 Port developments<sup>49</sup>

Even though the pace of maritime traffic growth has started to slow down, volumes loaded and unloaded in the port of Antwerp rose by a further 5 % in 2011, thus getting closer to the quantities transshipped in 2008. Liquid bulk is the main driver behind this increase, since solid bulk has fallen back and general cargo has seen only moderate growth. The share held by liquid bulk expanded in 2011 unlike that for solid bulk and containerised traffic.

The size of seagoing ships calling at Antwerp is steadily expanding. In 2011, the average gross tonnage rose above 20,000 GT for the first time ever.

Considering all types of bulk together, volumes handled shrank by 7.1 %. Quantities of petroleum derivatives unloaded rose by 14 % and volumes loaded were up by 28 %, giving an overall growth rate of almost 20 %. Petroleum, on the other hand, was down: quantities unloaded were 3 % lower while no oil at all was loaded during the course of the year 2011. Chemical bulk grew by 3 %, thanks mainly to loadings. Quantities of ores unloaded slumped by virtually one quarter, while transshipments of coal continued to pick up, rising by 4 %. After a very good year in 2010, cereals and fertilizers were down, unlike sand and gravel.

In the non-containerised general cargo category, the amount of iron and steel products unloaded increased by more than two-thirds, while quantities loaded grew by a more modest 8 %. Traffic of rolling material continued its expansion (+ 16 %) while that of paper and wood pulp was still contracting. Non-containerised fruit handling treated fairly similar volumes to 2008.

Non-containerised roll-on/roll-off traffic has continued on its double-figure growth path. It has not yet made up the ground lost in 2009 in volume terms but is already back above the 4 million tonne mark. The share of rolling material in this traffic has risen even further and reached 83 % in 2011.

Containerised traffic, expressed in TEU, grew by just 2 % in 2011. This growth affected only full containers. Trade with Europe remained stable. It rose with North and Central America and the Far and Middle East. Conversely, trade with South America and the Near East contracted.

The Antwerp Port Authority continued its investment policy in 2011. Following major renovation work throughout the year 2010 and into early 2011, the Van Cauwelaert lock was operational again in June 2011.

In October 2011, work on building a new lock was launched. This new lock will provide access to the docks at the port of Antwerp on the left bank of the Scheldt. It arrives at the end of the Deurganck Dock, which is linked to the Scheldt. On the dock complex side, the new lock leads to the Waasland Port, from where maritime traffic can quickly reach all the other docks on the left bank of the Scheldt. The Waasland Port is already accessible via the Kallo Lock. But this lock is reaching the limits of its capacity in terms of activities, passage frequency, waiting times. Moreover, a second lock on the left bank of the Scheldt offers the port of Antwerp greater reliability when the Kallo Lock is not accessible for maritime traffic. Maintenance or repair work will not create any problems as vessels may enter and leave Waasland Port via the second lock. Hence the port of Antwerp can always be sure that the docks on the left bank of the Scheldt are effectively accessible. The new lock will be not only wider and longer than the Kallo Lock but a lot deeper, too.

The authorities also invested in a third generation of the Antwerp Port Information & Control System (APICS2). APICS is an IT platform that deals with all aspects of shipping traffic to, from and within the port. This release will allow a large range of users to optimise their planning processes.

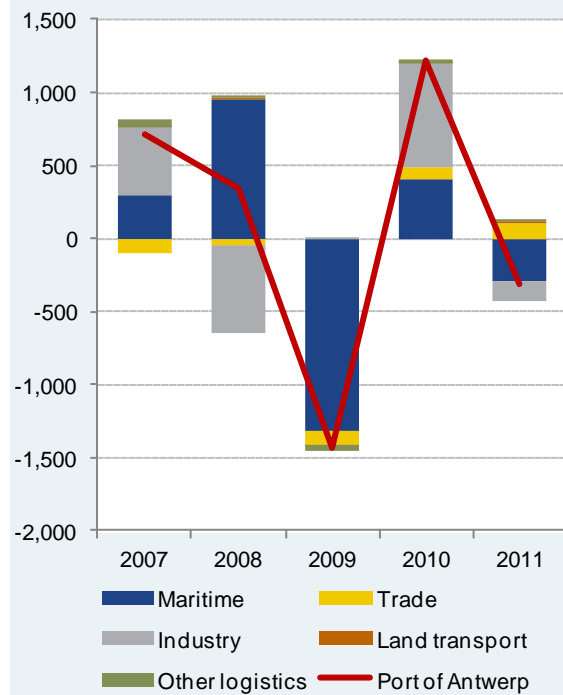
In 2011, direct value added decreased by 3.1 %, representing a volume decline of 4.9 %. Total value added (direct and indirect) by volume was down by 3.7 % . Direct value added represented 4.6 % of the GDP of the Flemish region, or 0.3 percentage point less than in 2010; total value added contracted from 9,5 to 8.9 % in 2011. The share of direct and total value added in Belgian GDP was 2.6 and 5.1 % respectively.

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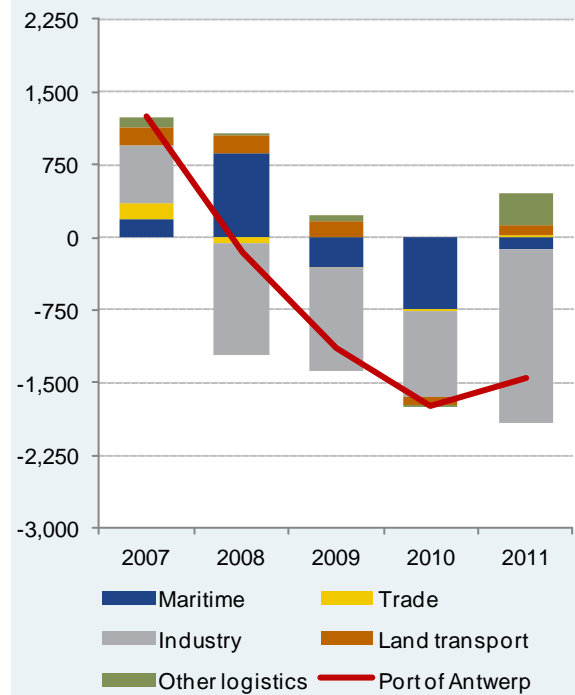
<sup>49</sup> Sources: *Yearbook of statistics 2011*, Port of Antwerp and *Annual Report 2011*, Port of Antwerp.

Direct employment in the port of Antwerp fell by 2.4 % in 2011. The smaller decline in indirect employment resulted in a loss of 1.7 % for the total employment. In the year under review, direct and total employment represented respectively 2.6 and 6.2 % of employment in the Flemish Region. Employment represented 1.5 (direct) and 3.6 % (total) of Belgian employment. Both figures were down by 0.1 percentage point compared to the previous year.

**CHART 4 CHANGE IN DIRECT VALUE ADDED**  
(in € million, current prices)



**CHART 5 CHANGE IN DIRECT EMPLOYMENT**  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

## 2.2 Value added

Direct value added at the port of Antwerp fell by 9 % in the maritime cluster, while in the non-maritime cluster it stood up relatively well (-0.2 %). In the former, value added declined in half of the segments and rose in the other half. But, most of the time, these increases were proportionally weaker. For instance, while value added in the cargo handling segment was up by 4.8 %, it was down by 41.1 % among the shipping companies. In the non-maritime cluster, the trade, land transport and other logistic services sectors grew but the industry was hit hard by the slump in value added generated by car manufacturing. However, it must be recalled that value added in that segment had been exaggerated in 2010 by the transfer of funds within the General Motors group to cover the costs of closing down the Antwerp assembly plant. In industry, all the other segments saw a rise in value added apart from the fuel production and other industries segments.



**TABLE 17 VALUE ADDED AT THE PORT OF ANTWERP FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011	Change from 2010 to 2011	Annual average change from 2006 to 2011
							(in p.c.)	(in p.c.)	(in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>9,142.7</b>	<b>9,853.3</b>	<b>10,192.5</b>	<b>8,749.7</b>	<b>9,970.7</b>	<b>9,660.1</b>	<b>100.0</b>	<b>- 3.1</b>	<b>+ 1.1</b>
<b>MARITIME CLUSTER .....</b>	<b>2,933.0</b>	<b>3,229.4</b>	<b>4,183.9</b>	<b>2,860.4</b>	<b>3,264.1</b>	<b>2,969.8</b>	<b>30.7</b>	<b>- 9.0</b>	<b>+ 0.2</b>
Shipping agents and forwarders .....	519.4	544.1	620.6	576.2	593.6	619.2	6.4	+ 4.3	+ 3.6
Cargo handling .....	1,178.2	1,239.8	1,352.8	1,157.8	1,245.0	1,305.1	13.5	+ 4.8	+ 2.1
Shipping companies .....	758.1	922.1	1,582.5	589.8	855.6	503.5	5.2	- 41.1	- 7.9
Shipbuilding and repair .....	44.0	42.3	59.0	56.3	47.2	44.8	0.5	- 5.0	+ 0.4
Port construction and dredging .....	78.7	111.4	177.8	103.0	139.5	108.6	1.1	- 22.2	+ 6.7
Fishing .....	1.3	1.0	1.2	2.0	1.7	1.1	0.0	- 35.2	- 4.1
Port trade .....	12.7	13.3	17.1	17.4	18.2	19.8	0.2	+ 8.8	+ 9.4
Port authority .....	219.3	229.4	239.1	222.5	229.0	233.9	2.4	+ 2.2	+ 1.3
Public sector .....	121.4	126.0	133.8	135.6	134.5	133.6	1.4	- 0.6	+ 1.9
<i>Allocation (p.m.) .....</i>	<i>23.2</i>	<i>26.2</i>	<i>64.9</i>	<i>53.9</i>	<i>81.9</i>	<i>103.4</i>	<i>-</i>	<i>+ 26.2</i>	<i>+ 34.8</i>
<b>NON-MARITIME CLUSTER ....</b>	<b>6,209.6</b>	<b>6,623.9</b>	<b>6,008.6</b>	<b>5,889.3</b>	<b>6,706.6</b>	<b>6,690.3</b>	<b>69.3</b>	<b>- 0.2</b>	<b>+ 1.5</b>
<b>TRADE .....</b>	<b>952.8</b>	<b>852.4</b>	<b>805.5</b>	<b>718.8</b>	<b>804.0</b>	<b>902.8</b>	<b>9.3</b>	<b>+ 12.3</b>	<b>- 1.1</b>
<b>INDUSTRY .....</b>	<b>4,645.8</b>	<b>5,108.2</b>	<b>4,511.9</b>	<b>4,520.8</b>	<b>5,226.2</b>	<b>5,088.9</b>	<b>52.7</b>	<b>- 2.6</b>	<b>+ 1.8</b>
Energy .....	223.0	261.2	349.6	448.5	437.2	512.2	5.3	+ 17.2	+ 18.1
Fuel production .....	1,026.6	1,061.1	1,054.9	766.3	978.5	909.3	9.4	- 7.1	- 2.4
Chemicals .....	2,498.9	2,610.1	2,259.3	2,541.1	2,657.1	3,009.5	31.2	+ 13.3	+ 3.8
Car manufacturing .....	481.7	692.7	327.7	263.4	611.8	89.4	0.9	- 85.4	- 28.6
Electronics .....	6.0	8.5	8.5	16.1	16.7	17.2	0.2	+ 3.0	+ 23.5
Metalworking industry .....	176.5	207.1	220.7	191.1	198.6	209.6	2.2	+ 5.5	+ 3.5
Construction .....	103.7	119.9	118.7	127.6	142.9	155.8	1.6	+ 9.0	+ 8.5
Food industry .....	40.4	48.6	54.8	49.0	59.3	63.6	0.7	+ 7.4	+ 9.5
Other industries .....	89.1	98.9	117.8	117.7	124.2	122.4	1.3	- 1.5	+ 6.5
<b>LAND TRANSPORT .....</b>	<b>230.8</b>	<b>234.6</b>	<b>251.3</b>	<b>250.7</b>	<b>251.8</b>	<b>263.7</b>	<b>2.7</b>	<b>+ 4.7</b>	<b>+ 2.7</b>
Road transport .....	120.2	131.3	139.5	123.5	120.6	124.5	1.3	+ 3.2	+ 0.7
Other land transport.....	110.7	103.3	111.8	127.3	131.2	139.2	1.4	+ 6.1	+ 4.7
<b>OTHER LOGISTIC SERVICES .....</b>	<b>380.3</b>	<b>428.7</b>	<b>439.9</b>	<b>398.9</b>	<b>424.5</b>	<b>434.9</b>	<b>4.5</b>	<b>+ 2.5</b>	<b>+ 2.7</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>8,259.7</b>	<b>8,745.8</b>	<b>8,935.5</b>	<b>8,966.3</b>	<b>9,283.5</b>	<b>9,235.9</b>	<b>-</b>	<b>- 0.5</b>	<b>+ 2.3</b>
<b>MARITIME CLUSTER .....</b>	<b>2,870.1</b>	<b>3,019.5</b>	<b>3,351.9</b>	<b>3,315.3</b>	<b>3,426.9</b>	<b>3,468.6</b>	<b>-</b>	<b>+ 1.2</b>	<b>+ 3.9</b>
<b>NON-MARITIME CLUSTER ....</b>	<b>5,389.6</b>	<b>5,726.4</b>	<b>5,583.6</b>	<b>5,650.9</b>	<b>5,856.6</b>	<b>5,767.3</b>	<b>-</b>	<b>- 1.5</b>	<b>+ 1.4</b>
<b>TOTAL VALUE ADDED .....</b>	<b>17,402.4</b>	<b>18,599.1</b>	<b>19,128.0</b>	<b>17,716.0</b>	<b>19,254.2</b>	<b>18,896.0</b>	<b>-</b>	<b>- 1.9</b>	<b>+ 1.7</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

Highlights in the maritime cluster in 2011 <sup>50</sup>:

- One of the heavyweights behind the decline of value added in the dredging segment is the DEME Group. Belgian company Dredging International saw its purchases grow faster than turnover.
- Several cargo handling and storage companies posted strong growth in their value added. For example, Sea-Tank Terminal Antwerp registered a sharp rise in its turnover. Antwerp Gateway saw a 50 % increase in volumes handled owing to both the arrival of some new customers and also higher demand among its older clients. However, its prices remained under pressure.
- A number of shipping companies registered a reduction in their value added, such as Safmarine Container Lines and Euronav for example. In the latter's case, this decline can be explained by the reduction in rates charged in the tankers segment; the firm's net financial result went into the red in the second quarter of 2011 and stayed there for the rest of the year.

Highlights in the non-maritime cluster in 2011:

- In the trade sector, Kuwait Petroleum (Belgium) and Firma Léon Van Parijs registered strong growth in their turnover figures.
- In the energy segment, energy producer and supplier Electrabel paid a single premium into its staff pension fund. This move greatly inflated employee compensation, benefits and pensions as reported on the company's accounts.
- Value added generated by B.A.S.F. Antwerpen was up in 2011. The increase in turnover is attributed to higher selling prices. Sales volumes remained at a high level. Over the same period, the costs for commodities and for various provisions and services rose.  
At the beginning of 2011, the B.A.S.F. group split off its styrene synthetics business on a worldwide level from its other activities. In Belgium, four of B.A.S.F. Antwerpen's plants were involved. Along with their associated assets and liabilities, these plants were included as a branch in the limited liability company Styrolution Belgium. In October, this B.A.S.F. subsidiary was integrated into a joint venture with Ineos. Turnover developments were characterised by an upward trend in the first half of the year, with rising selling prices and high margins. In the second half of 2011, growth dynamics slowed down due to the demanding economic market conditions and commodity price fluctuations. The company Lanxess came to the same conclusion for the glass fiber branch: "The first half of 2011 was characterised by high selling prices and high volumes. In the second half of 2011, the increase in turnover slowed down slightly. The increase in turnover of rubber chemicals was to be attributed to higher selling prices, too. Caprolactam's increase was largely due to rising commodity prices that could be passed on to selling prices."
- The collapse of value added in the motor industry comes on the back of the closure of the General Motors assembly plant.
- Value added in fuel production has been adversely affected by rising costs at Total Raffinaderij Antwerpen and ExxonMobil Petroleum & Chemical.

**TABLE 18** VALUE ADDED TOP 10 AT THE PORT OF ANTWERP IN 2011 <sup>51</sup>

Ranking	Company name	Sector
1	B.A.S.F. ANTWERPEN	Chemicals
2	KUWAIT PETROLEUM (BELGIUM)	Trade
3	EXXONMOBIL PETROLEUM & CHEMICAL	Fuel production
4	ELECTRABEL	Energy
5	ANTWERP PORT AUTHORITY	Port authority
6	M.S.C. HOME TERMINAL	Cargo handling
7	LANXESS	Chemicals
8	BAYER ANTWERPEN	Chemicals
9	TOTAL RAFFINADERIJ ANTWERPEN	Fuel production
10	EVONIK DEGUSSA ANTWERPEN	Chemicals

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

<sup>50</sup> Commentary based on annual accounts filed and published annual reports.

<sup>51</sup> The top ten tables are based on information from annual accounts, surveys, annual reports and allocation formulas based on regional statistics. No individual figures are published as accurate data could not be obtained for all companies.

## 2.3 Employment

Direct employment in the port of Antwerp fell by 0.4 % in the maritime cluster and by 4.0 % in the non-maritime cluster. In the former, the cargo handling and shipbuilding and repair segments suffered particularly heavy job losses (expressed as full-time equivalents) but the shipping agents and forwarders, port construction and dredging segments recorded a significant rise. In the non-maritime cluster, the increase in the majority of the segments was not enough to make up for the fall in energy industry and car manufacturing. The latter accounted for more than 2 000 job losses. Two cases of rising employment exceeded one hundred jobs: in the chemicals and the other logistic services segments, the latter posting more than 300 extra jobs. Port construction and dredging continued to be the only branch of activity that has posted any growth in employment since 2005.

Highlights in the maritime cluster in 2011:

- Several firms in the shipping agents and forwarders segment have seen changes in their employment structure, with numbers going up as well as down. There were also a few absorptions by other firms. All in all, employment in the segment expanded by more than 150 FTEs.
- The firm Antwerp Ship repair posted a downward trend in the shipbuilding and repair segment. In 2011 and in the first half of 2012, the (economic and financial) crisis weighed down even more on the company's results and functioning than in the previous years. This resulted in a decrease of the number of vessels docking and mainly in a more reduced work volume for Antwerp Ship Repair per vessel docking. Besides, the prices for the performance of repairs faced substantial upward pressures. The number of vessels docking was also negatively affected by the fact that Antwerp Ship Repair passed through a so-called 'Renault Law' procedure, the beginning of a judicial restructuring process.
- Longueville Maritime Services went bankrupt.

Highlights in the non-maritime cluster in 2011:

- In the second half of 2011, TMS Industrial Services (metalworking industry) constructed pipelines for Sea Tank 510 in the port of Antwerp. For the implementation of this project, the company entered into a cooperation agreement with Spie Belgium.
- The chemicals industry benefited particularly from the expansion of business at Styrolution Belgium and from recruitment at Lanxess Rubber.
- Employment increased in other logistic services, notably following an expansion of the local employment at SGS Belgium and further development of activities at ASAP Maintenance & Shipping.

**TABLE 19 EMPLOYMENT AT THE PORT OF ANTWERP FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS</b> .....	<b>63,270</b>	<b>64,516</b>	<b>64,366</b>	<b>63,213</b>	<b>61,474</b>	<b>60,010</b>	<b>100.0</b>	<b>- 2.4</b>	<b>- 1.1</b>
<b>MARITIME CLUSTER</b> .....	<b>27,879</b>	<b>28,064</b>	<b>28,929</b>	<b>28,618</b>	<b>27,872</b>	<b>27,750</b>	<b>46.2</b>	<b>- 0.4</b>	<b>- 0.1</b>
Shipping agents and forwarders .....	6,936	7,050	7,251	7,074	6,966	7,120	11.9	+ 2.2	+ 0.5
Cargo handling .....	15,077	15,115	15,459	15,102	14,549	14,386	24.0	- 1.1	- 0.9
Shipping companies .....	915	987	1,069	1,106	1,111	1,119	1.9	+ 0.7	+ 4.1
Shipbuilding and repair .....	667	605	792	827	710	587	1.0	- 17.3	- 2.5
Port construction and dredging .....	543	562	645	699	781	849	1.4	+ 8.7	+ 9.3
Fishing .....	21	17	18	26	22	18	0.0	- 18.1	- 3.3
Port trade .....	159	156	169	195	200	191	0.3	- 4.8	+ 3.7
Port authority .....	1,683	1,675	1,665	1,695	1,708	1,689	2.8	- 1.1	+ 0.1
Public sector .....	1,876	1,897	1,862	1,896	1,825	1,791	3.0	- 1.8	- 0.9
<i>Allocation (p.m.)</i> .....	<i>1,750</i>	<i>1,801</i>	<i>1,934</i>	<i>2,001</i>	<i>1,808</i>	<i>1,678</i>	-	- 7.2	- 0.8
<b>NON-MARITIME CLUSTER</b> ...	<b>35,391</b>	<b>36,452</b>	<b>35,437</b>	<b>34,595</b>	<b>33,602</b>	<b>32,259</b>	<b>53.8</b>	<b>- 4.0</b>	<b>- 1.8</b>
<b>TRADE</b> .....	<b>2,432</b>	<b>2,596</b>	<b>2,541</b>	<b>2,534</b>	<b>2,522</b>	<b>2,546</b>	<b>4.2</b>	<b>+ 1.0</b>	<b>+ 0.9</b>
<b>INDUSTRY</b> .....	<b>26,419</b>	<b>27,014</b>	<b>25,862</b>	<b>24,795</b>	<b>23,906</b>	<b>22,113</b>	<b>36.8</b>	<b>- 7.5</b>	<b>- 3.5</b>
Energy .....	914	946	1,036	1,101	1,075	1,042	1.7	- 3.1	+ 2.6
Fuel production .....	2,594	2,639	2,648	2,721	2,772	2,773	4.6	+ 0.0	+ 1.3
Chemicals .....	10,909	10,979	10,915	10,654	10,680	10,794	18.0	+ 1.1	- 0.2
Car manufacturing .....	5,889	5,971	4,629	3,844	3,085	1,056	1.8	- 65.8	- 29.1
Electronics .....	100	130	128	206	253	264	0.4	+ 4.4	+ 21.5
Metalworking industry .....	3,323	3,607	3,621	3,289	3,123	3,198	5.3	+ 2.4	- 0.8
Construction .....	1,424	1,390	1,401	1,433	1,487	1,503	2.5	+ 1.1	+ 1.1
Food industry .....	469	453	459	478	381	392	0.7	+ 2.9	- 3.5
Other industries .....	798	899	1,026	1,069	1,050	1,090	1.8	+ 3.8	+ 6.4
<b>LAND TRANSPORT</b> .....	<b>3,476</b>	<b>3,666</b>	<b>3,844</b>	<b>3,999</b>	<b>3,921</b>	<b>4,022</b>	<b>6.7</b>	<b>+ 2.6</b>	<b>+ 3.0</b>
Road transport .....	1,690	1,831	1,946	1,923	1,763	1,788	3.0	+ 1.4	+ 1.1
Other land transport .....	1,786	1,835	1,898	2,076	2,158	2,234	3.7	+ 3.5	+ 4.6
<b>OTHER LOGISTIC SERVICES</b> .....	<b>3,065</b>	<b>3,175</b>	<b>3,190</b>	<b>3,267</b>	<b>3,254</b>	<b>3,578</b>	<b>6.0</b>	<b>+ 10.0</b>	<b>+ 3.1</b>
<b>2. INDIRECT EFFECTS</b> .....	<b>85,782</b>	<b>87,988</b>	<b>89,254</b>	<b>83,848</b>	<b>83,996</b>	<b>82,963</b>	-	<b>- 1.2</b>	<b>- 0.7</b>
<b>MARITIME CLUSTER</b> .....	<b>31,520</b>	<b>32,139</b>	<b>33,023</b>	<b>31,887</b>	<b>32,501</b>	<b>33,484</b>	-	<b>+ 3.0</b>	<b>+ 1.2</b>
<b>NON-MARITIME CLUSTER</b> ...	<b>54,263</b>	<b>55,849</b>	<b>56,230</b>	<b>51,960</b>	<b>51,495</b>	<b>49,478</b>	-	<b>- 3.9</b>	<b>- 1.8</b>
<b>TOTAL EMPLOYMENT</b> .....	<b>149,052</b>	<b>152,504</b>	<b>153,619</b>	<b>147,061</b>	<b>145,470</b>	<b>142,972</b>	-	<b>- 1.7</b>	<b>- 0.8</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 20 EMPLOYMENT TOP 10 AT THE PORT OF ANTWERP IN 2011**

Ranking	Company name	Sector
1	B.A.S.F. ANTWERPEN	Chemicals
2	BNRC GROUP	Other land transport
3	PUBLIC SECTOR	Public sector
4	ANTWERP PORT AUTHORITY	Port authority
5	EXXONMOBIL PETROLEUM & CHEMICAL	Fuel production
6	M.S.C. HOME TERMINAL	Cargo handling
7	PSA ANTWERP	Cargo handling
8	TOTAL RAFFINADERIJ ANTWERPEN	Fuel production
9	ELECTRABEL	Energy
10	EVONIK DEGUSSA ANTWERPEN	Chemicals

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

The employment of the cargo handling firms includes the appeal to dockers.

## 2.4 Investment

Investment in the port of Antwerp was down by 7.4 % in 2011. In the maritime cluster, it fell by one-ninth. The decline was particularly steep in the case of shipping companies, where investment was at its lowest level for six years. Conversely, in the cargo handling and port construction and dredging segments, investment was up, while in the non-maritime cluster, it remained stable. While trade and industry held steady, investment in land transport and other logistic services has contracted. In industry, there were fairly wide variations between segments. The major segment – chemicals – recorded a rise but the next biggest one - fuel production - recorded a decline. The energy and other industries segments were also down.

Highlights in the maritime cluster in 2011:

- Among the cargo handlers that made major investments in 2011, four companies feature prominently: Oiltanking Stolthaven Antwerp, Tabaknatie, M.S.C. Home Terminal and ITC Rubis Terminal Antwerp. However, the two biggest projects for 2011 are Ineos C2T and Sea-Tank 510.
- Ineos group planned terminal C2T in the port of Antwerp. Since Ineos does not produce ethylene (crackers) in the Antwerp port area, ethylene is delivered to the Ineos sites by third parties. Thanks to the construction of its own terminal and of some well chosen stretches of pipes connecting three main Ineos sites, and also thanks to further coupling downstream to the ARG network (being Western Europe's big ethylene artery onto which, amongst others, the Dormagen ethylene cracker unit is connected, too), the future supply of this basic molecule is ensured on a competitive basis. Ships loaded with liquid ethylene moor at the landing stage and unload cold, liquid ethylene into a storage tank. From a huge storage tank, the liquid ethylene is evaporated by means of pumps within the tank (plunger pumps positioned in the bottom zone) and gigantic heat exchangers (ethylene is gradually heated by more than 100°C) and its pressure is then raised to a very high level (about 100 bar). Through three big dispatching stations, it is then led into the pipeline which is connected to the pipeline towards Feluy, while the third dispatching station delivers the ethylene to two final destinations: the Lillo site and the ARG network.
- Sea-Tank 510 is a liquid bulk tank terminal including a mooring jetty with 12 berths in the kanaaldok in Antwerp, abreast of Quay 510. The jetty has a total length of 750 metres. The tank capacity is 919.000 m<sup>3</sup> with tanks from 1.000 m<sup>3</sup> to 50.000 m<sup>3</sup>. This project of Sea-invest (in partnership) aims the storage of mineral oils.
- In 2011, the Antwerp Port Authority carried out a lot of work on the quay walls. In the Industry dock, the 5th Harbour dock and the Leopold dock (for new investment by Sea-Invest), they were deepened. In the B2 Canal dock (concessions Evonik Degussa Antwerpen and Oiltanking Stolthaven Antwerp), a completely new construction was built. And in the filled-in Grain dock, a quay wall was built for the extension of Boortmalt. Other main works were completed in 2011: the renovation of the quay heads of the South quay, of the one of the longitudinal and transverse quays of the Churchill dock and the quay wall head in the B1 Canal dock. The Port Authority also invested in the maintenance and re-profiling of harbour roads and in waste collection centres. At the foot of the MAS museum, the Port Authority furnished an ultra-modern Port Pavilion in order to strengthen the tie with the general public. The Port Authority has built its new data centre on Thornton Road, in the middle of the port area and close to the glass fibre loop.

