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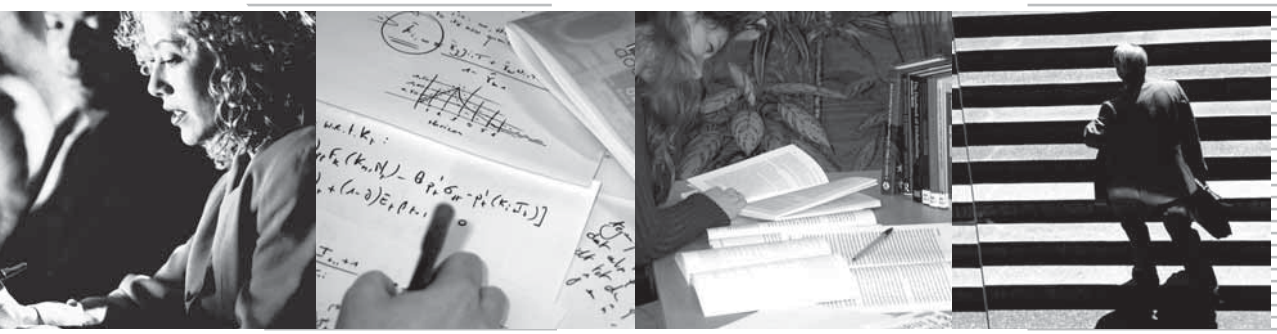
Economic importance of the Flemish maritime ports

Report 2003

Frédéric Lagneaux



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ECONOMIC IMPORTANCE OF THE FLEMISH MARITIME PORTS: REPORT 2003

Frédéric Lagneaux [*]

The views expressed in this paper are those of the author and do not necessarily reflect the views of the National Bank of Belgium.

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Abstract

The Flemish maritime ports play a major role in the Belgian economy, not only in terms of the industries they encompass but also as intermodal centres where transhipment activities are concentrated.

This update[1] paper provides an extensive overview of the economic importance and development of the Flemish maritime ports, through revised results for the period 1997 - 2003. Focusing on the three major variables of value added, employment and investment, it also provides some information about the financial situation of a few vital sectors in each port. A global indication concerning the financial health of the companies studied is also provided, using the NBB bankruptcy prediction model. In addition, it includes figures with respect to the ongoing growth of several cargo traffic segments and provides an overall picture of social developments in the Flemish maritime ports.

The indirect effects of these port activities are estimated in terms of value added and employment. Annual account 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 were estimated on the basis of data from the National Accounts Institute.

In the Flemish maritime ports, direct VA came to almost 11.5 billion euro and total VA - the sum of direct and indirect VA - to 22 billion euro in 2003. In the same year direct and total employment reached respectively 105,000 and 239,000 full-time equivalents, while direct investment reached 2.5 billion euro.

The ongoing developments in the maritime ports sector in the Hamburg - Le Havre range continue to affect the port operations: concentration of capital, privatisation of port logistic services, expansion and dispersion of foreign trade, internationalisation of production and consumption patterns, increase in containerised shipments, etc. Production, trade and transport are no longer considered as individual and isolated activities, but are integrated within a single system, while economies of scale continue. Therefore, ports are becoming real logistic centres: ports able to add value to the goods passing through the port area have a major advantage in a climate of increasing international competition. Flemish ports are following this trend, and that is also reflected in the analysis presented in this report.

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.

[1] Update of Lagneaux F. (2004), *The Economic Importance of the Flemish Maritime Ports: Report 2002*, NBB, Working Paper No. 56 (Document series).

CONTENTS:

Foreword

As every year, the Bank[1] is publishing a research on the economic importance of the Flemish maritime ports. Since last year, the analysis of the socio-economic situation of the ports of Antwerp, Ghent, Ostend and Zeebrugge has been presented in a single volume and has described the indirect effects of the sector's activity on the economy of the country as a whole.

This issue updates the 2002 report[2]. The methodology behind this study has been revised. Therefore it covers the period 1997 - 2003.

After the introduction, the general economic context of the year 2003 is described. That is followed by methodological notes and the analysis proper. Chapter 2 concerns the results for all the ports under review, and chapter 3 deals with each specific port.

Introduction and aims

This study aims to estimate the economic importance of these ports over the period from 1997 to 2003, on the basis of the analysis of the economic, social and financial situation. The following variables are considered:

- Value added at current prices;
- Employment in FTEs[3];
- Investment at current prices.

A financial analysis and the social balance sheet are presented for the last three years covered by the study, the first for each port individually and the second for all the Flemish maritime ports. In order to analyse the financial health of the companies studied, the study of financial ratios is supplemented, using the bankruptcy prediction model[4].

For the purposes of this update, the sample was revised for each year and the approach adopted for the estimation of the indirect effects was revised, in order to cover the whole of the economic impact of the port activity (including self-employed subcontractors). This led to some adjustments to the findings. Some changes were also made to the presentation[5], in order to make it easier to follow the results broken down by sector. These latest adjustments were made with due regard for consistency with the previous edition in terms of the definition of the population and the groups of branches studied. This point is recalled in detail in annex 1.

The microeconomic data used were obtained from the Central Balance Sheet Office[6] and the National Accounts Institute (NAI). In particular, this institute was asked to supply data for the estimation of the indirect effects. The study concentrates on the branches of activity which have economic links with the Flemish maritime ports.

The delayed publication of the report is due to the fact that the final closure of the accounts for 2003 at the Central Balance Sheet Office took place at the beginning of 2005, as did the publication of the NAI figures for value added and employment, essential for the estimation of the indirect effects up to 2003. It should be remembered that 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. But a high proportion of firms fail to meet the obligation by that date. By the beginning of the

1 National Bank of Belgium (NBB).

2 Lagneaux F. (2004), *Economic importance of the Flemish maritime ports: report 2002*, NBB Working Paper No. 56 (Document series).

3 Full-time equivalents: this unit is used to express both direct and indirect employment.

4 See point 2.6.2.

5 Minor adjustments were made to the sectoral presentation of the results, and this format was followed throughout chapter 3 and in annexes 5, 6 and 7. Also, a profile of each port is presented in chapter 3.

6 This unit is part of the Bank's Microeconomic Information department.

following year, i.e. in January 2005 in the case of the 2003 accounts, the proportion failing to submit accounts was down to 5 p.c.

Wherever possible, some links with the country's economy are presented for the purpose of comparison[7].

[7] References: Bank's annual report 2003; Heuse P. and Ph. Delhez (2004), "The Social Balance Sheet 2003", NBB, *Economic Review 2004/4*; Vivet D. (2004), "Trend in the financial structure and results of firms in 2003", NBB, *Economic Review 2004/4*. These publications are available on line: www.nbb.be.

1 GENERAL CONTEXT

World growth accelerated in 2003. In Belgium, growth also picked up, exceeding 1 p.c.[8], whereas in the euro zone growth remained sluggish. Belgian inflation was steady at 1.5 p.c. In Belgium, a country with a very open economy, manufacturing industry was the engine of recovery in 2002, but the revival was tempered by the chemical and metal-working sectors, which are geared to exports and were hardest hit by the rise of the euro. The Belgian domestic employment levelled off in 2003.

The Flemish maritime ports feel the direct effects of developments in the national economic environment, and in world trade, where China has become one of the driving forces. In the Hamburg - Le Havre range, transhipment activity at the ports of Antwerp and Ostend expanded sharply in 2003. The Flemish ports' position in the range strengthened slightly.

1.1 National and international economic context[9]

Maritime traffic is constantly growing throughout the world. This trend is borne out by the Flemish ports where, despite some individual instances of a cyclical downturn, the transhipment volumes have continued to grow in 2003, particularly in short sea shipping[10]. Containerised and roll-on/roll-off or ro-ro traffics are the factors driving this steady expansion. Transhipment in the ports of Antwerp and Ostend thus posted record figures in both 2003 and 2004.

However, just as new markets such as China are being opened up to the Flemish maritime ports, competition between ports in the Hamburg - Le Havre range[11] is becoming fiercer. This is evident in the successive restructuring operations concerning firms in the cargo handling segment, mirroring the mergers between shipping companies. Moreover, the ports in the range are themselves in competition with the major ports of Asia.

The year 2003 brought the failure of the negotiations between the Council of European Union (EU) Transport Ministers and the European Parliament on the draft directive on the liberalisation of port services[12]. The MEPs were in fact divided on one aspect of the compromise which had previously found favour, relating to "self-handling". This was to permit vessels to deal with the transhipment of their goods themselves in the port. Although this is still a highly sensitive social issue[13], there are two developments which appear to be moving in the direction of liberalisation and rationalisation of this activity in the Flemish ports. The first is technical, given the progress made in recent years in terminal management software. The second concerns the actual development of container and ro-ro traffics, which is replacing conventional cargo handling. But container and ro-ro traffics require less labour than conventional traffic.

Despite the failure of these negotiations, the European Commission continues to support the maritime sector with specific measures in short sea shipping: aid for investment, tax based on tonnage and reduced-rate charges for seamen. The EU's foreign trade is actually very dependent on the sea (90 p.c. in terms of tonnage in the EU-15). The measures were also reflected in an

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8 In 2003, the Belgian economy grew by 1.3 p.c. in real terms. Source: Bank's Annual Report 2004.

9 Sources: Bank's Annual Report 2003 and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

10 Abbreviation SSS: Movement of cargo by sea between ports situated in Europe as well as between ports in Europe and ports situated in non-European countries having a coastline on the enclosed seas bordering Europe. Source: "Terminology on Combined Transport", UN/ECE, Geneva 2001. In 2003, the SSS exceeded 100 million tonnes in the Flemish ports, with Antwerp accounting for 62 million tonnes.

11 Definition in point 1.2 and in annex 9.

12 Initiative taken by the European Commission at the beginning of 2001, within the scope of the White Paper published in the same year on "European transport policy for 2010: time to decide". This directive aimed to open up the market in port services in order to ensure the right of free competition in these services, in accordance with the fundamental principles enshrined in the EU treaties.

13 On 29 September 2003, port workers – dockers – staged the largest demonstration seen in recent years in Rotterdam. There were between 5,000 and 8,000 demonstrators from all over Europe, protesting against the liberalisation of the sector, which would ultimately mean massive job losses.

increasing number of vessels operating under the flag of EU countries, and Belgium was no exception to this rule[14].

The background papers in the EU[15] related to the maritime sector are:

- the general transport policies introduced in the Treaty establishing the European Community;
- the White Paper, published in September 2001 and entitled "European transport policy for 2010: time to decide", which lists sixty specific measures designed to improve, in particular, the quality and efficiency of transport in Europe by 2010;
- the Commission regulations on maritime safety following the Erika disaster, and Directive 2001/106/EC concerning the enforcement, in respect of shipping using Community ports and sailing in waters under the jurisdiction of the Member States, of international standards for ship safety: compulsory double hulls for oil tankers, Community information and monitoring system, creation of a European maritime safety agency, and security at terminals and ports, etc.;
- the International Ship and Port Facility Security Code or ISPS code. This concerns measures to increase the security of ships and port facilities. The ISPS code was adopted by the International Maritime Organisation[16] in December 2002, following the terrorist attacks in the United States on 11 September 2001, and took effect on 1 July 2004. This code, which lays down a set of detailed rules for the attention of governments and port authorities, was ratified in the EU via Regulation 725/2004;
- links with the hinterland, which ought to be developed. The trans-European network (TEN), which includes the "Iron Rhine" rail link[17], is a move towards increasingly open borders for the free movement of goods, persons and services. Rail, river and short sea traffic hold a key position;
- the environmental standards, a major factor to be taken into account in the port facility development policy: application of Council Directive 79/409/EEC, on the conservation of wild birds, and Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora, sometimes have the effect of delaying the progress of certain port improvement projects (cf. point 3.1.2.3).

The economy of Belgium, a country at the centre of the *European banana*[18], is very dependent on the facilities provided by its communication networks. These are very dense and relatively well organised. However, it is obvious that the major roads are increasingly congested, and that rail and river transport are still very much under-used. In Flanders, the development of these last two modes of transport sometimes depends on cross-border agreements, which may hamper the progress of key projects somewhat. That is true of the programme for deepening the Scheldt, scheduled for the end of the decade[19], or the plan for getting the "Iron Rhine" project back on schedule. For its part, the Flemish government is currently drafting a strategic plan for each sea port[20].

The ports, whose activities are not only geared to overseas trade but which also act as transit centres with facilities for intermodal transhipment, hold an important position in these networks. In Belgium, there are many branches of activity which depend, directly or indirectly, on the four Flemish maritime ports.

World growth accelerated from 2.8 p.c. in 2002 to 3.3 p.c. in the following year. In fact, 2003 was an excellent year not only for the Chinese economy, but also for Japan, which is back in growth. The

[14] According to M. Nuytemans, the director of the Royal Belgian Shipping Companies Union, 35 merchant ships and 39 sea tugs were registered in Belgium in 2003. (source: Lloyd's, 30 December 2003).

[15] For other developments, see the *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie (Annual report 2003 of the Flemish Port Commission) and the European Commission's website (http://europa.eu.int/comm/transport/index_en.html).

[16] IMO, United Nations organisation for the promotion of maritime safety.

[17] *Ijzeren Rijn* in Dutch. A Belgo-Dutch project involving the reactivation of the railway line linking the port of Antwerp to the Ruhr region of Germany and to eastern Europe. The main advantage of this project is that it cuts 50 kilometres off the present distance, as well as crossing terrain that has much shallower gradients than the present route.

[18] Definition in annex 9.

[19] Cf. the agreement on the "Development Plan 2010" relating to the deepening of the western Scheldt, signed by the Flemish and Dutch ministers in March 2005. Under this agreement, work is to start by 2007 on deepening the currently 11.9 m deep channel to cater for vessels with a draught of 13.1 metres at all states of the tide. However, some wonder whether this deepening will be sufficient to meet the increasing requirements becoming apparent in the port of Antwerp.

[20] The port decree (*havendecreet*) of 1999 forms the basis for port policy in Flanders. It aims to ensure the clear and transparent regulation of relations between the Flemish government and the port authorities. The government agreement of 13 July 1999 provides for a multidisciplinary strategic plan describing the function and desired development of each port, and its relationship with the environment in the short, medium and long term.

United States economy confirmed its recovery in 2003, thanks in particular to the expansionary monetary and fiscal policies pursued in recent years, but this was to the detriment of the US balance of payments. The EU is in the opposite situation. In 2003, the economic growth slowed down for the third consecutive year in the euro zone countries, despite the revival recorded in the second half of the year. GDP grew by only 0.5 p.c., against 0.9 p.c. in 2002. The appreciation of the euro made it hard for these countries to maintain the competitive advantage that they had managed to build up during the years when the euro was weak.

The growth of Belgian GDP, which had stood at 0.7 p.c. in 2002, rose back above the 1 p.c. mark in 2003, for the first time in three years. Inflation in Belgium remained at the previous year's level of 1.5 p.c.[21], one of the lowest inflation rates in the euro zone. The scale of the cyclical movements is still greater in Belgium than the average for the EU, because of its highly open economy - at 180 billion euro in 2003, foreign trade accounts for about two thirds of Belgian GDP -. The decelerations and accelerations in economic activity are therefore more marked there. The number of bankruptcies increased by 5.1 p.c. in 2003, according to the National Statistical Institute (NSI). In the spring of the same year, business confidence thus fell to its lowest level for seven years. A strong and widespread recovery subsequently emerged in the third quarter.

In Belgium, manufacturing industry had been the engine of the embryonic recovery in 2002, but lost its momentum since its value added contracted by the third quarter of 2002[22]. This decline was primarily due to the chemical and metal-working industries, key activities for Belgium which are very much centred on exports and are therefore more vulnerable to fluctuations in exchange rates. The Belgian domestic employment, which was declining since 2001, levelled off in 2003[23], when the unemployment rate stood at 8.2 p.c., according to the NSI.

The Flemish maritime ports - Antwerp, Ghent, Ostend and Zeebrugge - are home to numerous industries directly concerned by the signs of recovery mentioned earlier, tempered by the decline in activity of the export industries. As centres for the transit of goods, the Belgian maritime ports play an essential role in Belgium's trade with its European partners and with the rest of the world. The economic growth of countries such as China is bound to affect the activity of the port sector. In fact, container transhipment is constantly expanding, particularly at Antwerp and Zeebrugge, and major infrastructure improvement projects have been implemented to cope with this structural tendency. The Flemish Region, which has been responsible for the port policy and port management since 1989, thus invested some 342.1 million euro in improvements to ports in 2003. About half of that was allocated to improving access. The deepening of the western Scheldt is one of the leading projects here[24].

1.2 Maritime[25] goods traffic: comparative analysis

The Flemish maritime ports, grouped in a 100 km radius, are key players in the handling of goods at international and intra-European level. Despite the quality of the services which they provide and the growth recorded, they have long had to compete with other large European maritime ports serving the same hinterland. Together, they form what is known as the range and comprise the following nine ports, from north to south: Hamburg and Bremen in Germany, Amsterdam and Rotterdam in the Netherlands, Antwerp, Ghent and Zeebrugge in Belgium and Dunkirk and Le Havre in France. For the purpose of comparing the figures, it was decided to include the port of Ostend in the analysis of the Hamburg - Le Havre range. That is also the approach adopted by the *Vlaamse Havencommissie* in its annual report.

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[21] Harmonised index of consumer prices (HICP) in Belgium (source: Bank's Annual Report 2003). To ascertain the movement in value added at constant prices, account is taken of the index of domestic output prices, up 0.7 p.c. in 2003, compared to the previous year. In the case of investment at constant prices, it is the index of prices of domestic investment goods that is used; this index rose by 1.4 p.c. in 2003. Source: Belgostat.

[22] The value added of this industry declined by 3 p.c., according to figures calculated after a nine month time lag and on an annual basis.

[23] The Belgian domestic employment rose by 0.1 p.c. in 2003 (source: Bank's Annual Report 2004).

[24] Over a period of ten years, more than 231 million euro (2003 prices) has been invested in deepening the Western Scheldt, or 12 p.c. of the total spent on maritime accessibility by the Flemish Region since 1989.

[25] Goods carried by inland waterways are not included in these figures.

TABLE 1 **TOTAL MARITIME TRAFFIC IN THE HAMBURG - LE HAVRE RANGE (INCLUDING OSTEND)**
(millions of tonnes)

	1997	1998	1999	2000	2001	2002	2003	Change 2002 - 2003 (in p.c.)	Average relative share (in p.c.)	Relative share in 2003 (in p.c.)
Hamburg	76.7	75.8	81.0	85.1	92.4	97.6	106.3	8.9	11.2	12.5
Bremen	34.0	34.5	36.0	45.0	46.1	46.6	49.0	5.2	5.3	5.7
Amsterdam[26]	36.8	36.1	37.6	44.6	49.4	50.3	44.5	-11.5	5.5	5.2
Rotterdam	310.1	314.4	303.4	322.4	314.7	322.1	327.8	1.8	40.2	38.4
Antwerp	111.9	119.8	115.7	130.5	130.1	131.6	142.9	8.5	16.0	16.7
Ghent	23.0	23.6	23.9	24.0	23.5	24.0	23.5	-1.8	3.0	2.8
Zeebrugge	32.4	33.3	35.4	35.5	32.1	32.9	30.6	- 7.2	4.2	3.6
Ostend	4.3	3.9	3.1	4.3	4.8	6.2	7.2	15.7	0.6	0.8
Dunkirk	36.5	39.2	38.3	45.3	44.5	47.6	50.1	5.3	5.5	5.9
Le Havre	59.7	66.9	64.4	68.0	69.0	68.1	71.8	5.4	8.5	8.4
Total for the ten ports	725.4	747.5	738.8	804.7	806.6	827.0	853.7	3.2	100.0	100.0
Total world traffic *	n.	5,616	5,666	5,871	5,840	5,948	6,168	3.7		
Share of the ten ports in world traffic (in p.c.)	n.	13.3	13.0	13.7	13.8	13.9	13.8			

Sources: For traffic in the range: port authority data – including the Port of Rotterdam statistics- and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie; for world traffic: UNCTAD, *Review of Maritime Transport 2004*.

* These figures have been revised since the previous edition (source: UNCTAD).

World maritime traffic increased by 3.7 p.c. in tonnage from 2002 to 2003, according to the *Review of Maritime Transport 2004* (UNCTAD). The Hamburg - Le Havre range, including the port of Ostend, recorded growth of just under 3.2 p.c. The Flemish ports have strengthened their market share, which was up from 23.5 to 23.9 p.c., a level close to the figures recorded in 1998 and 1999 (over 24 p.c.).

The share held by the ten ports in the world market is only down by 0.1 p.c., despite the growing importance of Asian ports such as Singapore, Shanghai and Hong Kong, which are close behind Rotterdam, still the world's largest port. Antwerp is now down to ninth place in this ranking[27], on the basis of the total transhipment tonnages, whereas it was still in sixth place in 2000.

Practically all the ports in the range saw an increase in transhipment in 2003, actually scoring all-time record figures, except for Amsterdam, Zeebrugge and Ghent (table 1). The largest increases were seen at Ostend, Hamburg and Antwerp. In the past twenty years, these last two ports have achieved double the container traffic growth, in cumulative terms, recorded by the port of Rotterdam. The ports of Le Havre, Dunkirk and Bremen experienced a rise in tonnage of just over 5 p.c. in 2003. The port of Antwerp holds the record, within the range, in terms of the absolute increase in traffic, with a figure of 11.2 million tonnes, followed by Hamburg and Rotterdam. The transhipment of goods increased by 1 million tonnes at Ostend in the same year, whereas it declined by 2.3 million tonnes at Zeebrugge and by 0.4 million tonnes at Ghent. Total transhipment in the Flemish maritime ports was 4.8 p.c. up against 2002. The marked reduction in traffic recorded at the port of Amsterdam was due to the decline in the transhipment of petroleum products and bulk agricultural products, down to the levels recorded in the late 1980s.

The volumes handled by the ten ports remained close to 14 p.c. of the total world maritime traffic. During the period under review, the four Flemish ports accounted for a fairly consistent 3.3 p.c. of that same total. Chapter 3 presents an overall analysis of the latest developments in maritime traffic for each Flemish maritime port.

[26] The figures mentioned here apply only to the port of Amsterdam, and not to the entire complex which also includes the ports of Beverwijk, Velsen/IJmuiden and Zaanstad.

[27] Antwerp is the world's tenth largest port in terms of container shipping.

1.3 Note on methodology and results presentation

The population of companies was formed by the geographical and functional selection method. Two clusters[28] are considered: the maritime cluster and the non-maritime cluster. The latter contains the following segments: industry, trade, transport and other logistic services.

The direct effects are expressed in terms of VA, employment and investment. These results are supplemented by the analysis of the social balance sheet and some financial ratios.

The indirect effects are estimated, for the VA and the employment, on the basis of data supplied by the National Accounts Institute.

A methodological note[29] and update is presented in annex 1.

[28] The OECD gives a general definition of clusters: *Networks of production of strongly interdependent firms (including specialised suppliers) linked to each other in a value-adding production chain.* (see OECD, "Boosting Innovation: The Cluster Approach", 1999, Paris). Since the appearance of Porter's study on "The competitive advantage of nations" (The Free Press, New York, 1990), the cluster concept has become a central element of industrial policy.

[29] The methodological details are presented in the 2002 report. Table 41 (annex 1) contains the definitions of some of the key branches for the study, plus some remarks on the presentation of the results. The full list of the branches covered by the study is given in table 43 (annex 3).

2 GENERAL SITUATION OF THE FLEMISH MARITIME PORTS AS A WHOLE

All the figures in the 2002 report have been revised. The aim and impact of these changes are explained in annex 1.

In 2003, direct VA increased by 3.6 p.c. compared to the previous year, at nearly 11.5 billion euro. In the same year, indirect VA came to 10.5 billion euro.

Direct salaried employment in the Flemish maritime ports declined by 0.6 p.c. in 2003 to 105,419 FTEs, almost 30 p.c. of which were "maritime" jobs. This decline is due to the increase in the number of contracts being terminated; the percentage of redundancies and early retirement has declined while the percentage of temporary contracts being terminated has risen. Hired temporary staff and the use of external personnel expanded in 2003. The proportion of working time devoted to training increased in the same year. Indirect employment, including self-employed persons, also declined slightly to 133,457 FTEs.

In the same year, investment in the Flemish maritime ports, taking private investors and the Flemish Region together, totalled almost 2.5 billion euro.

The return on equity after tax increased sharply to 12.1 p.c. The liquidity ratio in the broad sense came to 1.25. The average solvency declined by 10 p.c. to 37.8 p.c.

The year 2003 also saw 4.8 p.c. growth in the transhipment tonnage in all Flemish maritime ports, with dramatic expansion at the ports of Antwerp and Ostend, which achieved record figures, but a slight dip at the ports of Ghent and Zeebrugge. In 2003, the tonnage transhipped in all four ports studied came to 204.2 million tonnes.

2.1 Overall data on direct and indirect value added (VA)

TABLE 2 **VALUE ADDED**
(millions of euros – current prices)

	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change between 1997 and 2003 (in p.c.)
1. DIRECT EFFECTS	**9,481.2**	**10,079.2**	**9,746.1**	**10,880.9**	**10,760.1**	**11,049.6**	**11,450.4**	**100.0**	**3,2**
Antwerp	6,103.5	6,302.2	6,121.6	6,960.6	6,939.4	7,089.9	7,398.1	64.6	3,3
Ghent.....	2,578.0	2,878.8	2,633.3	2,877.3	2,716.7	2,874.1	2,947.3	25.7	2,3
Ostend.....	216.3	235.9	273.2	258.0	313.2	324.1	332.4	2.9	7,4
Zeebrugge	502.1	578.5	643.1	707.6	716.3	690.1	695.4	6.1	5,6
Outside the ports	81.3	83.7	74.9	77.4	74.5	71.3	77.2	0.7	-0,9
2. INDIRECT EFFECTS .	***9,091.1***	***9,235.9***	***9,696.2***	**10,468.7**	***10,289.1***	***10,632.2***	***10,537.7***	***100.0***	***2,5***
Level 1.....	*5,522.0*	*5,591.3*	*5,750.7*	6,020.9	*6,069.9*	*6,297.1*	*6,224.3*	*59.1*	*2,0*
Level 2.....	*2,137.9*	*2,180.2*	*2,325.5*	2,523.0	*2,468.8*	*2,541.1*	*2,525.4*	*24.0*	*2,8*
Level 3.....	*846.0*	*863.8*	*943.5*	1,058.4	*995.4*	*1,019.8*	*1,017.4*	*9.7*	*3,1*
Next levels.....	*585.2*	*600.7*	*676.5*	866.4	*754.9*	*774.2*	*770.5*	*7.3*	*4,7*
TOTAL VALUE ADDED.	***18,572.3***	***19,315.1***	***19,442.4***	**21,349.6**	***21,049.2***	***21,681.8***	***21,988.0***	**-**	***2,9***

Source: NBB.

Between 1997 and 2003, the direct VA produced in the Flemish maritime ports increased by an average of 3.2 p.c. per annum, at current prices (table 2). Taking account of the index of average domestic output prices observed over that period, this amounts to an average increase in VA at constant prices[30] of 1.5 p.c. During this period, the largest average increases were recorded in cargo handling, trade, the oil, chemical and metal-working industries, and in land transport and other logistic services.

In 2003, the VA of firms based in the Flemish maritime ports increased by 3.6 p.c. compared to the previous year, or 2.9 p.c. at constant prices[31]. The growth therefore exceeded the figure recorded for the economy as a whole (1.3 p.c.). In this connection, a good performance was recorded by cargo handling, shipping companies, trade, the oil, metal-working[32] and electronics industries, and in land transport, which managed to offset the decline in the energy, chemical and car manufacturing industries, among others.

The port of Antwerp, which represents 64.6 p.c. of wealth creation in the four ports considered, is the one which saw the most dramatic VA increase in 2003 (cf. point 3.1.3). The ports of Ghent and Ostend also produced growth, but to a lesser extent, while VA stagnated at Zeebrugge.

In order to assess the overall economic impact of port activities, it is also worth considering the developments taking place among the suppliers used by firms of the population. If we confine ourselves to the immediate suppliers, the indirect VA declined by 1.2 p.c. in 2003. If we consider the entire supply chain upstream, to infinity, VA declined by 0.9 p.c., or 1.6 p.c. at constant prices. The decline in VA seen in industries such as car manufacturing was partly offset by the growth recorded among shipping companies, just to mention some of the sectors most dependent [33] on subcontracting.

Total VA – the sum of direct and indirect VA – came to almost 22 billion euro in 2003, or 8.4 p.c. of GDP[34]. Besides, the VA generated by firms in the population reached 11.5 billion euro, or 4.3 p.c. of GDP. All these remarks are developed in more detail for each port in chapter 3.

[30] 1997 prices. Source: Belgostat. Compared to the level of domestic output prices in 1997, the index showed an annual average rise of 1.7 p.c. from 1997 to 2003.

[31] 2002 prices. Source: Belgostat.

[32] In contrast to what is seen at national level (cf. point 1.1), the restructuring in the metal-working industry was not reflected in a decline in VA at the port of Ghent in 2003 (cf. point 3.2.3.2.3); Ghent is Belgium's largest sea port for the steel industry.

[33] The sectors where the ratio between indirect and direct effects is greater than 150 p.c. are deemed to be very dependent on subcontractors. This applies, in particular, to shipping companies, cargo handling, the food, car manufacturing and oil industries, and coordination centres.

[34] At 2000 prices, Belgium's GDP totalled 255.1 billion euro in 2003. Total VA at 2000 prices came to 21.4 billion euro, and direct VA stood at 11.1 billion euro. Source: Belgostat.

2.2 Overall data on direct and indirect employment

Preliminary remark:

A new feature was introduced in this edition. Although the annual accounts filed by firms with the Central Balance Sheet Office offer only figures on salaried employment, it was decided to present the figures on indirect salaried employment and self-employed persons[35] in order to cover the whole of the economic impact of port activities. The activity of self-employed persons is quite significant, since – if it is included – the figure for the period in question is almost 30 p.c. higher, on average, than the figure for indirect salaried employment only, taking all ports together. The indirect salaried employment figure for 2003 is indicated *pro memoria*.

TABLE 3 **EMPLOYMENT**
(FTEs)

	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change between 1997 and 2003 (in p.c.)
1. DIRECT EFFECTS	**104,937**	**103,843**	**103,330**	**104,861**	**107,551**	**106,095**	**105,419**	**100.0**	**0,1**
Antwerp	61,862	60,905	59,617	60,576	62,727	62,391	61,351	58.2	-0,1
Ghent.....	27,788	27,770	28,089	28,860	29,057	28,253	28,247	26.8	0,3
Ostend.....	4,742	4,339	4,357	3,823	4,055	4,207	4,297	4.1	-1,6
Zeebrugge	9,244	9,423	9,942	10,271	10,463	9,982	10,109	9.6	1,5
Outside the ports	1,302	1,406	1,326	1,331	1,249	1,262	1,415	1.3	1,4
2. INDIRECT EFFECTS .	***131,907***	***131,502***	***134,333***	**142,063**	***138,615***	***134,885***	***133,457***	***100.0***	***0,2***
Level 1.....	*78,856*	*78,523*	*78,702*	80,488	*81,477*	*79,289*	*78,533*	*58.8*	*-0,1*
Level 2.....	*31,581*	*31,526*	*32,693*	34,982	*33,600*	*32,738*	*32,358*	*24.2*	*0,4*
Level 3.....	*12,683*	*12,660*	*13,383*	14,757	*13,519*	*13,144*	*12,987*	*9.7*	*0,4*
Next levels.....	*8,787*	*8,794*	*9,555*	11,837	*10,019*	*9,713*	*9,579*	*7.2*	*1,4*
TOTAL EMPLOYMENT .	***236,844***	***235,345***	***237,663***	**246,924**	***246,166***	***240,979***	***238,876***	**-**	***0,1***

Source: NBB.

From 1997 to 2003, employment in the Flemish maritime ports increased slightly (+0.1 p.c. per annum on average - table 3). While the workforce expanded, on average, in cargo handling, shipping agents and forwarders, the oil, metal-working, construction and food industries, trade, road transport and other services, there was a decline on average in the case of shipping companies, fishing, the chemical, energy, car manufacturing and electronics industries.

In 2003, firms in the Flemish maritime ports cut their workforce by 0.6 p.c., on average, while Belgian domestic employment increased by 0.1 p.c. (cf. point 1.1). The job losses affected almost all the industries active in the ports, except for the electronics industry and other industries. Fishing, other logistic services and public sector were also down, while all the other maritime sectors and land transport took on staff.

Of the four ports considered, Ostend and Zeebrugge saw a substantial expansion in their workforce in 2003, whereas employment declined at Antwerp (which represented 58.2 p.c. of employment in the Flemish maritime ports) and stagnated at Ghent.

As regards the overall economic impact of the port activities, employment among suppliers of the firms in the population, i.e. indirect employment, represented 133,457 FTEs in 2003, slightly down

[35] NAI data.

against the previous year. This figure includes self-employed workers. Indirect salaried employment is estimated 103,494 FTEs. The food and car manufacturing industries are the main ones accounting for the small decline recorded, which was moderated by the good figures for cargo handling and shipping companies, just to mention some of the sectors most dependent[36] on subcontracting.

Total employment, the sum of direct and indirect employment, dropped slightly below the figure of 240,000 FTEs in 2003. Nonetheless, that still represents 6.4 p.c. of domestic employment in Belgium[37]. Taking direct employment only, namely 105,419 FTEs, of which almost 30 p.c. are maritime, the proportion drops to 2.8 p.c. All these remarks are developed in more detail for each port in chapter 3.

2.3 Overall data on investment

TABLE 4 **INVESTMENT**
(millions of euros - current prices)

	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change between 1997 and 2003 (in p.c.)
Antwerp	1,269.3	1,233.9	1,076.7	1,392.2	1,564.8	1,456.5	1,471.0	59.7	2.5
Ghent	372.6	417.9	645.5	590.5	607.6	781.1	750.5	30.4	12.4
Ostend	91.8	101.4	117.4	99.6	63.5	59.0	71.0	2.9	-4.2
Zeebrugge	129.7	185.8	198.3	170.6	131.9	112.1	129.8	5.3	0.0
Outside the ports	55.3	53.1	52.4	50.6	41.3	38.2	43.1	1.7	-4.1
DIRECT INVESTMENT	**1,918.8**	**1,992.2**	**2,090.2**	**2,303.5**	**2,409.1**	**2,446.9**	**2,465.4**	**-**	**4.3**

Source: NBB.

Between 1997 and 2003, direct investment in the Flemish maritime ports increased by an annual average of 4.3 p.c. at current prices (table 4). Taking account of the average index of the prices of investment goods recorded over this period, that amounts to an average increase in investment at constant prices[38] of 4.2 p.c. The largest rises were recorded among shipping companies, in trade, the oil, chemical, car manufacturing and metal-working industries and in other industries and land transport.

In 2003, investment in the Flemish maritime ports at current prices was 0.8 p.c. up against the previous year; that corresponds to a small decline of 0.6 p.c. at constant prices[39]. The rises recorded by cargo handling, the car manufacturing and metal-working industries and road transport were offset by the reductions seen in most of the other maritime and non-maritime sectors.

Of the four ports considered, Ostend and Zeebrugge were the ones which recorded the largest increases in investment in 2003, while investment stagnated at Antwerp and declined at Ghent. In the same year, the port of Antwerp received 59.7 p.c. of the total private funds invested in the sector, which amounted to almost 2.5 billion euro. All these remarks are developed in more detail for each port in chapter 3.

[36] The sectors where the ratio between indirect and direct effects is greater than 150 p.c. are deemed to be very dependent on subcontractors. This applies, in particular, to shipping companies, cargo handling, the food, car manufacturing and oil industries, and coordination centres.

[37] Taking account of indirect salaried employment only, the total is 208,913 FTEs, or 5.6 p.c. of Belgian domestic employment in 2003. This totals 4.1 million jobs, corresponding to 3.7 million FTEs. Source: Bank's Annual Report 2003.

[38] 1997 prices. Source: Belgostat. Compared to the 1997 level of prices domestic investment goods, the index rose by an average of 0.1 p.c. per annum over the period 1997 - 2003.

[39] 2002 prices. Source: Belgostat.

2.4 Breakdown of the findings by company size

Table 5 contains only the results for firms within the ports in the narrow sense. It therefore does not cover the results for firms outside the port areas, or the indirect effects.

According to the Code of the Companies[40], a company is regarded as large if:

- the annual average workforce exceeds 100 persons or
- more than one of the following criteria are exceeded:
  - annual average workforce: 50;
  - annual turnover (excl. VAT): 6,250,000 euro;
  - balance sheet total: 3,125,000 euro.

TABLE 5 BREAKDOWN OF FINDINGS BY SIZE OF COMPANY IN 2003

	Number of firms		Value added (in millions of euros)		Employment (in FTEs)		Investment (in millions of euros)	
Ports	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs
Antwerp	358	1,331	6,944.2	453.9	54,801	6,550	1,360.0	111.0
Ghent	165	533	2,762.5	184.8	25,494	2,753	712.3	38.2
Ostend	34	249	267.8	64.6	3,205	1,092	46.4	24.6
Zeebrugge	83	359	576.1	119.3	8,207	1,902	104.4	25.4
TOTAL	**640**	**2,472**	**10,550.7**	**822.5**	**91,707**	**12,297**	**2,223.1**	**199.2**

Source: NBB.

In 2003, large firms, which represent only just over one-fifth of the number of firms in the population studied, accounted for 92.8 p.c. of value added in the four ports and 88.2 p.c. of employment (table 5). They also attracted 91.8 p.c. of the investment. The detailed figures are presented per cluster and per sector for each port, in annex 6.

[40] Article 15 of the Code of the Companies. See also the Central Balance Sheet Office website: http://www.nbb.be/BA.

2.5 Overall data on the social balance sheet[41]

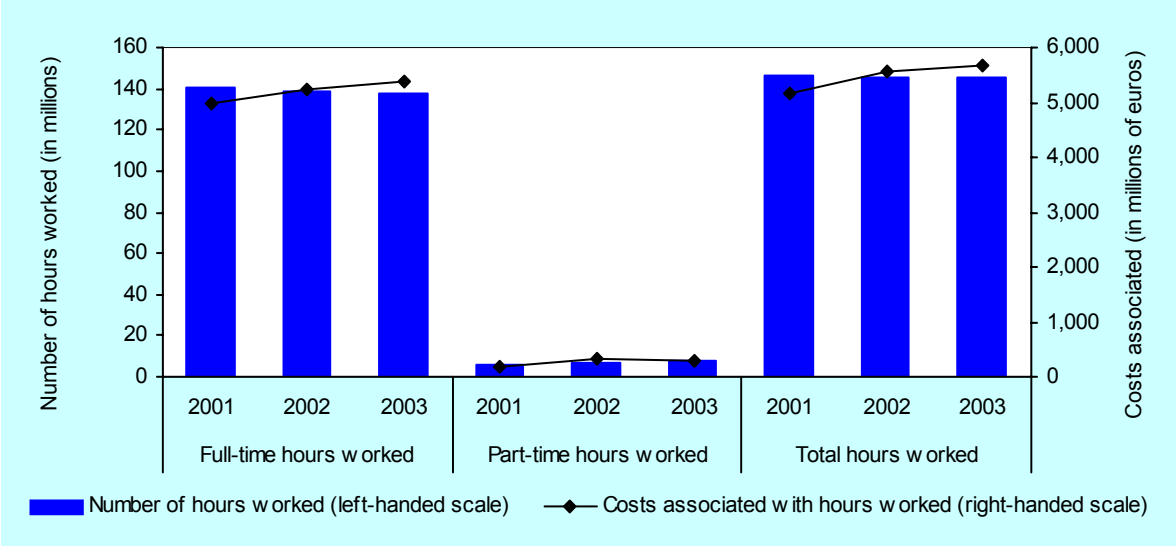
Since its introduction in 1996, the social balance sheet has presented a consistent set of data covering various aspects relating to employment in firms, be it the recruitment and composition of the workforce, the contractual status or standard of education of the employees, staff costs, training policy, or reasons for terminating contracts. The results set out below for direct employment in the four ports taken together are not exhaustive. They relate to a constant sample which was defined for the period 2001 - 2003. In the case of charts 2 to 6 and table 6, the figures presented and the corresponding analysis relate only to firms which filed their accounts according to the full presentation, as the balance sheet items on which they are based only occur in that presentation. This concerns 726 firms, or 41.9 p.c. of the constant sample[42].

The comments focus on the changes recorded in the last three years considered. The figures are presented in detail in annex 7.

2.5.1 Type of contract and human resources

In 2003, in the Flemish maritime ports, the ratio of blue-collar to white-collar workers stood at 148.8 p.c., the proportion of white-collar workers having risen slightly since the previous year.

CHART 1 **HOURS WORKED AND COSTS ASSOCIATED WITH INTERNAL HUMAN RESOURCES[43]**



Source: NBB.

Direct employment in the Flemish maritime ports declined slightly in 2003 (cf. table 3). The number of full-time hours worked also dropped slightly, from 138.8 to 137.9 million hours (chart 1). Part-time working continued to expand, totalling 8.1 million hours, or 1.3 million hours more than the previous year. Altogether, the number of hours worked thus increased from 145.6 to 145.9 million. In 2003, full-time working represented 94.5 p.c. of the hours worked in the Flemish maritime ports, after a fall

[41] In terms of method and the comparisons made with the "national average", this point is based on Heuze P. and Ph. Delhez (2004). The comparisons are only an indication, since only firms filing their social balance sheet for a 12-month year ending on 31 December were taken into account in the Social Balance Sheet 2003 (smaller population). The results for the Flemish maritime ports relate to a constant sample (direct employment). An explanatory note is available to firms for the purpose of recording social balance sheet data on the Central Balance Sheet Office website (http://www.nbb.be/BA).

[42] The constant sample contains 1,734 firms, or 50.6 p.c. of the total population covered in this report for 2003, and concerns 94,817 FTEs, or 89.9 p.c. of the total workforce of the four ports studied. The 726 firms which filed full-presentation accounts in these three years represented 87,486 FTEs in 2003, or 83 p.c. of the total workforce of the four ports studied.

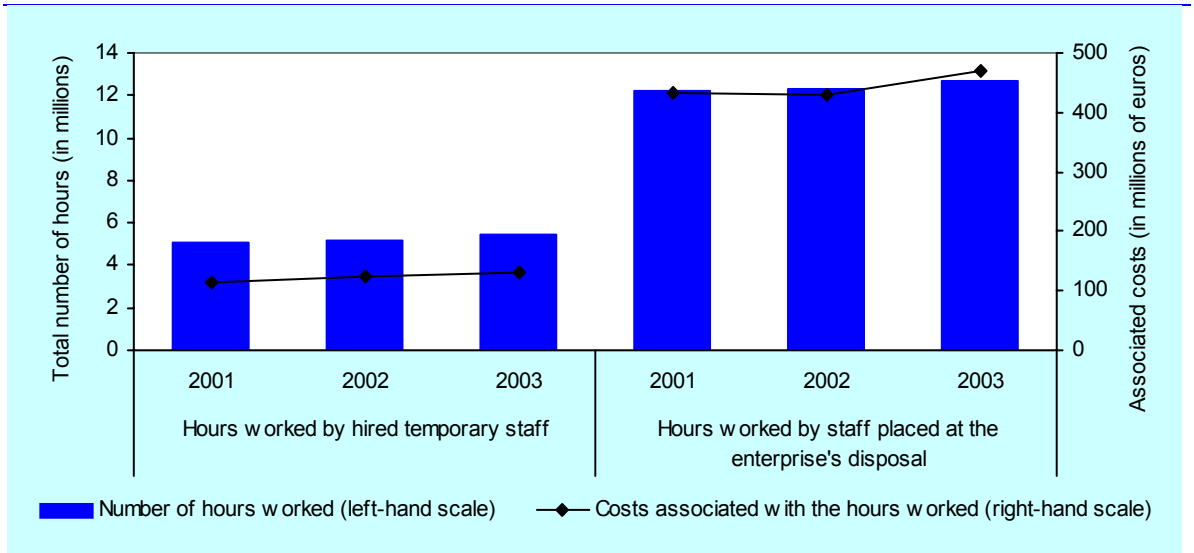
[43] Employees recorded in the staff register of the firms considered.

of 0.8 p.c. against the previous year; that trend is confirmed more generally in the economy as a whole.

The costs corresponding to full-time staff increased to 5.4 billion euro in 2003, an increase of 2.4 p.c. apportioned to the cargo handling sector, among others (cf. workers recruited in the ports of Antwerp, Ghent and Ostend). Since the number of full-time hours worked has fallen, hourly labour costs increased by 3.1 p.c. for this category of staff. The costs relating to part-timers declined, which explains why total staff costs ultimately increased by only 1.6 p.c. Hourly labour costs rose by 1.4 p.c., taking account of the small increase in the number of hours worked overall.

The annual average cost per FTE increased from 58,219 euro in 2002 to 59,691 euro in 2003, a net increase of 2.5 p.c., which corresponds to the national figure.

CHART 2 **HOURS WORKED AND COSTS ASSOCIATED WITH EXTERNAL HUMAN RESOURCES**[44]



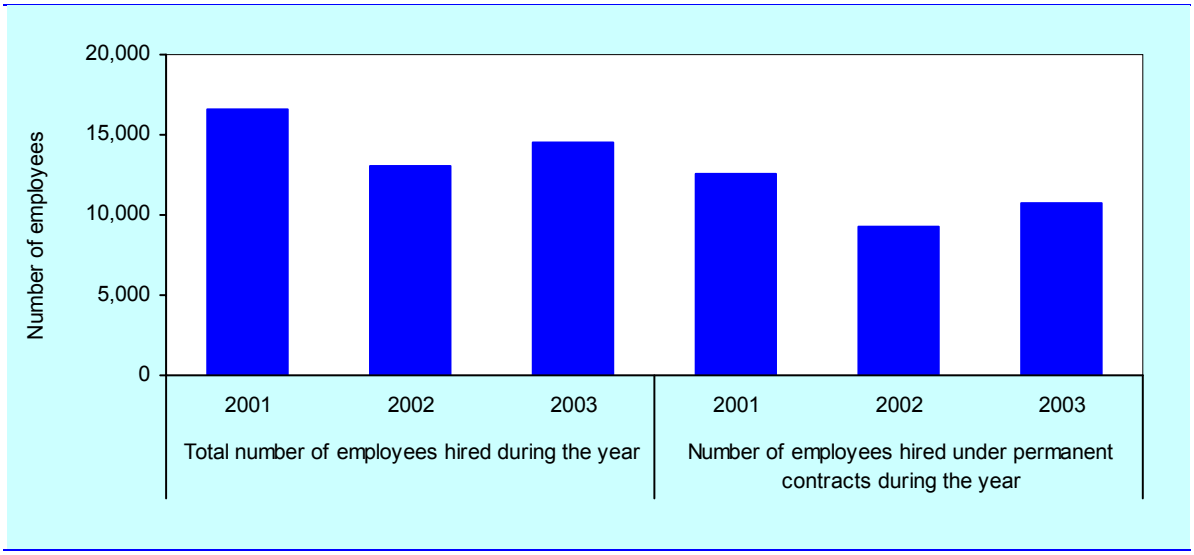
Source: NBB (full-presentation accounts only).

Over the period 2001 - 2003, there was a steady rise in hours worked by external staff (chart 2). In 2003, there was an increase of 6.9 p.c. for hired temporary staff and 3.6 p.c. for staff placed at the enterprise's disposal. The costs associated with these categories of staff also increased, by 8 and 9.8 p.c. respectively. In both cases, the hourly labour costs increased: by 1.1 p.c. for hired temporary staff and 6 p.c. for staff placed at the enterprise's disposal. The latter category, which includes dockers, for example, represented 69.5 p.c. of external staff hours in 2003.

[44] Hired temporary staff and staff placed at the enterprise's disposal. The latter refers to the workers an employer places at other users' disposal. These users exercise part of the employer's authority over the workers, who remain contractually bound to their employer. Definition enshrined in the law of 24 July 1987 on "Temporary labour, hired temporary staff and staff placed at third users' disposal".

2.5.2 Staff turnover

CHART 3 **TOTAL PERSONNEL HIRED IN THE FLEMISH MARITIME PORTS**
(FTEs)



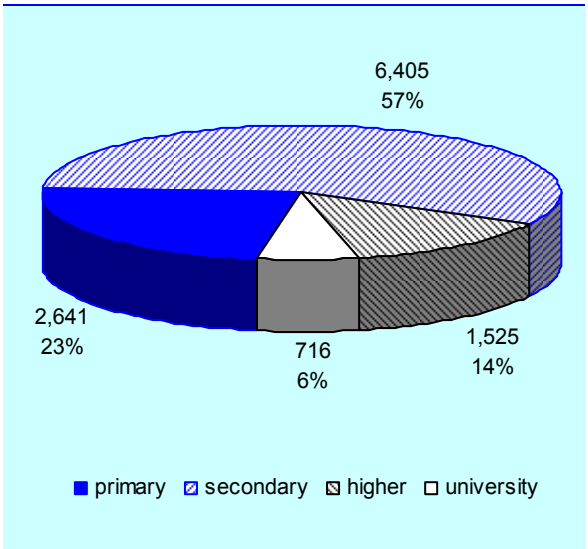
Source: NBB (full-presentation accounts only).

In 2002, employment in the Flemish maritime ports had fallen as a result of the decline in the number of workers hired (chart 3).

The 10.8 p.c. rise in the numbers hired in 2003, to 14,500 FTEs, for firms in the constant sample which had filed full-presentation accounts, is attributable to the cargo handling sector, the car manufacturing industry and other logistic services sectors, although it was moderated by the decline recorded in the chemical and metal-working industries. However, it was not sufficient to halt the continued decline caused by the increase in the number of contracts terminated (chart 6). The net decline in employment in 2003 came to 641 FTEs.

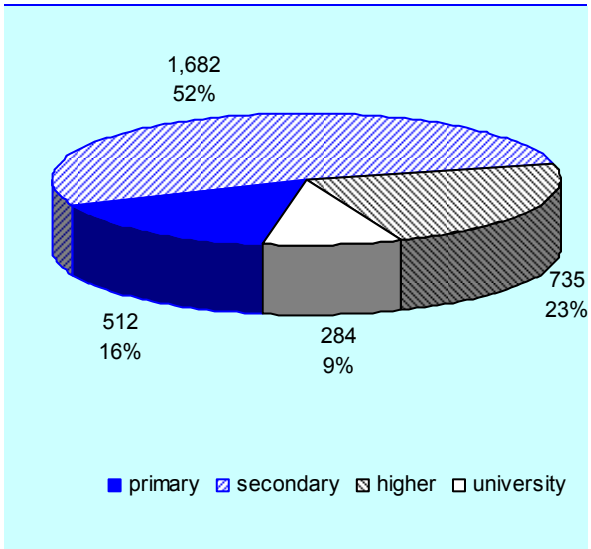
The same phenomenon was seen in the case of permanent contracts, with the number of persons hired increasing to 10,697 FTEs in 2003 (+16 p.c.).

CHART 4 **STANDARD OF EDUCATION OF MALE STAFF HIRED IN 2003**
(FTEs)



Source: NBB (full-presentation accounts only).

CHART 5 **STANDARD OF EDUCATION OF FEMALE STAFF HIRED IN 2003**
(FTEs)



Source: NBB (full-presentation accounts only).

At the end of the 2003 financial year, male employees represented 84.3 p.c. of the workforce of the Flemish maritime ports, or 0.3 p.c. less than the previous year.

The increase of 10.8 p.c. in the numbers hired in 2003 was broken down as follows according to the standard of education of new male employees: jobs created for persons with a certificate of primary, secondary or higher non-university education increased by 73.2, 3.2 and 8.1 p.c. respectively. On the other hand, there was a decline in the number of graduates hired (-9.4 p.c.). This situation is the opposite of that seen in 2002. Recruitment in cargo handling and the car manufacturing industry is responsible for the situation as regards the less educated employees. The Union de Remorquage et de Sauvetage[45] and Volvo Cars Gent are both good examples of this.

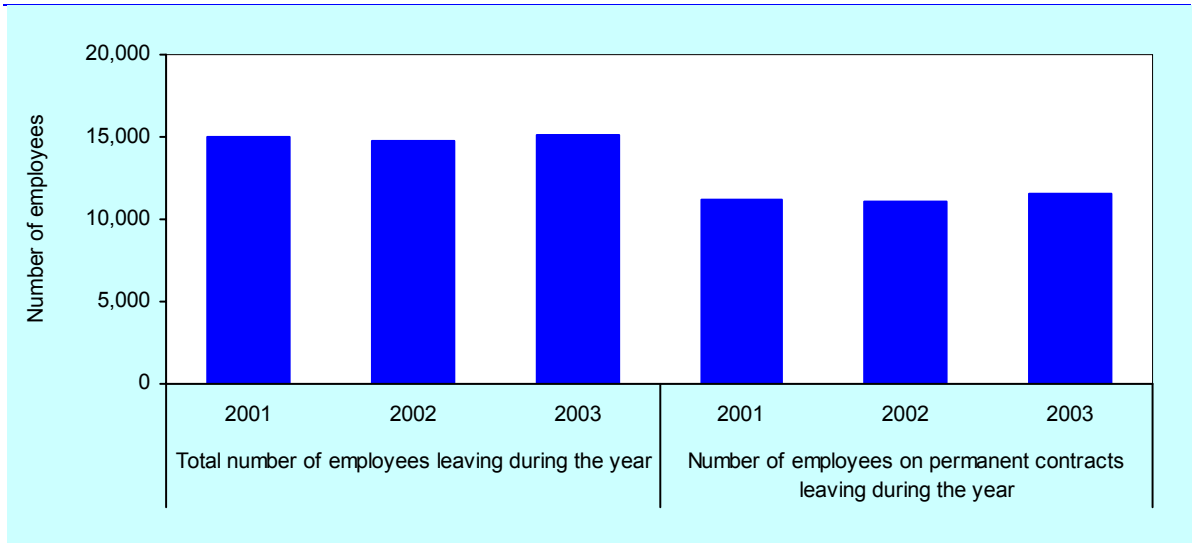
Chart 4 shows the breakdown by standard of education in the case of male staff hired in 2003.

The proportion of female workers in the Flemish maritime ports has continued to grow, and reached 15.7 p.c. in 2003.

In regard to female personnel, the picture is more variable. The 10.8 p.c. increase in the numbers hired in 2003 can be broken down as follows: jobs created for persons with a certificate of primary education and those with a university degree increased by 41.6 and 12.8 p.c. respectively; this occurred in the same sectors as those mentioned above. In contrast, in the case of female workers holding a certificate of secondary or higher non-university education, the numbers hired declined by 4.8 and 4.1 p.c.

Chart 5 shows the breakdown by standard of education in the case of female staff hired in 2003.

CHART 6 **TOTAL NUMBER OF TERMINATED CONTRACTS IN THE FLEMISH MARITIME PORTS**
(FTEs)



Source: NBB (full-presentation accounts only).

The contraction of the workforce continued in 2003, the main reason being the increase in the number of contracts terminated (chart 6), which was particularly noticeable in trade and the energy industry. The number of contracts terminated was 2.9 p.c. higher than the previous year. This primarily concerns permanent contracts, where the numbers terminated increased by 4.6 p.c. Employment declined in the majority of the industries active in the ports.

[45] URS. In Dutch: *Unie van Redding- en Sleepdienst*.

TABLE 6 **REASONS STATED FOR TERMINATING CONTRACT**
(percentages)

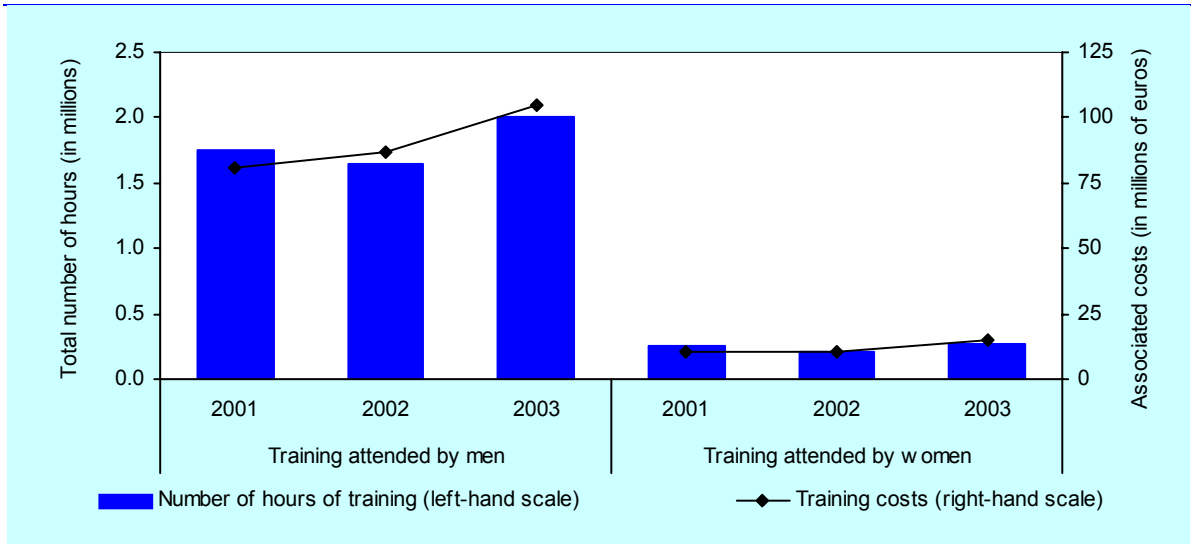
	2001	2002	2003
Retirement	3.5	3.8	3.6
Early retirement	6.2	9.6	8.4
Redundancy	18.3	18.5	15.7
Other reason (in particular, termination of temporary contracts)	72.0	68.0	72.3

Source: NBB (full-presentation accounts only).

Having increased for several years, the percentage of redundancies in the total number of contracts terminated declined in 2003 to a level well below the national average (17.7 p.c.). A decline was also recorded in the percentage of early retirement. In contrast, the percentage of temporary contract terminations increased, especially in the maritime cluster. Firms in the fishing sector and in certain port services in fact make considerable use of temporary workers. The percentage taking retirement remained relatively steady, and higher than the national average (2.2 p.c.).

2.5.3 Training[46]

CHART 7 **HOURS OF TRAINING AND ASSOCIATED COSTS**



Source: NBB.

During 2003, 50 p.c. of male staff and 45.8 p.c. of female staff took part in training programmes, roughly the same proportions as in the previous year.

After declining, the amount of time devoted to training by men and women increased again in 2003 (+21.6 and +31.9 p.c. respectively - chart 7), even though the number of employees concerned remained steady. Those employees therefore spent more time on their training, on average. Taking women and men together, the proportion of total working hours devoted to training in fact increased from 1.27 to 1.56 p.c. This is well above the national average (0.83 p.c.).

The costs incurred in training male and female employees increased in 2003, by 20.7 and 48.1 p.c. respectively, bringing the total to 2.1 p.c. of the wage bill, or 0.4 p.c. above the previous year's figure. This proportion of staff costs allocated to training in the Flemish maritime ports is 0.2 p.c. higher than the target set for 2004 by the Employment Conference (September and October 2003). It is also well above the national average (roughly 1.2 p.c. in 2003).

[46] Here, training is meant in the formal sense, i.e. courses in premises reserved for that purpose, within the firm or outside. It therefore excludes on-the-job training, for example, mentoring and self-training.

2.6 Overall data on the financial situation[47]

For the period 2001 - 2003, three financial ratios were studied: return on equity after tax, liquidity in the broad sense and solvency. Point 2.6.1 gives a brief analysis of the movement in these ratios for each port. The analysis of the financial health of the firms is supplemented by applying a bankruptcy prediction model.

2.6.1 Financial ratios

Return on equity after tax concerns the ability of firms to generate profits, and gives an indication of the yield generated by the firm for its shareholders, after tax.

The liquidity ratio in the broad sense expresses the firm's ability to mobilise the cash resources needed in time to meet its short-term liabilities. A ratio of liquidity in the broad sense exceeding 1 corresponds to positive net working capital.

Solvency gives an indication of the firm's ability to honour all its short and long term liabilities. This ratio also shows the firm's degree of independence in relation to external funding.

In the overall presentation which follows, and in the one for each port (cf. chapter 3), a constant sample was constructed, containing all companies which filed their accounts with the Central Balance Sheet Office in 2001, 2002 and 2003, and whose results satisfy the conditions required for calculating the ratios[48]. The same method - namely the globalised ratios[49] - is used to calculate the ratios for private firms in the Flemish maritime ports and for the ratios of all the non-financial corporations referred to by way of information.

TABLE 7 FINANCIAL RATIOS FOR EACH PORT FROM 2001 TO 2003

	Return on equity after tax (in p.c)			Liquidity in the broad sense			Solvency (in p.c)		
Ports	2001	2002	2003	2001	2002	2003	2001	2002	2003
Antwerp	3.9	7.3	14.2	1.41	0.87	1.34	53.3	48.7	36.5
Ghent.....	2.8	-7.5	6.4	0.96	1.00	1.02	48.4	44.9	40.6
Ostend.....	7.7	7.3	6.9	1.18	1.32	1.28	36.3	40.1	42.3
Zeebrugge	6.6	6.2	10.6	1.37	1.52	1.20	45.7	48.3	43.5
Weighted average.....	**3.8**	**4.7**	**12.1**	**1.29**	**0.92**	**1.25**	**51.5**	**47.8**	**37.8**
Non-financial corporations[50]	**6.4**	**4.1**	**7.3**	**1.21**	**1.17**	**1.23**	**40.4**	**39.9**	**40.5**

Source: NBB.

[47] The method and comparisons in this section are based on Vivet D. (2004).

[48] For the purpose of calculating profitability, the equity has to be strictly positive and all the data must correspond to a 12-month financial year. For details, see annex 1 to the 2002 report.

[49] In the article on the financial structure and results of firms in 2003, both the median ratio and the globalised ratio methods were applied to a constant sample. Here, only the globalised ratio method was used, since the sample is small in size, comprising sectors dominated by a few firms. Care must be exercised in analysing these results, given the volatility of the figures.

[50] These figures relate to the situation of all Belgian non-financial corporations, large firms and SMEs taken together. They were recalculated by Vivet D. (2004) and therefore differ from those published in the 2002 report.

The notable increase in the return on equity after tax, seen in 2003 (table 7), is due mainly to the substantial improvement in the profitability of all the non-maritime firms in Antwerp, and to the good performance of the shipping companies, trade, and industries in Ghent and almost all the sectors present at the port of Zeebrugge. The decline recorded in fishing and the metal-working industry, on the other hand, affected the average for the port of Ostend. The Flemish maritime ports were therefore no exception to the trend recorded at national level, where this ratio had fallen sharply in 2002 before staging a marked recovery in 2003, achieved mainly by controlling operating expenses and interest charges.

Liquidity in the broad sense produced a marked rise in 2003 within the Flemish maritime ports sector, where the average net working capital returned to positive figures. The main reason was the increased cash resources in the chemical and oil industries in Antwerp, despite a more or less general decline in trade and industry in Zeebrugge. This ratio remained relatively stable in the ports of Ghent and Ostend. The increase seen here, on average, is similar to the more balanced asset and liability maturity structure recorded at national level in 2003, compared to the previous year.

Except in the port of Ostend, there was a general decline in solvency in 2003, particularly in the oil industry, transport and other logistic services at the port of Antwerp, in all industries at Ghent and in almost the whole of the non-maritime cluster at Zeebrugge. This decline is due to increased debt on the part of the sectors mentioned. This trend in 2003 differs from that observed at national level, where solvency increased. At 37.8 p.c., this ratio is admittedly below the 41.5 p.c. achieved by large Belgian firms, but it is still higher than the 35.7 p.c. recorded in SMEs. However, 79.4 p.c. of the firms in the population considered are SMEs, a fact which is not taken into account by the globalised approach.