- Safmarine purchased two MPV vessels, the "Safmarine Sumba" (delivered in 2010) and her sister vessel, while they were under construction at the Jiangsu Sugang Shipbuilding in China. A further four new MPV builds, on order to Safmarine, are also being built at the Wuhu Shipyard in China. So, six new MPV vessels must be delivered to Safmarine between 2010 - 2012.
- In 2011 the Bocimar fleet was further expanded with a total of 12 vessels: 9 Handysize units, 2 Postpanamax vessels in joint venture and 1 Capesize vessel. In the course of the first quarter two newbuilding Handysize vessels were delivered: "CMB Juliette" (2011 - 33.684 dwt) and "CMB Boris" (2011 - 33.717 dwt). In April 2011 Bocimar acquired an additional Handysize unit: a 33.500 dwt newbuilding vessel under construction at Zhejiang Jingang Shipbuilding (China). The purchase price amounts to USD 21,95 million and delivery was scheduled for November 2011. In the course of the second quarter three Handysize newbuilding vessels joined the Bocimar fleet: "CMB Yasmine" (2011 – 33.647 dwt), "CMB Virginie" (2011 – 32.626 dwt) and "CMB Ariane" (2011 – 33.660 dwt). In the course of the third quarter the newbuilding Handysize vessels "CMB Liliane" (2011 - 33.647 dwt) and "CMB Kristine" (2011 - 33.637 dwt) were delivered. Also the Handysize vessel "Adrien" (2011 - 32.662 dwt), the Capesize unit "Mineral Manila" (2011 - 179.889 dwt) and the Postpanamax vessel "Nadine Venture" (2011 - 93.758 dwt) joined the fleet.
- For Exmar Shipping, the financial year 2011 was characterised by the agreement that was reached with BW Gas, exchanging two VLGC ships ("Flanders Liberty" - 85,000 m<sup>3</sup> - year of construction 2007 and "Flanders Loyalty" - 85,000 m<sup>3</sup> - year of construction 2008) for 3.5 mid-size ships. By this investment, the Exmar mid-size fleet is extended to fourteen ships, simultaneously intensifying its focus on worldwide transport of LPG and ammonia with ships of the mid-size type.
- C. Bulk purchased the dry bulkship "Lowlands Phoenix" for 43.000.000 USD.
- The two main investors for the shipping agents and forwarders segment are Compagnie Belge d'Affrètements (Cobelfret) and Katoennatie Bulk Terminals.
- In 2011, Dredging International launched the new mega trailer "Congo River" and the 11,650m<sup>3</sup> trailing suction hopper dredger "Breughel". The "Congo River" is an innovative and versatile vessel, very manoeuvrable due to its large beam (38 m) and short length (168 m) and deployable for many different purposes. Because of its shallow draught, the ship can operate at a limited depth even when fully loaded. With its deep-suction installation, the new 'mega' trailer can dredge at depths of more than a hundred metres. The "Breughel" was designed for dredging in both deep and shallow waters, providing extensive flexibility with a hopper capacity of 11,650 m<sup>3</sup> and a carrying capacity of 18,710 tons. It will be equipped with a direct pump-ashore installation and a nozzle for rainbowing purposes. With its design focused on minimal CO<sub>2</sub> emissions, this suction hopper dredger merits the label 'best CO<sub>2</sub>-emission/m<sup>3</sup> ratio in its class' and will consequently be awarded a Green Certificate.

**TABLE 21 INVESTMENT AT THE PORT OF ANTWERP FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>1,490.1</b>	<b>1,942.1</b>	<b>2,489.9</b>	<b>2,014.1</b>	<b>1,607.2</b>	<b>1,425.7</b>	<b>60.9</b>	<b>- 11.3</b>	<b>- 0.9</b>
Shipping agents and forwarders .....	56.1	69.2	114.3	68.9	50.9	77.3	3.3	+ 52.0	+ 6.6
Cargo handling .....	363.9	592.6	701.2	669.0	593.7	647.6	27.7	+ 9.1	+ 12.2
Shipping companies .....	882.6	1,014.5	1,341.1	1,003.0	614.8	275.9	11.8	- 55.1	- 20.8
Shipbuilding and repair .....	3.9	4.2	7.7	6.4	12.2	4.0	0.2	- 66.9	+ 0.9
Port construction and dredging .....	88.8	170.5	189.7	178.7	264.1	338.2	14.5	+ 28.1	+ 30.7
Fishing .....	0.1	0.2	0.3	0.3	1.1	0.2	0.0	- 79.7	+ 15.7
Port trade .....	0.8	1.9	2.5	1.7	0.9	1.0	0.0	+ 10.3	+ 3.6
Port authority .....	42.7	61.9	91.6	44.7	33.9	44.9	1.9	+ 32.5	+ 1.0
Public sector .....	51.3	27.2	41.5	41.4	35.7	36.6	1.6	+ 2.6	- 6.5
<i>Allocation (p.m.) .....</i>	<i>133.2</i>	<i>208.5</i>	<i>168.7</i>	<i>220.7</i>	<i>437.9</i>	<i>260.2</i>	<i>-</i>	<i>- 40.6</i>	<i>+ 14.3</i>
<b>NON-MARITIME CLUSTER ....</b>	<b>1,104.0</b>	<b>1,440.9</b>	<b>1,144.2</b>	<b>969.7</b>	<b>920.1</b>	<b>913.5</b>	<b>39.1</b>	<b>- 0.7</b>	<b>- 3.7</b>
<b>TRADE .....</b>	<b>50.0</b>	<b>58.9</b>	<b>63.2</b>	<b>39.2</b>	<b>56.2</b>	<b>56.0</b>	<b>2.4</b>	<b>- 0.3</b>	<b>+ 2.3</b>
<b>INDUSTRY.....</b>	<b>949.5</b>	<b>1,260.2</b>	<b>929.1</b>	<b>779.4</b>	<b>762.2</b>	<b>765.5</b>	<b>32.7</b>	<b>+ 0.4</b>	<b>- 4.2</b>
Energy .....	74.1	42.6	69.3	149.9	86.0	69.0	3.0	- 19.8	- 1.4
Fuel production .....	144.1	166.3	200.2	185.4	199.6	124.6	5.3	- 37.6	- 2.9
Chemicals .....	649.3	971.0	572.0	353.0	367.1	461.4	19.7	+ 25.7	- 6.6
Car manufacturing .....	33.1	29.2	18.9	9.7	6.0	8.8	0.4	+ 47.9	- 23.3
Electronics .....	1.2	0.4	0.3	2.0	4.1	2.4	0.1	- 41.5	+ 15.3
Metalworking industry .....	9.7	7.0	11.2	10.5	11.2	9.6	0.4	- 15.0	- 0.4
Construction .....	17.1	17.9	22.1	23.3	11.5	14.4	0.6	+ 25.7	- 3.4
Food industry .....	8.1	11.6	14.7	11.1	13.1	15.4	0.7	+ 17.9	+ 13.8
Other industries .....	12.8	14.1	20.4	34.5	63.7	59.9	2.6	- 5.8	+ 36.1
<b>LAND TRANSPORT .....</b>	<b>41.7</b>	<b>42.1</b>	<b>55.3</b>	<b>33.5</b>	<b>33.9</b>	<b>28.3</b>	<b>1.2</b>	<b>- 16.7</b>	<b>- 7.5</b>
Road transport .....	18.6	22.2	35.5	12.5	18.0	17.9	0.8	- 0.7	- 0.8
Other land transport.....	23.1	19.8	19.8	21.0	16.0	10.4	0.4	- 34.7	- 14.7
<b>OTHER LOGISTIC SERVICES .....</b>	<b>62.8</b>	<b>79.8</b>	<b>96.7</b>	<b>117.7</b>	<b>67.7</b>	<b>63.7</b>	<b>2.7</b>	<b>- 6.0</b>	<b>+ 0.3</b>
<b>DIRECT INVESTMENT .....</b>	<b>2,594.1</b>	<b>3,383.0</b>	<b>3,634.1</b>	<b>2,983.8</b>	<b>2,527.2</b>	<b>2,339.3</b>	<b>100.0</b>	<b>- 7.4</b>	<b>- 2.0</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).

Highlights in the non-maritime cluster in 2011:

- The main investor for the chemicals segment remains B.A.S.F. Antwerpen. In 2011, a total of € 146.8 million was invested in tangible fixed assets. Among the main projects, most noteworthy are the new sulphuric acid plant, the capacity expansion for super absorbent polymers, the de-bottlenecking at MDI, the rebuilding of the soda works and the infrastructure investment on the site.
- Rubber Lanxess invested € 81 million in tangible fixed assets. These investments are divided as follows: € 22 million in the modification of existing units, € 14 million in safety and environment, € 41 million in new installations (including FSFL, IPP, SSFL), € 4 million as compulsory investment determined by Lanxess.
- Some € 18 million of the investment made by Evonik Degussa Antwerpen concerned the expansion of the methionine production.
- In the other industries segment, the main investissor is Indaver. Indaver is planning to add a fourth line to its grate furnace incinerators on the Doel site. The waste management company intends to mainly process commercial waste with maximum recovery of energy. By doing so, Indaver wants to further contribute to the actual implementation of the ban on dumping non-preprocessed household waste and comparable commercial waste in Flanders. When this fourth line, with a planned capacity of 200 000 tonnes, will be operational, the Doel site will be able to supply an amount of energy enough to provide 175 000 households with electricity. On the Antwerp site, Indaver built a new Medipower plant for processing medical waste. Thus, it can offer permanent services and a processing solution for medical waste in Flanders, following the planned closure of the Indaver Medical Services plant in Leuven in April 2012. A turbine is driven via heat recuperation in a steam boiler and will thus produce 2.5 MW of electricity; part of the steam is used for heating buildings, as an energy carrier for the distillation unit and for washing out tank vehicles. The plant will be operational by mid-2012.

**TABLE 22 INVESTMENT TOP 10 AT THE PORT OF ANTWERP IN 2011**

Ranking	Company name	Sector
1	DREDGING INTERNATIONAL	Port construction and dredging
2	B.A.S.F. ANTWERPEN	Chemicals
3	EXMAR SHIPPING	Shipping companies
4	SEA-TANK 510	Cargo handling
5	LANXESS RUBBER	Chemicals
6	BOCIMAR INTERNATIONAL	Shipping companies
7	ELECTRABEL	Energy
8	INDAVER	Other industries
9	TOTAL RAFFINADERIJ ANTWERPEN	Fuel production
10	INEOS C2T	Cargo handling

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.



## 3 PORT OF GHENT

### 3.1 Port developments<sup>52</sup>

The port of Ghent's shipping traffic was quite stable in 2011 remaining just above the 27 million tonne mark. The year 2011 had started particularly well with more than 7 million tonnes handled during the first quarter. These good results tailed off slightly during the second quarter. The volume handled in the third quarter was quite similar to that of the same period the year before, i.e. 6.4 million tonnes. By contrast, it was well below that in the fourth quarter. The number of vessels calling at the port of Ghent in 2011 was down slightly (-2 %), contrary to their average gross tonnage (+2 %). Loadings continued to grow in 2011 but unloadings lost 1.5 %.

Roll-on/roll-off traffic increased by 6 % while conventional cargoes fared one percentage point better. Liquid bulk also put on some growth (+5 %) but dry bulk fell back by 3 %. If traffic movements are examined by category of goods, the port's major category, ores and metal residues, was down by 16 %, a fall of almost one million tonnes. Yet they still did better than solid mineral fuels which lost more than a quarter of their volume or a little more than one million tonnes. As a result, they dropped from second place in terms of size to fifth place, behind foodstuffs and animal feed which had managed to reverse the trend from 2010 (+6 %), metal industry products which continued to gain ground following a very good year in 2010 (+8 %) and petroleum products which registered a very healthy rise of 15 %. All these product categories exceed the 3 million tonnes transshipped mark. Quantities of agricultural products loaded and unloaded shot up by 60 % and crude minerals and building material volumes were up 23 % while fertilisers and chemical products fell.

Traffic from inland waterways grew by 11 % in 2011. The volume of ores and metal residues carried on the inland waterways increased by just under a million tonnes while this category lost similar ground in maritime cargo turnover. By contrast, the shift between the two modes of shipping was nowhere near as closely offset in the case of solid mineral fuels which nevertheless gained 14 % on the inland waterways. The biggest cargo category in weight terms was crude minerals and building materials which expanded by as much as one-fifth in the space of a year, an increase of almost the same magnitude as that for maritime cargo turnover. It thus overtook the petroleum products category which remained stable in 2011. Volumes transshipped for each of these two categories have been above 4 million tonnes, while the third and last category reaching these volumes is ores and metal residues. These three categories together accounted for more than half of the cargo traffic on the inland waterways.

In July 2011, Flanders and the Netherlands concluded an agreement in principle for the financing of a major new sea lock at Zeeland in the Netherlands at the mouth of the canal that links the port of Ghent to the Scheldt estuary and the North Sea in order to guarantee vessels of ever-growing size maritime access to the Ghent-Terneuzen canal.

Progress has also been made with some other projects. The rail infrastructure in the Kluizendok area has been extended. Fourteen companies already have concessions to operate at the Kluizendok and together have taken up one-quarter of the available space. More than half the site was already fully equipped and the Ghent Port Authority is expected to develop the remaining land to specifically target the needs of companies which decide to locate there. 80 hectares of non-waterfront land have been kept free for the bio-based economy.

Direct value added of the port of Ghent decreased by 1.0 % (-2.8 % by volume). With the indirect effects included, total value added by volume was up by 2.7 %. In 2011, the share of direct and total value added in Flemish GDP amounted to 1.6 and 3.5 % respectively. In comparison with 2010, with a share of 0.9 % in Belgian GDP, a small 0.1 percentage point diminution was recorded. The share of total value added in Belgian GDP remained stable at 2.0 %.

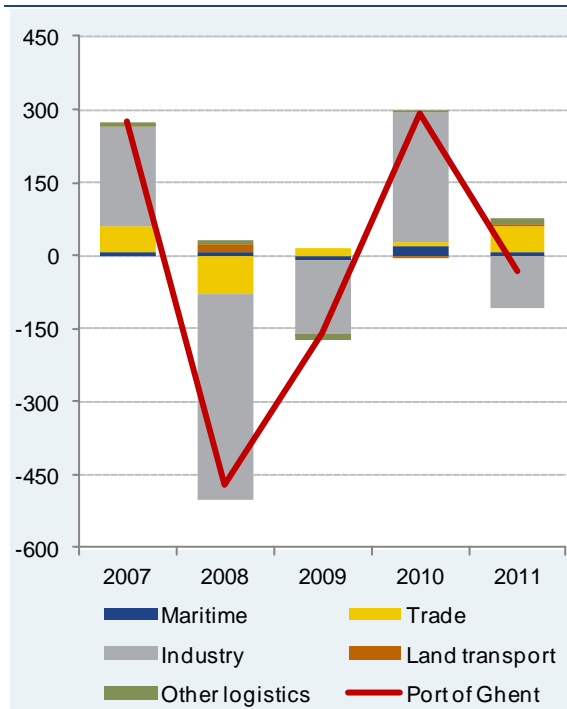
Direct employment of the firms in the port of Ghent grew by 2.5 % in 2011. As a result of the positive evolution of the indirect employment (+2.1 %), total employment grew with 2.2 % in 2011. The proportion of direct and total employment in Flemish employment was 1.2 and 2.8 % respectively, the

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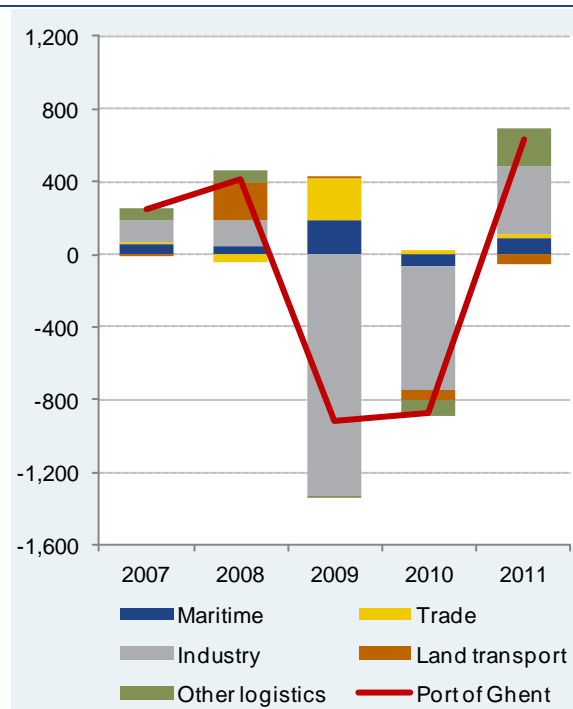
<sup>52</sup> Source: *Annual Report 2011*, Port of Ghent.

former figure being up by 0.1 percentage point against 2010. In relation to employment in Belgium, the shares remained stable at 0.7 and 1.6 % respectively.

**CHART 6 CHANGE IN DIRECT VALUE ADDED**  
(in € million, current prices)



**CHART 7 CHANGE IN DIRECT EMPLOYMENT**  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

### 3.2 Value added

Direct value added in the port of Ghent contracted by 1.0 % in 2011. In the maritime cluster, value added increased thanks to the cargo handling segment. In the non-maritime cluster, value added in trade, land transport and other logistic services expanded, while in industry, it declined by 5 %. Only three segments in the industry sector were up: energy, chemicals and other industries. All the other segments recorded a decrease in value added. But, it was in the metalworking industry that value added fell the most, although, in percentage terms, it was fuel production that suffered the biggest decline. Total value added in the non-maritime cluster was down by 1.2 %.

Highlights in the maritime cluster in 2011:

- The cargo handling segment benefited from the expansion of business at DSV Solutions (Automotives) in order to meet higher production volumes at Volvo Cars and from higher other operating income at Sea-Invest.

Highlights in the non-maritime cluster in 2011:

- Higher turnover at Total Belgium had a positive influence on the sector's value added figures even though production costs increased proportionally at a faster pace.
- Belgian Shell's operating profits were up on the back of an improvement in unit margins at the beginning of the year.
- All firms in the fuel production segment recorded a drop in their value added.
- In the chemicals industry, Kronos Europe boosted value added despite a fall in sales volumes owing to the rise in its sales prices and fall in its operating costs.
- The year 2011 will go down in the history of Volvo Cars as a record year, with production reaching 266,529 vehicles. The Swedish car maker thus beat its previous record of 258,000 cars turned out in 2005. This increase stems from rising sales on most markets and the success of the Volvo XC60 assembled at the Ghent plant. However, profit margins on production shrank and value added generated by the assembly line contracted.

Conversely, Volvo Group Belgium's turnover increased while its profit margin held up, which led to a rise in value added produced by the firm.

- Weaker results at steel-maker ArcelorMittal Belgium, caused by a reduction in sales prices, and the shutdown of a production unit at Sadaci, in order to build a new facility, had a negative impact on the segment's value added.
- Stora Enso Langerbrugge registered a substantial sales price correction, mainly for newsprint, which was complemented by a further rise of the production volume of finished paper within a stable variable cost structure and a permanent focus on the fixed costs. The company had never produced as much paper in Langerbrugge before as in the past year 2011. This had a positive impact on the value added of the other industries segment.

**TABLE 23 VALUE ADDED AT THE PORT OF GHENT FROM 2006 TO 2011**  
(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>3,503.3</b>	<b>3,777.6</b>	<b>3,306.2</b>	<b>3,145.6</b>	<b>3,435.9</b>	<b>3,402.9</b>	<b>100.0</b>	<b>- 1.0</b>	<b>- 0.6</b>
<b>MARITIME CLUSTER .....</b>	<b>256.5</b>	<b>264.5</b>	<b>272.3</b>	<b>263.2</b>	<b>282.3</b>	<b>287.5</b>	<b>8.4</b>	<b>+ 1.8</b>	<b>+ 2.3</b>
Shipping agents and forwarders .....	52.3	59.3	56.4	51.4	51.5	48.0	1.4	- 6.8	- 1.7
Cargo handling .....	153.1	146.6	150.5	146.0	164.7	175.6	5.2	+ 6.6	+ 2.8
Shipping companies .....	8.0	10.6	16.0	15.0	14.4	12.8	0.4	- 10.9	+ 9.9
Shipbuilding and repair .....	4.4	5.2	4.9	5.1	5.2	4.5	0.1	- 13.0	+ 0.3
Port construction and dredging .....	0.0	-0.1	-0.1	-1.1	-0.7	-0.3	0.0	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0	n.	n.
Port trade .....	5.1	5.2	3.4	3.4	3.1	3.3	0.1	+ 7.7	- 8.4
Port authority .....	18.6	22.3	24.0	23.6	25.5	24.7	0.7	- 3.1	+ 5.9
Public sector .....	15.0	15.5	17.2	19.7	18.6	18.8	0.6	+ 1.2	+ 4.6
<i>Allocation (p.m.) .....</i>	<i>4.2</i>	<i>5.3</i>	<i>10.2</i>	<i>9.7</i>	<i>9.3</i>	<i>8.1</i>	<i>-</i>	<i>- 12.4</i>	<i>+ 13.9</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>3,246.8</b>	<b>3,513.1</b>	<b>3,033.8</b>	<b>2,882.4</b>	<b>3,153.7</b>	<b>3,115.4</b>	<b>91.6</b>	<b>- 1.2</b>	<b>- 0.8</b>
<b>TRADE .....</b>	<b>798.3</b>	<b>848.2</b>	<b>768.9</b>	<b>781.7</b>	<b>789.7</b>	<b>844.9</b>	<b>24.8</b>	<b>+ 7.0</b>	<b>+ 1.1</b>
<b>INDUSTRY .....</b>	<b>2,332.1</b>	<b>2,538.7</b>	<b>2,115.7</b>	<b>1,962.0</b>	<b>2,227.9</b>	<b>2,117.5</b>	<b>62.2</b>	<b>- 5.0</b>	<b>- 1.9</b>
Energy .....	61.3	71.5	84.4	99.0	118.1	125.5	3.7	+ 6.3	+ 15.4
Fuel production .....	5.8	11.0	9.3	32.9	52.2	38.9	1.1	- 25.5	+ 46.3
Chemicals .....	296.3	316.2	319.4	254.2	336.0	377.2	11.1	+ 12.3	+ 4.9
Car manufacturing .....	659.9	665.0	649.5	572.6	678.2	653.1	19.2	- 3.7	- 0.2
Electronics .....	57.7	60.7	59.0	62.8	70.9	64.4	1.9	- 9.1	+ 2.2
Metalworking industry .....	925.7	1,096.9	672.3	628.4	656.4	510.2	15.0	- 22.3	- 11.2
Construction .....	78.5	79.4	89.6	86.7	101.6	96.3	2.8	- 5.2	+ 4.2
Food industry .....	65.1	76.4	65.8	63.6	88.2	82.3	2.4	- 6.7	+ 4.8
Other industries .....	181.8	161.8	166.3	162.0	126.5	169.5	5.0	+ 34.1	- 1.4
<b>LAND TRANSPORT .....</b>	<b>53.1</b>	<b>55.4</b>	<b>69.1</b>	<b>68.4</b>	<b>63.6</b>	<b>65.7</b>	<b>1.9</b>	<b>+ 3.3</b>	<b>+ 4.3</b>
Road transport.....	36.4	42.2	53.0	50.2	45.8	51.3	1.5	+ 12.1	+ 7.1
Other land transport .....	16.7	13.2	16.1	18.3	17.9	14.4	0.4	- 19.2	- 2.9
<b>OTHER LOGISTIC SERVICES .....</b>	<b>63.3</b>	<b>70.7</b>	<b>80.2</b>	<b>70.2</b>	<b>72.4</b>	<b>87.3</b>	<b>2.6</b>	<b>+ 20.6</b>	<b>+ 6.6</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>3,482.1</b>	<b>3,690.6</b>	<b>3,756.9</b>	<b>3,847.9</b>	<b>3,666.2</b>	<b>4,027.0</b>	<b>-</b>	<b>+ 9.8</b>	<b>+ 3.0</b>
<b>MARITIME CLUSTER .....</b>	<b>302.5</b>	<b>302.3</b>	<b>313.7</b>	<b>342.2</b>	<b>349.5</b>	<b>379.5</b>	<b>-</b>	<b>+ 8.6</b>	<b>+ 4.6</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>3,179.6</b>	<b>3,388.4</b>	<b>3,443.1</b>	<b>3,505.7</b>	<b>3,316.7</b>	<b>3,647.5</b>	<b>-</b>	<b>+ 10.0</b>	<b>+ 2.8</b>
<b>TOTAL VALUE ADDED .....</b>	<b>6,985.4</b>	<b>7,468.2</b>	<b>7,063.0</b>	<b>6,993.5</b>	<b>7,102.1</b>	<b>7,429.9</b>	<b>-</b>	<b>+ 4.6</b>	<b>+ 1.2</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 24** VALUE ADDED TOP 10 AT THE PORT OF GHENT IN 2011

Ranking	Company name	Sector
1	TOTAL BELGIUM	Trade
2	ARCELORMITTAL BELGIUM	Metalworking industry
3	VOLVO CARS	Car manufacturing
4	VOLVO GROUP BELGIUM	Car manufacturing
5	BELGIAN SHELL	Trade
6	STORA ENSO LANGERBRUGGE	Other industries
7	TAMINCO	Chemicals
8	KRONOS EUROPE	Chemicals
9	HONDA EUROPE	Trade
10	EDF LUMINUS	Energy

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

### 3.3 Employment

Direct employment in the port of Ghent expanded by 2.5 %, a clear upturn after two years of decline. This rise was evident in the maritime cluster as well as in the non-maritime cluster. In the former, it was the cargo handlers that registered the biggest increase with 97 more jobs expressed as full-time equivalents. In the non-maritime cluster, employment in the land transport sector fell with the loss of 56 FTEs. The trade sector held steady. The other logistic services sector was at its highest point for the last six years and exceeded the one thousand job mark. In the industry sector, after two years of decline, employment in the car manufacturing segment was starting to pick up and was showing some recovery. Conversely, the construction segment recorded the heaviest contraction of jobs in industry.

Highlights in the maritime cluster in 2011:

- The cargo handling segment benefited from the expansion of activities at DSV Solutions (Automotives) to meet the increase in production volumes at Volvo Cars and from the increased number of dockers<sup>1</sup>.

Highlights in the non-maritime cluster in 2011:

- In the trade sector, the job losses at Honda Europe were partially offset by employment gains in the American Clothing group.
- Turning to the car manufacturing industry, most firms in this segment took on staff in 2011. Among the companies that boosted their staff numbers the most are Volvo Cars and Volvo Group Belgium, in response to a rise in production.
- The construction segment suffered as a result of Ekvador going into bankruptcy and the reduction in staff numbers on the Belgian payroll of Denys.
- The job cuts at ArcelorMittal Belgium has had a negative influence on the metalworking industry.
- Other logistic services benefited from several companies moving into the port area, including Codit, G&P Quality Management and Wijs. There are also some other factors like takeovers (Dekra Automotive) or expansion of business (General Industrial Assistance Cataro).