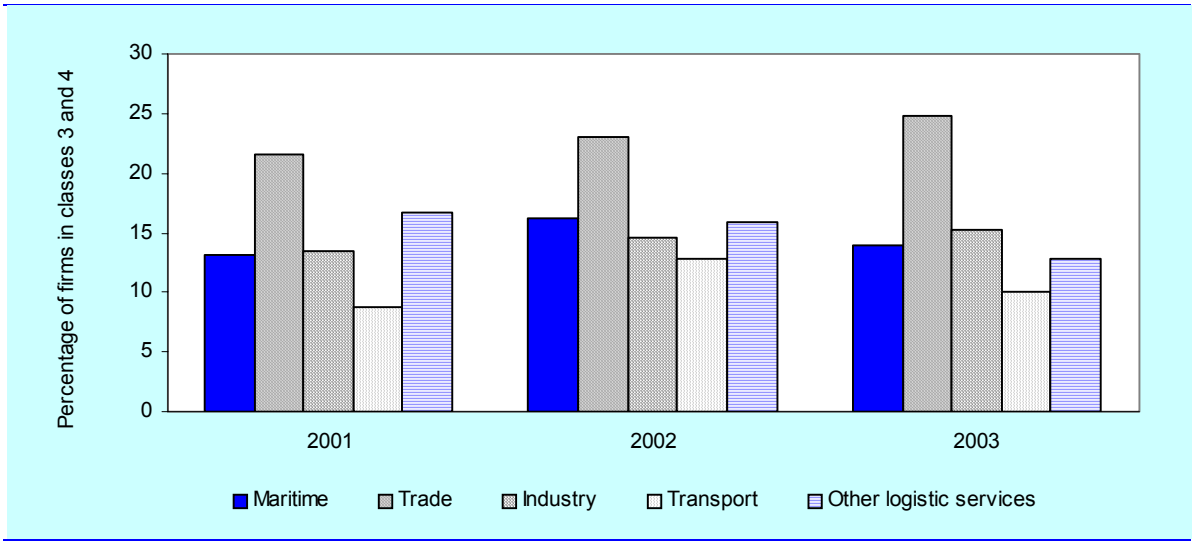
2.6.2 Financial health assessment

The bankruptcy prediction model used here applies to firms in the constant sample[51] employing more than five workers. This model, developed by the Bank, analyses the differences in the financial profile between two types of firms: those which do not fail during the ensuing three years, and those which do. A firm is regarded as failing if it becomes bankrupt or goes into composition, and the other firms are regarded as non-failing. The model enables all aspects of a firm's financial situation to be summarised in a single value: the risk score L, in which the majority of the explanatory variables are formulated as financial ratios.

The risk score L a firm gets enables its classification. Four risk classes were defined: class 1, corresponding to healthy firms, class 2 for neutral firms, class 3 for firms in difficulty and class 4 for firms in serious difficulty. This classification has to be considered *ipso facto* as an indication of financial health rather than an actual prediction of bankruptcy: the firms in classes 3 and 4 are not necessarily destined for bankruptcy, but they are prone to serious financial problems.

[51] A constant sample enables comparisons to be made from year to year, but may also positively influence the outcome of this analysis.

CHART 8 **FINANCIAL RISKS IN THE FLEMISH MARITIME PORTS FROM 2001 TO 2003**
(percentages)



Source: NBB.

Chart 8 shows the risk profile of firms in the constant sample employing more than five workers, according to whether they belong to the maritime cluster or to one of the non-maritime segments. The percentages shown here are those for firms deemed to be in difficulty (risk classes 3 and 4).

The percentage of firms in difficulty declined in 2003 in the maritime cluster, and particularly in cargo handling, falling from 16.3 to 13.9 p.c. It also declined in transport and other logistic services, falling from 12.8 to 10 p.c. and from 16 to 12.8 p.c. respectively. The percentage of firms in classes 3 and 4, on the other hand, increased in trade and industry, rising from 23 to 24.8 p.c. and from 14.6 to 15.2 p.c. respectively. The chemical, car manufacturing and electronics industries recorded an increase, as did other industries, whereas the percentage declined in the oil and metal-working industries.

For the whole of the constant sample comprising firms employing more than five workers, this figure dropped from 16.9 to 16 p.c. in the Flemish maritime ports: 13 p.c. of large firms experienced financial difficulties in 2003, against 14.7 p.c. the previous year. For SMEs, the figure was 18.2 p.c., which is 0.6 p.c. less than in 2002. The proportion of vulnerable firms is structurally higher for SMEs than for large firms. Similarly, at national level, the proportion of firms in classes 3 and 4 totalled just under 17 p.c. for large firms and 20.5 p.c. for SMEs in 2002.

Comparison of the figures obtained for 2002 in this report with those recorded at national level in the same year reveals that, as an initial approximation, the chemical and construction industries and other logistic services have a lower risk profile in the Flemish maritime ports than the national average. The opposite applies to the metal-working industry. The percentage of commercial firms in difficulty in the Flemish maritime ports is practically the same as the figure recorded at national level[52].

All these trends are also reflected in the percentage of jobs (in FTEs) of firms in classes 3 and 4. In 2003, they represented 5.5 p.c. in the maritime cluster (or -3.5 p.c. against 2002), 20.8 p.c. in trade (-9.1 p.c.), 7.2 p.c. in industry (+1.7 p.c.), 6.4 p.c. in transport (-2.9 p.c.) and 9.1 p.c. in other logistic services (+0.8 p.c.).

[52] The percentages of firms in difficulty in 2002, recorded in the Flemish maritime ports (this report) and at national level are respectively 10 and 15.7 p.c. in the chemical industry; 23.2 and 16.4 p.c. in the metal-working industry; 23.1 and 22.8 p.c. in trade; 16 and 20 p.c. in business services and 10.9 and 16.9 p.c. in construction.

2.7 Overall data on the maritime goods traffic in 2003

TABLE 8 **MARITIME TRAFFIC IN THE FOUR PORTS IN 2003**
(thousands of tonnes)

	Antwerp	Ghent	Ostend	Zeebrugge	Total ports	Change 2002 - 2003 (in p.c.)	Share in 2003 (in p.c.)
Containers	61,350	243	72	12,271	73,936	+13.5	36.2
Roll-on/roll-off	6,046	1,425	5,607	11,107	24,185	-4.6	11.8
Conventional general cargo	14,440	1,918	16	661	17,035	+0.8	8.3
Liquid bulk	35,127	3,088	43	4,869	43,127	+7.8	21.1
Dry bulk	25,912	16,871	1,480	1,661	45,924	-3.2	22.5
TOTAL	**142,875**	**23,545**	**7,219**	**30,569**	**204,208**	**+4.8**	**100.0**

Source: *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

As shown at point 1.2, maritime goods traffic increased by 4.8 p.c. in the four ports considered, from 2002 to 2003. Containerised freight remains the engine of this growth, followed by the liquid bulk (table 8). These movements are to the detriment of the ro-ro traffic. These figures are developed in detail for each port in chapter 3.

These figures comprise the short sea shipping (SSS) which represents, at 105 million tonnes in 2003, more than half of the total. The SSS set a new record, with a growth of 7.1 p.c. against 2002. Shipments transported by road, rail and inland waterways are not included in these statistics. The Flemish maritime ports had to deal with a river traffic for the first time exceeding 100 million tonnes[53], in 2004.

[53] This corresponds to a traffic of 4.68 billion tonnes-kilometres (+4.07 p.c. against 2003). The Prognos European Transport Report 2002 predicts an annual growth of roughly 2 p.c. (in tonnes-kilometres) in Europe, up to 2015. After Germany and the Netherlands, Belgian is the country featuring the highest market share for inland navigation in the EU-15 (12 p.c.).

3 SITUATION IN EACH PORT

3.1 Port of Antwerp

3.1.1 Profile of the port of Antwerp[54]

Status of port operator:	Autonomous municipal port operator (Antwerp Port Authority - *Havenbedrijf Antwerpen*).
Total area:	13,357 ha, of which 7,539 ha in use on the right bank of the Scheldt and 5,818 ha being developed on the left bank.
Land area:	11,248 ha.
Dock area:	2,109 ha.
Maritime links:	Access to the North Sea via the Scheldt (Netherlands). At present, vessels with a draught of 15.39 m can reach the port on a single tide, and those with a draught of 15.54 m can reach it on two tides, the average non-tidal draught being 11.9 m. Use of the Scheldt poses no problems for vessels 335 m long and 55 m wide.
Inland links:	Antwerp is the terminus for 12 international railway lines, and the point where three international motorways meet, namely the E-313/314 linking it to Germany, the E-17/34 (Stockholm - Lisbon), linking it to northern France and the Ruhr, and the E-19 linking Paris, Brussels and Amsterdam. Goods are constantly arriving at the port via these 280 km of roads and 960 km of railway lines. Every berth is equipped with 2 to 5 rail spurs, and the majority of the warehouses and sheds close to the docks have a direct rail link. Situated at the heart of the delta formed by the Scheldt, the Maas and the Rhine, the port of Antwerp enjoys excellent links to Belgium's 1,500 km of waterways, and to the whole of Europe. The port attaches great importance to the development of the two main inland waterway routes, namely the Albert Canal linking it to Liège and the ABC Canal linking Antwerp, Brussels and Charleroi.
Infrastructures:	130 km of berths, half of which are suitable for deep draught ships (over 13.5 m). Antwerp has two sets of docks, one on each bank of the Scheldt, accessed via locks. Many of the terminals are located alongside these docks. Two container terminals were built beside the entrances to the Berendrecht and Zandvliet locks, while the "Deurganckdok" tidal dock is being built on the left bank.
Distinctive characteristics:	Antwerp has the second largest concentration of chemical plants in the world; it is Belgium's largest port and the second largest in Europe after Rotterdam. Antwerp is the leading port for general cargo, having the largest under-cover warehousing capacity in Europe[55]. The port of Antwerp also has the densest rail network in Europe.

[54] February 2005 data (source: Havenbedrijf Antwerpen).

[55] Altogether: 4.8 million m² of warehousing, or 480 ha, meeting the strictest Belgian and European security standards. For comparison, Rotterdam has 190 ha, Hamburg 130 ha, Amsterdam 100 ha and Bremen 50 ha.

3.1.2 Highlights in 2003[56]

3.1.2.1 Context

The port of Antwerp set a new record in 2003 in terms of the total incoming and outgoing traffic. The threshold of 140 million tonnes transhipped at the port was exceeded for the first time, and by a long way. The growth recorded in general cargo[57], 75 p.c. containerised, is a major factor in this expansion. The announcement that the number of containers handled in the year had passed the 5 million mark coincided with the end of the first phase of the work on the tidal dock, the famous Deurganckdok[58], situated south of Doel (left bank of the Scheldt). Containerised freight continues to be the engine of growth for the port of Antwerp.

This new container dock should ultimately double the container storage capacity, bringing the annual total to 5.5 or even 7 million TEU[59]. Port infrastructure users - cargo handling firms, shipping companies, etc. -, the customers for this additional capacity, are also looking forward to the forthcoming deepening of the Scheldt and entry into service of the second rail access to the port of Antwerp. Work on deepening the Scheldt is scheduled to start in 2007, according to the development programme planned for 2010 by the Dutch and Flemish ministers: adapting the access channel to cater for vessels with a draught of 13.1 metres, at all states of the tide. Besides, the Flemish Region included the construction of the rail tunnel under the Scheldt in the Belgian National Railway Company (BNRC) investment programme. It should be operational by 2009 - 2010.

Antwerp is a major world centre for the chemical industry, the largest in western Europe and the second largest in the world, after Houston (USA). The port of Antwerp has a large concentration of chemical manufacturing plants and logistical facilities. This facilitates the transhipment of these products and creates what is really a chemical cluster, which also comprises a large part of the subcontracting chain for this sector.

The port of Antwerp also has a good balance in terms of the distribution of the tonnage between the three main modes of transport (inland waterways, roads and railways) serving its hinterland. The port authority stresses the importance of a policy geared to modal shift, which means reducing the role of road transport in favour of inland waterways, in particular.

3.1.2.2 Industrial activity

On 24 March 2003, the most powerful ocean-going tug owned by the Union de Remorquage et de Sauvetage (URS) was launched, named the “Union Manta”. It has a tugging power of 210 tonnes and is suitable for working with remote-controlled vessels.

3 April saw the inauguration of the extension to the polyethylene plants of the chemical manufacturer, Atofina, raising the production capacity from 350,000 to 510,000 tonnes per annum. This site employs 400 people and produces a range of products including elastomers.

On 7 April, the Antwerp cargo handler, Nova & Hesse-Noord Natie Stevedoring (NHS) and the Belgian firm of Kranen Michielsens launched a joint venture: Atlas-Project Cargo Solutions. This firm supplies specialised logistics for the handling of heavy and large volume cargo.

In July, the Franco-Belgian oil company Total announced that it was going to invest 130 million euro in expanding its desulphuring capacity at its Antwerp refinery, in anticipation of the application of the latest European standards concerning reduction of the sulphur content of motor vehicle fuels.

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[56] Sources: Havenbedrijf Antwerpen and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

[57] The total port traffic falls into two categories: liquid and dry bulk, and general cargo. The latter comprises containerised cargoes, ro-ro traffic and conventional general cargo. For details, see the glossary (annex 9).

[58] The steady growth of containerised freight explains why all the terminals on the right bank of the Scheldt are reaching maximum capacity. To cope with this, it was decided in 1998 to construct a new tidal dock to handle containers, located on the left bank of the Scheldt.

[59] Twenty-foot Equivalent Unit. For definition, see glossary (annex 9).

In September, the German chemical manufacturer, Degussa, decided to extend its existing methionine production capacity at Antwerp by 150,000 tonnes per annum.

On 18 December, Katoen Natie took over Riga Natie, unifying the control of the two largest logistical service companies in the port of Antwerp.

Also in December, the Antwerp gas terminal (AGT) announced a major extension to its LPG warehousing capacity at its Waaslandhaven site. Construction of an underground oil pipeline is also planned for 2005 between the AGT plants and those of Atofina, on the other bank of the Scheldt.

3.1.2.3 Infrastructure

In 1998, to cope with the constant increase in container traffic at the port of Antwerp (+15.7 p.c. in 2003), the government of the Flemish Region had decided to build the Deurganckdok. This is a tidal dock with quays extending over more than 5 km, intended for container warehousing and handling. The Deurganckdok is being constructed in three phases: phase 1 concerns terminals on the western side with an area of 80 ha and 19 ha (total quay length: 1,660 m), phase 2 concerns a terminal with an area of 42 ha on the eastern side (quay 1,370 m long), and phase 3 consists of terminals with an area of 53 ha on the western side and 62 ha on the eastern side of the tidal dock (each with around 1,100 m of quays). The work was interrupted on several occasions, e.g. by the Council of State and by the European Commission, one for breaches of procedure, the other for the absence of compensatory measures in a project liable to have an adverse impact on the environment and on certain species of birds[60]. In March 2002, the Flemish Council of Ministers granted eight new building permits, for the construction of quay walls and a buffer zone wildlife habitat close to the village of Doel, and for dredging work in the docks. The first quay walls were completed in December 2003, while the dredging work was in progress and the superstructure was being installed. The first terminal at the Deurganckdok will be operational by the autumn of 2005. Between 1996 and 2003, the Flemish Region invested around 280 million euro in this project.

In September 2003, the board of directors of the port of Antwerp decided to grant Hesse-Noord Natie (HNN) an operating licence for the whole of the west quay of the Deurganckdok, valid for the third phase of the work. The Mediterranean Shipping Company (MSC), a Swiss shipping company, concentrates all its traffic on the Delwaide dock. On 9 May 2003, the new cruise terminal was officially inaugurated beside the Scheldt.

[60] See Council Directive 79/409/EEC of 2 April 1979, on the conservation of wild birds and Council Directive 92/43/EEC (1992), on the conservation of natural habitats and of wild fauna and flora.

3.1.3 Value added

TABLE 9 **VALUE ADDED AT THE PORT OF ANTWERP FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**6,160.6**	**6,358.6**	**6,167.9**	**7,009.7**	**6,978.7**	**7,129.5**	**7,443.4**	**100.0**	**3.2**
MARITIME CLUSTER	***1,550.4***	***1,578.5***	***1,537.2***	***1,778.7***	***1,721.5***	***1,678.9***	***1,934.3***	***26.0***	***3.8***
MARITIME	1,550.4	1,578.5	1,537.2	1,778.7	1,721.5	1,678.9	1,934.3	26.0	3.8
Shipping agents and forwarders	475.4	461.5	462.1	478.2	460.2	463.8	485.8	6.5	0.4
Cargo handling	835.2	921.8	908.4	948.3	1,003.8	1,015.9	1,091.0	14.7	4.6
Shipping companies	150.3	109.3	78.9	218.4	134.7	59.7	201.9	2.7	5.0
Shipbuilding and repair	27.8	32.4	26.4	23.5	26.5	25.6	26.1	0.4	-1.0
Port construction and dredging	55.8	46.9	52.8	99.7	86.9	103.7	116.7	1.6	13.1
Fishing	0.8	0.8	1.2	1.0	1.1	1.0	1.0	0.0	5.5
Port trade	5.2	5.7	7.4	9.5	8.4	9.1	11.7	0.2	14.5
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Allocation (p.m.)[61]	*57.1*	*56.4*	*46.2*	*49.0*	*39.3*	*39.5*	*45.3*	-	*-3.8*
NON MARITIME CLUSTER	***4,610.2***	***4,780.1***	***4,630.7***	***5,231.0***	***5,257.2***	***5,450.6***	***5,509.0***	***74.0***	***3.0***
TRADE	494.4	482.8	604.4	712.6	699.1	754.9	796.3	10.7	8.3
INDUSTRY	3,694.1	3,828.7	3,500.9	3,976.6	3,943.5	4,047.6	4,028.6	54.1	1.5
Energy	182.5	145.7	140.0	163.7	199.1	191.3	107.9	1.4	-8.4
Oil industry	795.1	779.1	735.1	1,008.2	868.0	924.9	1,063.2	14.3	5.0
Chemicals	1,986.5	2,013.4	1,853.4	2,064.5	2,117.5	2,114.7	2,102.1	28.2	0.9
Car manufacturing	529.7	695.3	556.1	492.2	467.7	501.5	454.7	6.1	-2.5
Electronics	7.9	10.2	10.2	13.2	16.5	16.0	15.8	0.2	12.2
Metal-working industry	78.0	73.0	88.7	87.2	105.8	116.2	99.8	1.3	4.2
Construction	63.9	66.9	74.4	81.9	104.4	106.9	109.8	1.5	9.4
Food industry	23.4	17.9	16.5	32.6	33.7	42.2	42.5	0.6	10.5
Other industries	27.1	27.4	26.4	33.0	30.9	33.9	32.7	0.4	3.2
TRANSPORT	155.3	157.5	153.4	160.5	170.3	188.1	207.9	2.8	5.0
Road transport	74.1	78.4	78.6	80.5	73.1	79.4	88.7	1.2	3.0
Other land transport	81.2	79.1	74.8	79.9	97.2	108.7	119.2	1.6	6.6
OTHER LOGISTIC SERVICES	266.5	311.1	372.1	381.3	444.3	460.1	476.2	6.4	10.2
Other services	185.0	231.9	280.7	290.5	349.4	366.4	381.8	5.1	12.8
Public sector	81.5	79.2	91.4	90.8	94.9	93.7	94.5	1.3	2.5
2. INDIRECT EFFECTS	***6,109.2***	***6,003.9***	***6,071.7***	**6,861.2**	***6,620.3***	***6,802.4***	***6,661.1***	**-**	***1.5***
MARITIME CLUSTER	*2,740.6*	*2,449.8*	*2,365.8*	2,546.9	*2,309.4*	*2,231.6*	*2,352.1*	-	*-2.5*
NON-MARITIME CLUSTER	*3,368.6*	*3,554.0*	*3,705.9*	4,314.4	*4,311.0*	*4,570.8*	*4,309.0*	-	*4.2*
TOTAL VALUE ADDED	***12,269.8***	***12,362.5***	***12,239.5***	**13,870.9**	***13,599.0***	***13,931.8***	***14,104.5***	**-**	***2.3***

Source: NBB.

[61] The figures for maritime firms located outside the port area are included under the item “Allocation (p.m.)”. These figures are already recorded under the direct effect and are mentioned here *pro memoria*.

3.1.3.1 General developments

Between 1997 and 2003, the direct VA of the port of Antwerp increased by an average of 3.2 p.c. per annum (table 9). The sectors with the strongest growth of VA in the maritime cluster were port trade, and port construction and dredging, while in the case of the non-maritime cluster it was other services, the oil, construction, metal-working and food industries, and trade. However, two industrial sectors saw a marked decline during this period: the energy and car manufacturing industries.

Overall, 2003 was a good year for the activity of the port of Antwerp. Traffic reached an all-time high, while direct VA grew by 4.4 p.c.

As regards the indirect VA generated upstream by the activities of firms based in the port of Antwerp, the average annual increase between 1997 and 2003 came to 1.5 p.c. In contrast, it was 2.1 p.c. down in 2003. The decline in VA in the car manufacturing industry plays a key role here, since the industry is heavily dependent on subcontractors. Although that is less true of the energy industry, the decline recorded there further accentuated this trend, whereas the expansion seen by shipping companies and cargo handling services did attenuate it within the maritime cluster.

3.1.3.2 Direct effects by sector in 2003

The direct VA of the port of Antwerp grew by 4.4 p.c. at current prices[62] in 2003. The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.1.3.2.1 Maritime cluster

- Cargo handling services - the principal source of jobs at the port of Antwerp and the second largest sector in terms of VA after the chemical industry - produced growth of 7.4 p.c. in its VA, compared to 2002. Its VA came to almost 1.1 billion euro. The VA of Hesse-Noord Natie (HNN), the company formed by the merger in February 2002 of Hessenatie nv and Noord-Natie nv, increased from 184.1 to 232.4 million euro. This growth was due mainly to new recruitment in this sector, which is thriving at Antwerp, despite the restructuring taking place. The VA of P&O Ports Antwerp rose while the VA of the Havenbedrijf Antwerpen declined by 3.5 p.c.
- The VA of the shipping agents and forwarders was also up, with an increase of 4.7 p.c.
- The shipping companies produced a spectacular increase in their VA, which was up from 59.7 to 201.9 million euro. This sector experiences wide fluctuations owing to the cyclical nature of the majority of the freight markets. Exmar Marine's VA was down by 33.1 p.c. and that of Bocimar International[63] became positive again at 83.2 million euro. Despite losses carried forward from 2002, this company is being buoyed up by the general expansion in dry bulk transport – particularly iron ore, coal and grain – stimulated by the growth of production in countries such as China.
- The VA of port construction and dredging grew by 12.6 p.c. Increases were recorded at Dredging International and DEME[64] Environmental Contractors, whose profits were up.

3.1.3.2.2 Trade

At the port of Antwerp, trade accounts for more than 10 p.c. of wealth creation. Its VA grew by 5.5 p.c. in 2003, partly because of the expansion in trade and containerised traffic. The VA of Kuwait Petroleum Belgium, the largest trading company in the port of Antwerp, was 2 p.c. up, boosted by excellent results due to higher margins, taking all segments together. Pioneer Europe also produced a substantial increase in its VA.

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[62] All figures here are stated at current prices. The Belgian domestic output price index edged upwards in 2003: +0.7 p.c. The increase in VA at the port of Antwerp at current prices was 4.40 p.c. Taking account of this index, the increase in Antwerp's VA at constant prices (2002 prices) came to 3.68 p.c.

[63] Following the sale of its stake in HNN and Naviga, CMB (Belgian Maritime Company) once again focused on its core business - shipping – via its subsidiaries Bocimar, Euronav and Exmar. On 20 June 2003 the CMB shareholders approved the partial split of the company, whereby its offshore and industrial gas transport activities were transferred to a new Belgian company, Exmar. However, CMB retained the transport of dry bulk (Bocimar) and crude oil (Euronav). Source: http://www.holding.cmb.be/history.

[64] Dredging Environmental & Marine Engineering.

3.1.3.2.3 Industry

- The chemical industry is the primary source of wealth at the port of Antwerp, which is the world's second largest centre for this industry. In 2003, the chemical industry's VA declined by 0.6 p.c., this small reduction being due to the general downturn in this industry's output (cf. infra). Increases were recorded in the VA of B.A.S.F. and Bayer, though they were partly offset by the lower figures at Degussa, Fina Antwerp Olefins (Total Belgium[65] group) and Monsanto Europe.
- The oil industry has continued to make up lost ground, increasing its VA by a good 14.9 p.c. This rise is due mainly to ExxonMobil Petroleum & Chemical, where VA was up by 26.7 p.c., the principal factor being higher net profits at the ExxonMobil Chemical Belgium division. Substantial increases were also recorded at Belgian Refining Corporation, Total Raffinaderij Antwerpen and Petroplus Refining Antwerp.
- Car manufacturing recorded a decline in activity. VA was down by 9.3 p.c., partly because of the lower figures at Opel Belgium (-15.6 p.c.) and GM Automotive Services (-3.8 p.c.). the reduction in income at Opel Belgium is due to the assembly activities, which have been hit by the European restructuring plan, "Olympia". Concluded at the end of 2002, this plan has led in particular to a major reduction in staff costs.
- In construction, VA was up by 2.7 p.c.: at Gyproc Benelux, the increase was 6.7 p.c., whereas Mourik recorded a 2.8 p.c. decline.
- Due to the liberalisation of the Belgian electricity market initiated in 2003[66], Electrabel's VA fell by 43.6 p.c., from 191.3 to 107.9 million euro. The ensuing large reduction in contingency and loss reserves during the 2003 financial year inevitably led to a reduction in its VA. However, the company's profits were higher than in 2002. The reduction in employment was only modest at the port of Antwerp, and therefore played only a secondary role in the fall in VA. The workforce in the electricity industry at the Flemish ports - focused on the production of electricity - was in fact less affected than that at other group sites (cf. point 3.1.4.2.3), more concerned in the restructuring.
- In the metal-working industry, a sector hard hit by the strength of the euro, the level of output was 14.1 p.c. down. Two companies, Lauer and Lemmens Services, went bankrupt and at Stork Mercantile Engineers and Contractors and Fabricom, activity declined.

3.1.3.2.4 Transport

- Land transport excluding road transport did well (+9.7 p.c.). The BNRC saw a 3.6 p.c. increase in business.
- In road transport, VA was up by 11.6 p.c. The carrier De Rijke performed particularly well, with a 40.2 p.c. increase in VA, thanks to a reduction in its losses.

3.1.3.2.5 Other logistic services

- The VA of other services grew by 4.2 p.c.; this was due partly to the increases recorded by SGS Belgium and Indaver.
- The VA of public administration[67] remained steady at around 94.5 million euro.

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[65] Until 2002 this company was known as Totalfinaelf Belgium. In Belgium, Total represents around 4,700 jobs and has nine production units, including the Antwerp refinery (Total Raffinaderij Antwerpen), six chemical plants (Fina Antwerp Olefins, Total Petrochemicals Antwerpen, Total Petrochemicals Elastomers, Total Petrochemicals Feluy, Resilium and Rosier SA), one lubricants factory at Ertvelde, and a research centre: Total Petrochemicals Research Feluy. It also has 450 petrol stations. Source: www.be.total.com.

[66] In Flanders, the electricity and natural gas market has been totally open to competition since 1 July 2003. At the end of 2003, the Belgian electricity market was 80 p.c. open to competition, and in the case of natural gas the figure was 83 p.c. The Walloon and Brussels Regions had not yet made a final decision on this matter. (Source: Electrabel management report). At group level, outsourcing has affected over 3,600 FTEs and this has been reflected in a marked decline in the number of employees on the company's payroll, and hence in its overall VA. These jobs were recorded in the accounts of Electrabel Netmanagement Flanders and Elia System Operator, the network management companies. VA corresponds to the sum of staff costs, depreciation, contingency and loss reserves, certain operating expenses and the operating profit or loss. For more details, see annex 1 to the 2002 report.

[67] See complete list in annex 4.

3.1.3.3 VA Top 10 at the port of Antwerp in 2003

TABLE 10 **DIRECT VALUE ADDED TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	B.A.S.F. ANTWERPEN	Chemicals	892.8
2	EXXONMOBIL PETROLEUM & CHEMICAL	Oil industry	542.0
3	KUWAIT PETROLEUM-BELGIUM	Trade	527.0
4	BAYER ANTWERPEN	Chemicals	371.6
5	OPEL BELGIUM	Car manufacturing	307.6
6	HESSE NOORD NATIE	Cargo handling	246.6
7	BELGIAN REFINING CORPORATION	Oil industry	242.8
8	TOTAL RAFFINADERIJ ANTWERPEN	Oil industry	238.1
9	HAVENBEDRIJF ANTWERPEN	Cargo handling	177.5
10	DEGUSSA ANTWERPEN	Chemicals	140.9
	Total of top 10		**3,686.9**

Source: NBB.

BASF still tops the list, representing 49.5 p.c. of the direct VA of the port of Antwerp, at almost 3.7 billion euro in 2003 (table 10). In contrast to the top 10 presented in the 2002 report, there have also been a few changes in the order of the ten companies. The VA of the Antwerp companies in the handling sector includes the staff costs relating to CEPA[68] dockers, whose jobs are allocated to this sector.

[68] Antwerp Port Employers' Association (CEPA). In Dutch: *Centrale der werkgevers aan de haven van Antwerpen*.

3.1.4 Employment

TABLE 11 **EMPLOYMENT IN THE PORT OF ANTWERP FROM 1997 TO 2003**
(FTEs)

Sectors	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**62,777**	**61,885**	**60,489**	**61,429**	**63,496**	**63,178**	**62,276**	**100.0**	**-0.1**
MARITIME CLUSTER	***23,392***	***22,928***	***22,173***	***22,009***	***22,231***	***22,462***	***23,185***	***37.2***	***-0.1***
MARITIME	23,392	22,928	22,173	22,009	22,231	22,462	23,185	37.2	-0.1
Shipping agents and forwarders	6,515	6,209	6,231	6,345	6,243	6,367	6,755	10.8	0.6
Cargo handling	14,220	14,098	13,566	13,342	13,950	14,049	14,230	22.8	0.0
Shipping companies	1,413	1,229	1,168	1,028	653	593	603	1.0	-13.2
Shipbuilding and repair	616	707	565	544	530	543	563	0.9	-1.5
Port construction and dredging	543	578	511	603	720	757	859	1.4	8.0
Fishing	9	11	16	15	13	12	14	0.0	9.0
Port trade	76	96	117	133	121	141	161	0.3	13.4
Public sector	0	0	0	0	0	0	0	0.0	n.
Allocation (p.m.)	*915*	*980*	*872*	*852*	*769*	*788*	*925*	-	*0.2*
NON MARITIME CLUSTER	***39,386***	***38,956***	***38,315***	***39,419***	***41,265***	***40,717***	***39,091***	***62.8***	***-0.1***
TRADE	2,539	2,549	2,541	2,433	2,539	2,576	2,804	4.5	1.7
INDUSTRY	29,316	28,700	27,583	28,209	29,278	28,858	27,118	43.5	-1.3
Energy	1,197	1,051	1,029	983	1,194	1,166	1,098	1.8	-1.4
Oil industry	2,659	2,616	2,672	2,797	2,780	3,137	3,107	5.0	2.6
Chemicals	12,211	11,991	11,482	11,866	12,158	11,676	11,174	17.9	-1.5
Car manufacturing	9,415	9,377	8,360	8,158	7,883	7,523	6,696	10.8	-5.5
Electronics	139	167	192	182	208	162	179	0.3	4.3
Metal-working industry	1,728	1,594	1,875	1,797	2,244	2,317	2,001	3.2	2.5
Construction	1,224	1,281	1,366	1,456	1,787	1,770	1,737	2.8	6.0
Food industry	433	307	292	625	676	742	744	1.2	9.4
Other industries	312	317	317	346	348	364	381	0.6	3.4
TRANSPORT	3,184	3,048	3,053	3,275	3,342	3,373	3,393	5.4	1.1
Road transport	1,387	1,417	1,464	1,462	1,259	1,320	1,310	2.1	-0.9
Other land transport	1,797	1,631	1,590	1,813	2,084	2,053	2,082	3.3	2.5
OTHER LOGISTIC SERVICES	4,347	4,659	5,138	5,502	6,105	5,909	5,776	9.3	4.9
Other services	2,307	2,656	2,955	3,366	3,992	3,827	3,724	6.0	8.3
Public sector	2,040	2,003	2,183	2,136	2,113	2,082	2,052	3.3	0.1
2. INDIRECT EFFECTS	***82,394***	***82,216***	***82,252***	**91,789**	***88,250***	***84,865***	***82,813 ****	***-***	***0.1***
MARITIME CLUSTER	*35,969*	*35,293*	*34,029*	35,807	*29,372*	*28,069*	*28,382*	-	*-3.9*
NON MARITIME CLUSTER	*46,424*	*46,922*	*48,223*	55,982	*58,879*	*56,796*	*54,432*	-	*2.7*
TOTAL EMPLOYMENT	***145,171***	***144,100***	***142,741***	**153,218**	***151,746***	***148,043***	***145,090***	***-***	***0.0***

Source: NBB.