**TABLE 25 EMPLOYMENT AT THE PORT OF GHENT FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>27,117</b>	<b>27,370</b>	<b>27,785</b>	<b>26,870</b>	<b>26,000</b>	<b>26,638</b>	<b>100.0</b>	<b>+ 2.5</b>	<b>- 0.4</b>
<b>MARITIME CLUSTER .....</b>	<b>2,612</b>	<b>2,669</b>	<b>2,709</b>	<b>2,893</b>	<b>2,832</b>	<b>2,921</b>	<b>11.0</b>	<b>+ 3.1</b>	<b>+ 2.3</b>
Shipping agents and forwarders .....	620	666	626	558	558	577	2.2	+ 3.4	- 1.4
Cargo handling .....	1,439	1,439	1,499	1,724	1,675	1,772	6.7	+ 5.8	+ 4.3
Shipping companies .....	57	62	77	81	86	67	0.3	- 21.4	+ 3.3
Shipbuilding and repair .....	75	84	72	84	79	70	0.3	- 11.8	- 1.5
Port construction and dredging .....	0	0	0	0	0	0	0.0	n.	n.
Fishing .....	0	0	0	0	0	0	0.0	n.	n.
Port trade .....	27	25	34	37	31	28	0.1	- 9.8	+ 0.7
Port authority .....	150	150	150	155	160	156	0.6	- 2.2	+ 0.8
Public sector .....	244	244	251	253	245	252	0.9	+ 2.9	+ 0.6
<i>Allocation (p.m.) .....</i>	<i>64</i>	<i>67</i>	<i>86</i>	<i>96</i>	<i>91</i>	<i>68</i>	<i>-</i>	<i>- 25.6</i>	<i>+ 1.1</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>24,505</b>	<b>24,701</b>	<b>25,076</b>	<b>23,977</b>	<b>23,168</b>	<b>23,717</b>	<b>89.0</b>	<b>+ 2.4</b>	<b>- 0.7</b>
<b>TRADE .....</b>	<b>2,004</b>	<b>2,018</b>	<b>1,976</b>	<b>2,206</b>	<b>2,231</b>	<b>2,253</b>	<b>8.5</b>	<b>+ 1.0</b>	<b>+ 2.4</b>
<b>INDUSTRY .....</b>	<b>20,946</b>	<b>21,067</b>	<b>21,211</b>	<b>19,882</b>	<b>19,196</b>	<b>19,574</b>	<b>73.5</b>	<b>+ 2.0</b>	<b>- 1.3</b>
Energy .....	289	277	320	283	285	274	1.0	- 3.7	- 1.0
Fuel production .....	52	59	79	87	91	92	0.3	+ 2.0	+ 12.2
Chemicals .....	2,038	2,116	2,116	1,946	1,953	1,997	7.5	+ 2.2	- 0.4
Car manufacturing .....	8,883	8,798	8,907	8,123	7,756	8,283	31.1	+ 6.8	- 1.4
Electronics .....	714	728	708	647	614	613	2.3	- 0.1	- 3.0
Metalworking industry .....	6,351	6,281	6,254	5,929	5,635	5,578	20.9	- 1.0	- 2.6
Construction .....	1,010	1,100	1,094	1,227	1,270	1,154	4.3	- 9.1	+ 2.7
Food industry .....	490	562	590	604	600	581	2.2	- 3.2	+ 3.5
Other industries .....	1,118	1,146	1,142	1,037	993	1,002	3.8	+ 0.9	- 2.2
<b>LAND TRANSPORT .....</b>	<b>760</b>	<b>757</b>	<b>966</b>	<b>972</b>	<b>911</b>	<b>855</b>	<b>3.2</b>	<b>- 6.1</b>	<b>+ 2.4</b>
Road transport .....	490	523	693	675	616	623	2.3	+ 1.1	+ 4.9
Other land transport .....	270	235	273	298	295	232	0.9	- 21.2	- 2.9
<b>OTHER LOGISTIC SERVICES .....</b>	<b>796</b>	<b>858</b>	<b>923</b>	<b>917</b>	<b>829</b>	<b>1,034</b>	<b>3.9</b>	<b>+ 24.7</b>	<b>+ 5.4</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>36,533</b>	<b>38,684</b>	<b>40,296</b>	<b>38,292</b>	<b>37,923</b>	<b>38,715</b>	<b>-</b>	<b>+ 2.1</b>	<b>+ 1.2</b>
<b>MARITIME CLUSTER .....</b>	<b>3,411</b>	<b>3,433</b>	<b>3,441</b>	<b>3,632</b>	<b>3,689</b>	<b>3,819</b>	<b>-</b>	<b>+ 3.5</b>	<b>+ 2.3</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>33,122</b>	<b>35,251</b>	<b>36,854</b>	<b>34,660</b>	<b>34,234</b>	<b>34,897</b>	<b>-</b>	<b>+ 1.9</b>	<b>+ 1.0</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>63,650</b>	<b>66,054</b>	<b>68,081</b>	<b>65,162</b>	<b>63,923</b>	<b>65,353</b>	<b>-</b>	<b>+ 2.2</b>	<b>+ 0.5</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 26 EMPLOYMENT TOP 10 AT THE PORT OF GHENT IN 2011**

Ranking	Company name	Sector
1	ARCELORMITTAL BELGIUM	Metalworking industry
2	VOLVO CARS	Car manufacturing
3	VOLVO GROUP BELGIUM	Car manufacturing
4	DSV SOLUTIONS(AUTOMOTIVE)	Cargo handling
5	DENYS	Construction
6	HONDA EUROPE	Trade
7	STORA ENSO LANGERBRUGGE	Other industries
8	GE INDUSTRIAL BELGIUM	Electronics
9	TAMINCO	Chemicals
10	TOWER AUTOMOTIVE BELGIUM	Car manufacturing

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

The employment of the cargo handling firms includes the appeal to dockers.

### 3.4 Investment

Investment in the port of Ghent is down in both the maritime and the non-maritime clusters. In the maritime cluster, there was a 28.5 % fall, with every segment of the cluster contracting. Investment in the maritime cluster hit its lowest point for the last six years. In the non-maritime cluster, while investment in trade and industry was down, it expanded in land transport and other logistic services. In industry, most of the segments were up but the reduction in energy and other industries was sufficient to result in a reduction for the sector as a whole.

Highlights in the maritime cluster in 2011:

- The two major investors in the cargo handling segment are Ghent Transport and Storage and Ghent Handling and Distribution.

Highlights in the non-maritime cluster in 2011:

- The biggest investor in the chemicals industry segment was Kronos Europe. On the assets side, they have announced that important investments have been made in new tangible fixed assets in 2011, for instance the start of the construction of a combined heat and power plant and the expansion of the post-processing unit. Albeit to a lesser extent, Taminco and Oleon (for the manufacture of propylene glycol from glycerine at the Ertvelde site) are also major investors in this segment.
- Volvo Cars invested € 55 million in its plants in Belgium during the year 2011, principally for the new Volvo V40 and for expanding the Volvo XC60's production capacity.
- In 2011, Espabel was in an investment phase for the establishment of a cement factory, and activities were not started up. The company put aside € 34 million to set up the project. The branch has a production capacity of 700 000 tonnes a year. The commodity storage depot measures as much as 250 by 40 metres and is 45 metres high; it has been built with a single span and no subdivisions. From this depot, the big mill in the production tower is supplied via conveyor belts. Next, the volumes produced can be stored in six silos of about 3 000 tonnes each, or they can be sent to the bagging unit which can turn out up to 2 800 bags of 25 kg per hour.
- In order to build a new roasting furnace, roasting activities at Sadaci (metalworking industry) were interrupted for 3 months in 2011.

**TABLE 27 INVESTMENT AT THE PORT OF GHENT FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>74.6</b>	<b>120.4</b>	<b>91.0</b>	<b>89.5</b>	<b>79.0</b>	<b>56.4</b>	<b>12.9</b>	<b>- 28.5</b>	<b>- 5.4</b>
Shipping agents and forwarders .....	2.4	9.6	5.7	3.1	10.3	6.0	1.4	- 41.9	+ 19.8
Cargo handling .....	26.7	46.4	29.8	44.6	29.7	23.8	5.4	- 20.0	- 2.3
Shipping companies .....	7.5	10.5	21.9	11.8	8.9	5.8	1.3	- 35.1	- 5.0
Shipbuilding and repair .....	0.5	0.6	0.6	0.8	3.5	0.8	0.2	- 76.1	+ 11.7
Port construction and dredging .....	0.0	0.0	0.0	0.0	0.0	0.5	0.1	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade .....	0.1	0.2	0.0	0.0	0.0	0.0	0.0	n.	- 100.0
Port authority .....	16.8	27.0	19.3	21.6	15.2	9.9	2.3	- 35.0	- 10.0
Public sector .....	20.6	26.2	13.7	7.7	11.2	9.6	2.2	- 14.5	- 14.1
<i>Allocation (p.m.) .....</i>	<i>7.3</i>	<i>10.6</i>	<i>10.5</i>	<i>8.0</i>	<i>11.8</i>	<i>7.1</i>	<i>-</i>	<i>- 39.5</i>	<i>- 0.4</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>320.3</b>	<b>584.0</b>	<b>615.2</b>	<b>503.3</b>	<b>426.4</b>	<b>382.7</b>	<b>87.1</b>	<b>- 10.3</b>	<b>+ 3.6</b>
<b>TRADE .....</b>	<b>26.4</b>	<b>41.0</b>	<b>48.4</b>	<b>41.2</b>	<b>41.5</b>	<b>36.3</b>	<b>8.3</b>	<b>- 12.6</b>	<b>+ 6.6</b>
<b>INDUSTRY .....</b>	<b>252.2</b>	<b>511.1</b>	<b>538.3</b>	<b>432.7</b>	<b>358.1</b>	<b>310.3</b>	<b>70.7</b>	<b>- 13.4</b>	<b>+ 4.2</b>
Energy .....	4.8	61.1	125.4	166.9	115.4	37.3	8.5	- 67.7	+ 50.8
Fuel production .....	31.4	72.0	55.9	11.7	3.9	4.2	1.0	+ 7.3	- 33.0
Chemicals .....	42.8	76.5	65.1	35.5	35.0	52.6	12.0	+ 50.0	+ 4.2
Car manufacturing .....	56.5	114.8	99.0	56.0	53.8	86.7	19.8	+ 61.3	+ 9.0
Electronics .....	3.2	5.2	6.3	3.0	5.1	4.2	0.9	- 19.0	+ 5.6
Metalworking industry .....	61.0	113.3	76.8	55.7	59.0	63.6	14.5	+ 7.7	+ 0.9
Construction .....	14.3	12.7	16.6	21.6	18.9	32.2	7.3	+ 70.0	+ 17.6
Food industry .....	20.5	29.4	30.1	21.0	12.0	15.0	3.4	+ 25.0	- 6.1
Other industries .....	17.7	26.1	62.9	61.2	54.8	14.5	3.3	- 73.6	- 3.9
<b>LAND TRANSPORT .....</b>	<b>13.4</b>	<b>14.2</b>	<b>15.8</b>	<b>11.1</b>	<b>9.4</b>	<b>16.0</b>	<b>3.6</b>	<b>+ 70.5</b>	<b>+ 3.7</b>
Road transport .....	10.4	11.9	12.3	9.9	3.7	4.6	1.1	+ 25.8	- 14.9
Other land transport .....	3.0	2.3	3.5	1.2	5.7	11.4	2.6	+ 99.2	+ 30.4
<b>OTHER LOGISTIC SERVICES .....</b>	<b>28.2</b>	<b>17.7</b>	<b>12.7</b>	<b>18.4</b>	<b>17.4</b>	<b>20.0</b>	<b>4.6</b>	<b>+ 15.5</b>	<b>- 6.6</b>
<b>DIRECT INVESTMENT .....</b>	<b>394.9</b>	<b>704.4</b>	<b>706.2</b>	<b>592.8</b>	<b>505.4</b>	<b>439.1</b>	<b>100.0</b>	<b>- 13.1</b>	<b>+ 2.1</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).



**TABLE 28 INVESTMENT TOP 10 AT THE PORT OF GHENT IN 2011**

Ranking	Company name	Sector
1	VOLVO CARS	Car manufacturing
2	ARCELORMITTAL BELGIUM	Metalworking industry
3	ELECTRABEL	Energy
4	KRONOS EUROPE	Chemicals
5	ESPABEL	Construction
6	VOLVO GROUP BELGIUM	Car manufacturing
7	BNRC GROUP	Other land transport
8	SADACI	Metalworking industry
9	GHENT PORT AUTHORITY	Port authority
10	PUBLIC SECTOR	Public sector

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

## 4 PORT OF OSTEND

### 4.1 Port developments<sup>53</sup>

Traffic in the port of Ostend, expressed in tonnage, contracted by 22.1 % in 2011, down for the third year running. In the space of three years, the port of Ostend has lost more than half its traffic. The main cause of the sharp drop in 2011 was the collapse of roll-on/roll-off traffic. After Cobelfret pulled out of Ostend in 2009, only one company, Transeuropa Ferries, has provided a scheduled Ro-Ro service, consisting of just one ferry link, the Ostend to Ramsgate line. This four-hour crossing is mainly used by lorries and their drivers. In April 2010, LD-Lines and Transeuropa Ferries launched a cooperation pact, with the former company responsible for tourist passenger business and the second for freight traffic on the route. One year later, in March 2011, Transeuropa Ferries announced it was ending its commercial agreement with ferry company LD Lines, in order to better adapt to market demand and tonnage requirements of both operators. For this reason, the number of ferries operating the Ostend-Ramsgate route has fallen from three to two and the number of daily crossings from six to four. Ro-ro vehicle traffic has been cut by a third and passenger traffic by two-fifths<sup>54</sup>.

Maritime cargo volumes loaded and unloaded in the port of Ostend increased by 3 % in 2011. The biggest category of goods, namely sand and gravel, dropped by 2 % but several other categories expanded such as building materials (+27 %), ferro-chromium (+98 %), coal (+10 %). A few cargo loading categories have of course lost tonnage, like wood (-46 %), magnesium oxide and even microsilica. But new categories like salt and steel have emerged. This is due, inter alia, to firms building warehouses and storage space within the inner port and the outer port.

The renovations at the port of Ostend aim to provide access for vessels of approximately 200 metres long - the first new generation of Ro-Ro ferries. Deviating the access route with the protection of the new Eastern and Western dam was nearing completion in 2011, with the Western dam as the latest step. The construction of this dam already offers adequate protection under normal weather conditions. With the aim of extending Ostend as a hub for the off-shore industry, the new area at the Zeewerendock with a loading capacity of 20 tonnes per m<sup>2</sup>, was finished on 21 December 2011. C-Power settled there for the assembly of the hubs, blades and turbines for the wind farm on the Thornton Bank.

In December 2011, the first commercial train from Germany with 17 wagons crossed the railway bridge over the Ostend-Ghent canal. This railway bridge connects the European railway network with the multimodal railway platform on the Plassendale 1 industrial site. This platform has been operational since the month of September 2011.

The direct value added produced by the port of Ostend was down by 4.6 % in 2011 (-6.3 % by volume). Total value added, which includes the part generated upstream of the firms under review, decreased by 3.5 %. As in previous years direct value added represented 0.2 of Flemish GDP, whereas total value added fell 0.1 percentage point to 0.4 %. In 2011, the share of direct and total value added in Belgian GDP amounted to 0.1 and 0.2 % respectively.

Direct employment in the port of Ostend dropped 2.1 %. The total of direct and indirect employment was down by 1.9 % in 2011. As in the previous year, the workforce in the firms under review at the port corresponded to 0.2 % of employment in the Flemish Region. Total employment – direct plus indirect employment – came to 0.4 % of Flemish employment. In 2011, direct and total employment represented 0.1 and 0.2 % respectively of Belgian employment.

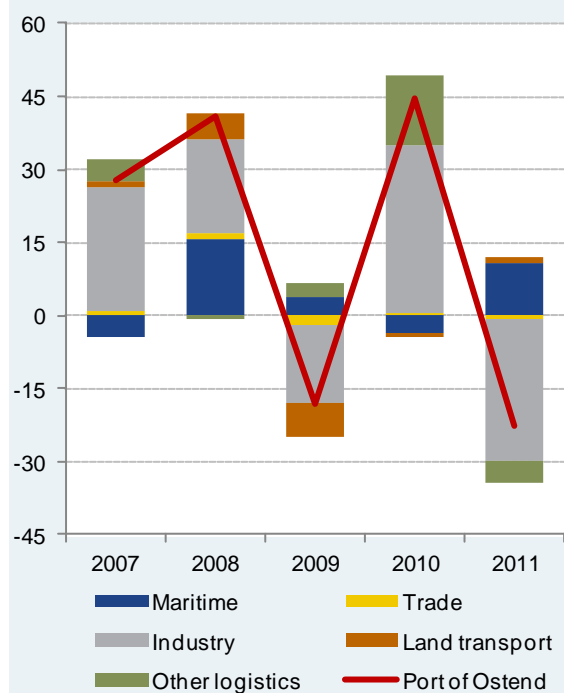
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<sup>53</sup> Sources: *Annual Report 2011*, Port of Ostend and *De Vlaamse havens. Feiten, statistieken en indicatoren voor 2011*, Jean-Pierre Merckx and Dirk Neyts, Vlaamse Havencommissie.

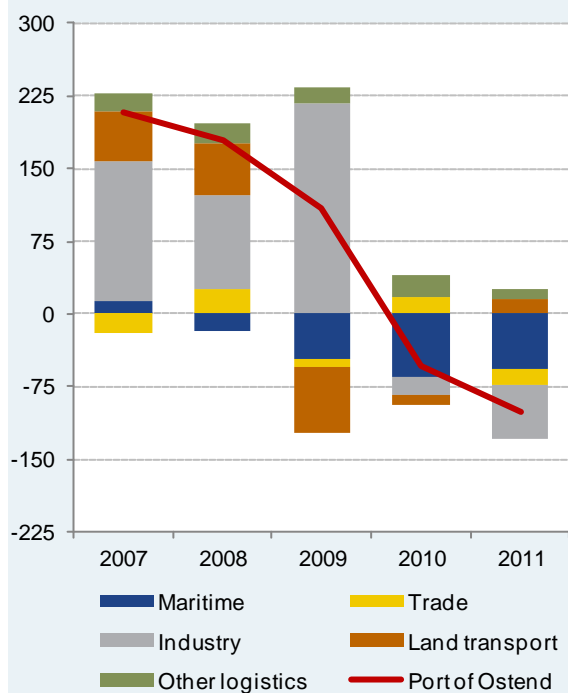
<sup>54</sup> Transeuropa Ferries was declared bankrupt on 25 April 2013.

**CHART 8 CHANGE IN DIRECT VALUE ADDED**

(in € million, current prices)

**CHART 9 CHANGE IN DIRECT EMPLOYMENT**

(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

## 4.2 Value added

Direct value added in the port of Ostend fell by 4.6 % in 2011. The maritime cluster enjoyed an increase in value added, driven by the port construction and dredging segment. In the non-maritime cluster, trade declined. It is now at its lowest point for the last six years. Land transport recovered slightly. In the other logistic services sector, value added was down 19.4 %. In the industry sector, construction, food industry and other industries were the only segments to post an upward trend in their value added. The metalworking industry and chemicals recorded value added at the levels achieved in 2006. In total, value added in industry and in the non-maritime cluster came down by 10.5 and 9.9 % respectively.

Highlights in the maritime cluster in 2011:

- The reduction in the port authority's incomes had a negative impact on the value added generated by the segment.
- Value added generated by Baggerwerken Decloedt & zoon increased as a result of a sharp drop in the item "purchases of other goods and services". The company is mainly involved in maintenance work and dredging in the North Sea, as well as in the maritime entrances into the ports of Ostend and Zeebrugge.

Highlights in the non-maritime cluster in 2011:

- The trade sector suffered from the departure of Metapharma and lower operating profits at both Green Point Supplies and Houtimport Lemahieu.
- The decline in the chemicals industry can be explained by the decision taken by the board of Bonar Xirion in 2010 to shut down the factory. Since 1 June 2011, Bonar Xirion's corporate activities have consisted of distribution and sales of products made in the group's other plants.
- In the metalworking industry, Daikin Europe saw its turnover drop as a result of the economic crisis.
- The drop in other operating income and the rise in purchases of other goods and services led to a sharp reduction in value added at Electrawinds (other logistic services).

**TABLE 29 VALUE ADDED AT THE PORT OF OSTEND FROM 2006 TO 2011**  
(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>402.9</b>	<b>430.5</b>	<b>471.3</b>	<b>453.1</b>	<b>497.9</b>	<b>475.2</b>	<b>100.0</b>	<b>- 4.6</b>	<b>+ 3.4</b>
<b>MARITIME CLUSTER .....</b>	<b>148.8</b>	<b>144.3</b>	<b>159.8</b>	<b>163.6</b>	<b>160.1</b>	<b>170.8</b>	<b>36.0</b>	<b>+ 6.7</b>	<b>+ 2.8</b>
Shipping agents and forwarders .....	3.1	3.7	3.7	5.2	5.2	5.0	1.1	- 3.9	+ 10.1
Cargo handling .....	8.1	5.9	7.3	2.9	2.8	2.4	0.5	- 16.1	- 22.0
Shipping companies .....	0.7	-1.0	9.0	0.2	0.2	0.5	0.1	+ 133.1	- 7.5
Shipbuilding and repair .....	12.2	14.0	11.8	12.6	13.4	12.7	2.7	- 5.7	+ 0.7
Port construction and dredging .....	39.7	30.2	41.9	55.4	47.7	61.1	12.9	+ 28.0	+ 9.0
Fishing .....	39.9	42.4	36.4	38.1	39.9	38.7	8.1	- 3.0	- 0.6
Port trade .....	0.2	0.2	0.3	0.4	0.4	0.4	0.1	+ 10.5	+ 16.0
Port authority .....	4.3	4.7	4.6	3.0	3.2	2.0	0.4	- 37.8	- 14.5
Public sector .....	40.4	44.2	44.8	45.9	47.2	48.1	10.1	+ 1.9	+ 3.5
Allocation (p.m.) .....	13.3	14.4	11.1	11.5	12.8	11.9	-	- 6.8	- 2.2
<b>NON-MARITIME CLUSTER ...</b>	<b>254.1</b>	<b>286.1</b>	<b>311.5</b>	<b>289.5</b>	<b>337.8</b>	<b>304.3</b>	<b>64.0</b>	<b>- 9.9</b>	<b>+ 3.7</b>
<b>TRADE .....</b>	<b>17.1</b>	<b>18.2</b>	<b>19.6</b>	<b>17.4</b>	<b>17.8</b>	<b>16.8</b>	<b>3.5</b>	<b>- 5.5</b>	<b>- 0.4</b>
<b>INDUSTRY .....</b>	<b>209.4</b>	<b>234.8</b>	<b>254.1</b>	<b>238.3</b>	<b>272.8</b>	<b>244.0</b>	<b>51.4</b>	<b>- 10.5</b>	<b>+ 3.1</b>
Energy .....	5.1	3.7	-6.1	13.6	28.5	23.0	4.8	- 19.4	+ 35.3
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	33.5	33.3	34.5	38.5	39.3	33.3	7.0	- 15.3	- 0.1
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	0.6	0.7	1.0	1.0	1.2	0.7	0.2	- 40.5	+ 3.4
Metalworking industry .....	151.6	175.8	203.0	154.9	174.5	151.0	31.8	- 13.4	- 0.1
Construction .....	5.1	5.8	6.2	16.0	16.5	19.4	4.1	+ 17.6	+ 30.8
Food industry .....	6.4	6.7	6.1	6.2	5.3	7.5	1.6	+ 42.7	+ 3.4
Other industries .....	7.1	8.7	9.4	8.1	7.5	9.0	1.9	+ 21.0	+ 4.8
<b>LAND TRANSPORT .....</b>	<b>24.6</b>	<b>25.6</b>	<b>31.0</b>	<b>24.0</b>	<b>23.0</b>	<b>24.0</b>	<b>5.0</b>	<b>+ 4.3</b>	<b>- 0.6</b>
Road transport .....	21.6	22.9	28.9	24.0	23.0	24.0	5.0	+ 4.3	+ 2.1
Other land transport .....	3.0	2.8	2.1	0.0	0.0	0.0	0.0	n.	- 100.0
<b>OTHER LOGISTIC SERVICES .....</b>	<b>3.0</b>	<b>7.5</b>	<b>6.9</b>	<b>9.7</b>	<b>24.2</b>	<b>19.5</b>	<b>4.1</b>	<b>- 19.4</b>	<b>+ 45.6</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>358.0</b>	<b>370.6</b>	<b>423.3</b>	<b>408.4</b>	<b>441.7</b>	<b>431.7</b>	<b>-</b>	<b>- 2.3</b>	<b>+ 3.8</b>
<b>MARITIME CLUSTER .....</b>	<b>128.7</b>	<b>111.7</b>	<b>133.1</b>	<b>139.2</b>	<b>128.4</b>	<b>143.4</b>	<b>-</b>	<b>+ 11.7</b>	<b>+ 2.2</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>229.3</b>	<b>258.8</b>	<b>290.2</b>	<b>269.2</b>	<b>313.3</b>	<b>288.3</b>	<b>-</b>	<b>- 8.0</b>	<b>+ 4.7</b>
<b>TOTAL VALUE ADDED .....</b>	<b>760.8</b>	<b>801.0</b>	<b>894.7</b>	<b>861.5</b>	<b>939.5</b>	<b>906.8</b>	<b>-</b>	<b>- 3.5</b>	<b>+ 3.6</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 30 VALUE ADDED TOP 10 AT THE PORT OF OSTEND IN 2011**

Ranking	Company name	Sector
1	DAIKIN EUROPE	Metalworking industry
2	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging
3	PUBLIC SECTOR	Public sector
4	PROVIRON FUNCTIONAL CHEMICALS	Chemicals
5	ELECTRAWINDS BIOSTOOM	Energy
6	ALGEMENE ONDERNEMINGEN SOETAERT	Construction
7	MORUBEL	Fishing
8	BELGIAN NAVY	Public sector
9	ELECTRAWINDS	Other services
10	ELECTRAWINDS BIOMASSA	Energy

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

### 4.3 Employment

Direct employment in the port of Ostend contracted by 2.1 % in 2011. The maritime cluster was the worst hit with a drop of 2.7 %. Fishing, cargo handling and shipbuilding and repair were the main segments accounting for the decline. In the non-maritime cluster, the trade and industry sectors were down, while land transport and other logistic services recorded an increase. In the chemicals industry, 57 full-time equivalents were lost, bringing employment down to its lowest point for the last six years. Value added in the non-maritime cluster was down 1.6 %.

Highlights in the maritime cluster in 2011:

- Lower traffic volumes had an impact on employment of dockers in the cargo handling segment. Also, a number of dockers has been transferred to the port of Zeebrugge.
- In the fishing segment, Vismijn Oostende was restructured and the business has been taken over by Vlaamse Visveiling.
- In the shipbuilding and repair segment, Clemaco Contracting reported a fall in the number of full-time equivalents.

Highlights in the non-maritime cluster in 2011:

- The departure of pharmaceuticals company Metapharma has had a negative impact on employment in the trade sector.
- In the chemicals industry, the board of directors of Bonar Xirion had decided back in 2010 to shut down its production unit and laid off the workforce under a collective redundancy procedure. By the end of 2011, there were only 3 people left working for the company.
- Employment in the electronics segment was hit by the collapse of Marelec.
- In the other industries segment, Metco Recycling cut back its staff numbers in 2011 <sup>55</sup>.

<sup>55</sup> Metco Recycling was declared bankrupt on 5 septembre 2012.