* of which: 63,826 salaried FTEs.

3.1.4.1 General developments

During the period under review, direct employment in the port of Antwerp declined by an average of 0.1 p.c. per annum (table 11). This decline was attributable mainly to car manufacturing, the chemical industry and the shipping companies. In contrast, the trade, construction, other services and other land transport sectors recorded significant increases.

Despite the good figures for maritime traffic and VA at the port of Antwerp, direct employment there was 1.4 p.c. down in 2003.

Between 1997 and 2003, indirect employment remained practically steady as well as total employment (about 145,000 FTEs). In contrast, the year 2003 brought a 2.4 p.c. fall in indirect employment. The job losses in car manufacturing depressed the non-maritime indirect employment figures, while maritime indirect employment was boosted by the recruitment already mentioned on the part of shipping companies. These are sectors heavily dependent on subcontracting.

3.1.4.2 Direct effects by sector in 2003

Direct employment at the port of Antwerp declined by 1.4 p.c. in 2003. The following account goes more deeply into the causes of this decline and analyses, per sector, some significant developments.

3.1.4.2.1 Maritime cluster

- Employment in cargo handling, the biggest employer at the port of Antwerp, was 1.3 p.c. up against 2002. HNN, which is continuing its expansion at the Deurganckdok, took on labour in 2003. The workforce of the Havenbedrijf Antwerpen remained steady, at 1,614 FTEs.
- Shipping agents and forwarders expanded their workforce by 6.1 p.c., the main factor being the merger between Schenker Belgium (200 FTEs) and Schenker BTL to form a single entity, Schenker (552 FTEs).
- Port construction and dredging recorded an increase of 13.5 p.c. in their workforce, attributable to Dredging International (main operator in the sector, very active especially at the Deurganckdok) and DEME Environmental Contractors.
- In the shipping companies, employment increased by 1.8 p.c., giving a minor boost to a sector which is in structural decline. A number of vessels set out to sail under the Belgian flag. The decline at Safmarine Container Lines was offset by recruitment at Exmar Marine.

3.1.4.2.2 Trade

In the trade segment, employment expanded by 8.9 p.c., with recruitment taking place on the part of companies such as Kuwait Petroleum-Belgium and Pioneer Europe.

3.1.4.2.3 Industry

- In the chemical industry, the second largest sector in terms of jobs at the port of Antwerp, the workforce contracted by 4.3 p.c. In this sector, which is heavily dependent on exports, output fell short of expectations, owing to the depreciation of the dollar and the growth of this industry in China and Malaysia. This affected employment, especially with the job losses seen at the largest employers in this sector in Antwerp: BASF, Bayer, Degussa, Monsanto Europe, Fina Antwerp Olefins and Polypropylene Belgium.
- Car manufacturing axed 11 p.c. of its jobs. The cuts were particularly drastic at Opel Belgium, mainly because of the Olympia plan[69]. This led to job losses totalling 824 FTEs at the Antwerp site of the General Motors group, the majority resulting from the termination of temporary contracts or workers taking early retirement.

[69] In August 2001, the board of directors of Adam Opel AG announced a restructuring plan called "Olympia". It aimed to get the Opel brand back into profit by 2003. The measures announced included the departure of “several thousand people”, either by the closure of one of Opel’s 23 factories worldwide, or by the scaling down of activities at a number of sites. The first option referred to the Antwerp site, since its annual output corresponded to the reduction in activity which the group required. But so far, it is the second option that has been preferred, owing to the excellent productivity of the Antwerp site. The consultation with the labour force which took place on this occasion at European level was a model of its kind: it limited the damage for the group’s workforce and kept the Antwerp site in operation, among other things, although there were some associated job losses.

- In the oil industry, employment was down slightly (-0.9 p.c.), particularly at Petroplus Refining Antwerp Bitumen (formerly Nynas). Exxonmobil Petroleum & Chemical increased their workforce by 10 FTEs.
- In construction, employment declined by 1.9 p.c. G+H Montage (sound insulation) and Anversoise des Goudrons et Asphaltes (ATAB) reduced their workforce.
- The metal-working industry recorded the largest job losses of the period at the port of Antwerp in 2003 (-13.6 p.c.). Employment is declining almost everywhere in this sector. Major factors here are the bankruptcies at Lauer and Lemmens Services, which employed 242 and 98 FTEs respectively in 2002.
- Job losses totalled 5.8 p.c. in the energy industry, owing to the on-going restructuring at Electrabel.
- In the food industry, employment remained steady (+0.3 p.c.).

3.1.4.2.4 Transport

- In the case of other land transport, employment was 1.4 p.c. up. The small staff cuts at BNRC were offset by recruitment at ASX-Ibeco.
- In road transport, employment was down by 0.8 p.c.

3.1.4.2.5 Other logistic services

- In other services, the workforce declined by 2.7 p.c., one reason being the bankruptcy of Industrial Mechanical Maintenance Company.
- Public administration saw a 1.4 p.c. reduction in its workforce.

3.1.4.3 Employment top 10 at the port of Antwerp in 2003

TABLE 12 **DIRECT EMPLOYMENT TOP 10 IN 2003**
(FTEs)

Ranking	Name of company	Sector	Employment
1	OPEL BELGIUM	Car manufacturing	4,242
2	B.A.S.F. ANTWERPEN	Chemicals	3,615
3	HESSE NOORD NATIE	Cargo handling	2,966
4	BAYER ANTWERPEN	Chemicals	2,197
5	PUBLIC ADMINISTRATION	Public sector	2,052
6	BNRC	Other land transport	1,853
7	EXXONMOBIL PETROLEUM & CHEMICAL	Oil industry	1,764
8	HAVENBEDRIJF ANTWERPEN	Cargo handling	1,614
9	DEGUSSA ANTWERPEN	Chemicals	1,120
10	ELECTRABEL	Energy	1,098
	Total of top 10		**22,521**

Source: NBB.

This ranking (table 12) is the same as in the 2002 report. These ten enterprises accounted for 36.2 p.c. of direct employment in the port of Antwerp in 2003. The employment of CEPA dockers was allocated to the Antwerp firms belonging to the cargo handling sector.

3.1.5 Investment

TABLE 13 **INVESTMENT AT THE PORT OF ANTWERP FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
MARITIME CLUSTER	***392.6***	***524.1***	***321.3***	***418.0***	***430.8***	***465.0***	***414.0***	***27.5***	***0.9***
MARITIME	392.6	524.1	321.3	418.0	430.8	465.0	414.0	27.5	0.9
Shipping agents and forwarders	64.7	102.8	66.1	87.9	91.6	81.3	43.1	2.9	-6.6
Cargo handling	253.0	179.8	170.9	213.7	262.5	222.8	237.8	15.8	-1.0
Shipping companies	41.1	219.2	44.7	95.8	47.6	68.9	71.7	4.8	9.7
Shipbuilding and repair	2.1	2.4	1.8	3.2	3.4	2.6	2.0	0.1	-0.3
Port construction and dredging	30.8	19.2	34.8	14.9	24.1	86.6	56.5	3.8	10.6
Fishing	0.2	0.2	0.8	0.6	0.2	0.2	0.1	0.0	-14.9
Port trade	0.8	0.6	2.1	2.0	1.3	2.7	2.8	0.2	24.4
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n
Allocation (p.m.)	*42.2*	*40.8*	*23.9*	*26.1*	*26.1*	*25.3*	*33.0*	-	*-4.0*
NON-MARITIME CLUSTER	***918.9***	***750.6***	***779.3***	***1,000.3***	***1,160.0***	***1,016.7***	***1,090.0***	***72.5***	***2.9***
TRADE	52.2	40.7	38.8	38.7	46.8	55.8	63.5	4.2	3.3
INDUSTRY	695.5	533.4	569.5	727.9	900.5	777.3	807.6	53.7	2.5
Energy	13.1	17.6	18.9	17.1	25.9	6.7	8.9	0.6	-6.3
Oil industry	80.7	126.0	166.2	154.1	98.0	108.9	111.9	7.4	5.6
Chemicals	332.1	312.2	321.6	485.9	707.0	550.9	492.4	32.7	6.8
Car manufacturing	245.0	59.3	37.1	41.7	23.8	72.9	165.0	11.0	-6.4
Electronics	0.2	0.5	0.3	2.8	0.6	0.3	0.2	0.0	2.2
Metal-working industry	2.1	4.8	4.0	5.3	3.2	3.1	4.5	0.3	13.4
Construction	13.6	5.4	9.9	11.1	15.5	16.1	10.9	0.7	-3.6
Food industry	6.6	5.1	7.1	6.1	6.5	9.5	10.3	0.7	7.9
Other industries	2.2	2.5	4.3	3.8	20.1	8.9	3.5	0.2	7.8
TRANSPORT	45.2	67.1	52.5	79.3	56.8	42.5	65.4	4.3	6.3
Road transport	29.5	16.9	23.7	18.4	16.1	9.9	40.7	2.7	5.5
Other land transport	15.7	50.2	28.8	60.8	40.7	32.6	24.7	1.6	7.9
OTHER LOGISTIC SERVICES	126.0	109.4	118.5	154.5	155.9	141.1	153.5	10.2	3.3
Other services	95.5	48.7	69.6	107.7	117.9	71.2	84.4	5.6	-2.0
Public sector	30.5	60.7	48.8	46.7	38.0	69.9	69.1	4.6	14.6
DIRECT INVESTMENT	**1,311.5**	**1,274.7**	**1,100.6**	**1,418.3**	**1,590.9**	**1,481.8**	**1,504.0**	**-**	**2.3**

Source: NBB.

3.1.5.1 General developments

Investment at the port of Antwerp increased by an annual average of 2.3 p.c. over the period considered (table 13). The chemical industry is largely responsible for that rise. This trend also applies to other sectors, such as trade, the oil industry, land transport and public administration.

2003 brought a modest revival in investment at the port of Antwerp (+1.5 p.c. at current prices[70]). This brought the figure back to over the 1.5 billion euro mark.

3.1.5.2 Developments by sector in 2003

The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.1.5.2.1 Maritime cluster

- Investment in cargo handling was 6.8 p.c. higher than in 2002. Investment in fixed assets doubled at URS, which renews its fleet at regular intervals. It increased sharply at Scheldt Container Terminal Noord and HNN but, in contrast, declined at the Havenbedrijf Antwerpen.
- In the shipping companies, investment was up by 4 p.c. The revival in activity at Bocimar International played a key role here.
- Investment in port construction and dredging declined by 34.8 p.c. This was due to the steep reductions recorded by Dredging International.
- Shipping agents and forwarders cut back their investment by 47.1 p.c. There was a sharp fall in tangible fixed assets at Cobelfret[71].

3.1.5.2.2 Trade

The investment in trading companies rose by 13.8 p.c. in one year at the port of Antwerp. This was due to Pioneer Europe, among other things.

3.1.5.2.3 Industry

- Investment in the chemical industry was down by 10.6 p.c. Significant falls were recorded at a number of companies, including Fina Antwerp Olefins, Atofina Antwerpen and Oxeno Antwerpen, a Degussa group entity created in 2001 which expanded rapidly in 2002. The substantial increases recorded at EVAL Europe and at BASF Antwerpen were not sufficient to offset these reductions. EVAL Europe[72] has been a global producer of high barrier EVAL™ EVOH copolymer resins since 1999. After an initial extension to the plant in 2001, an additional sum of 80 million euro was invested in 2003 and 2004, in order to double the production capacity by the end of 2004.
- The car manufacturing industry more than doubled its investment (+126.4 p.c.). The General Motors group invested over 150 million euro (or almost triple the amounts released in the previous year) on the new Astra production line at its Opel Belgium plant, that model being produced at Antwerp since 2004.
- The oil industry's investment increased by 2.7 p.c. Investment at Total Raffinaderij Antwerpen doubled, the main reason being the programme for bringing into service a hydrogen recovery unit, and the construction of units to produce fuels complying with the most stringent European environmental standards.

3.1.5.2.4 Transport

- Investment in road transport quadrupled. Katoen-Natie invested in its road haulage division, Trucking, renewing a large part of its fleet.
- In other land transport, investment contracted by 24.3 p.c., owing to the figures for BNRC and De Roeck, which were down.

3.1.5.2.5 Other logistic services

- Investment in other services increased by 18.5 p.c. Maatschappij voor het Grond- en Industrialisatiebeleid van het Linkerscheldeoevergebied (MGIL) invested substantial sums

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[70] All the figures here are stated at current prices. The index of prices of Belgian domestic investment goods was up in 2003: +1.4 p.c. The increase in investment at the port of Antwerp at current prices came to 1.50 p.c. Taking account of this index, the increase in investment in Antwerp at constant prices (2002 prices) was 0.10 p.c.

[71] One of the main carriers operating from Belgium in short sea shipping and inland freight transport. Cobelfret (*Compagnie Belge d'Affrêtements*) is involved, via Cobam, in the worldwide transportation of some 50 million tonnes per annum of coal, iron ore, bauxite and other dry bulk. This company manages its own haulage fleet and chartered capacity ranging between 50,000 and 200,000 dwt.

[72] This company is classified in the trade segment (NACE branch 51.550), by the Central Balance Sheet office and in the national accounts. However it is active in chemicals. Therefore it appears in this industry, for the purpose of the analysis.

in the acquisition of land and buildings, and in plant, machinery and equipment. In the 1990s, this organisation was commissioned to restructure the left bank of the Scheldt, by buying up farm land in order to extend the western part of the port.

- Investment in public administration was down by 1.1 p.c.

3.1.5.3 Investment Top 10 at the port of Antwerp in 2003

TABLE 14 **INVESTMENT TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	B.A.S.F. ANTWERPEN	Chemicals	187.7
2	OPEL BELGIUM	Car manufacturing	156.0
3	HAVENBEDRIJF ANTWERPEN	Cargo handling	76.4
4	PUBLIC AUTHORITY	Public sector	69.1
5	FINA ANTWERP OLEFINS	Chemicals	66.6
6	EVAL EUROPE	Chemicals	62.4
7	TOTAL RAFFINADERIJ ANTWERPEN	Oil industry	57.3
8	DEGUSSA ANTWERPEN	Chemicals	35.5
9	M.G.I.L.	Other services	34.2
10	DREDGING, ENVIRONMENTAL & MARINE ENGINEERING (D.E.M.E.)	Port construction and dredging	33.5
	Total of top 10		**778.6**

Source: NBB.

BASF Antwerpen is still the largest private investor at the port of Antwerp, now followed by Opel Belgium (table 14). EVAL Europe, Total Raffinaderij Antwerpen - formerly Fina Raffinaderij Antwerpen -, MGIL and DEME have entered this ranking, representing 51.8 p.c. of investment at the port of Antwerp in 2003.

3.1.6 Financial ratios

TABLE 15 FINANCIAL RATIOS AT THE PORT OF ANTWERP FROM 2001 TO 2003

Sector	Return on equity after tax (in p.c)			Liquidity in the broad sense			Solvency (in p.c)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
MARITIME CLUSTER	***1.6***	***5.6***	***6.0***	***0.91***	***0.88***	***0.89***	***38.6***	***41.2***	***41.2***
MARITIME	***1.6***	***5.6***	***6.0***	***0.91***	***0.88***	***0.89***	***38.6***	***41.2***	***41.2***
Shipping agents and forwarders	11.3	21.1	13.9	0.95	0.98	0.96	23.9	24.0	26.1
Cargo handling	1.4	1.6	2.7	0.97	0.73	0.74	48.6	48.3	49.4
Shipping companies	-3.2	4.2	6.3	0.79	0.96	0.98	38.8	50.4	45.4
Shipbuilding and repair	18.3	-11.4	11.5	1.27	1.13	1.20	28.0	20.2	22.1
Port construction and dredging	5.1	10.5	16.2	1.06	0.82	0.97	29.9	28.4	30.3
Fishing	6.5	7.7	4.5	0.83	0.89	0.90	21.1	26.6	31.0
Port trade	10.4	10.5	12.3	1.37	1.46	1.39	23.8	27.7	29.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***4.2***	***7.5***	***15.9***	***1.55***	***0.86***	***1.49***	***56.4***	***49.8***	***35.7***
TRADE	4.8	-5.0	7.2	1.12	1.07	1.18	31.7	26.2	33.2
INDUSTRY	4.8	14.6	19.3	0.65	0.33	1.30	33.0	32.1	30.0
Energy	17.4	21.6	31.5	0.95	1.54	1.23	39.1	38.5	36.1
Oil industry	29.1	22.9	20.2	0.63	0.10	1.09	13.4	29.3	24.9
Chemicals	1.1	5.4	16.4	0.56	0.57	1.44	38.4	36.2	37.7
Car manufacturing	12.2	-0.4	35.7	1.15	1.11	0.88	16.4	14.8	20.0
Electronics	11.3	18.7	9.3	1.07	0.97	1.01	12.7	16.5	23.3
Metal-working industry	19.5	-5.6	8.7	1.18	1.14	1.09	22.8	24.8	27.4
Construction	4.8	-0.2	6.0	1.11	1.01	1.08	31.6	25.1	26.6
Food industry	-15.3	13.0	-0.1	0.85	0.89	0.77	28.5	33.0	31.9
Other industries	15.0	10.6	9.0	1.23	0.59	0.81	44.9	46.0	46.7
TRANSPORT	-1.0	-16.6	-5.2	1.04	0.90	0.85	32.5	27.5	25.0
Road transport	8.4	6.6	9.1	1.12	1.11	1.09	26.3	26.9	27.0
Other land transport	-2.8	-21.3	-8.4	1.00	0.82	0.76	34.0	27.7	24.6
OTHER LOGISTIC SERVICES	4.0	3.4	9.7	5.78	6.72	3.27	84.8	86.9	71.0
Other services	4.0	3.4	9.7	5.78	6.72	3.27	84.8	86.9	71.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
WEIGHTED AVERAGE	**3.9**	**7.3**	**14.2**	**1.41**	**0.87**	**1.34**	**53.3**	**48.7**	**36.5**

Source: NBB.

The return on equity after tax improved considerably in 2003 at the port of Antwerp in the maritime but more particularly in the non-maritime clusters (table 15). Despite the decline recorded for shipping agents and forwarders and the oil industry, this ratio increased significantly in the case of port construction and dredging, shipping companies and cargo handling, and in trade, the chemical industry, car manufacturing, land transport and other services. Bayer Antwerpen was back in profit, as was Opel Belgium. At Dredging International, profits more than doubled.

The average net working capital became positive again at the port of Antwerp in 2003. Liquidity in the broad sense remained steady in the maritime cluster but increased in the non-maritime cluster,

especially for the chemical and oil industries, despite a decline in other logistic services. There was a substantial increase in the cash resources of Bayer Antwerpen, Solvay and BASF Antwerpen. At the oil company Exxonmobil Petroleum & Chemical, the liquidity ratio was restored to a figure of higher than 1.

On average, there was no change in the solvency of the maritime enterprises. However, in the oil industry, other land transport and other logistic services, solvency declined. This fall was partly tempered by the rises recorded in trade, the chemical industry and car manufacturing. The ability of Exxonmobil Petroleum & Chemical to honour its short and long term debts declined, and the same applied to BNRC, Ziegler and BASF Coordination Center. This last company's capital contracted following the rescheduling of financial resources undertaken in 2003 at BASF group level.

3.1.7 Maritime goods traffic at the port of Antwerp in 2003: summary[73]

TABLE 16 **ANTWERP**
(thousands of tonnes)

	Unloaded	Loaded	Total 2003	Change 2002- 2003 (in p.c.)	Share in 2003 (in p.c.)
Containers	25,042	36,308	61,350	+15.7	42.9
Roll-on/roll-off	2,918	3,128	6,046	+3.6	4.2
Conventional general cargo	5,936	8,504	14,440	-0.3	10.1
Liquid bulk	24,739	10,388	35,127	+9.8	24.6
Dry bulk	18,961	6,951	25,912	-1.5	18.1
TOTAL	**77,596**	**65,278**	**142,875**	**+8.5**	**100.0**

Source: Havenbedrijf Antwerpen.

In 2003, the port of Antwerp recorded a notable increase in traffic (table 16). Having declined in 2001, traffic increased by 1.2 p.c. in 2002, the total transhipped topped the 140 million tonne mark for the first time in 2003 (+8.5 p.c.). The main factor in this expansion is general cargo, which is 75 p.c. containerised.

The largest increase (+15.7 p.c. in 2003) was due to containerised traffic, the main engine of growth for the port of Antwerp. This is a trend which began in 1980 in Antwerp, which today is still the tenth largest container port in the world. There has been an increase here in the transhipment of chemicals, iron, steel and non-ferrous metals, as well as fertilizers. The success of container transport, where the number of units handled passed the 5 million mark in 2003 (5.4 TEU to be precise) inevitably causes problems in the availability of warehousing space. Numerous projects are in progress here, including the Deurganckdok, and partnership projects with inland ports such as the Autonomous Port of Liège are being considered in order to reduce congestion in the port of Antwerp[74].

The small decline in dry bulk is due to the steep fall in the transhipment of sand and gravel, grain, and coal, offset by the growth of traffic in fertilizers and ores. The substantial rise in the transhipment of liquid bulk (+9.8 p.c.), is due to petroleum products, crude oil and chemicals. Conventional general goods recorded a further decline in 2003, thus falling to their lowest level since 1980. Conversely, ro-ro traffic passed the 6 million tonne mark for the first time since 1980.

Around one third of the total maritime traffic at Antwerp concerns transport within Europe. Short sea shipping continues to play a leading role at the port of Antwerp.

[73] Sources: Havenbedrijf Antwerpen and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie. See also table 60 (annex 8) for more details on transhipment in the port of Antwerp in 2003, by category of goods.

[74] See Lagneaux F. (2004), *Importance économique du Port Autonome de Liège: rapport 2002*, NBB, Working Paper No. 64 (Document series).

3.2 Port of Ghent

3.2.1 Profile of the port of Ghent[75]

Status of port operator:	Autonomous municipal port operator (Ghent Port Authority - *Havenbedrijf Gent GAB*).
Total area:	4,701 ha.
Land area:	4,132 ha.
Dock area:	569 ha.
Maritime links:	Link to the North Sea via western Scheldt and the Ghent - Terneuzen (Netherlands) ship canal and its set of locks. Access for vessels with a draught of 13.5 m.
Inland links:	The port is located at the intersection of two important highways: the E-17 (Stockholm - Lisbon) and the E-40 (London - Istanbul). All the quays are equipped with one or more rail tracks, which are linked to the Belgian and international networks. The ship canal, the western Scheldt and the Hansweert canal provide river vessels with a link to the Rhine, and goods can be transported to or from the Netherlands, Germany, Alsace - Lorraine (France) and Switzerland. In the south, the outer canal (*Ringvaart*) provides a link to the Scheldt and the Lys.
Infrastructures:	The water depth is 13.5 m at all the quays, so that all the docks are accessible to vessels of 80,000 tonnes dwt[76]. The Grootdok, Mercatordok and Kluizendok complexes make up the main waterfront facilities. The Kluizendok, situated on the left bank of the Ghent – Terneuzen canal, is opening up an area of 200 ha for new port activities. Phase 1 has been operational since the beginning of 2005.
Distinctive characteristics:	Importation port well equipped with silos, reservoirs and specialised warehousing. It is Belgium's main iron and steel port, and two thirds of its traffic, taking all modes together, is made up of coal, ores and metal products.

3.2.2 Highlights in 2003[77]

3.2.2.1 Context

2003 was not such a good year as expected at the port of Ghent in terms of the volume of goods handled, notably because of the downturn in activity at the end of the year. On the other hand, it was a record year in terms of VA and a good year for employment.

The new projects at the Kluizendok should generate additional traffic of 1.6 million tonnes by 2006-2007, at this port where more than 80 p.c. of the tonnage transhipped originate from unloading activity. The authorities hope that these new facilities will boost employment. Also the employers' association CEPG[78] announced the first increase in the quota of dock workers since the 1990s, accompanied by a reduction in the average age and rationalisation. But in 2003, the average age was still 45 years.

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[75] February 2005 data (source: Havenbedrijf Gent GAB).

[76] Dead-weight tonnage. Definition in annex 9.

[77] Sources: Havenbedrijf Gent GAB and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

[78] Ghent Port Employers' Association (CEPG). In Dutch: *Centrale der Werkgevers aan de haven van Gent.*

3.2.2.2 Industrial activity

At the beginning of 2003, Electrabel built two wind turbines with a capacity of 2 MW each, at the Rodenhuize power station (port of Ghent). These are the most powerful wind turbines so far installed in Belgium.

On 19 May, the new plant at Volvo Cars Engine Center Gent went into production.

On 31 May, the Finnish paper manufacturer, StoraEnso, started operating the largest newsprint machine in the world, at Langerbrugge. The paper industry has been very important to Ghent for over 200 years. When operating at maximum capacity, this new machine can produce 400,000 tonnes of 45 g/m² newsprint a year, from 700,000 tonnes of waste paper.

In mid November, Volvo Logistics Europe[79] officially opened a new distribution park on the rear quay of the Mercatordok.

At the beginning of December, Katoen Natie brought a new refrigerated warehouse into service at its Mega-Logistiek Park.

In 2003, four firms applied for an operating licence at the new Kluizendok: the metal-working company Aelterman, the carrier Van Eeckhout, Ghent Transport & Storage (GTS) and Zoutman nv.

3.2.2.3 Infrastructure

On 7 April 2003 a partnership agreement was signed between Zeeland Seaports and the Ghent port operator which concerns, among other things, the joint promotion of the canal zone linking Ghent to Terneuzen (Netherlands). The development of a new sea lock at Terneuzen is proving increasingly essential to the expansion of the port of Ghent.

Phase 2 of the quay wall construction at the Kluizendok was completed in 2003. The two remaining quay sections will be built as soon as the 55 railway line has been diverted. Completion of the work on the northern quay wall made it possible to grant the first operating licences mentioned above. On 8 May, phase 1 of the improvements to the road network serving the Kluizendok was completed. Phase 2 has now been put out to tender, and has a budget of 4.6 million euro. The soil at the Kluizendok which still contained asbestos was all cleared away in 2003.

On 10 July 2003, the construction work on a second access road was completed at the Skaldenpark industrial estate. On 14 August, the first concrete sleepers were put in place at Rieme, in connection with the diversion of the railway line 55 Wondelgem - Zelzate.

It was decided to add a new wing to the port operator's administration buildings and to reorganise all its divisions. The work began on 3 November 2003, and is to be completed in mid 2005.

[79] The Volvo truck division in Belgium is organised as follows: manufacturing is concentrated in Ghent (entities Volvo Europa Truck and Volvo Parts Gent), sales are based in Brussels (Volvo Trucks Belgium), and services are located in Ghent (Volvo IT Belgium and Volvo Logistics Europe).

3.2.3 Value added

TABLE 17 **VALUE ADDED AT THE PORT OF GHENT FROM 1997 TO 2003**
(millions of euros- current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**2,581.2**	**2,882.7**	**2,637.8**	**2,879.8**	**2,721.2**	**2,878.5**	**2,952.3**	**100.0**	**2.3**
MARITIME CLUSTER	***156.3***	***179.7***	***191.1***	***177.7***	***177.7***	***185.3***	***191.5***	***6.5***	***3.4***
MARITIME	156.3	179.7	191.1	177.7	177.7	185.3	191.5	6.5	3.4
Shipping agents and forwarders	33.5	39.8	37.1	42.7	50.2	57.5	47.6	1.6	6.0
Cargo handling	112.2	125.2	128.6	119.7	109.2	108.9	120.8	4.1	1.2
Shipping companies	7.5	9.5	20.9	9.0	10.2	10.4	11.4	0.4	7.3
Shipbuilding and repair	2.3	4.2	3.4	3.5	4.4	4.4	3.7	0.1	8.2
Port construction and dredging	0.0	0.0	0.0	0.0	2.0	0.9	0.9	0.0	n.
Fishing	0.3	0.4	0.5	1.1	0.6	1.1	1.3	0.0	28.8
Port trade	0.5	0.6	0.6	1.8	1.2	2.2	5.8	0.2	50.8
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Allocation (p.m.)[80]	*3.2*	*3.9*	*4.6*	*2.5*	*4.5*	*4.4*	*5.0*	-	*7.5*
NON-MARITIME CLUSTER	***2,424.9***	***2,703.0***	***2,446.7***	***2,702.1***	***2,543.5***	***2,693.2***	***2,760.8***	***93.5***	***2.2***
TRADE	456.0	632.5	538.2	544.3	608.5	579.4	652.7	22.1	6.2
INDUSTRY	1,794.3	1,887.9	1,785.6	1,979.5	1,770.0	1,936.9	1,927.5	65.3	1.2
Energy	205.9	113.2	115.4	145.0	169.4	165.2	97.7	3.3	-11.7
Oil industry	0.0	0.0	0.0	3.8	5.9	6.8	8.1	0.3	n.
Chemicals	177.1	187.7	182.4	226.1	225.2	217.3	215.3	7.3	3.3
Car manufacturing	463.6	531.3	510.7	493.7	492.2	510.1	507.5	17.2	1.5
Electronics	96.6	95.0	91.0	99.4	57.2	56.5	66.4	2.2	-6.0
Metal-working industry	626.4	719.6	644.8	754.3	516.5	694.5	775.0	26.3	3.6
Construction	84.5	86.9	90.9	109.0	131.9	114.7	106.7	3.6	4.0
Food industry	56.0	54.7	53.5	56.1	58.7	70.9	67.8	2.3	3.2
Other industries	84.1	99.6	96.8	91.9	112.9	100.8	82.9	2.8	-0.2
TRANSPORT	43.9	49.5	49.6	63.3	60.5	63.6	64.1	2.2	6.5
Road transport	25.2	28.1	29.5	42.8	37.9	37.1	38.8	1.3	7.5
Other land transport	18.7	21.4	20.2	20.5	22.7	26.5	25.3	0.9	5.2
OTHER LOGISTIC SERVICES	130.7	133.1	73.2	115.1	104.4	113.3	116.5	3.9	-1.9
Other services	119.4	122.0	62.1	106.2	95.3	103.0	106.5	3.6	-1.9
Public sector	11.4	11.1	11.2	8.9	9.1	10.3	10.0	0.3	-2.2
2. INDIRECT EFFECTS	***2,448.2***	***2,556.8***	***2,683.6***	**2,759.5**	***2,858.5***	***3,026.1***	***3,068.0***	**-**	***3.8***
MARITIME CLUSTER	*225.9*	*235.2*	*251.5*	217.3	*199.5*	*216.3*	*206.7*	-	*-1.5*
NON MARITIME CLUSTER	*2,222.3*	*2,321.6*	*2,432.1*	2,542.1	*2,659.0*	*2,809.8*	*2.861.4*	-	*4.3*
TOTAL VALUE ADDED	***5,029.4***	***5,439.5***	***5,321.4***	**5,639.3**	***5,579.7***	***5,904.6***	***6,020.3***	**-**	***3.0***

Source: NBB.

[80] The figures for maritime firms located outside the port area are included under the item “Allocation (p.m.)”. These figures are already recorded under the direct effect and are mentioned here *pro memoria*.

3.2.3.1 General developments

Between 1997 and 2003, the direct VA of the port of Ghent grew by an average of 2.3 p.c. per annum (table 17). Except in the energy and electronics industries, other industries, other logistic services and the public sector, the trend is upwards, taking all sectors together. The main industries – metal-working, car manufacturing and chemicals – recorded significant increases, as did the trade and land transport sectors.

Despite the decline recorded in the total volume of goods transhipped in 2003, compared to the previous year, the VA of firms based in the port of Ghent increased by 2.6 p.c. overall.

Indirect VA generated upstream by the activities of the port of Ghent increased by an average of 3.8 p.c. per annum between 1997 and 2003. Its growth in 2003 is estimated at 1.4 p.c. Other logistic services played a key role in this upward trend recorded in the non-maritime cluster, since that sector is heavily dependent on subcontracting. Nonetheless, the favourable trend in the metal-working sector, which is less dependent on subcontracting, had a major impact on indirect VA.

3.2.3.2 Direct effects by sector in 2003

The direct VA of the port of Ghent grew by 2.6 p.c. at current prices[81] in 2003. The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.2.3.2.1 Maritime cluster

- In cargo handling, VA was 11 p.c. higher than in 2002. After three difficult years, it once again passed the 120 million euro mark. This increase was due to the good results at Belgotank and Euro-Silo. CEPG's VA remained steady.
- In contrast, the activities of shipping agents and forwarders declined by 17.3 p.c. The reason was the dramatic fall at Furness Logistics Ghent (-47.8 p.c., where the turnover was down by 28.1 p.c.), and at Flanders Logistics (-8.8 p.c.).
- The VA of the shipping companies was 9.4 p.c. up, thanks to a good performance by Galaxie, Sea & Land transport, DFDS Tor Line and Rederij Intermas.

3.2.3.2.2 Trade

Wealth creation in trade, the sector ranked second in terms of jobs and third in terms of VA at the port of Ghent, grew by 12.7 p.c. in 2003. The largest increases were recorded by Total Belgium, Belgian Shell and Honda Europe, which were back in profit during the year. Total Belgium's operating profit before interest and exceptional items more than tripled (from 10.9 to 35.5 million euro), mainly as a result of the good performance achieved in all the company's activities – maritime-related sales remained at a high level - and the reduction in its financial liabilities.

3.2.3.2.3 Industry

- The metal-working industry, ranking first in terms of VA and the second largest employer in the port of Ghent, produced an increase of 11.6 p.c. in its VA. That of Sidmar, the largest company in the port, increased by 13.6 p.c., and this was not offset by the 13.5 p.c. decline at Galtec. At Sidmar, a member of the Arcelor group, the austerity measures continued with a view to rationalising the activities (automation and outsourcing), optimising teamwork and cutting overheads. In the end, this drastically reduced the losses in 2003, the year which brought the completion of the investment programme at the Ghent site, soon to produce an increase in VA per unit of output. The productivity and excellent efficiency of the steel works still guarantee its activities' survival and expansion, even though its location is not as advantageous as that of the group's other three maritime plants in Europe[82].
- In the car manufacturing industry, the primary source of jobs in Ghent, VA was 0.5 p.c. down. The small rise in VA at Volvo Cars was insufficient to counter the effects of the decline at Volvo Europa Truck. The number one in Belgium on the trucks market had a

[81] All figures here are stated at current prices; the Belgian index of domestic output prices edged upwards in 2003: +0.7 p.c. The increase in VA at the port of Ghent at current prices comes to 2.56 p.c. Taking account of this index, Ghent's increase in VA at constant prices (2002 prices) comes to 1.85 p.c.

[82] Dunkirk and Marseille-Fos in France and Gijón-Aviles in Spain.

good year in terms of profits, but the amount of depreciation was well down against the previous year. The relative decline in VA in 2003 was due to the start of the production of the new range of FH/FM trucks, one year before.

- In the chemical industry, activity contracted by 0.9 p.c. The reason lay in the poor performance recorded by Oleon and Rhodia Chemie, due to adverse conditions on the petrochemicals market and fiercer competition, plus the depreciation of the dollar, to which this sector is particularly sensitive. UCB remains the leader in terms of VA in this sector at Ghent, followed by Kronos Europe.
- In construction, VA was down by 7 p.c., owing to the decline recorded at Denys and Cimenteries CBR. Although this industry did reasonably well in 2003, Cimenteries, a member of the HeidelbergCement group, were affected by the group's business difficulties in Germany.
- In the energy industry, VA plummeted (-40.9 p.c.) for reasons already mentioned in point 3.1.3.2.3, concerning the situation of Electrabel. In addition to this group's restructuring, there was the decline in VA recorded by SPE[83], attributable to the transfer of substantial amounts of its profits to its immune reserves.
- In other industries, VA was down by 17.8 p.c., the decline being due to higher cost of sales and services, and losses at Stora Enso Langerbrugge (where VA was 26.7 p.c. down).
- The food industry's VA dropped by 4.3 p.c, partly because of the decline in VA at Cargill and Etablissementen P. Bruggeman, which was not fully offset by the increase at Algist Bruggeman.
- The electronics industry's VA was up by 17.5 p.c, while at GE Power Controls Belgium the increase was 37.6 p.c.

3.2.3.2.4 Transport

- In road transport, VA was up by 4.6 p.c., with Hallens and Schenk Tanktransport Belgium performing particularly well.
- Other land transport did not do so well, since VA here declined by 4.7 p.c. VA was also down at BNRC.

3.2.3.2.5 Other logistic services

- Other services saw a 3.5 p.c. rise in VA. Group 4 Total Security, Sita West and Volvo Continental were responsible for this increase.
- The VA of public administration[84] declined by 3.4 p.c.

[83] Electricity production company.

[84] See complete list in annex 4.

3.2.3.3 VA top 10 at the port of Ghent in 2003

TABLE 18 **DIRECT VALUE ADDED TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	SIDMAR	Metal-working industry	698.1
2	VOLVO CARS	Car manufacturing	313.0
3	TOTAL BELGIUM	Trade	274.7
4	VOLVO EUROPA TRUCK	Car manufacturing	159.5
5	BELGIAN SHELL	Trade	104.9
6	ELECTRABEL	Energy	77.1
7	HONDA EUROPE	Trade	67.8
8	U.C.B.	Chemicals	59.4
9	GE POWER CONTROLS BELGIUM	Electronics	42.2
10	BP BELGIUM	Trade	38.7
	Total of top 10		**1,835.5**

Source: NBB.

Except for a few inversions, this ranking (table 18) has not changed since 2002: Sidmar remains at the top. Stora Enso Langerbrugge gave way to GE Power Controls Belgium. In 2003, these ten companies accounted for 62.2 p.c. of direct VA at the port of Ghent.

3.2.4 Employment

TABLE 19 **EMPLOYMENT AT THE PORT OF GHENT FROM 1997 TO 2003**
(FTEs)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**27,849**	**27,848**	**28,170**	**28,917**	**29,129**	**28,325**	**28,330**	**100.0**	**0.3**
MARITIME CLUSTER	***1,863***	***2,028***	***2,174***	***1,975***	***2,045***	***1,932***	***1,994***	***7.0***	***1.1***
MARITIME	1,863	2,028	2,174	1,975	2,045	1,932	1,994	7.0	1.1
Shipping agents and forwarders	526	558	570	580	659	716	734	2.6	5.7
Cargo handling	1,177	1,260	1,235	1,211	1,160	983	1,027	3.6	-2.2
Shipping companies	84	109	274	92	88	102	99	0.3	2.8
Shipbuilding and repair	58	82	73	71	85	83	68	0.2	2.5
Port construction and dredging	0	0	0	0	29	11	11	0.0	n.
Fishing	6	8	11	8	8	8	8	0.0	5.9
Port trade	12	12	11	13	15	30	48	0.2	26.2
Public sector	0	0	0	0	0	0	0	0.0	n.
Allocation (p.m.)	*62*	*78*	*82*	*57*	*72*	*72*	*83*	-	*5.0*
NON MARITIME CLUSTER	***25,987***	***25,820***	***25,996***	***26,942***	***27,083***	***26,392***	***26,336***	***93.0***	***0.2***
TRADE	2,577	2,562	2,479	2,570	2,732	2,768	2,849	10.1	1.7
INDUSTRY	21,462	21,289	21,528	21,828	21,871	21,136	20,996	74.1	-0.4
Energy	1,350	817	848	871	890	935	895	3.2	-6.6
Oil industry	0	0	0	70	63	56	58	0.2	n.
Chemicals	1,810	1,863	1,830	2,071	2,111	2,015	1,901	6.7	0.8
Car manufacturing	6,222	6,668	6,791	6,532	6,851	6,769	7,151	25.2	2.3
Electronics	1,490	1,428	1,395	1,493	1,185	1,099	990	3.5	-6.6
Metal-working industry	7,223	7,331	7,413	7,340	7,280	6,831	6,625	23.4	-1.4
Construction	1,616	1,652	1,754	1,855	1,802	1,718	1,694	6.0	0.8
Food industry	429	436	504	509	523	508	494	1.7	2.3
Other industries	1,323	1,095	993	1,087	1,166	1,206	1,188	4.2	-1.8
TRANSPORT	816	867	826	992	1,006	980	990	3.5	3.3
Road transport	424	443	420	566	528	506	522	1.8	3.5
Other land transport	392	424	406	427	478	474	469	1.7	3.0
OTHER LOGISTIC SERVICES	1,132	1,101	1,164	1,552	1,474	1,509	1,501	5.3	4.8
Other services	845	807	869	1,314	1,230	1,239	1,241	4.4	6.6
Public sector	287	294	295	238	244	270	260	0.9	-1.6
2. INDIRECT EFFECTS	***32,086***	***32,911***	***35,459***	**36,114**	***37,129***	***36,734***	***37,328 ****	***-***	***2.6***
MARITIME CLUSTER	*2,617*	*2,844*	*3,032*	2,688	*2,311*	*2,208*	*2,133*	-	*-3.3*
NON-MARITIME CLUSTER	*29,470*	*30,066*	*32,427*	33,426	*34,818*	*34,525*	*35,194*	-	*3.0*
TOTAL EMPLOYMENT	***59,936***	***60,758***	***63,630***	**65,031**	***66,258***	***65,058***	***65,658***	***-***	***1.5***

Source: NBB.

* of which 29,423 salaried FTEs .

3.2.4.1 General developments

During the period under review, direct employment at the port of Ghent grew by an average of 0.3 p.c. per annum (table 19). This small increase was attributable mainly to the car manufacturing industry, trade, the chemical industry, construction and shipping agents and forwarders. Conversely, the metal-working, electronics and energy industries recorded a steady decline in their workforce.

Despite the good VA figures recorded, direct employment remained unchanged in 2003.

Indirect employment did better than direct employment at the port of Ghent, between 1997 and 2003, since it increased by an average of 2.6 p.c. per annum. In 2003, the growth of indirect employment was estimated at 1.6 p.c. The decline recorded by shipping companies depressed indirect maritime employment, but the expansion of the workforce in the oil and car manufacturing industries meant that indirect non-maritime employment increased, taking only the sectors most dependent on subcontracting.

3.2.4.2 Direct effects by sector in 2003

Direct employment in the port of Ghent remained steady at its 2002 level. The following account goes more deeply into the causes of this stability and analyses, per sector, some significant developments.

3.2.4.2.1 Maritime cluster

- In cargo handling, employment expanded by 4.5 p.c. compared to 2002, one reason being the inclusion of Frans Maas Automotive Belgium - 45 FTEs - under NACE code 63.122.
- The workforce of shipping agents and forwarders grew by 2.5 p.c. Logisport took on staff.

3.2.4.2.2 Trade

Employment in trade was up by 2.9 p.c., the growth being attributable mainly to BP Belgium and Mercedes-Benz Gent, despite a small decline at Honda Europe.

3.2.4.2.3 Industry

- The car manufacturing industry is still the biggest sector in terms of jobs at the port of Ghent. The workforce employed by this industry grew by 5.7 p.c., partly thanks to Volvo Cars Gent which produced a record number of cars in Ghent and proceeded to increase its production capacity, as well as taking on 263 FTEs. The number of FTEs increased by 120 at Benteler Automotive Belgium.
- Metal-working recorded a 3 p.c. drop in employment. In the scope of the austerity plan adopted by the Arcelor group (cf. point 3.2.3.2.3), Sidmar, Ghent's largest employer, arranged for 258 FTEs to take early retirement and terminated a hundred or so temporary contracts.
- In the chemical industry, the workforce declined by 5.7 p.c., owing to cost-cutting on the part of companies such as Trelleborg Wheel Systems Belgium and Rhodia Chemie (mainly by non-renewal of fixed-term contracts).
- There was a slight fall in the number of jobs in the construction industry (-1.4 p.c.), a trend recorded by Flanders Construction Company but moderated by recruitment at Denys.
- In the other industries, employment was down by 1.4 p.c., despite a small expansion at Stora Enso Langerbrugge.
- The electronics industry lost 10 p.c. of its jobs, partly because of the contraction recorded at GE Power Controls Belgium, Rogers and Rog-Metal.
- The energy industry felt the impact of the restructuring at Electrabel, as already mentioned, with employment declining by 4.2 p.c.

3.2.4.2.4 Transport

- In road transport, employment was up by 3 p.c., the rise being attributable mainly to Hallens, Schenk Tanktransport Belgium and De Seranno Transport.
- The opposite happened in the other land transport sector (-1 p.c.). There was a significant decline in the workforce at BNRC.

3.2.4.2.5 Other logistic services

- In other services, the level of employment was steady at 1,241 FTEs. The expansion recorded at Group 4 Total Security was offset by the decline at Bayer Bioservice.
- In public administration, employment was down by 3.7 p.c.

3.2.4.3 Employment top 10 at the port of Ghent in 2003

TABLE 20 **DIRECT EMPLOYMENT TOP 10 IN 2003**
(FTEs)

Ranking	Name of company	Sector	Employment
1	SIDMAR	Metal-working industry	5,569
2	VOLVO CARS	Car manufacturing	4,099
3	VOLVO EUROPA TRUCK	Car manufacturing	2,480
4	ELECTRABEL	Energy	784
5	GE POWER CONTROLS BELGIUM	Electronics	621
6	HONDA EUROPE	Trade	614
7	STORA ENSO LANGERBRUGGE	Other industries	485
8	BNRC	Other land transport	383
9	DENYS	Construction	364
10	U.C.B.	Chemicals	311
	Total of top 10		**15,710**

Source: NBB.

Except for the inversion of Denys and UCB, this ranking (table 20) is the same as in the 2002 report. In 2003, these ten companies accounted for 55.5 p.c. of direct employment at the port of Ghent.

TABLE 21 **INVESTMENT AT THE PORT OF GHENT FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
MARITIME CLUSTER	***42.9***	***47.8***	***59.3***	***40.0***	***36.3***	***51.4***	***46.1***	***6.1***	***1.2***
MARITIME	42.9	47.8	59.3	40.0	36.3	51.4	46.1	6.1	1.2
Shipping agents and forwarders	12.4	6.2	4.6	3.7	5.3	5.5	9.0	1.2	-5.2
Cargo handling	26.5	34.6	49.2	31.8	25.8	32.5	28.5	3.8	1.2
Shipping companies	3.5	6.4	5.1	3.8	3.9	12.0	7.4	1.0	13.1
Shipbuilding and repair	0.3	0.4	0.4	0.5	0.6	0.7	0.6	0.1	10.8
Port construction and dredging	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.0	n.
Fishing	0.1	0.1	0.1	0.1	0.2	0.6	0.2	0.0	17.7
Port trade	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.0	13.8
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Allocation (p.m.)	*3.4*	*2.6*	*4.0*	*2.2*	*3.0*	*3.6*	*3.7*	-	*1.2*
NON-MARITIME CLUSTER	***333.2***	***372.6***	***590.2***	***552.7***	***574.3***	***733.3***	***708.1***	***93.9***	***13.4***
TRADE	41.3	36.1	39.5	49.7	63.8	62.9	51.0	6.8	3.6
INDUSTRY	256.8	293.5	510.3	440.1	462.3	632.4	617.3	81.9	15.7
Energy	14.8	13.7	15.6	15.3	18.7	5.5	7.6	1.0	-10.4
Oil industry	0.0	0.0	0.0	1.6	0.3	0.1	5.0	0.7	n.
Chemicals	26.5	32.0	34.7	33.0	46.8	38.3	31.4	4.2	2.9
Car manufacturing	62.2	116.3	220.2	90.0	77.3	133.3	172.8	22.9	18.6
Electronics	5.1	12.5	8.4	12.3	13.8	9.6	4.6	0.6	-1.6
Metal-working industry	109.8	80.9	152.1	231.5	223.1	121.3	157.8	20.9	6.2
Construction	17.2	13.4	34.2	21.7	26.3	12.3	10.7	1.4	-7.6
Food industry	10.6	15.2	26.6	14.0	12.9	16.9	10.2	1.3	-0.7
Other industries	10.7	9.4	18.4	20.7	43.0	295.1	217.1	28.8	65.1
TRANSPORT	4.6	14.1	18.1	10.2	9.8	9.9	14.2	1.9	20.7
Road transport	4.5	9.3	16.9	7.4	8.0	7.7	11.4	1.5	16.8
Other land transport	0.1	4.8	1.2	2.8	1.8	2.2	2.8	0.4	72.1
OTHER LOGISTIC SERVICES	30.5	28.9	22.3	52.6	38.3	28.1	25.5	3.4	-2.9
Other services	8.0	10.0	13.4	38.6	27.8	15.6	14.5	1.9	10.3
Public sector	22.4	19.0	8.9	14.1	10.5	12.5	11.1	1.5	-11.1
DIRECT INVESTMENT	**376.1**	**420.5**	**649.5**	**592.7**	**610.6**	**784.7**	**754.2**	**-**	**12.3**

Source: NBB.

3.2.5.1 General developments

The sums invested in the port of Ghent doubled between 1997 and 2003 (+12.3 p.c. on average per annum - table 21). The car manufacturing and metal-working industries, together with other industries and trade, are the main engines driving this remarkable growth.

2003 was a year of great contrasts for the port of Ghent. Despite the expansion in activity (cf. point 3.2.3), investment in the port of Ghent was down by 3.9 p.c. overall at current prices[85].

3.2.5.2 Developments by sector in 2003

The following account goes more deeply into the causes of this decline and analyses, per sector, some significant developments.

3.2.5.2.1 Maritime cluster

- Investment in cargo handling was down by 12.3 p.c. against 2002. Significant reductions were recorded by the Havenbedrijf Gent GAB (Ghent port operator) and Euro-Silo.
- Shipping agents and forwarders stepped up their investment substantially (+63.8 p.c.), particularly at Transuniverse Cargo, Intercargo and Astra Logistics, which invested in land and buildings.
- Investment by shipping companies was down by 38.6 p.c. Sharp falls were recorded at Rederij Intermas and Galaxie.

3.2.5.2.2 Trade

In the trading companies based in the port of Ghent, investment declined by 19 p.c. Total Belgium, BP Belgium and Belgian Shell recorded the largest falls, while at Van Der Sluijs Groep investment was up.

3.2.5.2.3 Industry

- Since 2002, other industries have accounted for the largest percentage of investment at the port of Ghent. In 2003 the figures were down by 26.4 p.c. in this sector, the main factor being a decline of 29 p.c. at Stora Enso Langerbrugge. Conversely, the packaging company SCA Packaging Belgium did invest money in development.
- Investment in the car manufacturing industry rose by 29.7 p.c.; this was attributable to Volvo Cars Gent, Plastal and Benteler Automotive Belgium. At Volvo Cars, the investment plan totalling 340 million euro spread over four years aimed to expand production capacity in order to market two new models. The company's fixed assets in plant, machinery and equipment thus tripled in one year, and Volvo Cars Gent spent over 150 million euro under this plan in 2003 alone. In contrast, investment at Volvo Europa Truck showed a marked fall.
- Investment in the metal-working industry surged by 30.1 p.c. Sidmar, in particular, is responsible for this rise, as is Anglo Belgian Corporation, though to a lesser extent. The major investment programme at Sidmar's Ghent site was completed in 2003. It had begun in 1998 and totalled around 1 billion euro. Important projects included the construction of a lining plant downstream, extension of the production capacity of the hot and cold rolling mills, and modernisation of the blast furnaces.
- In the chemical industry, investment was down by 17.9 p.c., owing to substantial falls at Rhodia Chemie, Kronos Europe and Vyncolit.
- The construction industry also saw a fall in investment (-12.8 p.c.), attributable to Cimenteries CBR, De Meyer and Inter-Béton, among others. CBR lost market share in 2003, owing to the decline in cement consumption in Belgium, and had to pursue a cost-cutting policy which also dictated its decisions on investment.
- Investment in the food industry was down by 39.7 p.c., the reason being the falls recorded at Algist Bruggeman and Cargill.
- In the energy industry, investment was up by 38.9 p.c., with Electrabel and SPE accounting for the growth. Electrabel continues to invest constantly in new equipment and other tangible fixed assets in order to consolidate its leadership in Belgium, the Flemish market in electricity and natural gas having been totally open to competition since 1 July 2003. At the beginning of 2003, Electrabel built two wind turbines with a capacity of 2 MW each, at the power station of Rodenhuize.
- There was a dramatic rise in investment in the oil industry, attributable to Adpo Ghent, whose results almost tripled in 2003.

[85] All the figures here are stated at current prices. The index of prices of Belgian domestic investment goods was up in 2003: +1.4 p.c. The decline in investment at the port of Ghent at current prices came to 3.89 p.c. Taking account of this index, the decline in investment at Ghent at constant prices (2002 prices) was 5.22 p.c.

3.2.5.2.4 Transport

- Investment in other land transport was up (+29.3 p.c.), with notable increases at Selectacars René De Swaef en Zonen and BNRC.
- In road transport, investment was up by 47.6 p.c, the rise being attributed to Hallens and Frans Maas.

3.2.5.2.5 Other logistic services

- Other services recorded a 6.8 p.c. decline in investment, owing to the reductions at Immobiliaire Vennootschap der Vlaanderen and Ghent Warehousing Systems, despite the increase recorded at Bayer Bioservice.
- In public administration, investment was down by 11.7 p.c.

3.2.5.3 Investment top 10 at the port of Ghent in 2003

TABLE 22 **INVESTMENT TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	STORA ENSO LANGERBRUGGE	Other industries	203.7
2	VOLVO CARS	Car manufacturing	155.5
3	SIDMAR	Metal-working industry	147.4
4	HAVENBEDRIJF GENT GAB	Cargo handling	12.9
5	PUBLIC ADMINISTRATION	Public sector	11.1
6	S C A PACKAGING BELGIUM	Other industries	8.0
7	OLEON	Chemicals	7.9
8	VAN DER SLUIJS GROEP	Trade	7.7
9	VOLVO EUROPA TRUCK	Car manufacturing	7.0
10	BAYER BIOSERVICE	Other services	6.5
	Total of top 10		**567.6**

Source: NBB.

SCA Packaging, Van Der Sluijs Groep and Bayer Bioservice appear in this top 10 for the first time (table 22). In 2003, the ten companies in this ranking represented over three quarters of the investment at the port of Ghent.

3.2.6 Financial ratios

TABLE 23 FINANCIAL RATIOS AT THE PORT OF GHENT FROM 2001 TO 2003

Sector	Return on equity after tax (in p.c)			Liquidity in the broad sense			Solvency (in p.c)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
MARITIME CLUSTER	***2.0***	***3.3***	***3.8***	***1.14***	***1.04***	***1.06***	***53.3***	***56.6***	***59.0***
MARITIME	***2.0***	***3.3***	***3.8***	***1.14***	***1.04***	***1.06***	***53.3***	***56.6***	***59.0***
Shipping agents and forwarders	13.8	8.4	8.1	1.21	1.11	0.98	25.3	22.2	22.4
Cargo handling	0.8	2.3	1.7	1.08	0.98	1.11	60.6	66.1	69.0
Shipping companies	0.5	4.6	17.2	1.17	0.88	0.97	47.9	47.1	49.4
Shipbuilding and repair	11.9	34.1	22.2	1.74	1.55	1.26	50.8	55.0	45.5
Port construction and dredging	14.9	20.2	10.3	0.96	0.99	0.84	9.0	28.2	33.0
Fishing	25.5	n.	35.2	1.73	n.	3.74	37.8	n.	69.6
Port trade	15.1	14.1	12.4	1.35	1.37	1.27	27.0	27.9	21.2
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON- MARITIME CLUSTER	***2.9***	***-8.2***	***6.6***	***0.95***	***1.00***	***1.02***	***48.2***	***44.3***	***39.7***
TRADE	2.0	-6.9	3.6	0.76	0.72	0.75	36.9	35.9	36.4
INDUSTRY	1.7	-6.5	9.8	0.89	0.96	1.02	37.1	32.9	30.3
Energy	13.3	17.4	28.2	0.95	1.58	1.32	43.8	43.3	40.3
Oil industry	-20.0	5.7	7.7	0.59	1.11	1.30	41.0	48.2	46.0
Chemicals	15.4	9.8	10.5	1.37	1.26	1.44	47.2	47.5	45.2
Car manufacturing	3.3	3.9	40.3	0.60	0.63	0.74	29.0	27.2	23.1
Electronics	4.9	15.6	9.3	1.01	1.16	1.41	26.9	39.3	59.0
Metal-working industry	-8.5	-32.9	-15.7	0.90	1.02	1.06	35.8	30.2	27.0
Construction	0.9	8.3	11.5	1.15	1.16	1.09	34.5	30.4	37.7
Food industry	1.6	19.1	11.3	0.97	1.06	0.97	31.1	33.1	34.0
Other industries	20.5	-18.3	-95.4	1.65	1.02	1.47	55.9	23.7	8.5
TRANSPORT	1.9	-10.0	-8.8	1.12	1.00	0.92	31.4	28.8	26.2
Road transport	14.4	10.6	-4.8	1.29	1.32	1.18	27.3	31.7	29.7
Other land transport	-3.9	-22.5	-11.3	0.98	0.79	0.73	33.7	27.3	24.4
OTHER LOGISTIC SERVICES	4.5	-10.5	3.7	2.58	2.85	2.48	87.7	86.4	83.6
Other services	4.5	-10.5	3.7	2.58	2.85	2.48	87.7	86.4	83.6
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
WEIGHTED AVERAGE	**2.8**	**-7.5**	**6.4**	**0.96**	**1.00**	**1.02**	**48.4**	**44.9**	**40.6**

Source: NBB.

The return on equity after tax become positive again, on average, at the port of Ghent in 2003 (table 23). This dramatic improvement is due to the maritime and non-maritime clusters, and particularly the shipping companies, trade, the energy, car manufacturing and metal-working industries, other land transport and other logistic services. The decline recorded in cargo handling and other industries was not sufficient to reverse the trend. Particularly good after-tax results[86] were posted by Electrabel, whose profits almost doubled, Volvo Europa Truck and Sidmar, an Arcelor group subsidiary which managed to reduce its losses in 2003.

[86] Since net results after tax increased by more than the equity capital.

Liquidity in the broad sense increased very slightly, notably in cargo handling (as at Manuport), and in the chemical industry and trade.

The solvency of maritime and trading companies at the port of Ghent did increase in 2003, but it was not sufficient to offset the decline recorded in transport, other services and most industries, whose debt levels were up. Except for construction and a few marginal industries in Ghent, the whole of this segment seems to have recorded a decline. While the Havenbedrijf Gent GAB, Shurgard Self Storage, Total Belgium, Rederij Lalemant and De Meyer saw an improvement in their ability to honour their short and long term debts, there was a deterioration at Electrabel (where total liabilities grew by more than the equity capital), Oleon, Volvo Europa Truck and Sidmar.

3.2.7 *Maritime goods traffic at the port of Ghent in 2003: summary*[87]

TABLE 24 **GHENT**
(thousands of tonnes)

	Unloaded	Loaded	Total 2003	Change 2002- 2003 (in p.c.)	Share in 2003 (in p.c.)
Containers	78	165	243	+25.9	1.0
Roll-on/roll-off	745	681	1,425	+11.5	6.1
Conventional general cargo	817	1,101	1,918	+19.5	8.1
Liquid bulk	2,491	597	3,088	+0.9	13.1
Dry bulk	14,801	2,070	16,871	-5.5	71.7
TOTAL	**18,932**	**4,613**	**23,545**	**-1.8**	**100.0**

Source: Havenbedrijf Gent GAB.

Over 80 p.c. of the 23.5 million tonnes transhipped in 2003 at the port of Ghent correspond to vessels arriving (unloading). That is one of the essential characteristics of this port (table 24).

The slight fall recorded overall in 2003 (-1.8 p.c.) is due entirely to the decline in dry bulk (-5.5 p.c.), mainly because of the decrease in arrivals of grain, and the level of transhipment of cattle food and oilseeds. Traffic in iron ore, coal and coke also declined sharply, owing to the shutting down of the two Sidmar blast furnaces from April to June 2003 for maintenance. Ferrous scrap and fertilizers were unaffected by this downward trend in dry bulk.

Liquid bulk was steady at around 3 million tonnes. Ro-ro traffic increased sharply again, after marking time in 2000 - 2002, thus reaching its highest level since 1980. This concerned the loading and unloading of cars (Honda and Volvo) and transport via the “Eurobridge”. Conventional general cargo also expanded again this year, primarily as a result of the revival in transhipment of steel products. Container transhipment also expanded sharply, its tonnage having increased by 25.9 p.c.

[87] Sources: Havenbedrijf Gent GAB and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie. See also table 61 (annex 8) for more details on transhipment at the port of Ghent in 2003, by category of goods.

3.3 Port of Ostend

3.3.1 Profile of the port of Ostend[88]

Status of port operator:	Autonomous municipal port operator (Ostend Port Authority - *AG Haven Oostende* or *AGHO*).
Total area:	652 ha.[89]
Land area:	453.5 ha.
Dock area:	198.5 ha.
Maritime links:	Sea port on the North Sea coast with an 8 m deep access channel.
Inland links:	Close to the E-40 motorway and the European road network. Numerous rail links from the BNRC station at the port. Investment is expected to improve the links with the outer port. The Plassendale I industrial estate will shortly have a multi-function rail platform linked to the existing network by a bridge across the Ostend - Bruges - Ghent canal. The port is linked to the river network by the Ostend - Bruges – Ghent canal; there are several industrial estates on the west bank of the canal, and the chemical industry has a strong presence here.
Infrastructures:	Numerous berths at the car ferry terminals, the ro-ro port, the container quays and the bulk quays in the outer port. Good warehousing capacity. Industrial estates being developed along the inner port (Plassendale I to IV). Leisure and fishing port; substantial facilities for cruising boats.
Distinctive characteristics:	Port specialises in ro-ro and is located close to Ostend airport, specialising in freight; it is the leading passenger port in Belgium and an important centre for fishing. Since the war, the position held by the port in Naval Defence activities has been gradually taken over by Zeebrugge.

3.3.2 Highlights in 2003[90]

3.3.2.1 Context

In December 2003, the Ostend Port Community celebrated its fifteenth anniversary. This was the occasion to report on the milestones in the port's activities over recent years: the period of decline in ro-ro business and passenger transport at the end of the 1980s, entry into service of the jumbo ferry, "Prins Filip", widening and deepening of the port's access channel and the turning point which came in the year 1997. This was the time of the bankruptcy of RTM[91], which had disastrous consequences for employment and brought fundamental changes to the appearance of the outer port.

Distressing though it was, this crucial event ushered in a new era for the port. 1997 saw the establishment of the "Autonoom Gemeentelijk Havenbedrijf Oostende" (AGHO), the autonomous municipal port authority of Ostend which was to manage and reorganise the outer port and the docks of the commercial port located behind the Demey lock.