**TABLE 31 EMPLOYMENT AT THE PORT OF OSTEND FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>4,546</b>	<b>4,755</b>	<b>4,933</b>	<b>5,043</b>	<b>4,989</b>	<b>4,887</b>	<b>100.0</b>	<b>- 2.1</b>	<b>+ 1.5</b>
<b>MARITIME CLUSTER .....</b>	<b>2,192</b>	<b>2,206</b>	<b>2,188</b>	<b>2,141</b>	<b>2,075</b>	<b>2,019</b>	<b>41.3</b>	<b>- 2.7</b>	<b>- 1.6</b>
Shipping agents and forwarders .....	43	50	55	72	68	67	1.4	- 0.3	+ 9.6
Cargo handling .....	160	182	171	134	96	66	1.4	- 30.9	- 16.2
Shipping companies .....	24	5	34	1	1	1	0.0	- 2.0	- 44.5
Shipbuilding and repair .....	247	259	237	232	228	207	4.2	- 9.0	- 3.5
Port construction and dredging .....	350	328	352	348	352	370	7.6	+ 5.1	+ 1.1
Fishing .....	515	512	494	502	492	454	9.3	- 7.8	- 2.5
Port trade .....	3	4	5	6	6	7	0.1	+ 12.5	+ 16.9
Port authority .....	42	47	46	44	40	43	0.9	+ 6.0	+ 0.2
Public sector .....	807	818	794	801	792	803	16.4	+ 1.4	- 0.1
<i>Allocation (p.m.) .....</i>	<i>190</i>	<i>194</i>	<i>175</i>	<i>162</i>	<i>157</i>	<i>145</i>	<i>-</i>	<i>- 7.7</i>	<i>- 5.4</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>2,354</b>	<b>2,549</b>	<b>2,745</b>	<b>2,902</b>	<b>2,914</b>	<b>2,868</b>	<b>58.7</b>	<b>- 1.6</b>	<b>+ 4.0</b>
<b>TRADE .....</b>	<b>197</b>	<b>178</b>	<b>203</b>	<b>195</b>	<b>213</b>	<b>196</b>	<b>4.0</b>	<b>- 8.1</b>	<b>- 0.2</b>
<b>INDUSTRY .....</b>	<b>1,778</b>	<b>1,922</b>	<b>2,020</b>	<b>2,238</b>	<b>2,220</b>	<b>2,165</b>	<b>44.3</b>	<b>- 2.5</b>	<b>+ 4.0</b>
Energy .....	12	22	34	50	59	68	1.4	+ 16.2	+ 41.0
Fuel production .....	0	0	0	0	0	0	0.0	n.	n.
Chemicals .....	397	417	416	440	393	336	6.9	- 14.6	- 3.3
Car manufacturing .....	0	0	0	0	0	0	0.0	n.	n.
Electronics .....	10	11	12	12	23	11	0.2	- 50.4	+ 1.5
Metalworking industry .....	1,125	1,222	1,293	1,322	1,317	1,319	27.0	+ 0.2	+ 3.2
Construction .....	102	103	105	229	246	256	5.2	+ 4.5	+ 20.2
Food industry .....	78	87	88	107	105	104	2.1	- 1.1	+ 5.7
Other industries .....	52	62	73	77	78	70	1.4	- 9.8	+ 6.1
<b>LAND TRANSPORT .....</b>	<b>317</b>	<b>369</b>	<b>421</b>	<b>352</b>	<b>342</b>	<b>357</b>	<b>7.3</b>	<b>+ 4.2</b>	<b>+ 2.4</b>
Road transport .....	268	320	385	352	342	357	7.3	+ 4.2	+ 5.9
Other land transport .....	49	49	35	0	0	0	0.0	n.	- 100.0
<b>OTHER LOGISTIC SERVICES .....</b>	<b>61</b>	<b>80</b>	<b>101</b>	<b>117</b>	<b>139</b>	<b>151</b>	<b>3.1</b>	<b>+ 8.2</b>	<b>+ 19.7</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>4,299</b>	<b>4,254</b>	<b>4,794</b>	<b>4,446</b>	<b>4,509</b>	<b>4,436</b>	<b>-</b>	<b>- 1.6</b>	<b>+ 0.6</b>
<b>MARITIME CLUSTER .....</b>	<b>1,781</b>	<b>1,473</b>	<b>1,826</b>	<b>1,287</b>	<b>1,280</b>	<b>1,244</b>	<b>-</b>	<b>- 2.8</b>	<b>- 6.9</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>2,517</b>	<b>2,781</b>	<b>2,969</b>	<b>3,159</b>	<b>3,229</b>	<b>3,192</b>	<b>-</b>	<b>- 1.2</b>	<b>+ 4.9</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>8,844</b>	<b>9,009</b>	<b>9,727</b>	<b>9,489</b>	<b>9,498</b>	<b>9,322</b>	<b>-</b>	<b>- 1.9</b>	<b>+ 1.1</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 32 EMPLOYMENT TOP 10 AT THE PORT OF OSTEND IN 2011**

Ranking	Company name	Sector
1	DAIKIN EUROPE	Metalworking industry
2	PUBLIC SECTOR	Public sector
3	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging
4	BELGIAN NAVY	Public sector
5	PROVIRON FUNCTIONAL CHEMICALS	Chemicals
6	ALGEMENE ONDERNEMINGEN SOETAERT	Construction
7	WIM BOSMAN LOGISTIC SERVICES	Road transport
8	CLEMACO CONTRACTING	Shipbuilding and repair
9	EUROPEAN FREIGHT SERVICES	Road transport
10	NATRAJACALI	Food industry

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

The employment of the cargo handling firms includes the appeal to dockers.

#### 4.4 Investment

In 2011, investment in the maritime cluster at the port of Ostend almost halved. This steep drop was mainly due to the fall in the port construction and dredging segment and in the public sector. Investment in the maritime cluster was at its lowest point for six years. The reduction in the public sector came from the end of work carried out in order to improve access to the port. In the non-maritime cluster, investment was up by a quarter. Every sector in the non-maritime cluster expanded but the biggest increase occurred in other logistic services.

Highlights in the maritime cluster in 2011:

- In the cargo handling segment, Renewable Energy Base Ostend has taken over the concession of some 100 000 m<sup>2</sup> of grounds around the Zeewerendok from the Ostend Port Authority. During the financial year 2011, works worth € 4.5 million were already carried out on these grounds.
- In the shipbuilding and repair segment, Noordzee Kranen en Transport invested more than a million euro in tangible assets.
- The fishing sector's biggest investment was Rederij Long Ships' 0.8 million euro under the financial fixed asset heading "plant, machinery and equipment".
- Baggerwerken Decloedt en zoon's investment hit its lowest level for six years.

Highlights in the non-maritime cluster in 2011:

- The lion's share of the investment made in energy came from the Electrawinds group.
- Two other companies, Proviron Basic Chemical and Proviron Functional Chemicals, accounted for more than four-fifths of all investment in the chemicals industry segment.
- In the metalworking industry, Daikin Europe has replaced the commercial Sky Air Inverter models by a new range of models that responds to changes on the market. In addition, there is also the introduction of the 3X3 decoration panel, the preparations for the renewal of the Daikin Altherma heating range and the launch of the VRV4. The capacity and possibilities of the test rooms were increased. The "finished unit conveyor" has been extended. This conveyor connects all of the production lines and transports without any human intervention.
- In the other industries segment, Albam, a firm specialising in sawdust and wood chippings for horses and other animals as well as in the production of pellets, made a strong contribution to investment growth.
- Turning to other logistic services, a sharp increase in investment was noted at Electrawinds.

**TABLE 33 INVESTMENT AT THE PORT OF OSTEND FROM 2006 TO 2011**  
(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>37.8</b>	<b>86.1</b>	<b>90.7</b>	<b>77.4</b>	<b>49.5</b>	<b>26.4</b>	<b>28.5</b>	<b>- 46.7</b>	<b>- 7.0</b>
Shipping agents and forwarders .....	0.8	1.8	1.5	1.3	0.4	0.6	0.6	+ 53.0	- 8.0
Cargo handling .....	1.3	1.9	3.7	1.5	0.4	6.1	6.6	+ 1574.8	+ 36.0
Shipping companies .....	1.0	24.4	2.9	0.0	0.1	0.4	0.5	+ 244.6	- 16.0
Shipbuilding and repair .....	1.7	2.1	2.0	1.3	1.3	2.4	2.5	+ 81.5	+ 6.5
Port construction and dredging .....	10.3	39.6	55.7	28.9	24.8	2.6	2.8	- 89.6	- 24.3
Fishing .....	6.8	7.3	7.8	5.8	9.5	8.1	8.8	- 14.8	+ 3.6
Port trade .....	0.1	0.0	0.0	0.0	0.0	0.1	0.1	+ 140.8	- 4.5
Port authority .....	1.6	4.0	3.0	1.6	0.9	2.0	2.2	+ 130.5	+ 4.2
Public sector .....	14.1	4.9	14.1	37.0	12.1	4.2	4.5	- 65.6	- 21.6
<i>Allocation (p.m.) .....</i>	<i>2.5</i>	<i>4.5</i>	<i>4.1</i>	<i>4.6</i>	<i>5.3</i>	<i>4.9</i>	<i>-</i>	<i>- 8.2</i>	<i>+ 14.4</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>37.5</b>	<b>69.5</b>	<b>93.8</b>	<b>43.7</b>	<b>52.6</b>	<b>66.2</b>	<b>71.5</b>	<b>+ 25.8</b>	<b>+ 12.0</b>
<b>TRADE .....</b>	<b>3.7</b>	<b>6.3</b>	<b>4.0</b>	<b>2.6</b>	<b>2.8</b>	<b>4.7</b>	<b>5.1</b>	<b>+ 65.8</b>	<b>+ 4.8</b>
<b>INDUSTRY .....</b>	<b>25.3</b>	<b>48.2</b>	<b>80.4</b>	<b>30.6</b>	<b>39.8</b>	<b>44.3</b>	<b>47.9</b>	<b>+ 11.6</b>	<b>+ 11.9</b>
Energy .....	2.4	7.0	56.3	8.9	21.4	13.2	14.2	- 38.5	+ 40.2
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	7.2	25.3	7.1	1.8	3.5	5.6	6.1	+ 58.5	- 4.8
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	0.0	0.1	0.0	0.1	0.1	0.5	0.6	+ 894.8	+ 69.4
Metalworking industry .....	9.7	10.9	12.6	13.8	6.9	12.8	13.8	+ 86.9	+ 5.6
Construction .....	1.2	1.3	1.1	4.1	5.3	5.8	6.2	+ 9.2	+ 35.9
Food industry .....	3.3	0.5	0.7	0.2	0.6	0.8	0.9	+ 37.7	- 24.4
Other industries .....	1.4	3.1	2.6	1.7	2.1	5.7	6.1	+ 175.7	+ 32.5
<b>LAND TRANSPORT .....</b>	<b>5.6</b>	<b>8.7</b>	<b>4.1</b>	<b>1.8</b>	<b>4.1</b>	<b>6.0</b>	<b>6.5</b>	<b>+ 45.3</b>	<b>+ 1.5</b>
Road transport .....	3.6	7.4	4.1	1.8	3.0	5.6	6.1	+ 89.3	+ 9.0
Other land transport .....	1.9	1.3	0.0	0.0	1.2	0.4	0.4	- 66.3	- 27.4
<b>OTHER LOGISTIC SERVICES .....</b>	<b>2.9</b>	<b>6.3</b>	<b>5.3</b>	<b>8.7</b>	<b>5.9</b>	<b>11.1</b>	<b>12.0</b>	<b>+ 89.6</b>	<b>+ 30.6</b>
<b>DIRECT INVESTMENT .....</b>	<b>75.4</b>	<b>155.6</b>	<b>184.4</b>	<b>121.1</b>	<b>102.1</b>	<b>92.6</b>	<b>100.0</b>	<b>- 9.3</b>	<b>+ 4.2</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).



**TABLE 34 INVESTMENT TOP 10 AT THE PORT OF OSTEND IN 2011**

Ranking	Company name	Sector
1	DAIKIN EUROPE	Metalworking industry
2	ELECTRAWINDS BIOMASSA	Energy
3	ELECTRAWINDS	Other services
4	RENEWABLE ENERGY BASE OSTEND	Cargo handling
5	ALBAM	Other industries
6	PUBLIC SECTOR	Public sector
7	WIM BOSMAN EXPEDITIE	Road transport
8	ELECTRAWINDS GREENPOWER OOSTENDE	Energy
9	PROVIRON FUNCTIONAL CHEMICALS	Chemicals
10	ALGEMENE ONDERNEMINGEN SOETAERT	Construction

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

## 5 PORT OF ZEEBRUGGE

### 5.1 Port developments<sup>56</sup>

For the first time since 2008, cargo traffic in the port of Zeebrugge contracted by 5.3 %. Tonnage fell just short of the 47 million tonne mark. However, a closer examination of maritime traffic developments in the Flemish ports over the last five years reveals that the port of Zeebrugge posted the best growth rates with an average of 3.5 percent a year. Although dry bulk saw a slight erosion of tonnage in 2011, the reason for the decline lies mainly in container cargo volumes transshipped which lost 14 %. This fall affected both European and intercontinental traffic, each suffering a reduction of 1.8 million tonnes. The volume of intercontinental trade was nevertheless slightly smaller and therefore, when expressed in percentage terms, it was hit harder, losing one-sixth of its traffic.

Volumes transshipped per composition of freight show that bulk transport of building materials (sand, gravel, clay and waste products) was down by 3 %, which largely goes to explain the reduction in dry bulk.

Roll-on/roll-off traffic expanded by 6 %. The number of new cars loaded and unloaded exceeded 1.7 million vehicles and the number of trucks stayed above the million unit mark. As for liquid bulk, the quantities of natural gas unloaded fell back by 3 %, but the increase in volumes loaded made up for this decline and, overall, the volume of natural gas transshipped grew by 2 %. Refined oil products put on stronger growth (+4 %), boosting both imports and exports although it was exports that rose the most.

It can be observed from trade flows by continent that the tonnages lost in trade with Europe have been mainly on the arrivals side, with one million tonnes of cargo traffic lost, while for exports the reduction only came to 1 % of the total. Exports to Asia have also suffered, with a drop of more than one-fifth in volumes loaded; imports on the other hand have remained steady. Trade has contracted with practically all continents with the exception of Oceania but the latter only accounted for 0.6 % of total maritime traffic in 2011. Europe nevertheless reinforced its position as main trading partner largely at the expense of Asia. The relative importance of Africa in cargo trade declined as well.

In November 2011, the Flemish Minister of Mobility and Public Works gave the green light for what can be regarded as one of the biggest projects in Zeebrugge for years, namely deepening the East quay of the Container Handling Zeebrugge (CHZ) terminal in the outer port. This deepening is necessary because of the increases in scale in maritime shipping. The quay is being dredged along a length of 600 metres to a depth of 16 metres and the infrastructure on the quay is being renovated along a length of 1 km. The investment involved amounts to € 25 million, 20 % of which is being subsidised by the Flemish government.

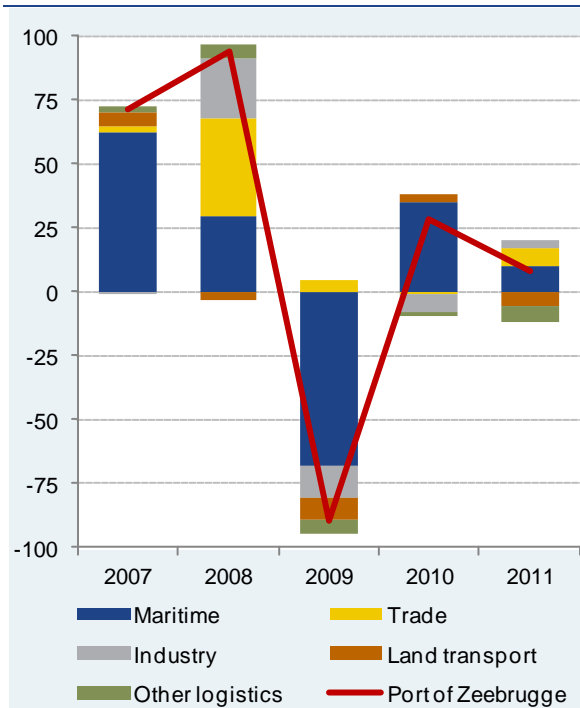
The direct value added of the port of Zeebrugge was 0.9 % up against 2010 (-1.0 % by volume). As a result of a strong rise of indirect value added, the total value added grew by 4.4 %. Direct and total value added in 2011 represented 0.5 and 0.8 % respectively of the GDP of the Flemish Region. In relation to Belgian GDP, the figures for 2011 remained unchanged at 0.3 and 0.5 % respectively.

Direct employment at the port of Zeebrugge was down by 2.3 % in 2011. Indirect employment declined by 1.6 %. The proportion of direct and total employment in Flemish employment remained stable at 0.4 and 0.9 % respectively. The share of direct employment in Belgian employment diminished 0.1 percentage point to 0.2 %, whereas the share of total employment remained stable at 0.5 %.

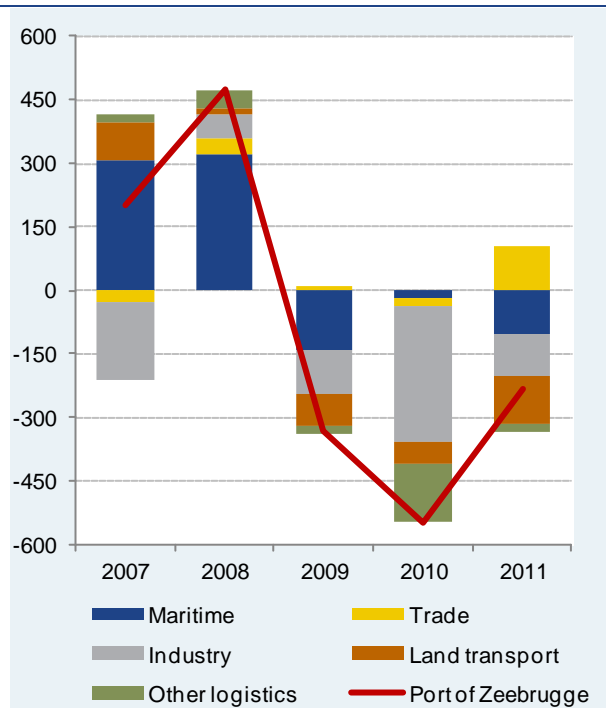
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<sup>56</sup> Source: *Annual Report 2011* of the Zeebrugge Port Authority.

**CHART 10** CHANGE IN DIRECT VALUE ADDED  
(in € million, current prices)



**CHART 11** CHANGE IN DIRECT EMPLOYMENT  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

## 5.2 Value added

Direct value added in the port of Zeebrugge was up 2.1 % in the maritime cluster but down by 0.5 % in the non-maritime cluster. In the former, value added in shipping companies expanded by 38.7 % and provided the bulk of the growth. In the non-maritime cluster, value added in trade and industry increased, while in land transport and other logistic services it was down. In the latter, it fell by a quarter. In land transport, it fell to the lowest point for the last six years. In the industry sector, the increase in the energy segment made up for the decline in construction.

Highlights in the maritime cluster in 2011:

- In the cargo handling segment, Container Handling Zeebrugge posted a sharp drop in its turnover owing to lower volumes handled. Conversely, Wallenius Wilhelmsen Logistics Zeebrugge enjoyed strong growth in the number of vehicles handled, turnover and profits.
- Among the shipping companies, C2C Shipping Lines recorded a sharp increase in its turnover and a return to better operating profit margins. At Cobelfret, it was also the improvement in the profit margin that brought a rise in value added produced.
- In the port construction and dredging segment, the lower turnover at Artes Depret has impacted badly on value added.

**TABLE 35 VALUE ADDED AT THE PORT OF ZEEBRUGGE FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>850.1</b>	<b>921.9</b>	<b>1,015.8</b>	<b>926.0</b>	<b>954.3</b>	<b>962.5</b>	<b>100.0</b>	<b>+ 0.9</b>	<b>+ 2.5</b>
<b>MARITIME CLUSTER .....</b>	<b>423.0</b>	<b>485.7</b>	<b>515.6</b>	<b>447.5</b>	<b>482.9</b>	<b>493.2</b>	<b>51.2</b>	<b>+ 2.1</b>	<b>+ 3.1</b>
Shipping agents and forwarders .....	42.9	49.0	51.7	55.4	41.3	43.1	4.5	+ 4.3	+ 0.1
Cargo handling .....	159.8	196.6	211.8	184.8	201.6	204.2	21.2	+ 1.3	+ 5.0
Shipping companies .....	28.6	38.9	52.9	8.8	24.0	33.3	3.5	+ 38.7	+ 3.1
Shipbuilding and repair .....	8.4	8.5	8.7	7.8	9.3	9.1	0.9	- 2.3	+ 1.6
Port construction and dredging .....	10.9	12.8	13.6	13.8	18.9	16.6	1.7	- 12.1	+ 8.8
Fishing .....	44.6	46.2	43.4	42.9	48.1	46.2	4.8	- 3.8	+ 0.7
Port trade .....	0.4	0.5	0.6	0.6	0.6	0.5	0.1	- 16.9	+ 6.8
Port authority .....	26.1	29.1	31.1	31.8	33.5	35.2	3.7	+ 4.8	+ 6.1
Public sector .....	101.3	104.1	101.9	101.8	105.6	105.0	10.9	- 0.6	+ 0.7
<i>Allocation (p.m.) .....</i>	<i>12.7</i>	<i>13.8</i>	<i>12.8</i>	<i>10.0</i>	<i>14.5</i>	<i>16.8</i>	<i>-</i>	<i>+ 15.5</i>	<i>+ 5.7</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>427.1</b>	<b>436.2</b>	<b>500.2</b>	<b>478.4</b>	<b>471.4</b>	<b>469.2</b>	<b>48.8</b>	<b>- 0.5</b>	<b>+ 1.9</b>
<b>TRADE .....</b>	<b>46.0</b>	<b>47.8</b>	<b>85.5</b>	<b>90.2</b>	<b>89.2</b>	<b>96.0</b>	<b>10.0</b>	<b>+ 7.7</b>	<b>+ 15.9</b>
<b>INDUSTRY .....</b>	<b>277.4</b>	<b>276.3</b>	<b>299.9</b>	<b>287.3</b>	<b>280.2</b>	<b>283.3</b>	<b>29.4</b>	<b>+ 1.1</b>	<b>+ 0.4</b>
Energy .....	56.3	53.0	80.0	92.1	97.6	107.4	11.2	+ 10.0	+ 13.8
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	27.2	28.9	29.4	27.6	30.2	31.3	3.2	+ 3.5	+ 2.8
Car manufacturing .....	1.1	0.4	0.5	0.3	0.4	0.5	0.0	+ 21.7	- 15.7
Electronics .....	88.8	74.7	71.8	71.9	54.1	56.8	5.9	+ 4.9	- 8.6
Metalworking industry .....	9.8	9.3	8.2	6.9	9.1	9.0	0.9	- 1.0	- 1.8
Construction .....	38.2	44.6	43.2	35.4	34.1	25.7	2.7	- 24.6	- 7.6
Food industry .....	21.5	27.4	30.0	20.2	24.5	24.3	2.5	- 0.7	+ 2.5
Other industries .....	34.4	38.1	36.7	32.9	30.2	28.4	3.0	- 5.9	- 3.8
<b>LAND TRANSPORT .....</b>	<b>80.9</b>	<b>86.6</b>	<b>83.5</b>	<b>74.6</b>	<b>77.1</b>	<b>71.4</b>	<b>7.4</b>	<b>- 7.4</b>	<b>- 2.5</b>
Road transport .....	65.7	72.1	68.0	60.3	63.5	60.4	6.3	- 4.8	- 1.7
Other land transport .....	15.2	14.5	15.5	14.2	13.6	11.0	1.1	- 19.2	- 6.3
<b>OTHER LOGISTIC SERVICES .....</b>	<b>22.8</b>	<b>25.5</b>	<b>31.3</b>	<b>26.4</b>	<b>24.9</b>	<b>18.5</b>	<b>1.9</b>	<b>- 25.9</b>	<b>- 4.1</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>646.3</b>	<b>724.9</b>	<b>765.3</b>	<b>725.0</b>	<b>737.9</b>	<b>804.2</b>	<b>-</b>	<b>+ 9.0</b>	<b>+ 4.5</b>
<b>MARITIME CLUSTER .....</b>	<b>328.1</b>	<b>378.5</b>	<b>383.6</b>	<b>362.1</b>	<b>375.5</b>	<b>444.8</b>	<b>-</b>	<b>+ 18.4</b>	<b>+ 6.3</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>318.2</b>	<b>346.4</b>	<b>381.7</b>	<b>362.8</b>	<b>362.4</b>	<b>359.4</b>	<b>-</b>	<b>- 0.8</b>	<b>+ 2.5</b>
<b>TOTAL VALUE ADDED .....</b>	<b>1,496.4</b>	<b>1,646.8</b>	<b>1,781.1</b>	<b>1,650.9</b>	<b>1,692.3</b>	<b>1,766.7</b>	<b>-</b>	<b>+ 4.4</b>	<b>+ 3.4</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

Highlights in the non-maritime cluster in 2011:

- The increase in value added in the trade sector comes largely from enterprises that have set up their business in the port zone, like Lanckriet André and Pittman Seafood, for example.
- In the energy segment, the year 2011 was particularly busy for the LNG terminal in Zeebrugge: 20 gas tankers were unloaded and 10 ships loaded. Fluxys LNG has seen an improvement in its operating profits thanks to higher turnover. Fluxys also recorded an increase in net operating profits.
- The construction segment has been strongly influenced by the sharp drop in value added generated by firms belonging to the AGC group. In general, primary glass product prices (AGC Glass Europe) increased during the financial year 2011, yet they showed big differences between geographical markets. However, the financial year was also characterised by rising costs, mainly for energy, soda and silver, while there were also certain costs for limiting the production capacity at the end of the financial year in order to optimise stocks. At AGC Seapane, the financial year results were affected by the conclusion of the restructuring process, the decline of the overall cutting output, the declining productivity and the shift from own production towards trading, which caused the margin to drop.
- The decline in value added in the other logistic services sector stems partly from the bankruptcy of Gems International. For Marine Harvest VAP Europe, 2011 was rather a difficult year, due to the very high salmon commodity prices in the first half of the year. In the second half of the year, the spot market price for salmon dropped, but the unit was bound by high-priced contracts for about 40 % of the volume purchased during this period. The demanding retail market, showing higher yet totally insufficient promotional activity and resilient end product prices, contributed to a lower trading volume.

**TABLE 36** VALUE ADDED TOP 10 AT THE PORT OF ZEEBRUGGE IN 2011

Ranking	Company name	Sector
1	BELGIAN NAVY	Public sector
2	FLUXYS LNG	Energy
3	PHILIPS INNOVATIVE APPLICATIONS	Electronics
4	ZEEBRUGGE PORT AUTHORITY	Port authority
5	TOTAL BELGIUM	Trade
6	FLUXYS BELGIUM	Energy
7	INTERNATIONAL CAR OPERATORS	Cargo handling
8	PUBLIC SECTOR	Public sector
9	C.RO PORTS ZEEBRUGGE	Cargo handling
10	MARINE HARVEST PIETERS	Fishing

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

### 5.3 Employment

For the third year in a row, employment contracted in the port of Zeebrugge in both the maritime and non-maritime clusters. As regards the maritime cluster, cargo handlers recorded the biggest loss in terms of full-time equivalents. Shipping agents and forwarders recovered from the decline suffered in 2010 (+ 24 FTEs), while employment in shipping companies was cut by 11.8 %, i.e. 25 FTEs. In the non-maritime cluster, employment in industry, land transport and other logistic services declined. This was their third year of decline, as it was for the clusters. The drop in industry is the result of the job losses in the construction, other industries and food industry segments, while employment in the electronics and chemicals segments was up.

Highlights in the maritime cluster in 2011:

- The reduction in volumes handled has had a negative impact on employment in the cargo handling segment.
- Among the shipping companies, a drop in employment at Cobelfret Ferries is exerting a downward influence on the segment.

Although several companies in the shipping agents and forwarders segment have made job cuts, three of them - Middelgate Europe, C.RO Agencies and Acuhold - have expanded their staff considerably.

**TABLE 37 EMPLOYMENT AT THE PORT OF ZEEBRUGGE FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>10,376</b>	<b>10,578</b>	<b>11,053</b>	<b>10,723</b>	<b>10,176</b>	<b>9,943</b>	<b>100.0</b>	<b>- 2.3</b>	<b>- 0.8</b>
<b>MARITIME CLUSTER .....</b>	<b>5,668</b>	<b>5,976</b>	<b>6,296</b>	<b>6,154</b>	<b>6,136</b>	<b>6,035</b>	<b>60.7</b>	<b>- 1.7</b>	<b>+ 1.3</b>
Shipping agents and forwarders .....	520	578	550	555	531	555	5.6	+ 4.4	+ 1.3
Cargo handling .....	2,235	2,498	2,682	2,623	2,659	2,596	26.1	- 2.4	+ 3.0
Shipping companies .....	177	219	261	269	216	191	1.9	- 11.8	+ 1.5
Shipbuilding and repair .....	140	141	133	131	135	130	1.3	- 3.6	- 1.5
Port construction and dredging .....	168	171	189	180	177	181	1.8	+ 2.2	+ 1.5
Fishing .....	688	649	625	582	588	577	5.8	- 1.9	- 3.5
Port trade .....	8	9	10	9	9	9	0.1	+ 4.5	+ 2.1
Port authority .....	141	144	141	138	133	134	1.3	+ 0.8	- 1.1
Public sector .....	1,590	1,566	1,705	1,669	1,687	1,663	16.7	- 1.5	+ 0.9
Allocation (p.m.) .....	260	275	247	200	286	273	-	- 4.7	+ 0.9
<b>NON-MARITIME CLUSTER ...</b>	<b>4,709</b>	<b>4,603</b>	<b>4,757</b>	<b>4,569</b>	<b>4,039</b>	<b>3,908</b>	<b>39.3</b>	<b>- 3.2</b>	<b>- 3.7</b>
TRADE .....	603	578	618	626	607	710	7.1	+ 17.0	+ 3.3
INDUSTRY .....	2,543	2,356	2,413	2,310	1,991	1,892	19.0	- 4.9	- 5.7
Energy .....	118	117	122	114	127	127	1.3	+ 0.2	+ 1.5
Fuel production .....	0	0	0	0	0	0	0.0	n.	n.
Chemicals .....	232	244	267	260	239	248	2.5	+ 3.9	+ 1.4
Car manufacturing .....	19	15	12	12	10	10	0.1	- 4.0	- 13.0
Electronics .....	769	565	571	552	352	390	3.9	+ 10.7	- 12.7
Metalworking industry .....	159	145	144	136	143	142	1.4	- 0.8	- 2.2
Construction .....	444	457	463	461	450	373	3.7	- 17.1	- 3.5
Food industry .....	303	304	307	305	285	260	2.6	- 8.6	- 3.0
Other industries .....	499	509	527	471	385	343	3.4	- 11.1	- 7.2
LAND TRANSPORT .....	1,232	1,323	1,338	1,262	1,208	1,090	11.0	- 9.7	- 2.4
Road transport .....	986	1,066	1,075	1,030	983	913	9.2	- 7.1	- 1.5
Other land transport .....	246	257	263	232	225	177	1.8	- 21.2	- 6.3
OTHER LOGISTIC SERVICES .....	331	346	388	370	233	215	2.2	- 7.6	- 8.2
<b>2. INDIRECT EFFECTS .....</b>	<b>10,252</b>	<b>10,868</b>	<b>11,433</b>	<b>11,046</b>	<b>10,137</b>	<b>9,976</b>	<b>-</b>	<b>- 1.6</b>	<b>- 0.5</b>
<b>MARITIME CLUSTER .....</b>	<b>5,892</b>	<b>6,474</b>	<b>6,804</b>	<b>6,558</b>	<b>6,097</b>	<b>5,798</b>	<b>-</b>	<b>- 4.9</b>	<b>- 0.3</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>4,360</b>	<b>4,394</b>	<b>4,629</b>	<b>4,488</b>	<b>4,040</b>	<b>4,177</b>	<b>-</b>	<b>+ 3.4</b>	<b>- 0.9</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>20,629</b>	<b>21,446</b>	<b>22,486</b>	<b>21,769</b>	<b>20,312</b>	<b>19,919</b>	<b>-</b>	<b>- 1.9</b>	<b>- 0.7</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).  
The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

Highlights in the non-maritime cluster in 2011:

- The increase in employment in the trade sector is largely attributable to firms which have set up their business in the port zone.
- One company in the construction segment, AGC Glass Europe, started collective redundancy proceedings in 2010. And AGC Seapane launched a restructuring plan with collective redundancies.
- In electronics, the average number of workers at Philips Innovative Applications fluctuated between 1100-1200 FTEs in 2011. This was a higher figure than in 2010, due among other to the strong growth of the HID/SL in the second half of the year.
- In the food industry, the Bivit enterprise moving out of the port and staff cuts at Kathy Chocolaterie had a negative influence on employment trends.
- In the other industries segment, closure of the industrial spinning plant has triggered implementation of a social plan for employees and workers at the Bruges factory Uco Yarns in 2010.
- In the road transport segment, North Sea Express and DD Trans among others cut back their staff numbers in 2011.
- In other logistic services, Gems International went bankrupt.

**TABLE 38 EMPLOYMENT TOP 10 AT PORT OF ZEEBRUGGE IN 2011**

Ranking	Company name	Sector
1	BELGIAN NAVY	Public sector
2	C.RO PORTS ZEEBRUGGE	Cargo handling
3	INTERNATIONAL CAR OPERATORS	Cargo handling
4	MARINE HARVEST PIETERS	Fishing
5	PHILIPS INNOVATIVE APPLICATIONS	Electronics
6	PUBLIC SECTOR	Public sector
7	WALLENIUS WILHELMSSEN LOGISTICS ZEEBRUGGE	Cargo handling
8	BELGIAN NEW FRUIT WHARF	Cargo handling
9	I.V.B.O.	Other industries
10	CONTAINER HANDLING ZEEBRUGGE	Cargo handling

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics. The employment of the cargo handling firms includes the appeal to dockers.

## 5.4 Investment

After a steep rise in investment in 2010, the port of Zeebrugge recorded a decrease of one-fifth in 2011. This is mostly due to the maritime cluster where investment fell by around 31 %. Investment in cargo handling was cut by half. Only investment in the public sector was significantly up. In the non-maritime cluster, investment in land transport expanded, while it declined in trade, industry and other logistic services. In industry, only the chemicals, metalworking industry and other industries segments grew. Overall, the non-maritime cluster recorded a 1.5 % contraction.

Highlights in the maritime cluster in 2011:

- Among the cargo handlers, the top three investors' rankings are taken by C.Ro Ports Zeebrugge, 2XL and Zeebrugge International Port.
- The Flemish Region invested in the port of Zeebrugge to construct the southern mooring dock and to build a quay wall.

**TABLE 39 INVESTMENT AT THE PORT OF ZEEBRUGGE FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>176.6</b>	<b>197.9</b>	<b>129.5</b>	<b>93.6</b>	<b>214.7</b>	<b>148.5</b>	<b>55.4</b>	<b>- 30.8</b>	<b>- 3.4</b>
Shipping agents and forwarders .....	10.2	8.3	7.3	6.4	17.0	5.4	2.0	- 68.2	- 12.0
Cargo handling .....	126.7	73.6	42.8	25.0	106.2	53.1	19.8	- 50.0	- 16.0
Shipping companies .....	12.8	63.7	2.0	1.0	7.8	1.9	0.7	- 76.1	- 32.0
Shipbuilding and repair .....	0.6	0.6	4.8	1.1	1.1	1.2	0.4	+ 14.0	+ 14.6
Port construction and dredging .....	1.4	1.9	2.1	2.0	2.1	2.3	0.9	+ 8.9	+ 10.3
Fishing .....	5.2	7.6	10.6	9.6	13.3	9.0	3.3	- 32.5	+ 11.5
Port trade .....	0.1	0.0	0.1	0.1	0.1	0.2	0.1	+ 308.4	+ 12.3
Port authority .....	11.4	21.6	30.4	27.3	34.2	33.6	12.5	- 1.9	+ 24.1
Public sector .....	8.0	20.7	29.5	21.0	32.9	41.9	15.6	+ 27.3	+ 39.2
<i>Allocation (p.m.) .....</i>	<i>12.6</i>	<i>19.8</i>	<i>12.5</i>	<i>12.4</i>	<i>30.7</i>	<i>30.5</i>	<i>-</i>	<i>- 0.5</i>	<i>+ 19.4</i>
<b>NON-MARITIME CLUSTER ...</b>	<b>129.9</b>	<b>112.7</b>	<b>133.5</b>	<b>77.1</b>	<b>121.5</b>	<b>119.7</b>	<b>44.6</b>	<b>- 1.5</b>	<b>- 1.6</b>
<b>TRADE .....</b>	<b>9.0</b>	<b>3.9</b>	<b>5.9</b>	<b>9.6</b>	<b>10.7</b>	<b>10.4</b>	<b>3.9</b>	<b>- 2.1</b>	<b>+ 3.1</b>
<b>INDUSTRY .....</b>	<b>93.4</b>	<b>67.0</b>	<b>84.2</b>	<b>49.5</b>	<b>72.6</b>	<b>64.5</b>	<b>24.1</b>	<b>- 11.2</b>	<b>- 7.1</b>
Energy .....	61.1	34.7	38.3	14.8	38.1	27.1	10.1	- 28.8	- 15.0
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	2.0	2.9	5.3	1.7	3.1	4.9	1.8	+ 59.7	+ 19.1
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	11.7	4.5	7.6	5.9	7.5	6.7	2.5	- 11.3	- 10.6
Metalworking industry .....	0.8	3.1	1.1	0.9	0.3	0.3	0.1	+ 3.9	- 15.7
Construction .....	6.3	7.3	8.0	6.2	6.6	5.6	2.1	- 15.1	- 2.2
Food industry .....	5.9	8.5	18.8	14.9	6.7	4.5	1.7	- 33.5	- 5.4
Other industries .....	5.6	5.9	5.1	5.1	10.3	15.4	5.7	+ 50.0	+ 22.6
<b>LAND TRANSPORT .....</b>	<b>19.5</b>	<b>27.4</b>	<b>28.2</b>	<b>11.6</b>	<b>25.8</b>	<b>39.7</b>	<b>14.8</b>	<b>+ 53.6</b>	<b>+ 15.3</b>
Road transport .....	13.7	22.1	25.7	10.3	15.4	14.6	5.5	- 5.2	+ 1.3
Other land transport .....	5.8	5.2	2.6	1.2	10.4	25.0	9.3	+ 140.7	+ 34.2
<b>OTHER LOGISTIC SERVICES .....</b>	<b>8.1</b>	<b>14.4</b>	<b>15.2</b>	<b>6.4</b>	<b>12.4</b>	<b>5.1</b>	<b>1.9</b>	<b>- 58.8</b>	<b>- 8.9</b>
<b>DIRECT INVESTMENT .....</b>	<b>306.5</b>	<b>310.5</b>	<b>263.0</b>	<b>170.6</b>	<b>336.2</b>	<b>268.2</b>	<b>100.0</b>	<b>- 20.2</b>	<b>- 2.6</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).



Highlights in the non-maritime cluster in 2011:

- In 2009 Fluxys decided to invest in the construction of an Open Rack Vaporizer at the Zeebrugge LNG terminal and initiated discussions with the relevant federal and regional authorities concerned. The competent authorities issued the environmental permit for the ORV project in July 2010 and works got under way in autumn. These vaporizers, which regasify LNG using the heat present in seawater, can considerably reduce energy consumption as well as carbon dioxide, nitrogen dioxide and noise emissions. In 2011, a seawater pipeline was laid, ORV concrete structures erected and heat exchangers installed. The ORV was due to come on stream at the end of 2012.
- In the chemicals segment, the two main investors are Umicore Specialty Materials Brugge and BEVECO<sup>57</sup>. The major investments of Umicore Specialty Materials Brugge mainly concerned the purchase and installation of an industrial pelletizer and the move of the waste management centre. Belgische Veencompagnie Beveco mainly invested in the fixed assets under construction, notably a new storage depot and corresponding industrial machinery.
- Growth in investment in the other industries segment was largely attributable to the intercommunal services company IVBO (Intergemeentelijk samenwerkingsverband voor Vuilverwijdering en -verwerking in Brugge en Ommeland).

**TABLE 40 INVESTMENT TOP 10 AT THE PORT OF ZEEBRUGGE IN 2011**

Ranking	Company name	Sector
1	PUBLIC SECTOR	Public sector
2	ZEEBRUGGE PORT AUTHORITY	Port authority
3	BNRC GROUP	Other land transport
4	FLUXYS BELGIUM	Energy
5	I.V.B.O.	Other industries
6	FLUXYS LNG	Energy
7	C.RO PORTS ZEEBRUGGE	Cargo handling
8	2XL	Cargo handling
9	ZEEBRUGGE INTERNATIONAL PORT	Cargo handling
10	PHILIPS INNOVATIVE APPLICATIONS	Electronics

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

<sup>57</sup> This firm is now named "Klasmann-Deilmann Belgium".

## 6 LIÈGE PORT COMPLEX

### 6.1 Port developments<sup>58</sup>

Waterway traffic in the port of Liège increased by 1.9 % in 2011. The volume handled during the year under review reached 19 million tonnes. During the first half of the year, the Liège Port Authority witnessed a revival of activity, on the back of the economic upturn, with significant growth figures (+11 %) for tonnages carried by water. By contrast, they observed a gradual slowdown during the second quarter.

During the course of 2011, the category of products handled the most in the port, non-metal mineral products, further strengthened its position: with a growth rate of 8 %, it exceeded the figure of six million tonnes transshipped and in 2011 accounted for two-fifths of all shipping cargo in the port of Liège<sup>59</sup>. With transshipments of just under half of the volumes of the former category, coke and refined petroleum products were in second place, although down 4 %. The coal and lignite category contracted by 13 % in the space of a year and now accounts for no more than 1.5 million tonnes. Ores registered one of the sharpest falls with -19 %, while the metals category was up slightly (+4 %). Agricultural products rose strongly (+15 %), overtaking the volume of secondary raw materials and waste handled in the port. Lastly, general cargo and containers enjoyed a spectacular rise, accounting for as much as four-fifths of their tonnage for the year 2010.

In November 2011, the Liège Port Authority inaugurated new industrial premises to serve as a technical building. The new building, which cost around € 885,000 excluding VAT, was constructed on a refurbished 7,300 m<sup>2</sup> site, along Ile Monsin street in Liège. It is intended for workshops and for parking service vehicles, a boat and heavy industrial equipment. The surroundings have also been refurbished as a result.

During the month of August 2011, the ArcelorMittal steel group had shut down its second blast furnace. Originally, this decision had been taken for maintenance purposes but the industrial group then decided to cut costs in Europe by one billion dollars by the end of 2012. In October of the same year, ArcelorMittal announced plans to close down its liquid phase production plants in the Liège region for good, namely the two blast furnaces (HF6, which has been shut for three years, and HF B) and the Chertal steelworks<sup>60</sup>. It is worth noting that these firms are important customers for the port notably for transporting iron ores. While negotiations with the trade unions on redundancy schemes were bogged down, fears were growing for the other Liège-based plants. And they were well-founded. At the end of January 2013, ArcelorMittal announced that it was closing another seven production facilities: six finishing lines (the hot strip mill in Chertal, one of the two cold rolling flows in Tilleur, galvanisation lines 4 and 5 in Flémalle, electrogalvanizing lines HP3 and 4 in Marchin) and the coke plant. The steel group blamed the decision on the continued weakness of the European market. Initial estimates point to the loss of another 1,300 jobs, all workers directly employed in the steel industry<sup>61</sup>. A good many sub-contractors will also be forced to scale down their activities. Even though not all the group's affiliated companies and their sub-contractors are located in the port zone, the repercussions on the value added and employment figures in the Liège port complex will be huge. However, they will only be gradually felt along with ArcelorMittal's pull-out from the production plants.

The direct value added of the Liège port complex in 2011 presented a growth of 7.3 % (+5.3 % by volume). The greater contribution of the indirect effects extended the growth of total value added to 10.8 % (8.8 % by volume). The share of direct value added in the GDP of the Walloon Region and the Belgian GDP remained stable at 1.6 and 0.4 % respectively. Total value added of the Liège port complex accounted for 3.3 % of the GDP of the Walloon Region. The share of total value added in Belgian GDP increased 0.1 percentage point to 0.8 %.

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<sup>58</sup> Source: *Press release 9 February 2012* from the Liège Port Authority.

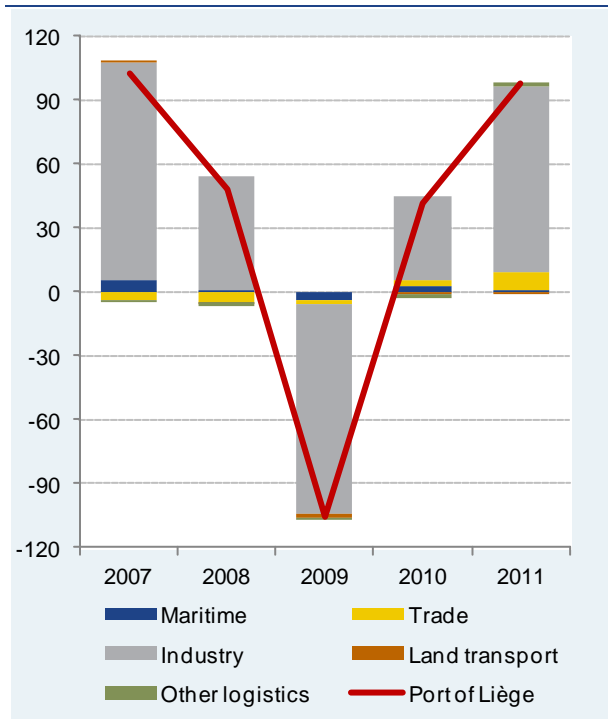
<sup>59</sup> The traffic considered here is the cargo handled on the public quays.

<sup>60</sup> The job losses have been estimated in the media at around 800.

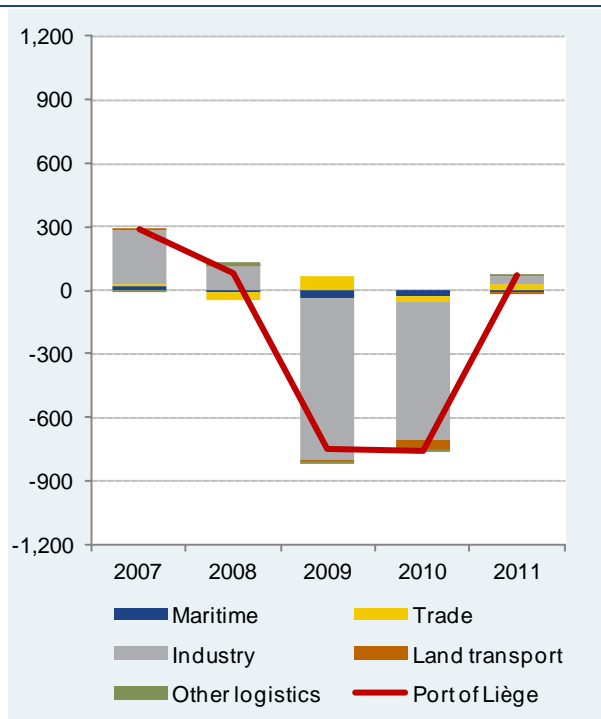
<sup>61</sup> The ArcelorMittal group and Walloon government were still negotiating at the end of spring 2013 about the closure of those production facilities.

Direct employment in the Liège port complex recorded a growth of 0.7 %. It represented 0.9 % of domestic employment in the Walloon Region of 2011. Total employment represented 2.3 % of Walloon employment, a drop with 0.1 percentage point compared to the year 2010. In relation to employment in Belgium, the shares remained stable at 0.2 % (direct employment) and 0.6 % (total employment).

**CHART 12** CHANGE IN DIRECT VALUE ADDED  
(in € million, current prices)



**CHART 13** CHANGE IN DIRECT EMPLOYMENT  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

## 6.2 Value added

Direct value added in the Liège port complex rose by 7.3 % in 2011. The maritime cluster remained steady with little changes in the segments, while the non-maritime cluster's value added expanded by 7.4 %. In the trade sector, value added grew by 10.9 % and in the other logistic services sector by 17.6 %. Trade was at the highest point for the last six years. In the industry sector, value added increased by about one-fifth in the energy and electronics segments. For the first time for the last six years, value added in the fuel production segment was positive. However, value added in all the other segments of industry declined. Total value added in industry was 7.1 % up.

Highlights in the maritime cluster in 2011:

- In the cargo handling segment, the fall in value added produced by Société Industrielle de Renory as well as by Petroleum Product Storage and Transport Company was offset by a rise in value added generated by Euroports Inland Terminals. In this company, turnover expanded by one-fifth, which had repercussions of the same proportion on operating charges. Operating profit was up by 50 % as a result.

**TABLE 41 VALUE ADDED IN THE LIÈGE PORT COMPLEX FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>1,264.6</b>	<b>1,367.6</b>	<b>1,415.5</b>	<b>1,309.5</b>	<b>1,351.4</b>	<b>1,449.5</b>	<b>100.0</b>	<b>+ 7.3</b>	<b>+ 2.8</b>
<b>MARITIME CLUSTER .....</b>	<b>26.7</b>	<b>32.5</b>	<b>32.9</b>	<b>29.4</b>	<b>32.2</b>	<b>32.6</b>	<b>2.2</b>	<b>+ 1.1</b>	<b>+ 4.1</b>
Shipping agents and forwarders .....	6.3	8.5	8.5	9.2	11.6	11.7	0.8	+ 1.1	+ 13.1
Cargo handling .....	13.6	16.6	16.2	14.4	14.2	14.4	1.0	+ 0.9	+ 1.1
Shipping companies .....	4.1	4.5	5.7	3.4	3.9	3.8	0.3	- 4.2	- 1.8
Shipbuilding and repair .....	0.5	0.6	0.6	0.4	0.4	0.5	0.0	+ 49.2	+ 0.2
Port construction and dredging .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port authority .....	2.1	2.2	2.1	2.1	2.1	2.2	0.1	+ 4.3	+ 0.9
Public sector .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
<b>NON-MARITIME CLUSTER ...</b>	<b>1,237.9</b>	<b>1,335.1</b>	<b>1,382.6</b>	<b>1,280.1</b>	<b>1,319.1</b>	<b>1,417.0</b>	<b>97.8</b>	<b>+ 7.4</b>	<b>+ 2.7</b>
<b>TRADE .....</b>	<b>89.2</b>	<b>85.7</b>	<b>81.2</b>	<b>79.3</b>	<b>82.1</b>	<b>91.1</b>	<b>6.3</b>	<b>+ 10.9</b>	<b>+ 0.4</b>
<b>INDUSTRY .....</b>	<b>1,121.5</b>	<b>1,223.0</b>	<b>1,276.9</b>	<b>1,178.0</b>	<b>1,217.1</b>	<b>1,304.2</b>	<b>90.0</b>	<b>+ 7.1</b>	<b>+ 3.1</b>
Energy .....	256.9	305.8	342.0	450.5	453.1	536.0	37.0	+ 18.3	+ 15.8
Fuel production .....	0.0	-2.7	-3.9	-10.7	-5.3	42.4	2.9	n.	n.
Chemicals .....	100.9	104.8	192.4	62.3	126.5	119.7	8.3	- 5.4	+ 3.5
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	9.9	7.2	8.6	7.7	8.5	10.3	0.7	+ 20.3	+ 0.7
Metalworking industry .....	511.3	597.9	499.5	444.8	412.0	383.8	26.5	- 6.8	- 5.6
Construction .....	174.0	142.6	150.5	143.5	133.2	128.8	8.9	- 3.3	- 5.8
Food industry .....	25.2	20.8	33.3	25.1	22.8	20.5	1.4	- 10.3	- 4.1
Other industries .....	43.3	46.7	54.5	54.9	66.2	62.8	4.3	- 5.2	+ 7.7
<b>LAND TRANSPORT .....</b>	<b>9.6</b>	<b>9.9</b>	<b>9.7</b>	<b>8.3</b>	<b>6.8</b>	<b>6.3</b>	<b>0.4</b>	<b>- 7.4</b>	<b>- 8.2</b>
Road transport .....	8.1	8.6	8.6	7.2	5.7	5.3	0.4	- 8.1	- 8.2
Other land transport .....	1.6	1.3	1.1	1.1	1.0	1.0	0.1	- 3.5	- 8.5
<b>OTHER LOGISTIC SERVICES .....</b>	<b>17.6</b>	<b>16.4</b>	<b>14.7</b>	<b>14.5</b>	<b>13.2</b>	<b>15.5</b>	<b>1.1</b>	<b>+ 17.6</b>	<b>- 2.6</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>1,129.8</b>	<b>1,222.7</b>	<b>1,379.6</b>	<b>1,318.2</b>	<b>1,285.2</b>	<b>1,472.2</b>	<b>-</b>	<b>+ 14.5</b>	<b>+ 5.4</b>
<b>MARITIME CLUSTER .....</b>	<b>41.8</b>	<b>48.0</b>	<b>51.2</b>	<b>51.8</b>	<b>50.9</b>	<b>50.6</b>	<b>-</b>	<b>- 0.7</b>	<b>+ 3.9</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>1,088.0</b>	<b>1,174.7</b>	<b>1,328.4</b>	<b>1,266.4</b>	<b>1,234.2</b>	<b>1,421.6</b>	<b>-</b>	<b>+ 15.2</b>	<b>+ 5.5</b>
<b>TOTAL VALUE ADDED .....</b>	<b>2,394.4</b>	<b>2,590.2</b>	<b>2,795.1</b>	<b>2,627.7</b>	<b>2,636.5</b>	<b>2,921.7</b>	<b>-</b>	<b>+ 10.8</b>	<b>+ 4.1</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

Highlights in the non-maritime cluster in 2011:

- The strong increase in the trade sector is attributable to Total Belgium. Coal-trading enterprise Terval also registered a healthy increase in its value added, on the back of higher turnover and a tightly-controlled rise in costs. Pesticides firm Belgagri, which moved into the port zone at the end of 2010, and the newly-established Abraservice, which specialises in the distribution of anti-abrasion steel products and high elasticity steels, have also had a positive impact on trends in the value added of the trade sector.
- In the energy sector, electricity producer Electrabel paid a single premium into its staff pension fund, thus boosting the remuneration, social security costs and pensions item on the company's accounts.
- Operating incomes of Imerys Minéraux Belgique were up by 15 % following a modified scope of activity after the company acquired two kaolin distribution businesses in 2010 and owing to the increase in intragroup rebilling. However, purchases of raw materials, consumables, services and other goods increased at an even faster rate. As a result, operating profits are down. But value added generated by most firms in the chemicals industry segment has fallen back.
- In construction, the operating margin of Carrières et Fours à Chaux Dumont-Wautier narrowed.
- In the metalworking industry, ArcelorMittal Liege Upstream was taken over by ArcelorMittal Belgium. Value added generated by these two companies in the port of Liège declined.
- Intradel and Uvelia (other industries) recorded a sharp rise in their operating costs.
- In other logistic services, Buchen Industrial Services and Prayon Technologies registered increase in their value added. Business at Prayon Technologies held up very well throughout the year 2011. Turnover rose by 45 % on 2010 levels. Among other things, the company carried out research work into adapting lines to phosphate pulp and other studies concerning the design of a pilot acid processing plant.
- In the road transport segment, most companies have seen their value added figures fall..

**TABLE 42** VALUE ADDED TOP 10 AT THE LIÈGE PORT COMPLEX IN 2011

Ranking	Company name	Sector
1	ELECTRABEL	Energy
2	ARCELMITTAL BELGIUM	Metalworking industry
3	EDF LUMINUS	Energy
4	PRAYON	Chemicals
5	COCKERILL MAINTENANCE & INGENIERIE	Metalworking industry
6	TOTAL BELGIUM	Trade
7	CIMENTERIES CBR CEMENTBEDRIJVEN	Construction
8	CARRIERES ET FOURS A CHAUX DUMONT-WAUTIER	Construction
9	BIOWANZE	Fuel production
10	INTRADEL	Other industries

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

### 6.3 Employment

Direct employment in the Liège port complex grew by 0.7 % in 2011. It was down by 1 % in the maritime cluster but up by 0.8 % in the non-maritime cluster. In the maritime cluster, employment was hit by the job losses in the shipping agents and forwarders segment but employment numbers were up or held steady in all other segments. In the non-maritime cluster, employment expanded in every sector except land transport, number of FTEs of which declined by 3.5 %. In the industry sector, construction recorded the biggest loss of jobs in terms of full-time equivalents but the number of segments gaining new jobs exceeded those losing jobs. So industry employment held steady.