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88 February 2005 data (source: AG Haven Oostende).

89 The port of Ostend covers a total area of 658.2 ha, including 6.2 ha of housing estate. Source: AG Haven Oostende.

90 Sources: AG Haven Oostende and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

91 Régie des Transports Maritimes.

At the beginning of the 21st century, activity at the port of Ostend regained momentum, with the opening of new services to Britain. The shipping company Ferryways[92] recently inaugurated services to Ipswich and Killingholme from the renovated Zeewezendok, where the ro-ro activities are concentrated. Ferryways, TSL (Transeurope Shipping Lines) and other shipping companies continue to cover a growing number of destinations between them.

2003 was another record year for total traffic (+15.7 p.c.), and especially for containers (+75.6 p.c.) and ro-ro (+23.8 p.c.). In the past fifteen years, the port of Ostend has therefore regained its position in the short sea shipping sector. Its image is definitely that of a transit port, with admittedly limited sea access but dynamic and fast-growing ro-ro business, while passenger transport to Britain continues to decline. Transport to and from the container and ro-ro terminals is still mainly by land.

3.3.2.2 Industrial activity

In February 2003, the Belgian company Fitco decided to build a new production facility and warehouse at the Plassendale III site. This investment totals 10 million euro.

On 21 March 2003, Telindus opened its Ostend branch at Plassendale III, beside the A10 motorway.

Electrawinds, the leading private operator on the wind-power market, is planning to open a biomass power plant shortly in the Plassendale II industrial zone, as part of the corporate diversification strategy. This project will create fifteen to twenty new jobs and entail an investment of 15 million euro.

3.3.2.3 Infrastructure

As regards port security, in order to curb the number of illegal immigrants crossing from the continent to the UK, a heartbeat detector was installed at the port of Ostend on 20 June 2003. This equipment is the first of its kind in Belgium. It was funded by the British immigration service under a cooperation agreement between Belgium and the UK, with the aim of achieving more effective control over illegal immigration.

In consultation with the Institute of Veterinary Inspection, the AGHO undertook to install a checkpoint for packaged food products, which meets the latest requirements. The port has obtained official EU approval as a border checkpoint for this sort of product of animal origin for human consumption.

The port of Ostend is continuing to invest in the development of new infrastructures and the expansion of existing facilities in order to cater for fast-growing port traffic. Examples include the renovation of the Wandelaarkaai in October 2003, the waiting berth for the Demey lock and the multimodal facility at Plassendale I. Various projects were carried out in 2004 to improve facilities in this area, located alongside the Ostend inner port, the aim being to facilitate transhipment between rail, road, river and sea traffic. This multimodal development should improve the coordination of ro-ro and containerised transport with the needs of businesses based in the hinterland.

[92] This Belgian company is part of the Swiss firm Mediterranean Shipping Company (MSC).

3.3.3 Value added

TABLE 25 **VALUE ADDED AT THE PORT OF OSTEND FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**223.7**	**247.3**	**282.8**	**266.4**	**323.6**	**333.0**	**341.1**	**100.0**	**7.3**
MARITIME CLUSTER	***74.1***	***83.4***	***84.4***	***67.7***	***69.0***	***66.8***	***69.8***	***20.5***	***-1.0***
MARITIME	74.1	83.4	84.4	67.7	69.0	66.8	69.8	20.5	-1.0
Shipping agents and forwarders	4.8	4.1	4.5	5.8	2.6	4.2	3.3	1.0	-5.9
Cargo handling	5.5	4.6	3.9	4.1	4.7	5.2	5.9	1.7	1.1
Shipping companies	-10.2	4.6	3.2	0.0	-1.4	-3.9	1.0	0.3	n.
Shipbuilding and repair	2.7	3.3	5.3	5.0	5.1	4.8	6.6	1.9	16.0
Port construction and dredging	32.3	26.0	33.1	19.5	21.4	28.8	26.2	7.7	-3.4
Fishing	27.6	31.8	24.2	24.4	28.7	16.2	15.8	4.6	-8.9
Port trade	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.1	n.
Public sector	11.4	9.0	10.1	8.7	7.8	11.2	10.7	3.1	-1.0
Allocation (p.m.) [93]	*7.4*	*11.4*	*9.6*	*8.4*	*10.4*	*8.9*	*8.7*	-	*2.9*
NON- MARITIME CLUSTER	***149.6***	***163.9***	***198.5***	***198.7***	***254.6***	***266.2***	***271.3***	***79.5***	***10.4***
TRADE	18.7	21.5	24.5	26.3	24.1	21.4	22.4	6.6	3.1
INDUSTRY	93.9	97.0	127.0	120.6	166.7	169.9	168.2	49.3	10.2
Energy	0.1	1.3	0.9	1.0	0.8	0.6	0.4	0.1	30.2
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Chemicals	32.5	27.3	29.5	22.6	23.6	36.6	35.1	10.3	1.3
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Electronics	0.0	0.0	0.0	0.7	0.8	0.8	0.7	0.2	n.
Metal-working industry	46.6	54.1	83.4	85.3	125.7	115.3	110.9	32.5	15.5
Construction	9.6	9.5	6.4	5.9	6.5	5.8	6.3	1.9	-6.8
Food industry	0.5	0.6	2.9	0.6	3.9	6.0	6.4	1.9	54.8
Other industries	4.6	4.3	3.9	4.5	5.4	4.7	8.3	2.4	10.6
TRANSPORT	11.9	13.6	12.4	13.4	20.2	20.9	22.6	6.6	11.3
Road transport	10.5	11.8	11.5	12.2	16.8	17.3	18.3	5.4	9.7
Other land transport	1.4	1.8	0.8	1.2	3.4	3.6	4.4	1.3	20.5
OTHER LOGISTIC SERVICES	25.1	31.8	34.5	38.4	43.6	54.1	58.1	17.0	15.0
Other services	5.7	12.4	13.8	15.0	18.7	28.4	35.6	10.4	35.5
Public sector	19.4	19.4	20.7	23.4	24.9	25.7	22.5	6.6	2.5
2. INDIRECT EFFECTS	***124.2***	***257.2***	***365.0***	**304.7**	***266.0***	***211.5***	***261.4***	-	***13.2***
MARITIME CLUSTER	*5.8*	*125.0*	*123.5*	56.1	*52.3*	*-12.8* [94]	*60.5*	-	*48.0*
NON-MARITIME CLUSTER	*118.5*	*132.2*	*241.5*	248.6	*213.7*	*224.2*	*200.9*	-	*9.2*
TOTAL VALUE ADDED	***347.9***	***504.4***	***647.9***	**571.1**	***589.6***	***544.5***	***602.5***	-	***9.6***

Source: NBB.

[93] The figures for maritime firms located outside the port area are included under the item “Allocation (p.m.)”. These figures are already recorded under the direct effect and are mentioned here *pro memoria*.

[94] This sharp fall is attributable to the decline of the shipping companies' VA, sector which is highly dependent on subcontracting.

3.3.3.1 General developments

Between 1997 and 2003, the direct VA at the port of Ostend increased by an annual average of 7.3 p.c. (table 25). Industry was the source of this more or less constant increase. The most striking rises were recorded in the metal-working and food industries. Although they represent a smaller part of the total, other logistic services, land transport and trade also saw significant growth. In contrast, the maritime cluster felt the impact of the fundamental changes taking place at the port in the 1990s.

Freight traffic reached a record level in 2003, passing the 7 million tonne mark. The growth of ro-ro traffic and the continuing expansion of container traffic were the reasons here. The VA of firms based at the port of Ostend increased by 2.4 p.c. overall.

As regards the indirect VA generated upstream by the activities of firms based at the port of Ostend, the figure more than doubled between 1997 and 2003, growing by an average of 13.2 p.c. per annum. The estimated growth in 2003 is 23.6 p.c. The shipping companies, whose VA is becoming positive once again, are a key factor in this increase, given their heavy dependence on subcontractors.

3.3.3.2 Direct effects by sector in 2003

Direct VA at the port of Ostend increased by 2.4 p.c. at current prices[95] in 2003. The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.3.3.2.1 Maritime cluster

- The VA of port construction and dredging was 9 p.c. down against 2002. The VA of Baggerwerken Decloedt en Zoon (DEME group) fell by 10.6 p.c.
- In fishing, VA was down by 2.6 p.c., owing to the absence of accounts for some very small operators[96] such as Beheer Shamrock, despite the improvement in the results of Stolt Sea Farm.
- The VA of the Navy (public sector) dropped by 3.9 p.c., owing to restructuring of the Defence workforce (cf. infra).
- Cargo handling's VA increased substantially (+12.4 p.c.), owing to the rise at Ostend Handling and Searoad Stevedores.
- Shipbuilding and repair produced a substantial rise in VA (+35.6 p.c.). This was due partly to Damen Shipyards Oostende and S.K.B. Yard.
- The situation of the shipping companies improved considerably, as their VA became positive once again, thanks to a large reduction in the losses suffered by Ferryways and a return to profitability at Coast Constructions.

3.3.3.2.2 Trade

In the trade segment, wealth creation increased by 4.7 p.c. At Oswald De Bruycker and Total Belgium, VA increased by 6.9 and 11.3 p.c. respectively, as a result of higher profits.

3.3.3.2.3 Industry

- The metal-working industry is the leading sector in terms of VA and employment at the port of Ostend. Its VA was down by 3.9 p.c. The main factor here was the decline in VA at the port's main employer, the air conditioning systems installer Daikin Europe nv (-4.4 p.c.), attributable in particular to a large rise in its cost of sales and services, which depressed its profits.
- VA of the chemical industry was 4 p.c. down as a result of reductions recorded at Proviron Fine Chemicals and Provironftal[97]. Profits at Proviron Fine Chemicals fell by 23 p.c., owing

[95] All figures here are stated at current prices; the Belgian index of domestic output prices edged upwards in 2003: +0.7 p.c. The increase in VA at the port of Ostend at current prices comes to 2.43 p.c. Taking account of this index, Ostend's increase in VA at constant prices (2002 prices) comes to 1.72 p.c.

[96] No manual adjustments were made in respect of firms employing no more than 5 workers, in the absence of any accounts (accounts not filed, or submitted late).

[97] Proviron Engineering nv (development of new chemical processes to improve the environment) was set up in 1977. The year 1996 was a major strategic turning point for the company, with acquisition of the UCB Fine Chemicals plant which

to higher costs of sales and services, despite sustained activity (at Proviron group level, the turnover in fact tripled in 2003).

- The construction sector produced an 8.7 p.c. increase in VA, thanks to the good performance of De Viertorre, the leading company in the sector, where VA almost tripled to close on 1.3 million euro following exceptional profits, and Reynders (+10.9 p.c.).
- The other industries achieved an impressive increase in their VA (+78.5 p.c.), the reason being that the VA of Rail Services International Belgium (RSI Belgium) was restored to positive figures. The Belgian railway operator's decision to terminate overnight passenger transport led to the redeployment of RSI Belgium in other activities such as maintenance and tram conversion. RSI's activities were taken over by RSI Belgium.
- The food industry recorded a 7.7 p.c. increase in VA, attributable to the higher sales at Chocolaterie Jacali (VA up by 9.9 p.c.).

3.3.3.2.4 Transport

- In road transport, VA was 5.7 p.c. higher, boosted partly by good results at European Freight Services, Maenhout Logistics and Bretrans.
- In the case of other land transport, the increase was 22.5 p.c.

3.3.3.2.5 Other logistic services

- Other logistic services produced a noteworthy increase in their VA (+25.2 p.c.), due mainly to the higher VA at Morubel (+60.9 p.c.), the seafood specialist[98], whose profits exceeded 10 million euro.
- In public administration[99] on the other hand, VA was down by 12.5 p.c.

became Proviron Fine Chemicals nv. Five years later, the company took over Euroftal, which was renamed Provironftal nv.

98 This company comes under NACE 74.700, classified as other logistic services.

99 See complete list in annex 4.

3.3.3.3 VA top 10 at the port of Ostend in 2003

TABLE 26 **DIRECT VALUE ADDED TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Valued added
1	DAIKIN EUROPE NV	Metal-working industry	108.6
2	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging	22.9
3	PUBLIC ADMINISTRATION	Public sector	22.5
4	MORUBEL	Other services	15.7
5	PROVIRON FINE CHEMICALS	Chemicals	15.6
6	PROVIRONFTAL	Chemicals	12.6
7	DEFENCE ACTIVITIES (NAVY)	Public sector	10.7
8	TRANSPORT MAENHOUT	Road transport	6.1
9	CHOCOLATERIE JACALI	Food industry	5.9
10	OSWALD DE BRUYCKER	Trade	5.7
	Total of top 10		**226.4**

Source: NBB.

Except for a few inversions, this ranking (table 26) corresponds to the one in the 2002 report. Daikin Europe [100] still tops the list. The Intercommunale voor Vuilverwijdering en -verwerking voor Oostende en Ommeland has been supplanted by Oswald De Bruycker. In 2003, these ten companies accounted for 66.4 p.c. of direct VA at the port of Ostend.

[100] Air conditioning system manufacturer listed under the metal-working industry in the national accounts (NACE 29.230).

3.3.4 Employment

TABLE 27 **EMPLOYMENT AT THE PORT OF OSTEND FROM 1997 TO 2003**
(FTEs)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**4,853**	**4,496**	**4,499**	**3,954**	**4,187**	**4,331**	**4,426**	**100.0**	**-1.5**
MARITIME CLUSTER	***2,150***	***1,677***	***1,590***	***1,006***	***1,007***	***1,031***	***1,104***	***24.9***	***-10.5***
MARITIME	2,150	1,677	1,590	1,006	1,007	1,031	1,104	24.9	-10.5
Shipping agents and forwarders	76	77	79	78	27	55	54	1.2	-5.5
Cargo handling	39	42	53	75	66	77	103	2.3	17.7
Shipping companies	772	499	391	0	12	15	15	0.3	-48.3
Shipbuilding and repair	59	61	103	100	105	99	116	2.6	11.9
Port construction and dredging	402	324	270	166	201	257	277	6.3	-6.0
Fishing	448	442	435	350	382	244	269	6.1	-8.1
Port trade	0	0	0	1	1	2	3	0.1	n.
Public sector	355	232	259	237	212	282	268	6.1	-4.6
Allocation (p.m.)	*111*	*156*	*142*	*131*	*131*	*124*	*129*	-	*2.6*
NON- MARITIME CLUSTER	***2,703***	***2,819***	***2,909***	***2,948***	***3,180***	***3,300***	***3,322***	***75.1***	***3.5***
TRADE	389	365	373	423	414	364	336	7.6	-2.4
INDUSTRY	1,479	1,558	1,649	1,579	1,731	1,821	1,819	41.1	3.5
Energy	0	8	5	5	4	3	3	0.1	n.
Oil industry	0	0	0	0	0	0	0	0.0	n.
Chemicals	437	442	464	369	307	408	405	9.2	-1.2
Car manufacturing	0	0	0	0	0	0	0	0.0	n.
Electronics	0	0	0	11	11	12	12	0.3	n.
Metal-working industry	653	743	887	950	1,114	1,147	1,054	23.8	8.3
Construction	275	258	149	141	153	130	117	2.7	-13.2
Food industry	10	12	48	11	56	62	63	1.4	35.7
Other industries	104	95	96	91	86	59	166	3.7	8.0
TRANSPORT	173	206	172	180	297	290	311	7.0	10.3
Road transport	142	169	160	163	231	226	233	5.3	8.7
Other land transport	31	37	12	17	66	65	77	1.7	16.4
OTHER LOGISTIC SERVICES	662	690	715	766	737	825	855	19.3	4.4
Other services	105	164	188	197	204	285	304	6.9	19.4
Public sector	557	526	527	569	533	540	551	12.5	-0.2
2. INDIRECT EFFECTS	***9,526***	***8,331***	***7,778***	**4,147**	***4,175***	***4,450***	***4,439 ****	***-***	***-12.0***
MARITIME CLUSTER	*7,345*	*5,959*	*4,615*	851	*908*	*900*	*975*		*-28.6*
NON- MARITIME CLUSTER	*2,180*	*2,372*	*3,162*	3,297	*3,267*	*3,550*	*3,464*	-	*8.0*
TOTAL EMPLOYMENT	***14,379***	***12,826***	***12,277***	**8,102**	***8,362***	***8,781***	***8,864***	***-***	***-7.7***

Source: NBB.

* of which 3,408 salaried FTEs.

3.3.4.1 General developments

Between 1997 and 2003, direct employment at the port of Ostend declined by an average of 1.5 p.c. per annum (table 27). The biggest job losses occurred in the construction and chemical industries, and the impact of RTM's bankruptcy was felt throughout the period in the maritime cluster. While the workforce declined in the trade sector, it expanded in land transport and other logistic services.

The growth of activity at the port of Ostend in 2003 - expansion in traffic and VA - led to higher employment, with the number of FTEs increasing by 2.2 p.c.

Unlike indirect VA, indirect employment at the port of Ostend more than halved in the period 1997 - 2003 (-12 p.c. on average each year), owing to the slump in activity in the shipping companies[101], a sector particularly dependent on subcontractors. Indirect employment dropped slightly in 2003, owing to job losses in the chemical industry, which accounts for the decline in non-maritime indirect employment. This was tempered by the expanding activity in cargo handling, which gave a boost to maritime indirect employment.

3.3.4.2 Direct effects by sector in 2003

Direct employment at the port of Ostend expanded by 2.2 p.c. in 2003. The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.3.4.2.1 Maritime cluster

- Employment in fishing expanded by 10.1 p.c. against 2002. Exploitatie Vismijn Oostende sprl, employing 39 FTEs, appeared in the accounts in 2003. The workforce at Stolt Sea Farm remained steady.
- The workforce employed in port construction and dredging increased by 7.7 p.c.; the main factor here was the extension of the maintenance dredging work carried out by Baggerwerken Decloedt en Zoon for the "maritime access division"[102] of the ministry of the Flemish Region. The company thus took on 20 additional FTEs at Ostend.
- The numbers employed in the Navy were down 5 p.c., owing to the restructuring of the Defence.
- Shipbuilding and repair took on 17.1 p.c. more FTEs, the increase being attributable to recruitment at S.K.B. Yard and Damen Shipyards Oostende.
- Employment in cargo handling surged by 34.5 p.c. AGHO and Searoad Stevedores took on large numbers of workers. In 2003 the port authority undertook to install a checkpoint for packaged foods (cf. supra).
- In the case of shipping agents and forwarders, employment remained stable.

3.3.4.2.2 Trade

In trade, the workforce contracted by 7.7 p.c., party owing to job losses at Ostend Pharma, whose business was taken over by Pharma Belgium, in Brussels. In contrast, employment at Oswald De Bruycker went up from 63 to 67 FTEs.

3.3.4.2.3 Industry

- Employment in the leading sector at the port of Ostend, metal-working, declined by 8.1 p.c. The main company responsible for this fall is Daikin Europe nv (-8.8 p.c.) which, among other things, terminated fixed-term contracts.
- In the chemical industry, employment remained steady. The number of jobs in companies in this sector at Ostend was unchanged, and the same applies to Proviron Fine Chemicals and Provironftal.
- In other industries, employment almost tripled following the revival of activities at RSI Belgium and the takeover of RSI.

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[101] In this sector, the workforce declined from 772 FTEs in 1997 to 15 FTEs at the port of Ostend, in 2003. The employment situation is therefore rather different from that concerning VA. Between 1997 and 2003, VA was converted from negative to positive figures, and therefore shows a positive change over the period, in contrast to employment.

[102] "*Afdeling Maritieme Toegang*".

- In the construction industry, employment was 9.9 p.c. down, owing to a number of small companies in the sector going out of business.
- Employment in the food industry remained steady.

3.3.4.2.4 Transport

- In road transport, the workforce expanded by 3.5 p.c. European Freight Services and Maenhout Logistics took on staff.
- In other land transport, employment was 19.4 p.c. up.

3.3.4.2.5 Other logistic services

- In public administration the workforce grew by 2 p.c.
- In other logistic services, employment was 6.8 p.c. up. Delight Information Systems took on staff, while the workforce at Morubel contracted slightly.

3.3.4.3 Employment top 10 at the port of Ostend in 2003

TABLE 28 **DIRECT EMPLOYMENT TOP 10 IN 2003**
(FTEs)

Ranking	Name of company	Sector	Employment
1	DAIKIN EUROPE NV	Metal-working industry	1,014
2	PUBLIC ADMINISTRATION	Public sector	551
3	DEFENCE ACTIVITIES (NAVY)	Public sector	268
4	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging	220
5	PROVIRONFTAL	Chemicals	177
6	PROVIRON FINE CHEMICALS	Chemicals	125
7	MORUBEL	Other services	99
8	STOLT SEA FARM	Fishing	67
9	OSWALD DE BRUYCKER	Trade	67
10	RAIL SERVICES INTERNATIONAL (RSI) BELGIUM	Other industries	65
	Total of top 10		**2,654**

Source: NBB.

Daikin Europe is still by far the leading employer at the port of Ostend (table 28). This ranking is practically the same as in the 2002 report, except that RSI Belgium has supplanted Orac. In 2003, these ten companies accounted for 60 p.c. of direct employment at the port of Ostend.

TABLE 29 **INVESTMENT AT THE PORT OF OSTEND FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
MARITIME CLUSTER	***39.3***	***35.2***	***71.2***	***35.9***	***15.6***	***10.0***	***11.9***	***16.5***	***-18.0***
MARITIME	39.3	35.2	71.2	35.9	15.6	10.0	11.9	16.5	-18.0
Shipping agents and forwarders	0.1	0.3	0.5	0.5	0.3	0.3	0.4	0.6	21.8
Cargo handling	0.9	2.6	8.4	8.9	5.3	4.5	5.4	7.4	34.9
Shipping companies	0.2	0.3	0.0	0.0	0.0	0.8	0.1	0.1	-20.6
Shipbuilding and repair	0.4	0.7	2.9	2.4	0.8	0.4	0.6	0.8	6.3
Port construction and dredging	30.4	18.7	42.6	6.2	0.6	0.8	1.0	1.4	-43.0
Fishing	5.7	10.7	16.5	17.7	6.8	3.1	4.5	6.2	-4.0
Port trade	0.0	0.0	0.2	0.2	0.0	0.1	0.0	0.0	n.
Public sector	1.5	1.9	0.0	0.0	1.7	0.0	0.0	0.0	-100.0
Allocation (p.m.)	*3.0*	*4.5*	*9.2*	*6.3*	*3.5*	*2.1*	*1.2*	-	*-13.9*
NON- MARITIME CLUSTER	***55.6***	***70.8***	***55.5***	***70.0***	***51.5***	***51.1***	***60.3***	***83.5***	***1.4***
TRADE	7.0	10.4	7.0	7.5	4.3	6.0	5.9	8.2	-2.7
INDUSTRY	19.3	31.1	26.6	38.4	30.4	17.8	22.7	31.4	2.7
Energy	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	-18.3
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Chemicals	8.9	18.5	12.5	20.6	7.6	7.3	7.5	10.4	-2.8
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Electronics	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	n.
Metal-working industry	7.2	11.3	11.8	14.1	17.3	7.7	10.5	14.5	6.3
Construction	1.3	0.8	0.6	0.5	0.7	0.6	0.7	1.0	-9.4
Food industry	0.0	0.0	1.3	0.3	4.0	1.0	0.9	1.2	67.6
Other industries	1.7	0.3	0.4	2.8	0.8	1.0	3.0	4.1	9.7
TRANSPORT	3.3	4.1	2.6	3.7	4.8	5.3	1.8	2.6	-9.4
Road transport	2.7	3.4	2.6	3.7	4.5	3.4	1.3	1.9	-10.8
Other land transport	0.7	0.6	0.0	0.0	0.3	1.9	0.5	0.7	-4.5
OTHER LOGISTIC SERVICES	25.9	25.2	19.2	20.4	12.0	22.0	29.9	41.3	2.4
Other services	2.2	5.6	3.0	3.0	5.8	10.0	21.2	29.4	46.3
Public sector	23.7	19.6	16.1	17.4	6.2	12.0	8.6	11.9	-15.5
DIRECT INVESTMENT	**94.9**	**106.0**	**126.6**	**105.8**	**67.0**	**61.1**	**72.3**	**-**	**-4.4**

Source: NBB.

3.3.5.1 General developments

Investment at the port of Ostend declined by an average of 4.4 p.c. per annum over the period considered (table 29). The maritime cluster was hard hit by the departure of RTM, whose bankruptcy led to a spate of restructuring in the outer port. In contrast, several industries did rather well, and attracted the bulk of the private capital. This concerned the metal-working and food industries and the other industries.

2003 brought a revival in investment at the port of Ostend, with an overall increase of 18.3 p.c. at current prices[103].

3.3.5.2 Developments by sector in 2003

The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.3.5.2.1 Maritime cluster

- Investment in cargo handling increased by 19.2 p.c., as a result of current developments at AGHO (cf. supra).
- In fishing, investment was 42.6 p.c. up, following the decline recorded in 2002. Significant increases were recorded at Stolt Sea Farm and Wilmar, these companies having invested in land and buildings, and in plant, machinery and equipment.
- Port construction and dredging saw an increase of 25.2 p.c. in their investment. Baggerwerken Decloedt en Zoon was one of the companies responsible for this rise. Installation of a floating crane facilitated operations which had hitherto been difficult in Ostend's outer port.
- Investment in shipping companies peaked in 2002, notably with the launch of activities by the shipping company Ferryways. It then dropped back to figures comparable to those seen in 1999 - 2001.

3.3.5.2.2 Trade

Investment in Ostend's trading companies remained steady, as the increases recorded by companies such as Oswald De Bruycker and Gesco were offset by reductions in others such as Rana and Boot Center.

3.3.5.2.3 Industry

- In the metal-working industry, investment grew by 35.8 p.c. Most of the growth came from Daikin Europe nv, whose investment in fixed assets was 33.4 p.c. up in 2003, a record year for sales of air conditioners.
- Investment in the chemical industry increased by 2.3 p.c. A particularly big increase was recorded at Provironftal, which is continuing to expand at Ostend. The same applied to Proviron Fine Chemicals, thus offsetting the decline recorded at J M Huber Belgium.
- In other industries there was an investment boom, with figures up 183.9 p.c. The fixed assets of Tolsa Benelux, which specialises in animal feeding stuffs and building materials, were almost five times higher, owing to new financial leasing contracts.
- The sums invested in the food industry declined by 12.6 p.c., with Chocolaterie Jacali accounting for the fall.
- The construction industry recorded an increase of 21.5 p.c., attributable to firms such as Reynders and Hanson Aggregates Belgium, which recorded substantial investments in financial leasing and fixed assets under construction respectively.

3.3.5.2.4 Transport

- Other land transport saw investment fall by 73.5 p.c.
- In road transport, investment was down 60.6 p.c., part of the decline being attributable to Transport Maenhout and Vervoer Depoorter.

3.3.5.2.5 Other logistic services

- Investment in other services more than doubled. Stadsvernieuwing Oostende is the leading company in this sector in terms of investment. There are plenty of urban construction projects, and substantial amounts have been capitalised by way of fixed assets under construction. At Morubel, too, there was a steep rise in investment (plant, machinery and equipment).
- Investment in public administration was down by 27.8 p.c.

[103] All figures here are stated at current prices; the index of prices of Belgian investment goods increased in 2003: +1.4 p.c. The increase in investment at the port of Ostend at current prices comes to 18.31 p.c. Taking account of this index, the increase in investment at Ostend at constant prices (2002 prices) is 16.67 p.c.

3.3.5.3 Investment top 10 at the port of Ostend in 2003

TABLE 30 **INVESTMENT TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	STADSVERNIEUWING OOSTEND	Other services	10.6
2	DAIKIN EUROPE NV	Metal-working industry	10.1
3	PUBLIC ADMINISTRATION	Public sector	8.6
4	AG HAVEN OOSTENDE	Cargo handling	5.0
5	MORUBEL	Other services	4.4
6	PROVIRONFTAL	Chemicals	3.1
7	PROVIRON FINE CHEMICALS	Chemicals	2.8
8	STOLT SEA FARM	Fishing	2.5
9	TOLSA BENELUX	Other industries	2.4
10	OSWALD DE BRUYCKER	Trade	2.4
	Total of top 10		**51.9**

Source: NBB.

Morubel, Provironftal, Proviron Fine Chemicals, Stolt Sea Farm and Tolsa Benelux entered this ranking (table 30). In 2003, they represented 71.8 p.c. of investment at the port of Ostend.

3.3.6 Financial ratios

TABLE 31 FINANCIAL RATIOS AT THE PORT OF OSTEND FROM 2001 TO 2003

Sector	Return on equity after tax (in p.c)			Liquidity in the broad sense			Solvency (in p.c)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
MARITIME CLUSTER	***1.6***	***2.3***	***3.5***	***1.17***	***1.25***	***1.12***	***38.7***	***38.2***	***36.3***
MARITIME	***1.6***	***2.3***	***3.5***	***1.17***	***1.25***	***1.12***	***38.7***	***38.2***	***36.3***
Shipping agents and forwarders	28.5	35.6	1.8	1.28	1.08	1.12	27.8	21.3	26.4
Cargo handling	3.2	2.5	0.5	1.79	1.59	1.28	85.9	84.3	82.9
Shipping companies	0.2	21.0	26.0	0.82	0.67	1.02	68.6	22.8	65.3
Shipbuilding and repair	7.9	4.1	12.8	1.88	1.17	0.88	46.5	19.1	14.9
Port construction and dredging	1.8	3.3	9.3	1.18	1.62	1.44	27.1	31.1	30.0
Fishing	-9.9	-6.6	-9.0	0.74	0.76	0.79	25.5	26.8	25.1
Port trade	21.5	25.4	26.1	1.36	1.26	1.59	19.4	22.5	31.7
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***8.9***	***8.3***	***7.4***	***1.18***	***1.32***	***1.30***	***35.8***	***40.5***	***43.4***
TRADE	5.8	1.8	5.2	1.40	1.46	1.54	34.9	37.8	39.5
INDUSTRY	19.0	12.1	8.2	0.66	0.73	0.79	18.8	28.1	33.7
Energy	6.8	7.9	15.1	0.92	1.44	1.24	59.8	61.6	53.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	4.0	-18.1	-0.1	0.66	1.23	1.89	12.9	42.3	51.2
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	8.5	1.5	13.7	1.18	1.11	1.31	14.8	13.4	23.3
Metal-working industry	21.7	19.1	11.2	0.62	0.62	0.60	18.4	25.4	28.9
Construction	2.3	5.9	15.1	1.24	1.24	1.15	26.7	25.5	24.5
Food industry	19.4	42.2	28.9	1.28	1.58	1.84	20.8	25.3	33.7
Other industries	22.5	32.0	9.3	1.20	1.40	1.23	20.9	28.3	27.1
TRANSPORT	7.4	6.3	5.5	1.00	1.24	1.60	35.4	42.5	44.1
Road transport	15.1	13.8	18.4	1.45	1.59	1.78	43.2	45.8	50.1
Other land transport	-20.4	-11.0	-39.8	0.33	0.44	1.09	21.4	36.5	31.0
OTHER LOGISTIC SERVICES	5.7	7.2	7.2	2.38	2.31	2.23	54.0	52.2	54.9
Other services	5.7	7.2	7.2	2.38	2.31	2.23	54.0	52.2	54.9
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
WEIGHTED AVERAGE	**7.7**	**7.3**	**6.9**	**1.18**	**1.32**	**1.28**	**36.3**	**40.1**	**42.3**

Source: NBB.

While the return on equity after tax improved in the maritime and trading companies in 2003, it declined in industry and transport (table 31). The increases recorded in shipbuilding and repair and in port construction and dredging more than offset the decline recorded in cargo handling and fishing. In the chemical industry, the increased profitability was not enough to offset the decline in the metal-working industry and other industries. Telindus GSM, Ferryways and Rederij De Viertorre posted losses in 2003, whereas the dredging firm Damen Shipyards Oostende saw profits recover. At Daikin Europe, the after-tax result deteriorated but equity capital was up.

In 2003 there was a very small decline in the liquidity of companies based at the port of Ostend, particularly in port construction and dredging and in other industries. But elsewhere the fluctuations were not very significant.

Overall, solvency improved, despite the small decreases recorded in cargo handling, shipbuilding and repair, fishing and port construction and dredging. The largest increases were recorded in trade, the chemical and metal-working industries, road transport and other logistic services. Examples of the most representative increases are: Total Belgium, Ostend Pharma, J M Huber Belgium, Proviron Fine Chemicals, Daikin Europe, Transport Maenhout and Daikin Europe Coordination Center.

3.3.7 Maritime goods traffic at the port of Ostend in 2003: summary[104]

TABLE 32 **OSTEND**
(thousands of tonnes)

	Unloaded	Loaded	Total 2003	Change 2002- 2003 (in p.c.)	Share in 2003 (in p.c.)
Containers	46	26	72	+75.6	1.0
Roll-on/roll-off	2,117	3,490	5,607	+23.8	77.7
Conventional general cargo	13	3	16	-51.5	0.2
Liquid bulk	43	0	43	+104.8	0.6
Dry bulk	1,480	0	1,480	-5.4	20.5
TOTAL	**3,700**	**3,519**	**7,219**	**+15.7**	**100.0**

Sources: AG Haven Oostende and Vlaamse Havencommissie.

The growth recorded in transhipment at the port of Ostend since 2000 strengthened yet again in 2003, with the volume passing the 7 million tonne mark for the first time (table 32).

Ro-ro traffic, which accounts for over three quarters of the total tonnage transhipped at the port, produced a significant increase (+23.8 p.c.), attributable to an increase in the frequency of services to the UK. Arrivals of sand and gravel were down, which explains the fall in traffic recorded for dry bulk. The strong growth in container transhipment is attributed primarily to the fact that the Lithuanian shipping company, Kursiu Linija launched a new service between Ostend and various Baltic ports in February 2003.

Passenger traffic continues to decline, with the closure in 2003 of the Ostend – Dover ferry service hitherto provided by Hoverspeed. The same applies to car traffic.

[104] Sources: AG Haven Oostende and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie. See also table 62 (annex 8) for more details on transhipment at the port of Ostend in 2003, by category of goods.

3.4 Port of Zeebrugge

3.4.1 Profile of the port of Zeebrugge[105]

Status of port operator:	Public limited liability company (Zeebrugge Port Authority - *Maatschappij van de Brugse Zeevaartinrichtingen* or *MBZ*).
Total area:	2,847 ha.
Land area:	1,838 ha.
Dock area:	1,009 ha.
Maritime links:	Sea port on the North Sea coast, accessible to vessels with a draught of 15.5 m (55 feet).
Inland links:	The port is located close (via the E-403/N-31) to two major motorways: the E-17 (Stockholm - Lisbon) and the E-40 (London - Istanbul). At Zeebrugge, rail transport is vital to the supplying and transportation of maritime cargo. The North European Network or NEN links Zeebrugge to major inland terminals such as Antwerp, Ath, Duisburg, Muizen, Bressoux, Mouscron and Genk. In view of the growth of rail traffic, the MBZ is lobbying for construction of a third track between Bruges and Zeebrugge, and for the extension of the section between Bruges and Ghent. Rhine barges with a capacity of up to 90 TEU serve the Netherlands, Germany, France and Switzerland from the port of Zeebrugge, via Bruges and Ghent. The port of Zeebrugge's logistic unit, *PortConnect*, coordinates these services, as well as managing certain sea links.
Infrastructures:	The port area is divided up according to the concessions granted to terminal operators at the port for periods of up to 25 years. These are private enterprises responsible for specialised handling and the warehousing of goods: for example, the Fluxys terminal for bulk cargo, Sea-Ro for ro-ro traffic, Ocean Container Terminal Hessenatie Zeebrugge for containerised cargo, etc. The port of Bruges - Zeebrugge is divided into three zones: the outer port, the inner port and the Bruges inner port.
Distinctive characteristics:	European centre for unaccompanied ro-ro traffic, containerisation and energy products – particularly natural gas transport – making it one of the fastest growing ports in the range. It is Europe's leading port for the rapid transhipment of cars. The Navy employed almost 1,500 workers there in 2003.

3.4.2 Highlights in 2003[106]

3.4.2.1 Context

2003 was a rather gloomy year for ro-ro traffic at the port of Zeebrugge (-18.6 p.c.). For the first time in the port's history, container traffic (+3.4 p.c.) exceeded ro-ro traffic. Despite this adverse factor, the port consolidated its position as the European leader in the rapid transhipment of cars, handling 1.6 million units.

[105] February 2005 data (source: Maatschappij van de Brugse Zeevaartinrichtingen).

[106] Sources: Maatschappij van de Brugse Zeevaartinrichtingen and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie.

This year was notable particularly for the activities following the shipwreck of the Norwegian car carrier Tricolor, which sank off Dunkirk on 14 December 2002. The Tricolor had left the port of Zeebrugge bound for the United States, and carrying a cargo which included 2,862 new cars. The refloating operations did not begin until 22 July 2003, and were delayed by the bad weather in October 2003.

Zeebrugge is one of the main centres for gas distribution in Europe: 15 p.c. of the natural gas consumed in western Europe passes through this port. In addition to the liquid natural gas (LNG) terminal, Zeebrugge also has two submarine gas pipelines, the *Zeepipe* to the east of the new outer port (gas from Norway) and the *Interconnector* to the west of the outer port (gas from the British natural gas fields in the North Sea).

3.4.2.2 Industrial activity

At the beginning of 2003, the natural gas distribution company Fluxys announced that an extension to the LNG terminal at Zeebrugge outer port was under consideration, at an estimated cost of 165 million euro. This extension involves the construction of a fourth storage reservoir and an additional gasification plant. Fluxys imports liquid natural gas from Algeria via its LNG terminal, supplying the equivalent of one fifth of Belgian market.

At the beginning of 2003, Environmental Contractors, member of the DEME[107] group, applied for environmental approval for the construction of a warehousing centre and treatment plant for non-hazardous mud and alluvium in the inner port. This facility will have a storage capacity of 280,000 tonnes.

At the beginning of the year, the Dutch transport group Van der Vlist built a new warehousing and assembly centre in the Transport zone (western part of the port), for its subsidiary ETS (European Transport Systems) and its Belgian division Transport Cheron.

The end of April 2003 saw the inauguration of the new production and warehousing unit belonging to the American fruit juice producer, Tropicana[108]. This factory packages fruit juice from Brazil, Spain and the United States, for distribution on the European market. Since July, fruit juices have been delivered directly to the factory by ship, at the Noordelijk Insteekdok (Zeebrugge's outer port).

At the beginning of May, the new PDI centre (*pre delivery inspection*) for Combined Terminal Operators was officially opened. It was named the APZ (*Accessory Plant Zeebrugge*) and was approved by the government as a company offering jobs for the long-term unemployed.

In mid July the extension to Bridgestone's European distribution centre entered service in the inner port.

Also in July, Zeebrugge's largest cargo handler, Sea-Ro Terminal, began operating a new ro-ro pontoon at Wielingendok in the western outer port.

ECS European Containers decided to buy 1,100 new 45-foot containers and extend its warehouse.

3.4.2.3 Infrastructure

On 22 November 2002, the Flemish Region had decided to deepen the sea access channel at Zeebrugge, under the "55 ft" programme. The Noordzee & Kust consortium took on the dredging work at a cost of 11.2 million euro. Three large Flemish dredging companies, Baggerwerken Decloedt en zoon, Dredging International and Ondernemingen Jan De Nul, are pooling their resources in this consortium.

In the outer port, work on the Léopold II dike continued in 2003, as part of phase 6 of the sea wall renovations.

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[107] Dredging, Environmental and Marine Engineering Holding.

[108] Tropicana owns the Belgian fruit juice brand, Looza. Since 1998, Tropicana has been part of the American agri-foods giant, PepsiCo. It is not covered by this study since it does not file accounts with the Central Balance Sheet Office.

In mid May, an amicable settlement was reached between the MBZ (Zeebrugge port operating company), Katoen Natie and the Belgian shipping company Cobelfret on the question of Flanders Container Terminals (FCT). In the outer port, the operating licence reverted to MBZ, which hopes to attract a new operator[109] for this 57 ha area equipped with a 900-metre quay. Through Portinvest, Cobelfret acquired part of the Zeebrugge cargo handling business, SeaRo, which handles Coblefret's car traffic at various terminals.

In an effort to control illegal immigration, a new type of detector came into service in June 2003 at the P&O Ferries terminal, in Zeebrugge outer port. This is a passive millimetre wave detector (PMMW), a hi-tech scanner which can detect stowaways on board lorries and trailers.

At the Noordelijk Insteekdok, the far end of the dock has been completed.

On 4 December 2003, construction of a pontoon at the west end of the Albert II dock (outer port) was put out to tender.

[109] At the end of 2004, APM Terminals, of the group AP Möller-Mærsk, set up activities there (Albert II dock).

3.4.3 Value added

TABLE 33 **VALUE ADDED AT THE PORT OF ZEEBRUGGE FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**515.7**	**590.6**	**657.6**	**725.1**	**736.6**	**708.6**	**713.6**	**100.0**	**5.6**
MARITIME CLUSTER	***155.3***	***187.4***	***234.7***	***266.4***	***263.5***	***257.1***	***266.1***	***37.3***	***9.4***
MARITIME	155.3	187.4	234.7	266.4	263.5	257.1	266.1	37.3	9.4
Shipping agents and forwarders	20.2	23.9	26.4	30.0	27.2	28.5	32.6	4.6	8.3
Cargo handling	38.5	41.7	67.1	88.1	91.2	93.5	90.6	12.7	15.3
Shipping companies	7.1	4.8	13.0	2.5	4.3	9.0	18.0	2.5	16.9
Shipbuilding and repair	5.9	6.7	6.8	9.1	9.6	8.4	7.6	1.1	4.4
Port construction and dredging	8.7	13.0	19.4	33.2	26.2	24.4	20.7	2.9	15.5
Fishing	27.2	23.2	26.0	30.3	34.8	32.1	30.3	4.2	1.8
Port trade	0.3	0.5	0.2	0.4	0.1	0.2	0.3	0.0	0.4
Public sector	47.5	73.6	76.0	72.9	70.0	60.9	66.0	9.3	5.7
Allocation (p.m.) [110]	*13.6*	*12.1*	*14.5*	*17.5*	*20.3*	*18.5*	*18.2*	-	*5.0*
NON-MARITIME CLUSTER	***360.4***	***403.2***	***422.9***	***458.7***	***473.1***	***451.5***	***447.5***	***62.7***	***3.7***
TRADE	71.2	83.0	85.3	76.0	81.2	65.4	75.3	10.6	0.9
INDUSTRY	207.3	229.9	237.7	283.8	285.4	270.0	252.5	35.4	3.3
Energy	36.4	62.4	65.1	80.5	78.1	79.0	52.7	7.4	6.4
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Chemicals	24.6	25.7	26.9	28.5	29.0	29.4	26.5	3.7	1.3
Car manufacturing	4.0	4.9	5.1	5.2	13.7	6.8	9.1	1.3	14.6
Electronics	69.7	55.5	56.5	72.0	65.5	66.9	80.5	11.3	2.4
Metal-working industry	14.6	17.3	15.1	15.8	17.6	17.2	17.5	2.5	3.1
Construction	34.9	38.2	43.1	55.9	57.4	45.2	41.7	5.8	3.0
Food industry	14.4	15.9	14.3	13.0	11.5	11.1	11.5	1.6	-3.7
Other industries	8.7	10.0	11.5	13.0	12.6	14.4	13.0	1.8	6.8
TRANSPORT	43.9	49.5	54.9	53.7	56.3	63.1	65.5	9.2	6.9
Road transport	33.0	37.3	42.7	40.3	42.4	46.4	48.9	6.8	6.8
Other land transport	10.9	12.2	12.2	13.4	13.9	16.7	16.7	2.3	7.3
OTHER LOGISTIC SERVICES	38.0	40.8	45.0	45.2	50.1	53.1	54.2	7.6	6.1
Other services	22.8	25.4	29.4	31.3	32.7	35.7	36.8	5.2	8.3
Public sector	15.2	15.4	15.6	13.9	17.4	17.4	17.4	2.4	2.3
2. INDIRECT EFFECTS	***409.5***	***418.1***	***575.9***	**543.3**	***544.2***	***592.3***	***547.2***	**-**	***5.0***
MARITIME CLUSTER	*164.1*	*148.8*	*283.2*	207.4	*200.9*	*276.4*	*225.7*	-	*5.5*
NON-MARITIME CLUSTER	*245.4*	*269.2*	*292.7*	335.9	*343.3*	*315.9*	*321.5*	-	*4.6*
TOTAL VALUE ADDED	***925.2***	***1,008.6***	***1,233.5***	**1,268.4**	***1,280.8***	***1,300.8***	***1,260.8***	**-**	***5.3***

Source: NBB.

[110] The figures for maritime firms located outside the port area are included under the item “Allocation (p.m.)”. These figures are already recorded under the direct effect and are mentioned here *pro memoria*.

3.4.3.1 General developments

Between 1997 and 2003, the direct VA of the port of Zeebrugge increased by an annual average of 5.6 p.c. (table 33). All sectors displayed this upward trend, except for the food industry. Cargo handling and the electronics industry, sectors which account for the major part of VA, recorded significant growth.

Despite this upward trend, 2003 was a rather mediocre year at the port of Zeebrugge. Goods traffic was down by 7.2 p.c. and there was hardly any increase in the VA of companies based in the port (+0.7 p.c.).

From 1997 to 2003, the indirect VA generated upstream by the activities of companies based in the port of Zeebrugge increased by an average of 5 p.c. per annum. However, in 2003 it declined (-7.6 p.c.). The fall recorded by the cargo handling sector accounts for the reduction in the indirect VA of maritime firms, while the expanding activity in the car manufacturing and electronics industries is responsible for the rise in non-maritime indirect VA. These sectors play a key role in these developments, since they are heavily dependent on subcontracting.

3.4.3.2 Direct effects by sector in 2003

The direct VA of the port of Zeebrugge hardly increased at all at current prices[111] in 2003. The following account goes more deeply into the causes of this modest rise and analyses, per sector, some significant developments.

3.4.3.2.1 Maritime cluster

- Cargo handling saw a slight fall in VA, compared to 2002 (-3.2 p.c.). The workforce was cut back slightly at the MBZ. The same happened at Sea-Ro Terminal.
- The VA of the Navy (public sector) grew by 8.3 p.c., despite stagnating employment. This reflects an increase in labour costs[112].
- The VA of shipping agents and forwarders increased by 14.4 p.c., the rise being attributable partly to E.C.S. European Containers and Zeebrugge Shipping and Bunkering Company, whose profits were up.
- In port construction and dredging, VA was 15 p.c. lower, owing to sharp falls at Baggerwerken Decloedt en Zoon and Depret, where profits are down.
- The shipping companies doubled their VA, the main factor here being the good performance by Cobelfret Ferries, which was back in profit and took on staff.
- In fishing, VA was down 5.8 p.c. Part of the reason was the absorption of Pieters nv by Fjord Seafood Pieters[113], a group classified under trade.

3.4.3.2.2 Trade

Trade, which represents just over 10 p.c. of wealth production at the port of Zeebrugge, saw a 15.2 p.c. increase in VA. Among the most noteworthy increases were those at Fjord Seafood Pieters (+13.3 p.c.) and CDMZ - Cobelfret terminals - (+55.3 p.c.).

3.4.3.2.3 Industry

- Electronics recorded a substantial increase (+20.3 p.c.). On 30 June 2003, Philips Industrial Activities nv was taken over by Philips Innovative Applications. In January of the same year, Philips Contract Manufacturing services became part of Jabil Circuit Belgium nv. Philips Innovative Applications and Jabil Circuit together produce 20.8 p.c. more VA than did Philips Industrial Activities in 2002.

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[111] All figures here are stated at current prices; the Belgian index of domestic output prices edged upwards in 2003: +0.7 p.c. The increase in VA at the port of Zeebrugge at current prices was 0.71 p.c. Taking account of this index, Zeebrugge's VA at constant prices (2002 prices) was steady (+0.02 p.c.).

[112] Survey data.

[113] Fjord Seafood was set up in 1996 at Brønnøysund, Norway. This group proceeded to expand both nationally and internationally. In 2000, Fjord Seafood acquired 50 p.c. of Pieters NV, the Belgian group specialising in seafood and based in Zeebrugge since 1953. The Norwegian group acquired the other 50 p.c. in 2002. Pieters Viesbedrijf was then renamed Fjord Seafood Pieters.

- In the construction industry, VA was 7.6 p.c. down, owing to the decline recorded by Glaverbel, Seapane and Fundex, which suffered a fall in margins.
- The VA attributed to the energy industry at the port of Zeebrugge declined sharply, for the reasons already mentioned in points 3.1.3.2.3 and 3.2.3.2.3.
- The chemical industry recorded a 9.6 p.c. fall in its VA, as a result of the decline at Pemco Brugge and Corn Van Loocke, and the losses incurred at Punch Plastics, which axed large numbers of jobs when relocating its milling activities.
- The metal-working industry saw a 1.8 p.c. rise, the main factor here being Motogroup which is back in profit, and the start of the Noël Becue's business.
- Other industries recorded a 9.9 p.c. fall in their VA, owing to the low margins at the textile company Uco Yarns, among other things.
- The food industry's activities expanded by 2.9 p.c., thanks to the good results posted by Voeders Huys.
- The car manufacturing industry's VA was up by 34.3 p.c., owing to Combined Terminal Operators's activity[114].

3.4.3.2.4 Transport

- Companies active in road transport at the port of Zeebrugge produced an increase of 5.4 p.c. in their contribution to GDP. Tracto (Brugge) and Norbert Dentressangle Silo Belgium were among the companies responsible for this increase.
- In other land transport, VA remained steady.

3.4.3.2.5 Other logistic services

- Other services, which account for over 5 p.c. of VA and employment at the port of Zeebrugge, saw a 3.3 p.c. rise in their VA. Key players here were the three leading companies in the sector, namely Intercommunale Vereniging voor Vuilverwijdering en -verwerking voor Brugge en Ommeland, SITA West and Group 4 Total Security.
- In public administration[115], VA was down slightly.

[114] According to the national accounts, Combined Terminal Operators comes under NACE 34.201 and is therefore classified under car manufacturing.

[115] See complete list in annex 4.

3.4.3.3 VA top 10 at the port of Zeebrugge in 2003

TABLE 34 **DIRECT VALUE ADDED TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	DEFENCE ACTIVITIES (NAVY)	Public sector	66.0
2	PHILIPS INNOVATIVE APPLICATIONS	Electronics	58.0
3	SEA-RO TERMINAL	Cargo handling	40.8
4	FLUXYS	Energy	26.6
5	ELECTRABEL	Energy	26.0
6	FJORD SEAFOOD PIETERS	Trade	25.5
7	PEMCO BRUGGE	Chemicals	18.5
8	JABIL CIRCUIT BELGIUM	Electronics	17.8
9	PUBLIC ADMINISTRATION	Public sector	17.4
10	D.D. TRANS	Road transport	17.3
	Total of top 10		**314.0**

Source: NBB.

This ranking (table 34) is very similar to that in the 2002 report, despite a few name changes, such as Philips Innovative Applications and Fjord Seafood Pieters. MBZ, Glaverbel and Baggerwerken Decloedt en Zoon are out of the top 10, having given way to Jabil Circuit Belgium, public administration and D.D. Trans. Despite the cumulative decline in VA of these ten companies, they still accounted for 44 p.c. of direct VA at the port of Zeebrugge in 2003.

TABLE 35 **EMPLOYMENT AT THE PORT OF ZEEBRUGGE FROM 1997 TO 2003**
(FTEs)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
1. DIRECT EFFECTS	**9,458**	**9,615**	**10,172**	**10,562**	**10,740**	**10,260**	**10,386**	**100.0**	**1.6**
MARITIME CLUSTER	***3,698***	***3,985***	***4,378***	***4,723***	***4,566***	***4,151***	***4,101***	***39.5***	***1.7***
MARITIME	3,698	3,985	4,378	4,723	4,566	4,151	4,101	39.5	1.7
Shipping agents and forwarders	248	358	343	303	320	347	351	3.4	6.0
Cargo handling	910	964	1,168	1,306	1,278	1,296	1,291	12.4	6.0
Shipping companies	79	78	109	115	83	91	93	0.9	2.7
Shipbuilding and repair	135	159	173	194	193	167	152	1.5	2.0
Port construction and dredging	141	182	228	317	291	287	282	2.7	12.2
Fishing	429	348	398	497	488	479	441	4.2	0.5
Port trade	6	7	2	9	6	5	7	0.1	4.8
Public sector	1,750	1,888	1,956	1,982	1,907	1,480	1,484	14.3	-2.7
Allocation (p.m.)	*214*	*192*	*230*	*291*	*277*	*278*	*277*	-	*4.4*
NON- MARITIME CLUSTER	***5,760***	***5,630***	***5,794***	***5,839***	***6,174***	***6,109***	***6,285***	***60.5***	***1.5***
TRADE	1,049	1,192	1,176	981	1,036	1,096	1,178	11.3	2.0
INDUSTRY	2,699	2,842	2,874	3,056	3,295	3,029	3,109	29.9	2.4
Energy	131	335	348	378	355	384	367	3.5	18.7
Oil industry	0	0	0	0	0	0	0	0.0	n.
Chemicals	342	344	347	321	357	346	320	3.1	-1.1
Car manufacturing	34	24	30	42	210	51	52	0.5	7.3
Electronics	877	695	729	786	802	789	941	9.1	1.2
Metal-working industry	251	304	266	272	299	284	293	2.8	2.6
Construction	548	574	566	706	743	607	606	5.8	1.7
Food industry	266	293	298	271	267	267	249	2.4	-1.1
Other industries	250	273	292	280	263	300	282	2.7	2.0
TRANSPORT	1,267	833	947	924	984	1,070	1,094	10.5	-2.4
Road transport	574	605	707	670	720	762	774	7.5	5.1
Other land transport	693	228	241	254	264	309	320	3.1	-12.1
OTHER LOGISTIC SERVICES	746	763	797	878	858	913	904	8.7	3.3
Other services	337	355	394	530	520	577	590	5.7	9.8
Public sector	409	408	403	348	338	336	314	3.0	-4.3
2. INDIRECT EFFECTS	***7,901***	***8,045***	***8,843***	**10,012**	***9,061***	***8,836***	***8,877 ****	**-**	***2.0***
MARITIME CLUSTER	*2,783*	*3,046*	*3,611*	4,411	*3,346*	*3,370*	*3,304*	-	*2.9*
NON-MARITIME CLUSTER	*5,118*	*4,999*	*5,232*	5,601	*5,715*	*5,466*	*5,573*	-	*1.4*
TOTAL EMPLOYMENT	***17,359***	***17,660***	***19,015***	**20,574**	***19,801***	***19,096***	***19,264***	**-**	***1.8***

Source: NBB.

* of which 6,837 salaried FTEs.

3.4.4.1 General developments

Over the period considered, direct employment at the port of Zeebrugge expanded by an average of 1.6 p.c. per annum (table 35). This steady rise is attributable to recruitment in cargo handling, other services, road transport and trade. However, it was curbed by the decline recorded by the Navy, chemical and food industries, other land transport and public administration.

Despite the slackening pace of activity at the port of Zeebrugge in 2003 - decline in VA and traffic - employment expanded by 1.2 p.c.

Indirect employment grew by an average of 2 p.c. per annum between 1997 and 2003. It went up a few FTEs in 2003. The increase recorded in the shipping companies was offset by job losses in cargo handling, which depressed the figures for maritime indirect employment somewhat. These two sectors are heavily dependent on subcontracting. The steep rise recorded by the electronics industry offset the decline in the food industry, so that non-maritime indirect employment expanded.

3.4.4.2 Direct effects by sector in 2003

Direct employment at the port of Zeebrugge expanded by 1.2 p.c. in 2003. The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.4.4.2.1 Maritime cluster

- The Navy's workforce expanded slightly (+4 FTEs)[116].
- Employment in cargo handling was almost unchanged (-0.4 p.c.) The contraction at Sea-Ro Terminal was offset by expansion at Sea Park and Accessory Plant Zeebrugge.
- In fishing, the workforce declined by 7.9 p.c., the main reason being the absorption of Pieters nv (cf. supra).
- In the shipping agents and forwarders sector, employment was up slightly (+1.4 p.c.), one factor being the Zeebrugge Shipping & Bunkering Company.
- In port construction and dredging there was a small reduction in employment (-1.7 p.c.).
- In shipbuilding and repair, employment was down by 9.1 p.c., the decline being due partly to Sea Technology Zeebrugge and Longueville Zeebrugge.

3.4.4.2.2 Trade

In trade, employment increased (+7.5 p.c.), mainly thanks to Fjord Seafood Pieters (see point 3.4.3.2.2).

3.4.4.2.3 Industry

- The electronics industry created 19.3 p.c. more jobs. The combined workforce of Philips Innovative Applications and Jabil Circuit Belgium is in fact larger than that of Philips Industrial Activities in 2002.
- In the construction industry, employment was unchanged.
- The energy industry recorded a fall in employment (-4.5 p.c.), owing to the current restructuring at Electrabel (cf. supra).
- In the chemical industry, employment contracted by 7.8 p.c. This was due to restructuring (cf. supra) at Punch Plastics, which slashed its workforce from 68 FTEs in 2002 to 31 in 2003.
- There was a relative increase in employment in the metal-working industry (+3.1 p.c.), with a particularly big rise at Noël Becue and Vlamytal.
- Other industries cut their workforce by 6.1 p.c., with a notable decline at Uco Yarns.
- Roughly the same decline was recorded in the food industry (-6.9 p.c.). There were job losses at Kathy Chocolaterie and Confiserie Kathy.

[116] In the 2002 report, the figure of 1,907 FTEs relating to the Navy was at the top of the employment ranking at the port of Zeebrugge. This was actually the 2001 figure, but it was not possible to update it for 2002. According to the latest survey conducted in February 2005, the Navy's workforce at the port of Zeebrugge was down to 1,480 FTEs in 2002. In 2003, the figure increased to 1,484 FTEs.

3.4.4.2.4 Transport

- Employment in road transport was up by 1.6 p.c.
- In other land transport, employment expanded by 3.9 p.c. BNRC was the main company responsible for this increase.

3.4.4.2.5 Other logistic services

- Other services expanded their workforce by 2.2 p.c. Group 4 Total Security and Sita West recorded significant increases.
- Public administration recorded a 6.5 p.c. decline.

3.4.4.3 Employment top 10 at the port of Zeebrugge in 2003

TABLE 36 **DIRECT EMPLOYMENT TOP 10 IN 2003**
(FTEs)

Ranking	Name of company	Sector	Employment
1	DEFENCE ACTIVITIES (NAVY)	Public sector	1,484
2	PHILIPS INNOVATIVE APPLICATIONS	Electronics	593
3	SEA-RO TERMINAL	Cargo handling	468
4	FJORD SEAFOOD PIETERS	Trade	398
5	PUBLIC ADMINISTRATION	Public sector	314
6	ELECTRABEL	Energy	265
7	JABIL CIRCUIT BELGIUM	Electronics	262
8	BNRC	Other land transport	229
9	D.D. TRANS	Road transport	207
10	GLAVERBEL	Construction	192
	Total of top 10		**4,412**

Source: NBB.

In contrast to the top 10 presented in the 2002 report, Belgian New Fruit Wharf and Jan De Nul gave way to Jabil Circuit Belgium and Glaverbel (table 36). The Navy is still by far the biggest employer at the port of Zeebrugge. In 2003, these ten companies represented 42.5 p.c. of the workforce in this port.

TABLE 37 **INVESTMENT AT THE PORT OF ZEEBRUGGE FROM 1997 TO 2003**
(millions of euros - current prices)

Sector	1997	1998	1999	2000	2001	2002	2003	Relative share in 2003 (in p.c.)	Annual average change, 1997 to 2003 (in p.c.)
MARITIME CLUSTER	***47.2***	***57.8***	***113.8***	***89.6***	***53.0***	***50.6***	***53.5***	***39.6***	***2.1***
MARITIME	47.2	57.8	113.8	89.6	53.0	50.6	53.5	39.6	2.1
Shipping agents and forwarders	10.5	7.0	13.1	5.4	10.5	6.5	7.4	5.5	-5.6
Cargo handling	19.8	28.0	64.4	45.1	27.2	24.6	34.5	25.5	9.7
Shipping companies	3.0	4.2	1.6	3.3	2.1	8.5	4.4	3.2	6.4
Shipbuilding and repair	0.8	1.1	0.8	1.7	0.5	0.4	0.4	0.3	-10.0
Port construction and dredging	1.3	4.5	11.0	8.8	1.7	1.4	1.7	1.3	4.4
Fishing	11.7	9.8	22.1	21.1	10.1	9.3	5.0	3.7	-13.1
Port trade	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	15.4
Public sector	0.1	3.2	0.7	4.2	0.8	0.0	0.0	0.0	-100.0
Allocation (p.m.)	*6.6*	*5.2*	*15.2*	*16.0*	*8.7*	*7.2*	*5.1*	-	*-4.0*
NON-MARITIME CLUSTER	***89.1***	***133.3***	***99.6***	***97.0***	***87.7***	***68.7***	***81.5***	***60.4***	***-1.5***
TRADE	10.0	11.9	13.7	10.2	13.7	10.9	13.3	9.8	4.8
INDUSTRY	34.9	79.7	35.1	39.8	43.2	29.3	42.2	31.3	3.2
Energy	11.9	51.2	7.2	7.4	7.7	4.5	6.1	4.6	-10.4
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.
Chemicals	2.7	3.6	3.0	3.5	3.3	2.7	2.2	1.6	-3.7
Car manufacturing	0.9	0.8	1.0	2.6	4.7	1.0	5.5	4.1	35.6
Electronics	6.7	11.8	8.7	9.1	13.7	7.6	15.0	11.1	14.4
Metal-working industry	2.1	2.7	1.9	1.5	2.9	2.1	1.9	1.4	-2.2
Construction	6.0	4.7	5.0	10.8	7.9	5.2	6.7	4.9	1.7
Food industry	4.2	2.7	2.7	1.5	1.2	1.1	1.5	1.1	-15.7
Other industries	0.4	2.1	5.6	3.5	1.8	5.2	3.4	2.5	41.6
TRANSPORT	14.7	15.3	16.0	14.9	9.7	17.7	14.6	10.8	-0.1
Road transport	10.5	14.2	11.4	9.4	7.8	13.1	12.9	9.6	3.5
Other land transport	4.2	1.0	4.7	5.5	2.0	4.5	1.6	1.2	-14.4
OTHER LOGISTIC SERVICES	29.4	26.3	34.7	32.1	21.1	10.9	11.4	8.4	-14.6
Other services	15.3	11.2	10.6	11.1	9.7	6.4	6.1	4.5	-14.3
Public sector	14.1	15.2	24.2	21.0	11.4	4.4	5.3	3.9	-15.0
DIRECT INVESTMENT	**136.3**	**191.0**	**213.5**	**186.7**	**140.7**	**119.3**	**135.0**	**-**	**-0.2**

Source: NBB.

3.4.5.1 General developments

Investment at the port of Zeebrugge declined by an average of 0.2 p.c. per annum over the period considered (table 37). This small reduction reflects a balance between the increases recorded in the car manufacturing and electronics industries, cargo handling and road transport, and the declines recorded by shipping agents and forwarders, fishing, the food industry and other logistic services.

2003 brought a revival in investment at the port of Zeebrugge (+13.1 p.c. at current prices[117]).

3.4.5.2 Developments by sector in 2003

The following account goes more deeply into the causes of this increase and analyses, per sector, some significant developments.