Highlights in the maritime cluster in 2011:

- Among the shipping agents and forwarders, Panalpina World Transport's move outside the Liège port complex led to a reduction in the average number of FTEs.
- Higher employment at Euroports Inland Terminals has had a positive impact on the cargo handling segment.

**TABLE 43 EMPLOYMENT IN THE LIÈGE PORT COMPLEX FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>10,829</b>	<b>11,123</b>	<b>11,208</b>	<b>10,456</b>	<b>9,703</b>	<b>9,771</b>	<b>100.0</b>	<b>+ 0.7</b>	<b>- 2.0</b>
<b>MARITIME CLUSTER .....</b>	<b>403</b>	<b>428</b>	<b>422</b>	<b>387</b>	<b>359</b>	<b>356</b>	<b>3.6</b>	<b>- 1.0</b>	<b>- 2.5</b>
Shipping agents and forwarders .....	98	112	109	107	100	86	0.9	- 14.4	- 2.6
Cargo handling .....	182	186	182	170	162	169	1.7	+ 4.1	- 1.5
Shipping companies .....	71	78	78	63	52	55	0.6	+ 6.5	- 5.0
Shipbuilding and repair .....	12	13	14	9	9	10	0.1	+ 8.3	- 3.1
Port construction and dredging .....	0	0	0	0	0	0	0.0	n.	n.
Fishing .....	0	0	0	0	0	0	0.0	n.	n.
Port trade .....	0	0	0	0	0	0	0.0	n.	n.
Port authority .....	40	39	39	37	36	36	0.4	+ 0.0	- 2.1
Public sector .....	0	0	0	0	0	0	0.0	n.	n.
<b>NON-MARITIME CLUSTER ...</b>	<b>10,427</b>	<b>10,695</b>	<b>10,786</b>	<b>10,070</b>	<b>9,343</b>	<b>9,415</b>	<b>96.4</b>	<b>+ 0.8</b>	<b>- 2.0</b>
<b>TRADE .....</b>	<b>334</b>	<b>342</b>	<b>299</b>	<b>369</b>	<b>341</b>	<b>372</b>	<b>3.8</b>	<b>+ 9.2</b>	<b>+ 2.2</b>
<b>INDUSTRY .....</b>	<b>9,744</b>	<b>9,993</b>	<b>10,109</b>	<b>9,340</b>	<b>8,687</b>	<b>8,727</b>	<b>89.3</b>	<b>+ 0.5</b>	<b>- 2.2</b>
Energy .....	1,148	1,209	1,265	1,300	1,283	1,281	13.1	- 0.2	+ 2.2
Fuel production .....	0	0	13	92	128	124	1.3	- 3.6	n.
Chemicals .....	1,004	1,003	1,060	1,071	1,078	1,085	11.1	+ 0.6	+ 1.6
Car manufacturing .....	0	0	0	0	0	0	0.0	n.	n.
Electronics .....	144	146	134	120	116	127	1.3	+ 9.4	- 2.4
Metalworking industry .....	5,773	5,989	5,980	5,165	4,439	4,461	45.7	+ 0.5	- 5.0
Construction .....	1,004	1,002	987	905	921	900	9.2	- 2.3	- 2.2
Food industry .....	148	107	113	90	83	94	1.0	+ 13.3	- 8.8
Other industries .....	524	536	558	597	639	656	6.7	+ 2.7	+ 4.6
<b>LAND TRANSPORT .....</b>	<b>163</b>	<b>176</b>	<b>177</b>	<b>170</b>	<b>127</b>	<b>123</b>	<b>1.3</b>	<b>- 3.5</b>	<b>- 5.5</b>
Road transport .....	138	153	158	152	110	107	1.1	- 3.1	- 5.0
Other land transport .....	25	23	19	18	17	16	0.2	- 5.9	- 8.5
<b>OTHER LOGISTIC SERVICES .....</b>	<b>186</b>	<b>186</b>	<b>201</b>	<b>190</b>	<b>189</b>	<b>193</b>	<b>2.0</b>	<b>+ 2.6</b>	<b>+ 0.8</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>15,716</b>	<b>16,482</b>	<b>16,402</b>	<b>15,278</b>	<b>15,421</b>	<b>15,637</b>	<b>-</b>	<b>+ 1.4</b>	<b>- 0.1</b>
<b>MARITIME CLUSTER .....</b>	<b>822</b>	<b>878</b>	<b>860</b>	<b>742</b>	<b>694</b>	<b>712</b>	<b>-</b>	<b>+ 2.6</b>	<b>- 2.8</b>
<b>NON-MARITIME CLUSTER ...</b>	<b>14,894</b>	<b>15,604</b>	<b>15,542</b>	<b>14,535</b>	<b>14,727</b>	<b>14,925</b>	<b>-</b>	<b>+ 1.3</b>	<b>+ 0.0</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>26,546</b>	<b>27,605</b>	<b>27,610</b>	<b>25,734</b>	<b>25,124</b>	<b>25,408</b>	<b>-</b>	<b>+ 1.1</b>	<b>- 0.9</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

Highlights in the non-maritime cluster in 2011:

- In trade, Belgagri setting up business in the port of Liège has had a positive impact on employment. On the other hand, despite Abraservice Belgium taking over part of Stapper Intramet's business, the job cuts at the latter could not be entirely compensated for by Abraservice Belgium.
- In the energy segment, the drop in employment at Luminus was offset by the increase at Electrabel.
- In the metalworking industry, Société Belge d'Oxycoupage underwent restructuring with a wave of employee departures, notably on early retirement. Another company, GGM, set up shop in the port zone. This firm is involved in the care and maintenance of production machines and facilities. It also makes machine-tooled parts for the aerospace and steel industries.
- The construction segment registered staff cuts in several cement-sector firms.
- Employment has expanded at CE+T (electronics).

**TABLE 44 EMPLOYMENT TOP 10 AT THE LIÈGE PORT COMPLEX IN 2011**

Ranking	Company name	Sector
1	ARCELORMITTAL BELGIUM	Metalworking industry
2	ELECTRABEL	Energy
3	COCKERILL MAINTENANCE & INGENIERIE	Metalworking industry
4	PRAYON	Chemicals
5	INTRADEL	Other industries
6	CIMENTERIES CBR CEMENTBEDRIJVEN	Construction
7	EDF LUMINUS	Energy
8	CARRIERES ET FOURS A CHAUX DUMONT-WAUTIER	Construction
9	SEGAL	Metalworking industry
10	BIOWANZE	Fuel production

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

## 6.4 Investment

Investment in the Liège port complex was 8.8 % up in 2011. The maritime cluster recorded an increase, due mainly to the cargo handling segment but the shipping agents and forwarders' and the shipping companies' segments were also up. The rise in the non-maritime cluster is smaller in percentage terms (+5.7 %) but bigger in total amount. Investment in every sector of the cluster grew. In industry, investment in chemicals was at its lowest point for the last six years but the increase in the energy and metalworking industry segments offset the drop. So, overall, investment in industry was up by 4.6 % in 2011.

Highlights in the non-maritime cluster in 2011:

- In the cargo handling segment, the Luxembourg company Dépôts Pétroliers Contern carried out major work dismantling oil tanks, which also involved excavated soil remediation. The Wandre site benefited from a lucrative storage contract with Apetra (strategic stocks) and, as a result, the company had expansion plans with the construction of new storage tanks.

Highlights in the non-maritime cluster in 2011:

- In trade, the big increase in acquisitions under the headings "plant, machinery and equipment" and "leasing and other similar rights" in Indumet had a positive impact on investment growth in the sector. It was the sector's biggest investor in 2011.
- In the energy segment, expenditure by energy producer and supplier Electrabel on maintenance work at the Tihange nuclear power plant rose sharply in 2011.
- Turning to the metalworking industry segment, Engineering Steel Belgium stepped up its investment expenditure in 2011 under a plan running until the end of 2015. The objective of the plan is to improve the firm's productivity and profitability.
- Despite a sharp drop in its investment, Prayon is still the principal investor in the chemicals industry.

**TABLE 45 INVESTMENT IN THE LIÈGE PORT COMPLEX FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>5.4</b>	<b>5.1</b>	<b>10.6</b>	<b>3.5</b>	<b>4.0</b>	<b>10.0</b>	<b>4.9</b>	<b>+ 149.9</b>	<b>+ 13.2</b>
Shipping agents and forwarders .....	0.4	1.0	4.2	0.8	1.1	1.3	0.7	+ 22.9	+ 30.3
Cargo handling .....	4.1	3.1	4.7	2.4	2.3	7.7	3.8	+ 238.5	+ 13.5
Shipping companies .....	0.1	0.8	0.8	0.2	0.3	0.7	0.3	+ 134.2	+ 38.3
Shipbuilding and repair .....	0.1	0.1	0.1	0.0	0.0	0.0	0.0	n.	n.
Port construction and dredging .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port authority .....	0.7	0.1	0.9	0.1	0.3	0.2	0.1	- 25.7	- 19.5
Public sector .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
<b>NON-MARITIME CLUSTER ...</b>	<b>157.5</b>	<b>339.7</b>	<b>426.3</b>	<b>560.9</b>	<b>184.1</b>	<b>194.5</b>	<b>95.1</b>	<b>+ 5.7</b>	<b>+ 4.3</b>
<b>TRADE .....</b>	<b>5.0</b>	<b>7.1</b>	<b>3.2</b>	<b>7.0</b>	<b>5.0</b>	<b>6.9</b>	<b>3.4</b>	<b>+ 37.8</b>	<b>+ 6.8</b>
<b>INDUSTRY .....</b>	<b>145.3</b>	<b>327.2</b>	<b>417.0</b>	<b>551.3</b>	<b>174.8</b>	<b>182.9</b>	<b>89.4</b>	<b>+ 4.6</b>	<b>+ 4.7</b>
Energy .....	36.7	55.5	41.5	131.5	63.4	86.0	42.1	+ 35.6	+ 18.6
Fuel production .....	11.8	91.1	142.8	51.8	16.8	6.4	3.1	- 61.7	- 11.5
Chemicals .....	21.1	28.3	41.8	41.3	36.4	20.2	9.9	- 44.5	- 0.9
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	1.2	0.7	0.6	0.3	0.5	0.7	0.4	+ 46.3	- 10.3
Metalworking industry .....	30.1	63.0	58.8	35.1	24.6	41.3	20.2	+ 68.1	+ 6.6
Construction .....	27.5	23.7	23.0	14.0	23.8	20.4	10.0	- 14.4	- 5.8
Food industry .....	3.4	4.2	4.2	1.4	1.1	1.3	0.6	+ 15.5	- 17.1
Other industries .....	13.4	60.5	104.3	275.8	8.1	6.5	3.2	- 20.0	- 13.5
<b>LAND TRANSPORT .....</b>	<b>4.5</b>	<b>2.5</b>	<b>4.4</b>	<b>1.7</b>	<b>1.3</b>	<b>1.6</b>	<b>0.8</b>	<b>+ 27.8</b>	<b>- 18.7</b>
Road transport .....	3.7	1.7	3.6	0.9	0.7	0.8	0.4	+ 20.7	- 25.6
Other land transport .....	0.9	0.8	0.8	0.8	0.6	0.8	0.4	+ 36.4	- 2.4
<b>OTHER LOGISTIC SERVICES .....</b>	<b>2.7</b>	<b>2.8</b>	<b>1.7</b>	<b>0.9</b>	<b>3.0</b>	<b>3.1</b>	<b>1.5</b>	<b>+ 3.7</b>	<b>+ 2.7</b>
<b>DIRECT INVESTMENT .....</b>	<b>162.9</b>	<b>344.8</b>	<b>436.9</b>	<b>564.4</b>	<b>188.0</b>	<b>204.5</b>	<b>100.0</b>	<b>+ 8.8</b>	<b>+ 4.7</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).



**TABLE 46 INVESTMENT TOP 10 IN THE LIÈGE PORT COMPLEX IN 2011**

Ranking	Company name	Sector
1	ELECTRABEL	Energy
2	ARCELORMITTAL BELGIUM	Metalworking industry
3	PRAYON	Chemicals
4	ENGINEERING STEEL BELGIUM	Metalworking industry
5	EDF LUMINUS	Energy
6	CARRIERES ET FOURS A CHAUX DUMONT-WAUTIER	Construction
7	BIOWANZE	Fuel production
8	DEPOTS PETROLIERS CONTERN	Cargo handling
9	AERTSSEN TERRASSEMENTS	Construction
10	CIMENTERIES CBR CEMENTBEDRIJVEN	Construction

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

## 7 PORT OF BRUSSELS

### 7.1 Port developments<sup>62</sup>

After enjoying a 9 % growth rate in 2010, cargo traffic in and out of the port of Brussels posted another excellent year in 2011, with cargo volumes transported by waterway and transshipped in the port, at 4.9 million tonnes, almost back up to the record level seen in 2008. This latest result is 10.7 % up on 2010.

The main maritime cargo category, building materials, recorded a 24 % expansion. This increase not only concerns conventional bulk cargoes like sand and gravel but also cement and materials transported on pallets. In 2011, this category of goods accounted for 58 % of the port of Brussels' own traffic compared with 52 % in 2010. Petroleum products, another major category, remained stable in 2011, as did ores and metal waste. Agricultural products and foodstuffs were down by 18 and 20 % respectively. The excellent results posted in 2010, which had made it possible to cancel out the impact of the economic crisis on the container terminal business in the space of just one year, could not be repeated in 2011 and the number of TEUs handled in this terminal contracted by 22 % in the year under review.

The port of Brussels' main partner country remained the Netherlands. Thanks to trade in oil and building materials, the market share held by the Netherlands reached three-fifths of the port's total cargo traffic in 2011. Germany was the port of Brussels' second biggest trading partner, notably because of building materials and grain cargoes. In trade flows with the other Belgian ports, the port of Antwerp still held a privileged place.

The new management contract between the government of the Brussels-Capital Region and the Port of Brussels covers the years 2013 to 2018. Under this new contract, the Port of Brussels has been given the task of facilitating urban distribution channels. A series of concrete measures are envisaged for the port's logistics activities. One such measure involves cooperation between the Port and Mوبiel Brussel on a project to set up an urban centre distribution within the new TIR centre<sup>63</sup>. The use of electric vehicles is under consideration. The Brussels-Capital Region has undertaken to do its utmost so that the Port of Brussels can benefit from the Schaerbeek former rail marshalling yard with a view to developing a tri-modal logistics centre there. This new use for the site will enable the two wholesale markets Mabru<sup>64</sup> and CEFL<sup>65</sup> to move. A heavy goods vehicle parking lot is also planned, along with construction of a passenger cruise terminal at Neder-over-Hembeek, on the left bank of the outer port. This other major project will include a landing stage 240 metres long, roadworks, a car park and renovation of the Meudon pavilions.

The direct value added of the port of Brussels was down by 1.2 % in 2011 (-3.1 % by volume). Total value added represented 1.5 % of the GDP of the Brussels Capital Region, or 0.1 percentage point less than in 2010 and direct value added remained stable at 0.8 %. The share of direct and total value added in the national GDP was 0.1 and 0.3 % respectively.

Employment in the port of Brussels grew by 1.1 % in 2011. The share of direct and total employment in the employment in the Brussels Region remained at the same level, with 0.7 and 1.6 % respectively. Also the share in Belgian domestic employment remained unchanged at 0.1 % for direct and 0.2 % for total employment.

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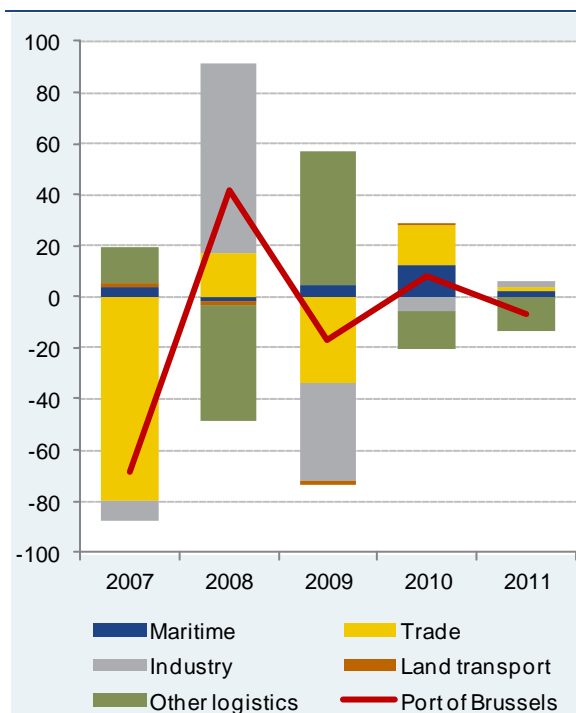
<sup>62</sup> Sources: *Annual Report 2011* of the Brussels Port Authority and press release.

<sup>63</sup> TIR: center for road transport associated to the Port of Brussels.

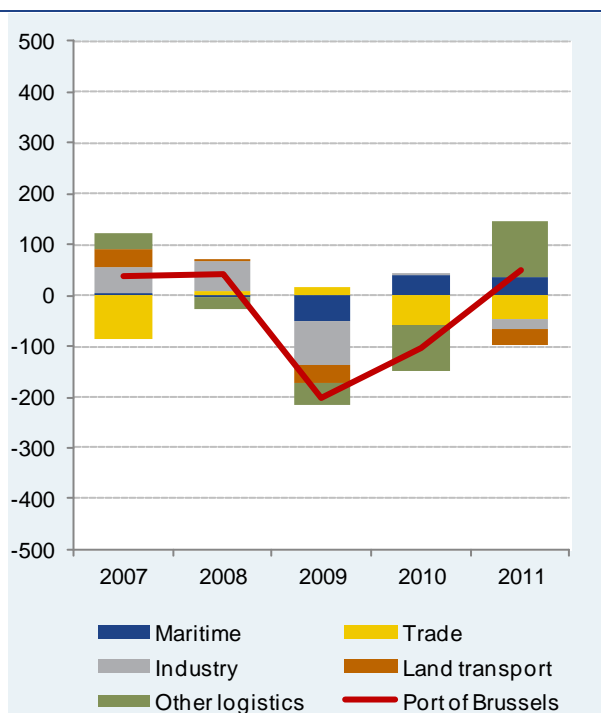
<sup>64</sup> Mabru: Morning Market of the city of Brussels.

<sup>65</sup> CEFL: European centre of fruit and vegetables.

**CHART 14** CHANGE IN DIRECT VALUE ADDED  
(in € million, current prices)



**CHART 15** CHANGE IN DIRECT EMPLOYMENT  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

## 7.2 Value added

Direct value added in the port of Brussels decreased by 1.2 %. In the maritime cluster, value added grew by 5.4 %, while it contracted by 1.9 % in the non-maritime cluster. In the maritime cluster, the main segment, shipping agents and forwarders, rose by 4.9 %. In the non-maritime cluster, value added generated by the trade sector remained stable, while the industry sector increased by 2.6 % and land transport contracted by 2.3 %. The biggest decline in value added was in the other logistic services sector with a fall of 6.8 %.

### Highlights in the maritime cluster in 2011:

- In the cargo handling segment, Interfashion Trade Belgium provided important contribution to the growth of value added.
- After a loss-making year in 2010, the Brussels Port Authority has once again posted a profit to be carried forward, by virtue of its own activities and also as a result of the closing of the BILC dossier. The Brussels Port Authority boosted its turnover figures by 9 % in 2011 on the back of increases in concession fees. Another noteworthy point is the higher rate of recovery of specific costs. In December 2011, the Port was able to issue the first of a series of invoices to the tenant of the old Carcoke site after the final soil rehabilitation operations. Preparatory work on groundwater remediation at this site was wrapped up in 2011 and the clean-up was able to start.
- Two firms, Reibel thanks to the rise in its turnover and DSV Solutions after group reorganisation, contributed to the improvement of value added in the shipping agents and forwarders segment. Conversely, value added at Xpedys was down, mainly due to the high costs of upgrading freight wagons. In fact, in 2011, a whole series of goods wagons had to undergo major maintenance works, which weighed heavily on the company's operating costs.

### Highlights in the non-maritime cluster in 2011:

- Trade sector heavyweight Renault V.I. Belgique was taken over by Excel Motor. On the other hand, Duferco Special Steels (Europe) has had a positive influence on value added trends. Several different elements have played a part in the company's financial results, the most important of which have been the upturn in economic activity in the mechanical engineering industries, notably in Germany, the sales price increase and costs (transport, other goods and services, staff costs) being kept in line with volumes and turnover.

- In the chemicals industry, Peptisyntha registered lower value added figures despite the fact that some projects which had been put on hold during the 2009 financial crisis managed to attract venture funding and some other projects were able to move further ahead with their clinical trials. This tailing off of value added stems from a rise in operating costs.
- Value added in construction rose thanks to SPIE Belgium and Inter-Beton, among others.
- In the food industry, Ceres posted a rise in its other operating income, which in turn has boosted value added.
- Turning to the other industries segment, the reorganisation of the SITA group and higher purchases of other goods and services at Aquiris have had a negative influence on value added, unlike Bruxelles Energie which enjoyed turnover growth and a rise in profits.  
In other logistic services, Solvay recorded a sharp increase in purchases of other goods and services. Likewise, Ineos Services Belgium, whose group went through a major reorganisation with the transfer of the parent company's headquarters to Switzerland, also saw its value added fall.

**TABLE 47 VALUE ADDED AT THE PORT OF BRUSSELS FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>574.0</b>	<b>505.4</b>	<b>547.5</b>	<b>530.8</b>	<b>538.6</b>	<b>531.9</b>	<b>100.0</b>	<b>- 1.2</b>	<b>- 1.5</b>
<b>MARITIME CLUSTER .....</b>	<b>28.2</b>	<b>31.7</b>	<b>30.4</b>	<b>34.7</b>	<b>46.7</b>	<b>49.2</b>	<b>9.3</b>	<b>+ 5.4</b>	<b>+ 11.8</b>
Shipping agents and forwarders .....	10.8	9.5	16.0	21.1	31.4	33.0	6.2	+ 4.9	+ 25.0
Cargo handling .....	9.0	11.7	10.6	6.6	8.4	9.1	1.7	+ 7.5	+ 0.1
Shipping companies .....	0.0	0.0	1.1	0.2	0.5	0.4	0.1	- 22.7	n.
Shipbuilding and repair .....	0.1	0.1	0.1	0.0	0.0	0.0	0.0	n.	- 19.4
Port construction and dredging .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade .....	0.7	0.6	0.6	0.7	0.7	0.5	0.1	- 26.8	- 6.6
Port authority .....	2.9	4.9	-2.3	1.8	1.4	1.9	0.4	+ 39.2	- 7.8
Public sector .....	4.7	4.9	4.2	4.3	4.3	4.3	0.8	+ 0.4	- 1.6
<b>NON-MARITIME CLUSTER ....</b>	<b>545.8</b>	<b>473.6</b>	<b>517.1</b>	<b>496.1</b>	<b>491.9</b>	<b>482.7</b>	<b>90.7</b>	<b>- 1.9</b>	<b>- 2.4</b>
<b>TRADE .....</b>	<b>254.6</b>	<b>174.4</b>	<b>191.2</b>	<b>157.4</b>	<b>173.8</b>	<b>174.8</b>	<b>32.9</b>	<b>+ 0.6</b>	<b>- 7.2</b>
<b>INDUSTRY .....</b>	<b>89.0</b>	<b>81.2</b>	<b>155.4</b>	<b>117.0</b>	<b>111.5</b>	<b>114.4</b>	<b>21.5</b>	<b>+ 2.6</b>	<b>+ 5.2</b>
Energy .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	10.9	10.8	11.6	10.2	7.0	5.6	1.0	- 20.5	- 12.6
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Metalworking industry .....	1.0	1.2	1.0	1.1	1.1	1.5	0.3	+ 35.4	+ 8.2
Construction .....	34.1	35.5	36.7	34.9	33.4	35.8	6.7	+ 7.1	+ 1.0
Food industry .....	13.3	8.8	15.3	21.5	15.2	16.8	3.2	+ 10.8	+ 4.8
Other industries .....	29.6	24.9	90.8	49.2	54.8	54.7	10.3	- 0.2	+ 13.1
<b>LAND TRANSPORT .....</b>	<b>22.7</b>	<b>24.5</b>	<b>22.7</b>	<b>21.5</b>	<b>21.8</b>	<b>21.3</b>	<b>4.0</b>	<b>- 2.3</b>	<b>- 1.3</b>
Road transport .....	22.7	24.5	22.7	21.3	21.7	21.1	4.0	- 2.8	- 1.5
Other land transport.....	0.0	0.0	0.0	0.1	0.1	0.2	0.0	+ 207.6	n.
<b>OTHER LOGISTIC SERVICES .....</b>	<b>179.5</b>	<b>193.5</b>	<b>147.8</b>	<b>200.2</b>	<b>184.9</b>	<b>172.3</b>	<b>32.4</b>	<b>- 6.8</b>	<b>- 0.8</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>517.4</b>	<b>482.5</b>	<b>531.0</b>	<b>549.0</b>	<b>523.2</b>	<b>523.2</b>	<b>-</b>	<b>+ 0.0</b>	<b>+ 0.2</b>
<b>MARITIME CLUSTER .....</b>	<b>38.0</b>	<b>46.6</b>	<b>43.8</b>	<b>55.1</b>	<b>78.1</b>	<b>83.5</b>	<b>-</b>	<b>+ 6.8</b>	<b>+ 17.0</b>
<b>NON-MARITIME CLUSTER ....</b>	<b>479.3</b>	<b>435.9</b>	<b>487.3</b>	<b>493.9</b>	<b>445.0</b>	<b>439.8</b>	<b>-</b>	<b>- 1.2</b>	<b>- 1.7</b>
<b>TOTAL VALUE ADDED .....</b>	<b>1,091.3</b>	<b>987.9</b>	<b>1,078.5</b>	<b>1,079.8</b>	<b>1,061.8</b>	<b>1,055.1</b>	<b>-</b>	<b>- 0.6</b>	<b>- 0.7</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).

The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 48** VALUE ADDED TOP 10 AT THE PORT OF BRUSSELS IN 2011

Ranking	Company name	Sector
1	SOLVAY	Other services
2	TOTAL BELGIUM	Trade
3	INEOS SERVICES BELGIUM	Other services
4	AQUIRIS	Other industries
5	SOLVIN	Trade
6	INERGY AUTOMOTIVE SYSTEMS RESEARCH	Other services
7	SPIE BELGIUM	Construction
8	BRUXELLES ENERGIE - BRUSSEL ENERGIE	Other industries
9	CERES	Food industry
10	XPEDYS	Shipping agents and forwarders

Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

### 7.3 Employment<sup>66</sup>

Employment in the port of Brussels increased in 2011 in both the maritime and non-maritime clusters. Employment in the maritime cluster grew by 6.4 % thanks to the shipping agents and forwarders segment. In the non-maritime cluster, employment in the trade, industry and land transport sectors shrank. The biggest decline in percentage terms was recorded in land transport, whereas the job losses expressed as full-time equivalents were the heaviest in the trade sector with 48 jobs axed. Employment in the industry sector, metalworking industry and construction was up, while chemicals, the food industry and other industries were down. In the latter, employment contracted by 29 jobs. The change in the non-maritime cluster was nevertheless positive with the rise of employment in the other logistic services sector by 11.3 % representing 113 FTEs.

Highlights in the maritime cluster in 2011:

- Owing to reorganisation of the transport and logistics group, DSV Solutions merged with DSV Puurs. As a result, staff from the latter firm who were listed under road transport in 2010 and who are still working in the port zone are now included in the shipping agents and forwarders segment.
- The staff at Xpedys expanded in 2011. In the first half of 2011, the company's activity developed very favourably. As from 1 July, the "Industrial & consumer Goods" (I&CG) sector (the former Rail Force, a department of Inter Ferry Boats) was absorbed within Xpedys.

Highlights in the non-maritime cluster in 2011:

- In the trade sector, the decision by Renault V.I. Belgique to move its office had a negative impact on employment.
- Following the reorganisation of the SITA group, the number of staff working at the port of Brussels site was trimmed back.
- In the road transport sector, jobs were lost when DSV Solutions Puurs merged with DSV Solutions, as well as with the reduction in the number of Ziegler's workers posted at the port zone site.
- In the other services segment, the reorganisation at Solvay boosted employment at the port of Brussels site. Ineos Services Belgium, on the other hand, registered staff cuts.

<sup>66</sup> For the calculation of the employment figures data from the annual accounts and the results of the enquiries done by the "Observatoire bruxellois du marché du travail et des qualifications" for the study "*Poids socio-économique des entreprises implantées sur le site du port de Bruxelles*" (2010) were used.

**TABLE 49 EMPLOYMENT AT THE PORT OF BRUSSELS FROM 2006 TO 2011**  
(FTE)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>1. DIRECT EFFECTS .....</b>	<b>4,526</b>	<b>4,564</b>	<b>4,606</b>	<b>4,406</b>	<b>4,303</b>	<b>4,351</b>	<b>100.0</b>	<b>+ 1.1</b>	<b>- 0.8</b>
<b>MARITIME CLUSTER .....</b>	<b>549</b>	<b>553</b>	<b>550</b>	<b>500</b>	<b>541</b>	<b>576</b>	<b>13.2</b>	<b>+ 6.4</b>	<b>+ 1.0</b>
Shipping agents and forwarders .....	164	158	167	166	184	223	5.1	+ 21.4	+ 6.4
Cargo handling .....	152	163	171	116	140	133	3.1	- 5.0	- 2.7
Shipping companies .....	0	0	0	0	0	0	0.0	n.	n.
Shipbuilding and repair .....	3	3	2	0	0	0	0.0	n.	- 100.0
Port construction and dredging .....	0	0	0	0	0	0	0.0	n.	n.
Fishing .....	0	0	0	0	0	0	0.0	n.	n.
Port trade .....	6	6	5	5	6	6	0.1	+ 5.1	+ 0.0
Port authority .....	124	123	122	130	130	132	3.0	+ 1.5	+ 1.3
Public sector .....	100	100	82	82	82	82	1.9	+ 0.0	- 3.9
<b>NON-MARITIME CLUSTER ....</b>	<b>3,977</b>	<b>4,011</b>	<b>4,057</b>	<b>3,907</b>	<b>3,762</b>	<b>3,776</b>	<b>86.8</b>	<b>+ 0.4</b>	<b>- 1.0</b>
<b>TRADE .....</b>	<b>1,391</b>	<b>1,307</b>	<b>1,317</b>	<b>1,332</b>	<b>1,274</b>	<b>1,226</b>	<b>28.2</b>	<b>- 3.8</b>	<b>- 2.5</b>
<b>INDUSTRY .....</b>	<b>1,102</b>	<b>1,153</b>	<b>1,210</b>	<b>1,124</b>	<b>1,127</b>	<b>1,108</b>	<b>25.5</b>	<b>- 1.7</b>	<b>+ 0.1</b>
Energy .....	0	0	0	0	0	0	0.0	n.	n.
Fuel production .....	0	0	0	0	0	0	0.0	n.	n.
Chemicals .....	104	104	96	73	41	40	0.9	- 0.7	- 17.3
Car manufacturing .....	0	0	0	0	0	0	0.0	n.	n.
Electronics .....	0	0	0	0	0	0	0.0	n.	n.
Metalworking industry .....	19	18	18	19	13	19	0.4	+ 43.3	+ 0.1
Construction .....	554	581	573	563	553	562	12.9	+ 1.6	+ 0.3
Food industry .....	167	162	150	151	153	148	3.4	- 3.1	- 2.4
Other industries .....	259	289	374	318	368	339	7.8	- 7.8	+ 5.6
<b>LAND TRANSPORT .....</b>	<b>355</b>	<b>391</b>	<b>394</b>	<b>360</b>	<b>359</b>	<b>327</b>	<b>7.5</b>	<b>- 8.9</b>	<b>- 1.7</b>
Road transport .....	355	391	394	358	358	324	7.4	- 9.5	- 1.8
Other land transport.....	0	0	0	2	1	3	0.1	+ 200.0	n.
<b>OTHER LOGISTIC SERVICES .....</b>	<b>1,129</b>	<b>1,160</b>	<b>1,135</b>	<b>1,090</b>	<b>1,002</b>	<b>1,115</b>	<b>25.6</b>	<b>+ 11.3</b>	<b>- 0.3</b>
<b>2. INDIRECT EFFECTS .....</b>	<b>5,648</b>	<b>5,761</b>	<b>5,963</b>	<b>5,571</b>	<b>5,528</b>	<b>5,632</b>	<b>-</b>	<b>+ 1.9</b>	<b>- 0.1</b>
<b>MARITIME CLUSTER .....</b>	<b>744</b>	<b>763</b>	<b>788</b>	<b>677</b>	<b>776</b>	<b>882</b>	<b>-</b>	<b>+ 13.6</b>	<b>+ 3.5</b>
<b>NON-MARITIME CLUSTER ....</b>	<b>4,904</b>	<b>4,998</b>	<b>5,175</b>	<b>4,893</b>	<b>4,752</b>	<b>4,750</b>	<b>-</b>	<b>- 0.0</b>	<b>- 0.6</b>
<b>TOTAL EMPLOYMENT .....</b>	<b>10,174</b>	<b>10,325</b>	<b>10,570</b>	<b>9,977</b>	<b>9,831</b>	<b>9,983</b>	<b>-</b>	<b>+ 1.5</b>	<b>- 0.4</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office, and the Belgian IOTs).  
The data necessary to estimate the indirect effects are published by the NAI with a low frequency and after a certain time lag. The calculated indirect effects are approximations and should be interpreted with caution.

**TABLE 50 EMPLOYMENT TOP 10 AT THE PORT OF BRUSSELS IN 2011**

Ranking	Company name	Sector
1	SOLVAY	Other services
2	SPIE BELGIUM	Construction
3	CERES	Food industry
4	BRUSSELS PORT AUTHORITY	Port authority
5	SCANIA BELGIUM	Trade
6	SITA WASTE SERVICES	Other industries
7	INEOS SERVICES BELGIUM	Other services
8	ZIEGLER	Road transport
9	SOLVIN	Trade
10	BINJE ACKERMANS	Trade

Source: NBB.

The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

The employment of the cargo handling firms includes the appeal to dockers.

## 7.4 Investment

Investment in the port of Brussels fell by 14.2 %, to its lowest point for the last six years. Investment in the maritime cluster dropped by round a quarter. Only cargo handling increased in that cluster. In the non-maritime cluster, investment was down by 8.3 %. For two consecutive years, trade and industry recorded a decline, as did almost all the industrial segments, whereas land transport and other services recorded an increase. Investment in trade and industry hit the lowest level for six years.

Highlights in the maritime cluster in 2011:

- Despite a sharp drop in its investment, Xpedys is still the principal investor in the shipping agents and forwarders segment.
- The expansion of the Port of Brussels' tangible fixed assets mainly consisted of work on cleaning up the Carcoke site.

Highlights in the non-maritime cluster in 2011:

- In the trade sector, amounts invested were weak everywhere as no company invested more than a million euro in this sector during 2011.
- In the chemicals industry, the main investor was Peptisyntha. At the end of 2011, the company completed an investment programme to equip the site at Neder-Over-Hembeek with a large-scale solid-phase peptide synthesis plant.
- Ceres is still the food industry's principal investor. The firm's investment projects were mainly concentrated in the flour silo emptying system, reconfiguration of micro-dispensers, improvement of human and product safety, as well as existing plant and machinery maintenance.
- In the other logistic services sector, leading rental equipment company Loxam stepped up its investment considerably, notably in fleet equipment. Chemicals giant Solvay nevertheless remains the principal investor in the sector



**TABLE 51 INVESTMENT AT THE PORT OF BRUSSELS FROM 2006 TO 2011**

(in € million - current prices)

Sectors	2006	2007	2008	2009	2010	2011	Share in 2011 (in p.c.)	Change from 2010 to 2011 (in p.c.)	Annual average change from 2006 to 2011 (in p.c.)
<b>MARITIME CLUSTER .....</b>	<b>5.8</b>	<b>6.5</b>	<b>21.2</b>	<b>17.5</b>	<b>19.3</b>	<b>14.2</b>	<b>28.4</b>	<b>- 26.3</b>	<b>+ 19.8</b>
Shipping agents and forwarders .....	0.8	0.6	4.2	4.2	9.7	7.4	14.7	- 24.0	+ 56.8
Cargo handling .....	0.9	0.3	1.1	0.1	0.6	1.6	3.1	+ 158.2	+ 10.9
Shipping companies .....	0.2	0.0	0.0	0.0	0.0	0.0	0.0	n.	- 100.0
Shipbuilding and repair .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port construction and dredging .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fishing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade .....	0.1	0.1	0.0	0.0	0.0	0.0	0.0	n.	- 100.0
Port authority .....	3.8	5.5	15.8	13.2	8.9	5.3	10.5	- 40.8	+ 7.0
Public sector .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
<b>NON-MARITIME CLUSTER ....</b>	<b>88.5</b>	<b>47.1</b>	<b>52.5</b>	<b>45.6</b>	<b>39.2</b>	<b>35.9</b>	<b>71.6</b>	<b>- 8.3</b>	<b>- 16.5</b>
<b>TRADE .....</b>	<b>29.3</b>	<b>14.1</b>	<b>17.5</b>	<b>22.0</b>	<b>15.9</b>	<b>8.5</b>	<b>17.0</b>	<b>- 46.1</b>	<b>- 21.9</b>
<b>INDUSTRY .....</b>	<b>45.0</b>	<b>21.0</b>	<b>17.4</b>	<b>14.5</b>	<b>12.3</b>	<b>9.1</b>	<b>18.2</b>	<b>- 25.7</b>	<b>- 27.4</b>
Energy .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Fuel production .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals .....	1.8	3.3	2.0	0.8	0.4	0.6	1.1	+ 46.4	- 21.2
Car manufacturing .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Metalworking industry .....	0.1	0.2	0.2	0.1	0.4	0.1	0.2	- 70.6	+ 1.3
Construction .....	2.5	3.8	3.7	7.1	5.2	4.5	8.9	- 13.2	+ 12.2
Food industry .....	3.5	1.2	0.7	4.3	3.4	2.3	4.6	- 33.5	- 8.0
Other industries .....	37.1	12.4	10.9	2.2	2.9	1.7	3.3	- 42.5	- 46.2
<b>LAND TRANSPORT .....</b>	<b>1.6</b>	<b>1.8</b>	<b>3.2</b>	<b>1.2</b>	<b>1.4</b>	<b>3.7</b>	<b>7.3</b>	<b>+ 167.9</b>	<b>+ 18.7</b>
Road transport .....	1.6	1.8	3.2	1.1	1.3	3.5	7.0	+ 163.7	+ 17.7
Other land transport.....	0.0	0.0	0.0	0.1	0.0	0.1	0.3	+ 334.9	n.
<b>OTHER LOGISTIC SERVICES .....</b>	<b>12.5</b>	<b>10.2</b>	<b>14.4</b>	<b>7.9</b>	<b>9.7</b>	<b>14.6</b>	<b>29.1</b>	<b>+ 50.4</b>	<b>+ 3.1</b>
<b>DIRECT INVESTMENT .....</b>	<b>94.2</b>	<b>53.6</b>	<b>73.7</b>	<b>63.1</b>	<b>58.5</b>	<b>50.2</b>	<b>100.0</b>	<b>- 14.2</b>	<b>- 11.9</b>

Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office and on surveys).

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**TABLE 52** INVESTMENT TOP 10 AT THE PORT OF BRUSSELS IN 2011

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Ranking	Company name	Sector
1	SOLVAY	Other services
2	XPEDYS	Shipping agents and forwarders
3	BRUSSELS PORT AUTHORITY	Port authority
4	PAVAN INTERNATIONAL	Road transport
5	LOXAM	Other services
6	CERES	Food industry
7	M&M PROJECTS	Construction
8	D.D. SHIPPING	Cargo handling
9	FENECO	Other industries
10	REIBEL	Shipping agents and forwarders

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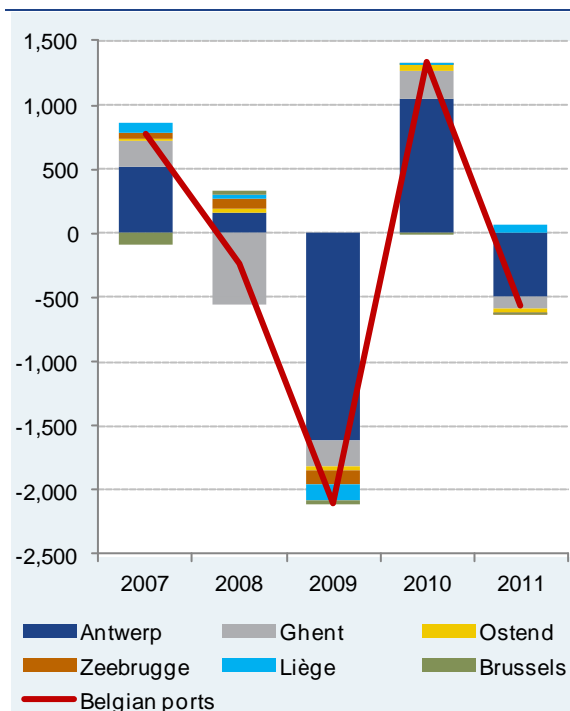
Source: NBB. The estimates for the multi-regional firms are based on surveys, annual reports and allocation formulas based on regional statistics.

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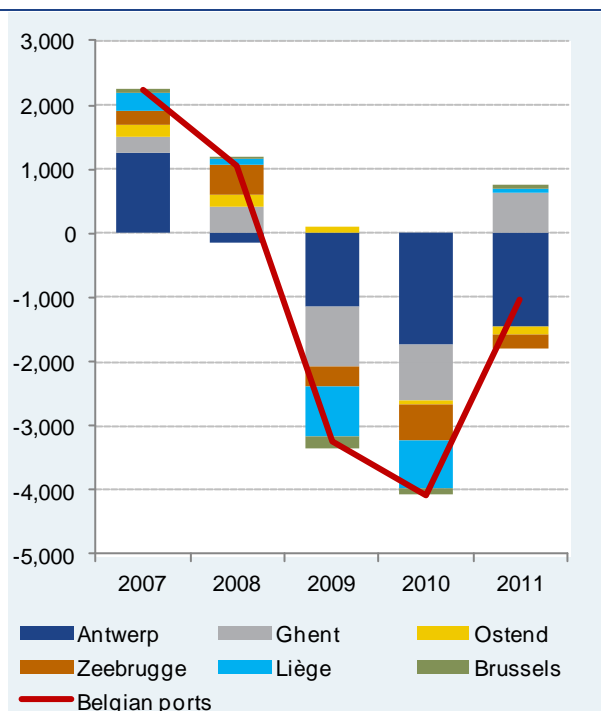
## 8 SUMMARY

Goods traffic in the Belgian sea ports expanded by 2.1 % in 2011, an increase that was well down on that seen in 2010 and clear evidence of a sharp slowdown in the recovery of traffic figures after the major slump of 2009. But not all the ports ended the year with higher traffic figures: the ports of Ostend, Zeebrugge and Ghent were down, by as much as 22.1 % in Ostend's case and 0.3 % for the port of Ghent. The former suffered from the collapse in its roll-on/roll-off traffic while the latter was hit by a drop in its dry bulk traffic figures. The port of Zeebrugge, on the other hand, saw its containerised traffic fall back, leading to an overall reduction in traffic of 5.3 %. Traffic in and out of the port of Antwerp expanded for most types of goods, with the exception of dry bulk, resulting in a 5 % rise in transshipments over the year as a whole. Traffic in and out of the ports of Liège and Brussels grew respectively by 10.7 and 1.9 %.

**CHART 16 CHANGE IN DIRECT VALUE ADDED**  
(in € million, by volume)



**CHART 17 CHANGE IN DIRECT EMPLOYMENT**  
(FTE)



Source: NBB (calculations based on the Belgian accounts filed with the Central Balance Sheet Office).

Direct value added generated by the Belgian sea ports fell by 1.6 % over the year 2011. Only two ports managed to avoid a contraction of their value added: Zeebrugge and Liège. Although value added among the cargo handlers and in the Antwerp chemicals industry was up, the fall seen by the shipping companies as a result of difficult market conditions, and in car production after the closure of the General Motors group's assembly plant located in the Antwerp port zone, dragged down the port's value added. In the port of Ghent, the maritime cluster's value added figures were up slightly but they were down in the non-maritime cluster mainly because of the impact of the decline seen in the metalworking industry, while trade, the chemicals industry and other industries all posted strong growth. The drop in value added in several branches of activity, including the metalworking industry, energy and other logistic services, led to an overall drop for the port of Ostend even though an increase was recorded in the maritime cluster thanks to the port construction and dredging segment. The port of Brussels was hit principally by the drop in value added in other logistic services. The port of Zeebrugge benefited from the good showing of its maritime cluster. In the Liège port complex, value added produced by trade and industry reached its highest level for the last six years thanks mainly to the industry's energy segment. The maritime cluster in all the ports taken together suffered mainly from a drop in value added among the shipping companies, while the non-maritime cluster has remained stable. This stability nevertheless masks divergent trends, with a sharp rise in value added in chemicals and energy and a drop in metalworking and car manufacturing.

Employment in the Belgian maritime ports was down by 0.9 % after job numbers contracted in the ports of Antwerp, Ostend and Zeebrugge. In the case of Antwerp, it was mainly in the car manufacturing industry that suffered big job losses but it did also register a major increase in employment in other logistic services. In the port of Ostend, the maritime cluster and the chemicals industry were the main factors behind the drop in employment. In the port of Zeebrugge, a lot of activities have been hit by job losses, including cargo handling, construction and land transport. Conversely, a strong increase was observed in trade. In the port of Ghent, employment expanded in the maritime and non-maritime clusters, with the car manufacturing industry and other logistic services gaining the most jobs. In the port of Brussels, it was other logistic services and shipping agents and forwarders that shored up employment, while in Liège, it was the trade sector where hirings were highest. For all the ports taken together, employment expanded the most in other logistic services, among shipping agents and forwarders, in the chemicals industry, trade, and also in port construction and dredging. But the drop in employment in car manufacturing wiped out the impact of these job creations and the end result was a decline across the board for all the ports.

Investment in the Belgian ports fell for the third year in a row. The Liège port complex was the only one to record an increase. In the maritime cluster of all the ports considered as a whole, investment in the shipping companies segment hit its lowest level for six years. The same goes for industry, which fell victim to a sharp drop in investment in fuel production and weak investment in the other segments. The small amounts invested in other logistic services and trade were not enough to make up for the decline in industry. Overall, investment in the Belgian sea ports was down 8.7 %. The port of Zeebrugge was the worst affected by this contraction but investment here had been particularly high in 2010. The ports of Ostend and Antwerp were hit by a net reduction in investment in the maritime cluster while the ports of Ghent and Zeebrugge recorded a decline in both clusters.

## LIST OF ABBREVIATIONS

BNRC	Belgian National Railway Company
EU	European Union
FTE	Full-time equivalent
GDP	Gross domestic product
IOT	Input-Output Table
NAI	National Accounts Institute
NBB	National Bank of Belgium
NSI	National Statistical Institute, now FPS Economy, SMEs, independent Professions and Energy - Directorate General of Statistics and Economic Information
SMEs	Small and medium-sized enterprises
SUT	Supply and Use Table
TEU	Twenty-foot Equivalent Unit

## CONVENTIONAL SIGNS

-	the datum does not exist or is meaningless
n.	not available
p.c.	per cent
p.m.	pro memoria

# ANNEX 1: DETAILED SOCIAL BALANCE SHEET IN 2011

TABLE 53

DETAILED SOCIAL BALANCE SHEET OF THE BELGIAN PORTS - 2011  
(reduced population: constant population)

Sectors	AVERAGE NUMBER OF EMPLOYEES										At the enterprise's disposal				
	Number		Hours actually worked (1)		Personnel costs (2)		Hired temporary staff		costs		hours		costs		
	full-time	part-time	total	full-time	part-time	total	full-time	part-time	total	number	hours	number	hours	number	hours
	1001	1002	1003	1011	1012	1013	1021	1022	1023	1501	1511	1521	1512	1522	
<b>MARITIME CLUSTER</b>	<b>27,793</b>	<b>2,562</b>	<b>29,735</b>	<b>40.9</b>	<b>2.9</b>	<b>43.8</b>	<b>1,727.6</b>	<b>126.3</b>	<b>1,853.9</b>	<b>2,125</b>	<b>4.01</b>	<b>113.2</b>	<b>10.95</b>	<b>480.9</b>	
Shipping agents and forwarders	5,877	1,108	6,692	9.4	1.3	10.7	369.4	50.5	419.9	761	1.47	36.2	0.83	30.1	
Cargo handling	16,755	1,061	17,614	23.2	1.0	24.2	969.7	45.9	1,015.6	1,158	2.16	66.8	10.09	449.6	
Shipping companies	868	71	917	1.5	0.1	1.6	82.6	6.5	89.1	17	0.03	1.0	0.01	0.2	
Shipbuilding and repair	360	36	384	0.6	0.0	0.6	20.6	1.2	21.8	35	0.07	1.8	0.01	0.2	
Port construction and dredging	1,311	66	1,362	2.6	0.1	2.7	116.5	4.0	120.5	31	0.06	1.6	0.00	0.0	
Fishing	458	96	530	0.7	0.1	0.8	23.0	3.4	26.4	109	0.20	4.9	0.00	0.0	
Port trade	113	13	123	0.2	0.0	0.2	8.7	0.6	9.3	5	0.01	0.2	0.00	0.0	
Port authority	2,043	111	2,113	2.7	0.3	3.0	137.1	14.2	151.2	9	0.02	0.6	0.02	0.7	
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	
<b>NON-MARITIME CLUSTER</b>	<b>61,524</b>	<b>7,259</b>	<b>66,924</b>	<b>93.6</b>	<b>8.0</b>	<b>101.7</b>	<b>4,916.1</b>	<b>430.5</b>	<b>5,347.2</b>	<b>3,701</b>	<b>6.96</b>	<b>206.6</b>	<b>0.73</b>	<b>31.0</b>	
<b>TRADE</b>	4,209	674	4,696	6.8	0.8	7.5	315.8	32.5	348.3	243	0.47	13.0	0.07	3.8	
<b>INDUSTRY</b>	48,365	5,011	52,073	72.4	5.5	77.9	3,976.8	310.9	4,288.3	3,049	5.73	173.4	0.24	10.6	
Energy	2,601	240	2,787	3.8	0.3	4.1	336.4	25.4	361.8	20	0.04	0.9	0.00	0.0	
Fuel production	2,744	328	2,989	4.5	0.4	4.9	368.2	29.9	398.1	43	0.08	2.9	0.00	0.0	
Chemicals	12,652	1,614	13,802	18.9	1.7	20.6	1,228.0	105.0	1,332.9	312	0.60	21.7	0.01	0.5	
Car manufacturing	8,539	972	9,274	12.8	1.1	13.8	527.4	45.2	572.6	1,601	3.02	88.1	0.00	0.0	
Electronics	1,182	171	1,308	1.8	0.2	1.9	78.0	8.5	86.5	92	0.18	5.1	0.00	0.0	
Metalworking industry	13,133	948	13,854	19.2	1.0	20.3	952.2	62.6	1,014.8	470	0.84	28.0	0.03	2.5	
Construction	3,444	301	3,665	5.2	0.3	5.5	219.3	14.3	234.1	145	0.26	8.2	0.02	0.8	
Food industry	1,252	168	1,373	1.9	0.2	2.1	85.4	8.0	93.4	157	0.30	8.2	0.16	6.3	
Other industries	2,817	270	3,020	4.4	0.3	4.7	181.9	12.1	194.0	208	0.40	10.3	0.01	0.6	
<b>LAND TRANSPORT</b>	4,956	855	5,623	8.0	0.9	8.9	264.9	37.9	302.7	200	0.38	10.2	0.19	6.4	
Road transport	2,801	244	2,977	4.9	0.3	5.2	139.6	9.0	148.6	196	0.38	10.0	0.18	5.9	
Other land transport	2,155	611	2,646	3.0	0.7	3.7	125.3	28.9	154.1	4	0.01	0.2	0.01	0.5	
<b>OTHER LOGISTIC SERVICES</b>	3,994	720	4,532	6.5	0.9	7.4	358.6	49.3	407.9	209	0.39	10.1	0.23	10.1	
Other services															
<b>TOTAL</b>	<b>89,307</b>	<b>9,821</b>	<b>96,659</b>	<b>134.6</b>	<b>10.9</b>	<b>145.5</b>	<b>6,643.7</b>	<b>556.8</b>	<b>7,201.1</b>	<b>5,826</b>	<b>10.97</b>	<b>319.8</b>	<b>11.68</b>	<b>511.9</b>	

Source: NBB. The figures are based on a constant sample of firms which filed full-format accounts throughout the period 2009 - 2011.

**TABLE 53 (continued) DETAILED SOCIAL BALANCE SHEET OF THE BELGIAN PORTS - 2011**  
(reduced population: constant population)

Sectors	NUMBER OF PERSONS EMPLOYED AT THE END OF THE YEAR																
	Number				Men				Women				Number				
	full-time	part-time	total (in FTE)	part-time	full-time	part-time	total (in FTE)	part-time	full-time	part-time	total (in FTE)	part-time	White-collar	Blue-collar	primary	secondary	higher university
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1323	12003	12013	12023	12033			
<b>MARITIME CLUSTER</b> .....	<b>27,771</b>	<b>2,573</b>	<b>29,647</b>	<b>22,898</b>	<b>952</b>	<b>23,588</b>	<b>4,873</b>	<b>1,621</b>	<b>6,059</b>	<b>12,134</b>	<b>16,965</b>	<b>7,831</b>	<b>11,598</b>	<b>2,825</b>	<b>1,327</b>		
Shipping agents and forwarders .....	5,931	1,101	6,737	3,675	213	3,827	2,256	888	2,911	5,813	759	256	2,235	1,059	269		
Cargo handling .....	16,738	1,073	17,525	15,020	589	15,459	1,718	484	2,066	13,703	6,454	7,598	949	458			
Shipping companies .....	840	68	887	681	14	690	159	54	198	503	372	56	329	207	98		
Shipbuilding and repair .....	366	34	389	354	27	372	12	7	17	54	333	35	313	19	6		
Port construction and dredging .....	1,287	71	1,342	1,143	20	1,158	144	51	184	709	630	226	286	353	293		
Fishing .....	474	91	544	322	31	346	152	60	197	180	351	92	185	51	19		
Port trade .....	111	14	121	89	5	93	22	9	28	96	24	8	59	20	6		
Port authority .....	2,024	121	2,101	1,614	53	1,644	410	68	458	1,196	792	705	593	167	179		
Public sector .....	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.		
<b>NON-MARITIME CLUSTER</b> .....	<b>61,654</b>	<b>7,246</b>	<b>67,024</b>	<b>54,169</b>	<b>4,041</b>	<b>57,175</b>	<b>7,485</b>	<b>3,205</b>	<b>9,849</b>	<b>29,581</b>	<b>34,479</b>	<b>9,001</b>	<b>31,971</b>	<b>10,419</b>	<b>5,765</b>		
<b>TRADE</b> .....	<b>4,219</b>	<b>673</b>	<b>4,709</b>	<b>3,240</b>	<b>208</b>	<b>3,390</b>	<b>978</b>	<b>465</b>	<b>1,320</b>	<b>2,980</b>	<b>1,597</b>	<b>326</b>	<b>1,929</b>	<b>721</b>	<b>395</b>		
<b>INDUSTRY</b> .....	<b>48,555</b>	<b>5,012</b>	<b>52,244</b>	<b>43,450</b>	<b>3,014</b>	<b>45,668</b>	<b>5,105</b>	<b>1,998</b>	<b>6,576</b>	<b>20,929</b>	<b>28,623</b>	<b>6,486</b>	<b>26,680</b>	<b>8,183</b>	<b>4,318</b>		
Energy .....	2,566	241	2,753	1,994	61	2,041	572	180	711	1,850	0	21	811	711	499		
Fuel production .....	2,757	322	2,998	2,391	202	2,543	366	120	455	2,415	517	136	825	895	686		
Chemicals .....	12,759	1,584	13,875	11,574	1,015	12,282	1,185	568	1,593	7,067	5,833	624	7,722	2,895	1,040		
Car manufacturing .....	8,780	981	9,521	7,760	702	8,297	1,021	279	1,224	1,576	7,563	2,298	4,797	967	236		
Electronics .....	1,162	176	1,292	952	78	1,008	210	99	284	528	757	136	585	184	104		
Metalworking industry .....	13,037	972	13,775	12,062	596	12,521	975	376	1,254	4,576	9,016	1,711	7,992	1,566	1,252		
Construction .....	3,419	305	3,639	3,191	168	3,310	228	137	329	1,208	2,376	619	1,999	476	215		
Food industry .....	1,267	166	1,386	1,074	68	1,122	194	98	265	529	811	248	585	201	89		
Other industries .....	2,807	265	3,005	2,451	124	2,544	356	141	461	1,180	1,750	693	1,365	289	198		
<b>LAND TRANSPORT</b> .....	<b>4,836</b>	<b>852</b>	<b>5,497</b>	<b>4,372</b>	<b>619</b>	<b>4,862</b>	<b>465</b>	<b>233</b>	<b>635</b>	<b>1,766</b>	<b>3,676</b>	<b>1,999</b>	<b>2,325</b>	<b>365</b>	<b>172</b>		
Road transport .....	2,735	238	2,906	2,460	114	2,542	275	124	363	683	2,221	1,012	1,393	118	19		
Other land transport .....	2,101	614	2,591	1,912	505	2,319	189	109	272	1,084	1,455	987	932	247	153		
<b>OTHER LOGISTIC SERVICES</b> .....	<b>4,043</b>	<b>709</b>	<b>4,574</b>	<b>3,107</b>	<b>200</b>	<b>3,256</b>	<b>937</b>	<b>509</b>	<b>1,318</b>	<b>3,906</b>	<b>583</b>	<b>190</b>	<b>1,036</b>	<b>1,149</b>	<b>880</b>		
<b>TOTAL</b> .....	<b>89,424</b>	<b>9,819</b>	<b>96,671</b>	<b>77,067</b>	<b>4,993</b>	<b>80,763</b>	<b>12,358</b>	<b>4,826</b>	<b>15,908</b>	<b>41,716</b>	<b>51,444</b>	<b>16,832</b>	<b>43,569</b>	<b>13,244</b>	<b>7,093</b>		

Source: NBB. The figures are based on a constant sample of firms which filed full-format accounts throughout the period 2009 - 2011.

TABLE 53 (continued)

## DETAILED SOCIAL BALANCE SHEET OF THE BELGIAN PORTS - 2011

(reduced population: constant population)

Sectors	NUMBER OF PERSONS EMPLOYED				TRAINING				ENTERED				RESIGNED	
	primary	Women sec- ondary	higher university	number	Men hours (1)	costs (2)	number	Women hours (1)	costs (2)	Number (in FTE)	Indefinite period	Number (in FTE)	Indefinite period	
12103	12113	12123	12133	5801	5802	5803	5811	5812	5813	2053	2103	3053	3103	
<b>MARITIME CLUSTER</b>	<b>550</b>	<b>3,540</b>	<b>1,449</b>	<b>513</b>	<b>10,024</b>	<b>0.29</b>	<b>2,699</b>	<b>0.06</b>	<b>2.7</b>	<b>6,013</b>	<b>4,829</b>	<b>5,725</b>	<b>4,666</b>	
Shipping agents and forwarders	82	1,860	807	154	1,411	0.02	1,081	0.02	0.8	1,798	1,479	1,571	1,297	
Cargo handling	352	1,187	351	176	5,830	0.15	936	0.02	0.8	2,683	2,309	2,631	2,327	
Shipping companies	5	72	77	44	241	0.01	74	0.00	0.2	487	145	468	117	
Shipbuilding and repair	3	10	4	0	118	0.00	1	0.00	0.0	59	54	51	46	
Port construction and dredging	2	54	85	44	1,183	0.08	105	0.00	0.3	743	649	732	641	
Fishing	42	118	30	7	300	0.00	168	0.00	0.1	65	54	67	65	
Port trade	4	11	8	6	4	0.00	4	0.00	0.0	17	16	22	21	
Port authority	60	227	87	84	937	0.02	329	0.01	0.6	160	122	183	153	
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	
<b>NON-MARITIME CLUSTER</b>	<b>563</b>	<b>3,679</b>	<b>3,717</b>	<b>1,884</b>	<b>1.32</b>	<b>92.8</b>	<b>6,213</b>	<b>0.18</b>	<b>13.4</b>	<b>11,335</b>	<b>7,370</b>	<b>9,159</b>	<b>6,513</b>	
<b>TRADE</b>	<b>62</b>	<b>602</b>	<b>462</b>	<b>189</b>	<b>1,717</b>	<b>0.04</b>	<b>788</b>	<b>0.02</b>	<b>1.0</b>	<b>908</b>	<b>668</b>	<b>905</b>	<b>689</b>	
<b>INDUSTRY</b>	<b>391</b>	<b>2,349</b>	<b>2,591</b>	<b>1,245</b>	<b>32,084</b>	<b>1.10</b>	<b>4,392</b>	<b>0.13</b>	<b>9.6</b>	<b>8,010</b>	<b>5,175</b>	<b>5,791</b>	<b>4,207</b>	
Energy	1	152	382	176	1,826	0.11	698	0.02	2.4	221	140	272	188	
Fuel production	1	46	232	177	2,134	0.12	300	0.01	1.3	228	188	256	217	
Chemicals	33	419	801	341	10,000	0.32	1,242	0.04	3.0	1,458	831	1,599	1,301	
Car manufacturing	209	596	318	101	4,767	0.14	677	0.02	0.6	1,541	492	801	545	
Electronics	33	158	61	31	518	0.02	133	0.00	0.2	159	101	164	120	
Metalworking industry	50	550	378	276	8,978	0.32	738	0.02	1.3	2,715	2,129	1,386	940	
Construction	2	125	155	47	1,633	0.04	160	0.00	0.2	631	455	697	479	
Food industry	33	128	78	26	594	0.01	141	0.00	0.2	238	159	193	123	
Other industries	29	175	186	70	1,636	0.03	306	0.01	0.5	819	679	424	293	
<b>LAND TRANSPORT</b>	<b>93</b>	<b>349</b>	<b>122</b>	<b>71</b>	<b>2,467</b>	<b>0.13</b>	<b>281</b>	<b>0.02</b>	<b>0.9</b>	<b>1,329</b>	<b>840</b>	<b>1,515</b>	<b>1,032</b>	
Road transport	65	221	59	19	586	0.01	79	0.00	0.1	1,109	712	1,194	805	
Other land transport	28	128	63	52	1,881	0.11	202	0.01	0.8	220	129	321	228	
<b>OTHER LOGISTIC SERVICES</b>	<b>17</b>	<b>380</b>	<b>542</b>	<b>378</b>	<b>1,647</b>	<b>0.05</b>	<b>752</b>	<b>0.02</b>	<b>1.9</b>	<b>1,088</b>	<b>686</b>	<b>948</b>	<b>584</b>	
<b>TOTAL</b>	<b>1,113</b>	<b>7,219</b>	<b>5,166</b>	<b>2,397</b>	<b>47,939</b>	<b>1.60</b>	<b>8,912</b>	<b>0.24</b>	<b>16.1</b>	<b>17,349</b>	<b>12,199</b>	<b>14,884</b>	<b>11,179</b>	

Source: NBB. The figures are based on a constant sample of firms which filed full-format accounts throughout the period 2009 - 2011.

(1) The time actually worked in terms of millions of hours.

(2) The personnel costs and training costs in terms of € million.



## ANNEX 2: LIST OF NACE-BEL BRANCHES <sup>67</sup>

**TABLE 54 LIST OF NACE-BEL BRANCHES (NACE-BEL 2008)**

SUT	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	BR	Definition
03A	03110	MA	VI	*	*	*	*	*	*	Marine fishing
08A	08121	IN	AI					*		Quarrying of gravel
08A	08122	IN	AI	*						Quarrying of sand
08A	08910	IN	AI			*				Mining of chemical and fertiliser minerals
08A	08990	IN	AI		*					Other mining and quarrying n.e.c.
10A	10130	IN	VO		*		*			Production of meat and poultry meat products
10B	10200	MA	VI			*	*			Processing and preserving of fish, crustaceans and molluscs
10C	10320	IN	VO				*			Manufacture of fruit and vegetable juice
10D	10410	IN	VO	*	*					Manufacture of oils and fats
10E	10510	IN	VO	*	*	*	*	*	*	Operation of dairies and cheese making
10E	10520	IN	VO						*	Manufacture of ice cream
10F	10610	IN	VO					*	*	Manufacture of grain mill products
10H	10810	IN	VO					*		Manufacture of sugar
10H	10820	IN	VO		*	*	*		*	Manufacture of cocoa, chocolate and sugar confectionery
10I	10890	IN	VO		*					Manufacture of other food products n.e.c.
10J	10910	IN	VO		*		*	*		Manufacture of prepared feeds for farm animals
11A	11010	IN	VO		*					Distilling, rectifying and blending of spirits
11A	11060	IN	VO	*						Manufacture of malt
13A	13100	IN	AI			*	*			Preparation and spinning of textile fibres
13B	13929	IN	AI	*		*				Manufacture of other textiles, except wearing apparel
16A	16100	IN	AI		*	*			*	Sawmilling and planing of wood
16A	16230	IN	AI	*	*			*	*	Manufacture of other builders' carpentry and joinery
16A	16240	IN	AI	*	*	*	*	*	*	Manufacture of wooden containers
17A	17120	IN	AI		*		*			Manufacture of paper and paperboard
17A	17210	IN	AI		*			*		Manufacture of corrugated paper and paperboard and of containers of paper and paperboard
17A	17290	IN	AI	*						Manufacture of other articles of paper and paperboard
18A	18120	IN	AI	*	*	*	*	*	*	Other printing
18A	18130	IN	AI	*	*			*	*	Pre-press and pre-media services
19A	19200	IN	PE	*	*	*	*	*	*	Manufacture of refined petroleum products
20A	20110	IN	CH	*	*					Manufacture of industrial gases
20A	20120	IN	CH		*			*		Manufacture of dyes and pigments
20B	20130	IN	CH	*	*	*		*		Manufacture of other inorganic basic chemicals
20A	20140	IN	CH	*	*	*	*	*	*	Manufacture of other organic basic chemicals
20A	20150	IN	CH	*	*		*	*		Manufacture of fertilisers and nitrogen compounds
20A	20160	IN	CH	*	*		*			Manufacture of plastics in primary forms
20A	20170	IN	CH	*						Manufacture of synthetic rubber in primary forms
20C	20200	IN	CH	*				*		Manufacture of pesticides and other agrochemical products
20D	20300	IN	CH	*			*	*		Manufacture of paints, varnishes and similar coatings, printing ink and mastics
20F	20520	IN	CH		*					Manufacture of glues
20F	20590	IN	CH	*	*			*		Manufacture of other chemical products n.e.c.
20G	20600	IN	CH			*				Manufacture of man-made fibres
21A	21100	IN	CH	*						Manufacture of basic pharmaceutical products
22A	22110	IN	CH	*						Manufacture of rubber tyres and tubes; retreating and rebuilding of rubber tyres
22A	22190	IN	CH	*	*		*			Manufacture of other rubber products
22B	22210	IN	CH	*				*		Manufacture of plastic plates, sheets, tubes and profiles
22B	22220	IN	CH	*	*			*		Manufacture of plastic packing goods
22B	22290	IN	CH		*	*	*	*	*	Manufacture of other plastic products
23A	23110	IN	CS		*		*			Manufacture of flat glass
23A	23120	IN	CS		*		*		*	Shaping and processing of flat glass
23B	23322	IN	CS					*		Manufacture of tiles and construction products, in baked clay
23C	23510	IN	CS	*	*			*	*	Manufacture of cement
23C	23520	IN	CS					*		Manufacture of lime and plaster

<sup>67</sup> The nomenclature in this list is in accordance with the NACE-BEL revision having taken place in 2008 (Rev.2).

**TABLE 54 (continued) LIST OF NACE-BEL BRANCHES (NACE-BEL 2008)**

SUT	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	BR	Definition
23D	23610	IN	CS		*		*	*		Manufacture of concrete products for construction purposes
23D	23620	IN	CS	*						Manufacture of plaster products for construction purposes
23D	23630	IN	CS	*	*	*	*	*	*	Manufacture of ready-mixed concrete
23D	23640	IN	CS	*						Manufacture of mortars
23D	23700	IN	CS		*	*	*			Cutting, shaping and finishing of stone
23D	23990	IN	CS	*	*					Manufacture of other non-metallic mineral products n.e.c.
24A	24100	IN	ME	*	*	*	*	*	*	Manufacture of basic iron and steel and of ferro-alloys
24A	24200	IN	ME						*	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel
24B	24310	IN	ME						*	Cold drawing of bars
24B	24510	IN	ME		*	*				Casting of iron
25A	25110	IN	ME	*	*		*			Manufacture of metal structures and parts of structure
25A	25120	IN	ME	*	*			*		Manufacture of doors and windows of metal
25A	25210	IN	ME	*						Manufacture of central heating radiators and boilers
25A	25290	IN	ME	*	*	*		*	*	Manufacture of other tanks, reservoirs and containers of metal
25A	25300	IN	ME	*	*				*	Manufacture of steam generators, except central heating hot water boilers
25A	25501	IN	ME	*			*		*	Forging of metal
25B	25610	IN	ME	*	*		*	*	*	Treatment and coating of metals
25B	25620	IN	ME	*	*	*	*	*		Machining
25C	25930	IN	ME	*						Manufacture of wire products, chain and springs
25C	25940	IN	ME	*	*			*		Manufacture of fasteners and screw machine products
25C	25999	IN	ME		*		*	*	*	Manufacture of other fabricated metal articles
26A	26110	IN	MP				*	*		Manufacture of electronic valves and tubes and other electronic components
26B	26300	IN	MP				*			Manufacture of communication equipment
26B	26400	IN	MP	*	*		*			Manufacture of consumer electronics
26C	26510	IN	MP	*	*	*				Manufacture of instruments and appliances for measuring, testing and navigation
27A	27110	IN	MP	*	*	*	*	*	*	Manufacture of electric motors, generators and transformers
27A	27120	IN	MP		*		*			Manufacture of electricity distribution and control apparatus
27B	27510	IN	MP					*		Manufacture of electric domestic appliances
27B	27900	IN	MP	*				*		Manufacture of other electrical equipment
28A	28110	IN	ME	*	*					Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
28A	28120	IN	ME	*						Manufacture of fluid power equipment
28A	28220	IN	ME	*			*			Manufacture of lifting and handling equipment
28A	28250	IN	ME	*	*	*	*	*	*	Manufacture of non-domestic cooling and ventilation equipment
28A	28291	IN	ME				*			Manufacture of packing-machines
28A	28295	IN	ME	*						Manufacture of filter equipment
28A	28299	IN	ME		*		*			Manufacture of other general-purpose machinery n.e.c.
29A	29100	IN	AU	*	*	*	*	*	*	Manufacture of motor vehicles
29B	29201	IN	AU	*						Manufacture of bodies (coachwork) for motor vehicles
29B	29202	IN	AU	*						Manufacture of trailers and semi-trailers and caravans
29B	29320	IN	AU	*	*			*		Manufacture of other parts and accessories for motor vehicles
30A	30110	MA	SB	*		*				Building of ships and floating structures
30B	30200	IN	AI					*		Manufacture of railway locomotives and rolling stock
32B	32990	IN	AI	*			*			Other manufacturing n.e.c.
33A	33110	IN	ME	*			*			Repair of fabricated metal products
33A	33120	IN	ME	*	*		*	*		Repair of machinery
33A	33150	MA	SB	*	*	*	*	*	*	Repair and maintenance of ships and boats
33A	33170	IN	ME	*			*			Repair and maintenance of other transport equipment
35A	35110	IN	EN	*	*	*	*	*	*	Production of electricity
35B	35220	IN	EN		*		*			Distribution of gaseous fuels through mains
37A	37000	IN	AI	*					*	Sewerage
38A	38110	IN	AI		*			*	*	Collection of non-hazardous waste
38A	38219	IN	AI	*	*	*	*	*	*	Other processing and disposal of non-hazardous waste
38B	38310	IN	AI					*	*	Dismantling of wrecks
38B	38321	IN	AI		*				*	Sorting of non-hazardous waste for recycling
38B	38322	IN	AI	*	*	*	*	*	*	Recovery of waste metal

**TABLE 54 (continued) LIST OF NACE-BEL BRANCHES (NACE-BEL 2008)**

SUT	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	BR	Definition
38B	38323	IN	AI	*	*		*	*	*	Recovery of inert waste
39A	39000	IN	AI	*			*			Remediation activities and other waste management services
41A	41102	IN	CS	*	*	*	*		*	Non-residential development projects
41A	41203	IN	CS	*	*	*	*	*	*	Construction of other non-residential buildings
42A	42110	IN	CS	*	*	*	*	*	*	Construction of roads and motorways
42A	42130	IN	CS		*	*				Construction of bridges and tunnels
42A	42211	IN	CS		*					Construction of water and gas supply networks
42A	42219	IN	CS	*						Civil engineering works relating to fluids n.e.c.
42A	42220	IN	CS	*	*					Construction of utility projects for electricity and telecommunications
42A	42911	MA	DR	*	*	*	*			Dredging
42A	42919	MA	DR	*	*	*	*	*	*	Construction of water projects, except dredging
43A	43110	IN	CS	*	*	*	*	*	*	Demolition
43A	43120	IN	CS	*	*		*	*	*	Site preparation
43B	43211	IN	CS	*	*	*	*	*	*	Electrical engineering installations in buildings
43B	43221	IN	CS	*		*	*	*	*	Plumbing
43B	43222	IN	CS	*	*			*	*	Heat and air conditioning installation
43B	43291	IN	CS	*						Insulation work activities
43C	43320	IN	CS	*	*	*	*		*	Joinery installation
43C	43341	IN	CS	*	*		*	*	*	Painting of buildings
43D	43910	IN	CS	*	*	*	*		*	Roofing activities
43D	43999	IN	CS	*	*	*	*	*	*	Other specialised construction activities
45A	45111	CO	CO	*	*	*	*	*	*	Wholesale of cars and light motor vehicles
45A	45191	CO	CO	*			*		*	Wholesale of other motor vehicles (> 3,5 ton)
45A	45193	CO	CO	*						Retail sale of other motor vehicles (> 3,5 ton)
45A	45202	CO	CO	*	*	*	*	*		Maintenance and general repair of motor vehicles
45A	45205	CO	CO	*			*		*	Tyre specialists
45A	45310	CO	CO	*	*	*	*	*	*	Wholesale trade and intermediary of motor vehicle parts and accessories
46A	46110	CO	CO	*						Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods
46A	46120	CO	CO	*	*				*	Agents involved in the sale of fuels, ores, metals and industrial chemicals
46A	46140	CO	CO	*				*	*	Agents involved in the sale of machinery, industrial equipment, ships and aircraft
46A	46170	CO	CO	*	*					Agents involved in the sale of food, beverages and tobacco
46A	46180	CO	CO	*	*		*	*	*	Agents specialised in the sale of other particular products
46A	46190	CO	CO	*	*			*	*	Agents involved in the sale of a variety of goods
46A	46216	CO	CO	*	*		*	*	*	Wholesale of animal feeds and agricultural raw materials
46A	46319	CO	CO	*		*	*		*	Wholesale of fruit and vegetables, except potatoes
46A	46332	CO	CO	*						Wholesale of edible oils and fats
46A	46349	CO	CO	*	*	*	*	*	*	Wholesale of alcoholic and other beverages, general assortment
46A	46381	CO	CO		*	*	*		*	Wholesale of fish, crustaceans and molluscs
46A	46389	CO	CO	*	*	*	*		*	Wholesale of other food n.e.c.
46A	46391	CO	CO				*		*	Non-specialised wholesale of frozen food
46A	46392	CO	CO	*		*	*		*	Non-specialised wholesale of non-frozen food, beverages and tobacco
46A	46412	CO	CO	*	*		*		*	Wholesale trade in household textiles and bedding
46A	46423	CO	CO	*	*		*	*	*	Wholesale trade in clothing other than work clothes and underwear
46A	46431	CO	CO	*	*	*	*	*	*	Wholesale trade in domestic electrical appliances and audio and video equipment
46A	46442	CO	CO	*	*		*		*	Wholesale of cleaning materials
46A	46460	CO	CO	*	*	*	*	*	*	Wholesale of pharmaceutical goods
46A	46499	CO	CO	*	*	*	*	*	*	Wholesale of other household goods n.e.c.
46A	46510	CO	CO	*	*		*		*	Wholesale of computers, computer peripheral equipment and software
46A	46620	CO	CO	*	*		*		*	Wholesale of machine tools
46A	46630	CO	CO	*		*		*	*	Wholesale of mining, construction and civil engineering machinery
46A	46693	CO	CO	*	*	*	*	*	*	Wholesale trade in electrical equipment, including installation materials

**TABLE 54 (continued) LIST OF NACE-BEL BRANCHES (NACE-BEL 2008)**

SUT	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	BR	Definition
46A	46694	CO	CO	*					*	Wholesale trade in lifting and transport equipment
46A	46695	CO	CO	*			*			Wholesale trade in pumps and compressors
46A	46699	CO	CO	*	*	*	*	*	*	Wholesale of other machinery and equipment n.e.c
46B	46710	CO	CO	*	*	*	*	*	*	Wholesale of solid, liquid and gaseous fuels and related products
46A	46720	CO	CO	*	*		*	*	*	Wholesale of metals and metal ores
46A	46731	CO	CO	*	*	*	*	*	*	Wholesale of construction materials, general assortment
46A	46732	CO	CO	*	*	*	*	*	*	Wholesale of wood
46A	46733	CO	CO		*		*		*	Wholesale trade in wallpapers, paints and household textiles
46A	46741	CO	CO	*	*		*			Wholesale of hardware
46A	46751	CO	CO	*	*	*	*	*	*	Wholesale of industrial chemical products
46A	46769	CO	CO	*	*		*			Wholesale trade in other intermediate products n.e.c.
46A	46772	CO	CO		*		*	*	*	Wholesale trade in iron and steel scrap and non-ferrous scrap metals
46A	46900	MA	CP	*	*	*	*	*	*	Non-specialised wholesale trade
47A	47230	CO	CO	*		*	*		*	Retail sale of fish, crustaceans and molluscs in specialised stores
47B	47300	CO	CO	*	*	*	*	*	*	Retail sale of automotive fuel in specialised stores
47A	47410	CO	CO	*	*		*		*	Retail sale of computers, peripheral units and software in specialised stores
47A	47521	CO	CO	*	*	*	*	*	*	Specialist retail trade in building materials and DIY supplies, general range
47A	47781	CO	CO		*	*	*	*	*	Specialist retail trade in fuels other than road fuel
49A	49200	TR	TP	*	*	*	*	*	*	Freight rail transport
49C	49410	TR	WE	*	*	*	*	*	*	Freight transport by road, except removal
49C	49420	TR	WE	*					*	Removal services
49C	49500	TR	WE	*			*			Transport via pipelines
50A	50200	MA	RE	*	*	*	*	*	*	Sea and coastal freight water transport
50B	50400	MA	RE	*	*	*	*	*	*	Inland freight water transport
52A	52100	MA	GO	*	*	*	*	*	*	Warehousing and storage, including refrigerating
52A	52210	LO	AD	*		*	*		*	Service activities incidental to land transportation
52A	52220	MA	GO	*	*	*	*	*	*	Service activities incidental to water transportation
52A	52241	MA	GO	*	*	*	*	*	*	Cargo handling in sea ports
52A	52249	MA	GO	*	*	*	*	*	*	Cargo handling except sea ports
52A	52290	MA	SE	*	*	*	*	*	*	Other transportation support activities
53A	53200	TR	WE	*	*	*			*	Other postal and courier activities
62A	62010	LO	AD	*	*	*	*		*	Computer programming activities
66A	66210	LO	AD	*	*		*		*	Risk and damage evaluation
66A	66220	LO	AD	*	*	*	*	*	*	Activities of insurance agents and brokers
66A	66290	LO	AD		*					Other activities auxiliary to insurance and pension funding
68B	68203	LO	AD	*	*	*	*		*	Renting and operating of own or leased non residential real estate, except lands
68A	68321	LO	AD	*	*	*	*		*	Management of residential real estate on a fee or contract basis
68A	68322	LO	AD	*	*	*	*		*	Management of non-residential real estate on a fee or contract basis
69A	69201	LO	AD	*			*	*	*	Accountants and fiscal advisors
70A	70100	LO	AD	*	*	*	*	*	*	Activities of head offices
70A	70220	LO	AD	*	*	*	*	*	*	Business and other management consultancy activities
71A	71121	LO	AD	*	*	*	*	*	*	Engineering activities and related technical consultancy, except surveyor
71A	71209	LO	AD	*	*		*		*	Other technical testing and analysis
72A	72190	LO	AD						*	Other research and experimental development on natural sciences and engineering
73A	73110	LO	AD	*	*	*	*	*	*	Advertising agencies
77A	77120	LO	AD	*	*	*	*	*	*	Renting and leasing of trucks
77C	77320	LO	AD	*	*		*		*	Renting and leasing of construction and civil engineering machinery and equipment
77C	77340	LO	AD	*	*	*	*		*	Renting and leasing of water transport equipment
77C	77399	LO	AD	*	*		*	*	*	Renting and leasing of other machinery, equipment and tangible goods
80A	80100	LO	AD	*	*	*	*		*	Private security activities
81A	81100	LO	AD	*	*		*	*	*	Combined facilities support activities
81B	81220	LO	AD	*	*	*	*	*	*	Other building and industrial cleaning activities
81B	81290	LO	AD	*		*			*	Other cleaning activities

**TABLE 54 (continued) LIST OF NACE-BEL BRANCHES (NACE-BEL 2008)**

SUT	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	BR	Definition
82A	82110	LO	AD	*	*		*	*	*	Combined office administrative service activities
82A	82920	LO	AD	*	*					Packaging activities
82A	82990	LO	AD	*	*	*	*	*	*	Other business support service activities n.e.c.
84B	84220	MA	PU	*	*	*	*		*	Defence activities

Source:NBB.

The asteriks denote the presence of the activity branches in the ports for at least one year over the period 2006 - 2011. For instance the branch 52241 (Cargo handling in sea ports) is or was present in the six ports, at the same time or at least one year in each of these ports between 2006 and 2011, while the branch 30110 (Building of ships and floating structures) was only present in Antwerp and Ostend.

Legend:

Port code	Port	Port code	Port
AN	Port of Antwerp	ZB	Port of Zeebrugge
GN	Port of Ghent	LG	Liège port complex
OO	Port of Ostend	BR	Port of Brussels

Cluster code	Cluster definition	Sector code	Sector definition
MA	Maritime	SE	Shipping agents and forwarders
		GO	Cargo handling
		RE	Shipping companies
		SB	Shipbuilding and repair
		DR	Port construction and dredging
		VI	Fishing
		CP	Port trade
		HB	Port authority
		PU	Public sector
CO	Trade	CO	Trade
IN	Industrie	EN	Energy
		PE	Fuel production
		CH	Chemicals
		AU	Car manufacturing
		MP	Electronics
		ME	Metalworking industry
		CS	Construction
		VO	Food industry
		AI	Other industries
TP	Land transport	WE	Road transport
		TP	Other land transport
LO	Other logistic services	AD	Other services

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