3.4.5.2.1 Maritime cluster

- In cargo handling, investment was 39.9 p.c. higher than in 2002; the increase was attributable to MBZ, the outer port having reverted to MBZ in 2003 under the agreement on the operation of these premises.
- Investment by shipping agents and forwarders was 14.8 p.c. up, owing to the increase recorded at E.C.S. European Containers, a company which initiated a series of major investments phased over the period 2003 – 2005, including the acquisition of a thousand new containers and over a hundred new refrigerated containers.
- In fishing, investment was down by 45.6 p.c.; the absorption of Pieters nv (cf. supra) was one factor, but the reduction in assets at Rederij Lorvan and Rederij Atlas also contributed.
- Following the investment boom in 2002, shipping companies saw a 48.2 p.c. decline, caused mainly by the reduction in fixed assets at Cobelfret Ferries in favour of the acquisition of shares in Sea-Ro. However, the latter is not taken into account in calculating investment.
- The sums invested in port construction and dredging increased by 27.3 p.c. This rise is attributed to Diving Engineering & Consultancy Office.

3.4.5.2.2 Trade

Investment in trading companies grew by 22.1 p.c. There was a noteworthy increase at Auto Terminus Brugge, the second-hand car dealer, which made a number of investments in tangible fixed assets.

3.4.5.2.3 Industry

- Investment in the electronics industry almost doubled. Philips Industrial Activities nv was absorbed by Philips Innovative Applications. Jabil Circuit Belgium nv was also added to the population.
- In construction, investment was up by 27.7 p.c., the increase being attributable partly to Traen Gebroeders and Hanson Aggregates Belgium.
- In the energy industry, investment was up 38.1 p.c. Fluxys accounted for this increase.
- The capital invested in car manufacturing was more than five times higher, the main investor being Combined Terminal Operators.
- In other industries, investment declined by 34.9 p.c., as Uco Yarns and Walleyn Graphics reduced their fixed assets.
- The chemical industry saw a 19 p.c. fall, attributable mainly to Arplam and Punch Plastics (cf. supra).
- In metal-working, investment was 10.5 p.c. down, with notable reductions at Pattyn and Delta Inox.
- An increase of 40.5 p.c. was recorded in the food industry, where the majority of the firms made the margins necessary for their expansion.

3.4.5.2.4 Transport

- Investment in road transport contracted by 1.6 p.c. Investment was up at D.D. Trans and W.H. Bowker International but down at Norbert Dentressangle Silo Belgium.
- In other land transport, investment declined by 63.7 p.c.

3.4.5.2.5 Other logistic services

- Other services recorded a 5.7 p.c. fall in investment.
- In contrast, public administration saw a 20.1 p.c. increase.

[117] All figures here are stated at current prices; the index of prices of Belgian investment goods increased by 1.4 p.c. in 2003. The rise in investment at the port of Zeebrugge at current prices comes to 13.13 p.c. Taking account of this index, investment at Zeebrugge increased by 11.57 p.c. at constant prices (2002 prices).

3.4.5.3 Investment top 10 at the port of Zeebrugge in 2003

TABLE 38 **INVESTMENT TOP 10 IN 2003**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	MAATSCHAPPIJ VAN DE BRUGSE ZEEVAARTINRICHTINGEN	Cargo handling	25.9
2	PHILIPS INNOVATIVE APPLICATIONS	Electronics	13.9
3	D.D. TRANS	Road transport	7.0
4	COMBINED TERMINAL OPERATORS	Car manufacturing	5.5
5	PUBLIC ADMINISTRATION	Public sector	5.3
6	E.C.S. EUROPEAN CONTAINERS	Shipping agents and forwarders	4.0
7	FLUXYS	Energy	4.0
8	AUTO TERMINUS BRUGGE	Trade	3.8
9	FJORD SEAFOOD PIETERS	Trade	2.7
10	COBELFRET FERRIES	Shipping companies	2.7
	Total of top 10		**74.8**

Source: NBB.

This top 10 differs from the ranking presented in the 2002 report, as it now includes Combined Terminal Operators, ECS European Containers, Fluxys and Auto Terminus Brugge (table 38). They represented 55.4 p.c. of investment at the port of Zeebrugge in 2003, with a figure of almost 75 million euro.

3.4.6 Financial ratios

TABLE 39 FINANCIAL RATIOS AT THE PORT OF ZEEBRUGGE FROM 2001 TO 2003

Sector	Return on equity after tax (in p.c)			Liquidity in the broad sense			Solvency (in p.c)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
MARITIME CLUSTER	***1.0***	***6.3***	***9.4***	***1.30***	***1.31***	***1.33***	***50.0***	***52.2***	***53.8***
MARITIME	***1.0***	***6.3***	***9.4***	***1.30***	***1.31***	***1.33***	***50.0***	***52.2***	***53.8***
Shipping agents and forwarders	-12.4	19.7	22.6	0.95	1.06	1.03	25.2	21.4	21.8
Cargo handling	3.6	7.7	7.8	0.84	0.76	0.83	66.0	64.5	66.1
Shipping companies	-1.2	3.0	13.3	6.03	4.52	4.36	84.0	81.2	80.5
Shipbuilding and repair	12.9	11.3	3.3	1.56	1.74	1.82	39.7	44.9	42.3
Port construction and dredging	9.5	11.2	13.2	1.24	1.64	1.24	26.5	29.1	25.5
Fishing	-6.0	-6.4	-6.2	0.86	0.81	0.90	24.6	26.2	28.0
Port trade	1.8	-7.4	-2.9	4.18	5.49	7.34	58.5	63.5	67.7
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***10.0***	***6.1***	***11.4***	***1.40***	***1.60***	***1.16***	***43.5***	***46.6***	***39.0***
TRADE	28.9	8.1	12.1	1.02	0.99	0.83	27.1	28.8	24.8
INDUSTRY	11.1	9.4	13.0	1.25	1.36	1.15	41.7	43.2	40.1
Energy	9.3	11.9	20.0	1.39	1.65	1.30	48.6	51.1	45.9
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	18.8	14.1	-38.4	1.49	1.08	0.72	50.6	38.8	24.4
Car manufacturing	11.0	11.0	16.4	1.97	2.38	1.88	62.7	66.3	60.4
Electronics	9.7	-3.4	8.6	1.43	1.36	1.39	25.5	26.5	28.9
Metal-working industry	12.2	9.8	6.6	1.44	1.44	1.55	39.1	40.0	43.0
Construction	16.0	3.4	-3.2	1.05	1.18	0.88	30.5	30.7	27.6
Food industry	-7.3	-27.4	-17.1	1.19	1.02	0.99	26.9	20.3	18.2
Other industries	-1.1	1.5	4.6	1.04	1.08	1.49	31.8	41.8	47.9
TRANSPORT	2.4	-4.5	1.3	1.03	0.99	0.95	36.5	34.3	32.0
Road transport	9.2	11.6	9.5	1.05	1.15	1.17	41.9	46.0	44.6
Other land transport	-3.3	-21.3	-8.2	1.01	0.85	0.78	33.0	27.1	24.2
OTHER LOGISTIC SERVICES	3.7	2.9	9.0	2.73	2.92	1.95	64.6	66.1	53.2
Other services	3.7	2.9	9.0	2.73	2.92	1.95	64.6	66.1	53.2
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
WEIGHTED AVERAGE	**6.6**	**6.2**	**10.6**	**1.37**	**1.52**	**1.20**	**45.7**	**48.3**	**43.5**

Source: NBB.

With just a few exceptions, such as the chemical industry and construction, return on equity after tax improved in 2003 throughout the sectors of activity at the port of Zeebrugge (table 39). The after-tax results for the following companies increased significantly[118]: ECS European Containers, Fjord Seafood Pieters, Electrabel and BNRC, where losses were curbed to some extent.

[118] Significant in proportion to the change in their equity capital.

While liquidity in the broad sense was maintained by the maritime firms at Zeebrugge, particularly in the fishing sector, this ratio showed a significant fall throughout the non-maritime sector, e.g. in trade, the energy, chemical and construction industries and other logistic services. Substantial reductions were also recorded at Fjord Seafood Pieters, Electrabel, Pemco Brugge, Glaverbel and Philips Coordination Center.

There was a small increase in the solvency of maritime firms in 2003, especially in the case of shipping agents and forwarders, cargo handling and fishing, while solvency declined throughout the major non-maritime sectors such as trade, the energy, chemical and construction industries, transport and other logistic services. The most noteworthy increases occurred at ECS European Containers, Shurgard Self Storage and Belgian New Fruit Wharf. Conversely, solvency was well down at Fjord Seafood Pieters, Pemco Brugge, Glaverbel, Jan De Nul, Frans Maas and Philips Coordination Center.

3.4.7 *Maritime goods traffic at the port of Zeebrugge in 2003: summary*[119]

TABLE 40 **ZEEBRUGGE**
(thousands of tonnes)

	Unloaded	Loaded	Total 2003	Change 2002- 2003 (in p.c.)	Share in 2003 (in p.c.)
Containers	5,257	7,014	12,271	+3.4	40.1
Roll-on/roll-off	4,598	6,509	11,107	-18.6	36.3
Conventional general cargo	544	117	661	-15.9	2.2
Liquid bulk	3,962	907	4,869	-1.1	15.9
Dry bulk	1,615	46	1,661	-2.9	5.4
TOTAL	**15,978**	**14,592**	**30,569**	**-7.2**	**100.0**

Source: Maatschappij van de Brugse Zeevaartinrichtingen.

While 2002 brought a small upturn in transhipment activity at the port of Zeebrugge, there was a decline in all goods traffic in 2003, with the exception of containers (table 40).

The main factor in this decline was the reduction in ro-ro traffic caused, after a certain lapse of time, by the termination of freight services to the ports of Dover and Felixstowe in the UK. One reason for the decline in dry bulk lay in the lower arrival figures for sand and gravel. In liquid bulk, the reduction was small since the decrease in the quantities of liquid natural gas (LNG) unloaded from Algeria, in favour of greater use of the Fluxys LNG terminal, was offset by the increased quantities of incoming liquid fuels. The decline in ro-ro traffic was due mainly to the reduction in traffic on the P&O service to the UK.

Although the transhipment of containers did not rise by as much as in 2002 (+12.1 p.c.), it still strengthened its position at the port of Zeebrugge with an increase of 3.4 p.c., taking it above 40 p.c. of total goods traffic and outstripping ro-ro traffic for the first time. To integrate the ports more effectively into the logistic chain to and from the hinterland, the directors of the port of Zeebrugge set up a structure in 2002 for organising the transport of containers to and from the hinterland by rail, coastal shipping and inland waterway. This new service, called *PortConnect*, handled the transportation of 86,500 TEU in 2003. Other initiatives were also implemented, such as the establishment of coastal “feeder” services.

[119] Sources: Maatschappij van de Brugse Zeevaartinrichtingen and *Jaaroverzicht Vlaamse havens 2003* of Vlaamse Havencommissie. See also table 63 (annex 8) for more details on transhipment at the port of Zeebrugge in 2003, by category of goods.

4 SUMMARY

The future of the Flemish maritime ports lies in their ability to keep pace with the fundamental changes taking place in the sector: the leadership is being taken over by the Asian ports as world trade expands and new markets are opened up; containerised traffic is growing as a result of the standardisation of distribution and consumption patterns; and a general concentration is taking place in logistical firms, and in shipping companies and cargo handling firms. All this is occurring in a context of increased competition between the ports in the Hamburg - Le Havre range.

Foreign trade is vital to Belgium, as it represents two thirds of its GDP. Moreover, the EU depends on the sea for over 90 p.c. (in tonnage) of its foreign trade. The total VA of the firms in the four ports and their supply chain also mirrors the developments of foreign trade. Compared to the figures achieved in the two preceding years, Belgium's foreign trade regained its momentum in 2003, especially in regard to imports. That was reflected in the growth of freight transhipment at the ports of Antwerp and Ostend. Total maritime traffic for the four ports increased by 4.8 p.c., and that trend continued in the following year, driven by the structural growth of container transport. Short sea shipping, which represents 50 p.c. of maritime traffic in the Flemish maritime ports, is continuing to expand. This is a key mode of transport for the future, both for Belgium and for Europe. Nearly half of the EU's internal trade actually takes place by sea. As well as handling maritime traffic, the maritime ports deal with inland waterway traffic, which is also growing. In the four ports considered in 2004, it passed the 100 million tonne mark thanks to, once again, the growth in containerised freight.

Development of the Flemish maritime ports is a central concern for the Flemish Region, which is the authority concerned. That development has to take account of the structure of international trade and of technological progress, but it must also consider the European socio-political context, and particularly the port services liberalisation issue. These factors exert a considerable influence over transport and port activities. The ports have gradually developed into veritable logistic centres, offering services which extend far beyond the loading and unloading of ships. The new imperatives caused by what is happening in international trade are encouraging the port authorities to offer more and more services to attract operators and private investment, needed to continue their expansion. The logistic approach adopted aims to make the port facilities increasingly competitive by keeping down the cost price and waiting times at the terminals, while offering a huge range of high value added services.

In 2003, the direct VA of the Flemish maritime ports increased by 3.6 p.c. at current prices on the previous year (or +2.9 p.c. at constant prices), thus outpacing the growth recorded in the national economy as a whole. Cargo handling, shipping companies, trade, the oil, metal-working and electronics industries and land transport recorded significant increases, in contrast to the energy, chemical and car manufacturing industries. The port of Antwerp - which represents 64.6 p.c. of the wealth creation in the four ports considered - is the one which achieved the most impressive increase in its contribution to GDP in 2003. The ports of Ghent and Ostend also recorded growth, but the figures were lower, while VA stagnated at Zeebrugge. In the same year, indirect VA declined by 0.9 p.c. at current prices (or -1.6 p.c. at constant prices), taking account of the entire upstream chain supplying firms based in the Flemish ports. Total VA - the sum of direct and indirect VA - came to almost 22 billion euro in 2003, or 8.4 p.c. of Belgian GDP, while the VA generated by the firms in the population considered (11.5 billion euro) amounted to 4.3 p.c. of GDP.

In 2003, direct employment in the Flemish maritime ports contracted by 0.6 p.c., while the Belgian domestic employment was up by 0.1 p.c. Almost all the industries active in the ports were affected, except for the electronics industry and other industries. Jobs in fishing, other logistic services and public sector also declined, while all other maritime sectors and land transport took on staff. The decline was due to the increased number of contracts terminated. On the other hand, the use of hired temporary staff and external staff gained ground in 2003. In the same year, the percentage of working time devoted to training increased. Of the four ports considered, Ostend and Zeebrugge recorded an increase in their workforce in 2003, while employment was down slightly at Antwerp and stagnated at Ghent. In the same year, Antwerp represented 58.2 p.c. of employment in the sector. As regards the overall impact of the port activities on the economy as a whole, employment in firms supplying companies in the population – indirect employment - represented 133,457 FTEs

in 2003, a decline of 1.1 p.c. against the previous year. This figure includes self-employed persons. Salaried indirect employment is estimated at 103,494 FTEs. Total employment – the sum of direct and indirect employment – dropped back to just below 240,000 FTEs in 2003. Nevertheless, this still represents 6.4 p.c. of Belgian domestic employment. Direct employment on its own, namely 105,419 FTEs, accounts for 2.8 p.c. of it.

Infrastructure improvement projects, such as the Deurganckdok at Antwerp, the Kluizendok at Ghent, the Wandelaarkaai at Ostend's outer port and various projects concerning the inner and outer ports at Zeebrugge, are catering for the need to expand the freight handling and storage capacity. The deepening of the western Scheldt at the port of Antwerp, the Ghent - Terneuzen canal and the access channel for the port of Zeebrugge is intended to permit access to the port facilities for larger vessels. Developing the ports and opening them up to the hinterland are also priorities in their expansion policy, which focuses on progress towards the modal shift, particularly in favour of inland waterway and rail transport, where capacity is still underused. All these current and future projects also reveal the efforts being made by the Flemish maritime ports to attract the fast-growing volume of freight and the high value added logistic service providers, while respecting the strict environmental standards defined at European level.

Investment in the Flemish maritime ports rose in 2003 by 0.8 p.c. at current prices in relation to the previous year. But this comes down to a 0.6 p.c. decline at constant prices. The increases recorded by cargo handling, car manufacturing and metal-working industries and road transport were offset by the decline in the majority of the other maritime and non-maritime sectors. Of the four ports considered, Ostend and Zeebrugge recorded the largest increases in investment in 2003, while investment stagnated at Antwerp and actually declined at Ghent. In the same year, the port of Antwerp accounted for 59.7 p.c. of the total funds invested in the sector, which came to almost 2.5 billion euro.

There was a considerable increase in the return on equity after tax in 2003 at all the ports except for Ostend, with figures exceeding the national average. The net working capital of firms in the port population became positive again, on average, thanks to the marked increase at Antwerp and despite the decreases recorded at Ostend and Zeebrugge. On the other hand, there was a marked decline in solvency except in the case of Ostend. The percentage of companies in difficulty declined at the Flemish maritime ports in 2003, according to the bankruptcy prediction model developed by the Bank. That decline was seen both in large companies and in SMEs.

In the current context of EU enlargement and higher competition, the European ports are having to cooperate more by exchanging expertise, in order to help to attain the targets for competitiveness laid down by the Lisbon Agenda, while withstanding competition from the Asian ports. Other projects, such as the "motorways of the sea" are back on the agenda, particularly as part of the trans-European networks. The future of the Flemish maritime ports is more than ever dependent on an increase in their capacity and intermodal efficiency. The European Commission is in favour of opening up the port services market, which it considers essential in the medium term, although it is socially controversial. The ports considered are in any case heavily dependent on expanding their activity in order to face the challenges now and in the future.

List of abbreviations

asbl	Association sans but lucratif (non-profit association)
dwt	dead-weight tonnage
ESA 95	European System of Accounts
EU	European Union
ft	foot
FTE	Full-time equivalent
GDP	Gross domestic product
ha	hectare
IOT	Input-Output Table
km	kilometre
MEP	Member of the European Parliament
n.	not available
NACE	Classification of Economic Activities in the European Community
NAI	National Accounts Institute
NBB	National Bank of Belgium
NSI	National Statistical Institute
nv	Naamloze vennootschap (Dutch public limited liability company)
OECD	Organisation for Economic Cooperation and Development
p.c.	per cent
p.m.	pro memoria
R&D	Research & Development
RTM	Régie des Transports maritimes
sa	Société anonyme (French public limited liability company)
SME	Small or medium-sized enterprise
BNRC	Belgian National Railway Company
sprl	Private limited liability company
SSS	Short Sea Shipping
SUT	Supply and Use Table

TEU	Twenty-foot equivalent unit
UK	United Kingdom
VA	Value added
VAT	Value added tax

ANNEX 1: METHODOLOGICAL NOTE AND UPDATE

The full version of the methodological note is given in annex 1 to the 2002 report[121].

The present annex gives a brief summary of this methodology and shows the changes made in this update, regarding:

- the definition of the sector and sample;
- the presentation of the direct effects;
- the estimation of the indirect effects.

1 METHODOLOGICAL SUMMARY

The population of companies was formed by the geographical and functional selection method.

The direct effects are expressed in terms of value added, employment and investment. These results are supplemented by the analysis of the social balance sheet and some financial ratios.

The indirect effects are estimated on the basis of data supplied by the National Accounts Institute (NAI).

Two clusters[122] are considered: the maritime cluster and the non-maritime cluster. The latter contains the segments: industry, trade, transport and other logistic services.

1.1 SELECTION AND SAMPLING

Numerous studies on the economic impact of port activities focus on the concept of cluster which groups together all the industries (companies and suppliers) having economic links with the port in question.

Two clusters are thus considered for the purposes of this study:

- The maritime cluster comprises the branches of activity specific to the ports themselves and those whose existence is essential to them (management and maintenance, navigation, transhipment, storage, locks, dredging, fishing, maritime services, etc.).
- The non-maritime cluster comprises four segments that have no immediate economic link with port activity but which have close interdependence with it (use of infrastructures), by virtue of their geographical proximity. These are:
  - the *industry* segment comprising energy, oil, chemicals, car manufacturing, construction, electronics, metal-working and food industries, etc.;
  - the *trade* segment which covers the chain of wholesalers and retailers linked to the ports (suppliers, trades connected with the industries listed above, import-export, etc.);
  - the *transport* segment which comprises the various modes of transporting goods overland (road, rail, pipelines, etc.);
  - the *other logistic services* segment consisting of firms providing the ports with support services which are not specifically maritime (computer services, coordination centres, management offices, real estate activities, vehicle leasing, consultancy, certain public services, maintenance services, etc.).

The approach adopted for the geographical selection of firms depends on whether they belong to one or other of these clusters.

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[121] Lagneaux F. (2004), *Economic Importance of the Flemish Maritime Ports: Report 2002,* NBB, Working Paper No. 56 (Document series). This report is available on line: see www.nbb.be.

[122] The OECD gives a general definition of clusters: *Networks of production of strongly interdependent firms (including specialised suppliers) linked to each other in a value-adding production chain.* (see OECD (1999), *Boosting Innovation: The Cluster Approach*, Paris). Since Porter (1990) *The competitive advantage of nations,* New York, the cluster concept has become a central element of industrial policy.

For non-maritime companies, geographical location within the port area[123] is the deciding factor. Companies in the maritime cluster have an immediate operational link with port activity. This does not necessarily imply that they are situated in the port area. Depending on the definition of their activity, a narrow or broad geographical approach has been adopted for the selection of the companies in this cluster. Some maritime companies are, therefore, not situated in the port area. Nevertheless, their results are taken into account in chapter 2 and, allocated by port, in chapter 3.

The population has been revised for each year under review, which means that the results have changed (see infra).

1.2 CALCULATION OF THE DIRECT EFFECTS

Direct effects are calculated mainly on the basis of the following economic indicators, relating to the activities of all the companies in the population:

- Value added (or VA) at current prices: this corresponds to the value that the firm adds to its inputs via the production process, or the sum of its staff costs, depreciation, certain operating expenses and the operating results. The sum of all the gross VA figures of private and public enterprises, asbl (non-profit associations), household consumption expenditure, etc. is equivalent to gross domestic product (GDP)[124];
- Salaried employment: this concerns salaried employees working in firms in the population considered. The figures are given in full-time equivalents (FTEs);
- Investment in fixed assets at current prices: this corresponds to tangible fixed assets acquired during the year, including capitalised production costs.

The change in VA and investment at constant prices from 2002 to 2003 is mentioned for information.

These data are obtained from the accounts which firms file with the Central Balance Sheet Office.

For multiple district firms, i.e. those with branches in more than one administrative district, employment is allocated to the branches according to the data supplied by the NAI. This information on employment at places of business located in the port area (reference: NSI code), is the only way of selecting these branches. It was therefore decided that their VA and investment would be calculated by the same procedure, namely the formula for the allocation of employment to each branch.

Next, the study presents some of the latest developments for the years 2001-2003: social changes are presented for all ports together, and financial changes for each port separately. Analysis of the financial ratios concerning the return on equity after tax, liquidity in the broad sense and solvency, is supplemented by a brief analysis of the financial health of the firms in the maritime and non-maritime clusters, by applying a corporate bankruptcy prediction model. An article of the Economic Review has been devoted to this subject[125].

1.3 ESTIMATION OF THE INDIRECT EFFECTS

The 2002 report contained detailed comments on the reasoning behind this section of the study. The NAI data permit estimation of the indirect effects of port activities on the Belgian economy. The port's branches of activity in fact generate indirect VA and employment, via the purchases made by the firms considered from sub-contractors. Once these estimations are made for each branch of the population considered, these are allocated to each port.

The overall economic impact of the port activities can be estimated from the sum of the direct and indirect effects. These cumulative effects at the level of a particular branch offer an estimate of the economic consequences which would result from its relocation.

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[123] The four port zones concerned are stated in annex 2.

[124] This is the expenditure approach. GDP can also be defined according to the income approach. See the NBB Statistical Bulletin 2004/3.

[125] Vivet D. (2004).

The present study is concerned with year-on-year changes in port activities. However, since the figures permitting calculation of the indirect effects are not available for each year, it was decided to present only the overall result in the body of the report. A more detailed presentation by sector is offered in annex 5, but only for the years for which those figures are known.

The estimate is not confined to the immediate suppliers (level 1), but includes the indirect effects observed on the whole of the supply chain upstream, up to infinity. All these levels are included in the total.

The total estimated indirect VA and employment is stated, as a guide, in chapters 2 and 3 for the years 1997 to 2003.

1.4 PRESENTATION OF THE RESULTS

Chapter 2 deals with the results for the ports as a whole in terms of VA, employment, investment and financial situation, in the form of a comparison between the figures for the companies in each port and those for companies on the outskirts. It also analyses the social balance sheet of the Flemish port sector.

In chapter 3, where the same results are presented separately for each port, the VA, employment and investment of the maritime companies based outside the ports are allocated by means of the allocation key relating to the "VA weight of each port per SUT branch"[126]. These allocated figures, although already broken down by sector in the maritime cluster of each port, are presented *pro memoria* (cf. the item "Allocation (p.m.)").

2 SECTOR DESIGNATION AND SAMPLE: REVISION

2.1 GENERAL FRAMEWORK

Two clusters are considered for studying the Belgian port activity (see supra).

The companies in the maritime cluster define port activity and have a direct economic link with the ports. In contrast, the activities of "non-maritime" companies may only have an indirect economic link with them, which requires a geographical presence in the port.

Some of the branches selected for this study are shown in table 41 according to their NACE-Bel classification[127], in line with the ESA 95 approach (see "European System of Accounts ESA 95", Eurostat). When a distinction between branches is called for, it is possible to go as far as precision level 5. The definition of SUT codes, permitting simplification of this classification, is of particular importance when calculating the indirect effects.

The plan followed for the sectoral presentation of the results corresponds to a breakdown of the branches in accordance with the national accounts and, for the purpose of comparison with the results for inland ports such as the Autonomous Port of Liège, it was decided to pick out the construction industry (branches SUT 26 and 45), previously included under Other industries. This is broken down into Port construction and dredging

[126] Supply & Use Table. This designation also enables the branches included in these tables, and which correspond to precision level 2 of the NACE-Bel codes, to be described in summary form. For companies in the maritime cluster selected from outside the port areas, direct VA, direct employment and direct investment have been allocated to the different ports according to the allocation key relating to the weight in direct VA that each one has in the ports as a whole by NACE branch. This allocation key for port π, branch ß and year α is calculated as the ratio of direct VA achieved in port π for branch ß and year α to the sum of the direct VA achieved by all the ports in branch ß during year α. This allocation key is strictly positive.

[127] The complete list of the NACE-Bel branches in the study is given in annex 3.

(NACE 45.241 and 45.242) in the maritime cluster and Construction industry in the non-maritime cluster (NACE 26 and 45 - excluding 45.241 and 45.242).

To clarify the results of this study, certain activities previously included under Other services now have more specific titles, such as Port trade (NACE 51.7) in the maritime cluster and Other land transport (certain branches under NACE 60, 62 -excluding 60.242- and 64) in the non-maritime transport segment.

Table 41 presents for each cluster some of the key branches which qualify for inclusion in the study of the Flemish maritime ports, grouped by sector (see column 4). The branches marked with an asterisk are those which, though basically classified in one of the four segments of the non-maritime cluster, are partly included in the maritime cluster, according to this breakdown.

An effort was made to clarify this reference table, in particular by creating separate sectors for:

- the construction industry;
- trade;
- other land transport.

TABLE 41 CLUSTERS AND SECTORS

Clusters	Codes NACE	Description of the eligible branches of activity[128]	Sector
Maritime	05.01	Fishing	Fishing
	15.20.1	Processing and preserving of fish - production of fresh fish products	Fishing
	15.20.2	Processing and preserving of fish - production of deep frozen fish products	Fishing
	35.11	Building and repairing of ships	Shipbuilding and repair
	35.12	Building and repairing of pleasure and sporting boats	Shipbuilding and repair
	45.24.1	Dredging	Port construction and dredging
	45.24.2	Other construction of water projects	Port construction and dredging
	51.7	Other wholesale	Port trade
	61.1	Sea and coastal water transport	Shipping companies
	61.2	Inland water transport	Shipping companies
	63.11.1	Cargo handling in seaports	Cargo handling
	63.11.2	Other cargo handling	Cargo handling
	63.12.1	Storage and warehousing in cold-storage buildings	Cargo handling
	63.12.2	Other storage and warehousing	Cargo handling
	63.22.0	Other supporting water transport activities	Cargo handling
	63.40.1	Forwarding offices	Shipping agents and forwarders
	63.40.2	Chartering	Shipping agents and forwarders
	63.40.3	Ships' agencies	Shipping agents and forwarders
	63.40.4	Customs agencies	Shipping agents and forwarders
	63.40.5	Transport mediation	Shipping agents and forwarders
	63.40.6	Other activities of transport agencies	Shipping agents and forwarders
	71.22	Renting of water transport equipment	Shipping companies
	75.22	Defence activities	Public sector
Non maritime			
Trade	50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	Trade
	51*	Wholesale trade and commission trade, except of motor vehicles and motorcycles	Trade
	52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	Trade
Industry	14	Other mining and quarrying	Other industries
	15*	Manufacture of food products and beverages	Food industry
	17	Manufacture of textiles	Other industries
	20	Manufacture of wood and of products of wood and cork, except furniture;	Other industries

[128] See the National Accounts Institute's NACE-BEL classification. The table here lists the branches eligible for inclusion in the study. The full list of branches actually represented by firms in the population is given in annex 3.

		manufacture of articles of straw and plaiting materials	
	21	Manufacture of pulp, paper and paper products	Other industries
	22	Publishing, printing and reproduction of recorded media	Other industries
	23	Manufacture of coke, refined petroleum products and nuclear fuel	Oil industry
	24	Manufacture of chemicals and chemical products	Chemicals
	25	Manufacture of rubber and plastic products	Chemicals
	26	Manufacture of other non-metallic mineral products	Construction
	27	Manufacture of basic metals	Metal-working industry
	28	Manufacture of fabricated metal products, except machinery and equipment	Metal-working industry
	29	Manufacture of machinery and equipment n.e.c.	Metal-working industry
	31 to 33	Manufacture of electrical, optical and electronic equipment	Electronics industry
	34	Manufacture of motor vehicles, trailers and semi-trailers	Car manufacturing
	35*	Manufacture of other transport equipment	Other industries
	37	Recycling	Other industries
	40	Electricity, gas, steam and hot water supply	Energy
	45*	Construction	Construction
Transport	60.1	Transport via railways	Other land transport
	60.242	Freight transport by road	Road transport
	60.3	Transport via pipelines	Other land transport
Other logistic services	63.21	Other supporting land transport activities	Other services
	66	Insurance and pension funding, except compulsory social security	Other services
	67	Activities auxiliary to financial intermediation	Other services
	70	Real estate activities	Other services
	71*	Renting of machinery and equipment without operator and of personal and household goods	Other services
	74	Other business activities	Other services
	75*	Public administration and defence; compulsory social security	Public sector
	90	Sewage and refuse disposal, sanitation and similar activities	Other services

Source: NBB.

Remarks:

- The level of aggregation chosen for the branches shown above depends on the precision required for their definition. For example, branch 45 (construction) calls for precision level 5, i.e. the 5-digit heading, since two NACE-Bel level 5 headings (45.241 and 45.242) form part of the maritime cluster while the rest of branch 45 belongs to the non-maritime industries segment. This is not the case for branch 24 (chemicals) which, although aggregated at level 2, falls completely within the industry segment.
- The BNRC (Belgian National Railway Company) and the port authorities now come under the other land transport[129] and cargo handling sectors respectively, and not the public sector.
- Enterprises in the public sector (NACE-Bel 75) which appear in the rankings by value added, employment and investment ("Top 10") are divided between Public administration -the whole of branch 75, excluding branch 75.22- and Defence activities -branch 75.22-. This distinction is important for the study of the ports of Ostend and Zeebrugge.

The same rule applies to the selection of companies: there are two different approaches, depending on whether the activity of the company in question forms part of the maritime cluster or not.

For companies in the non-maritime cluster, which make up the bulk of the population, geographical location within the port area is the determining factor. All the companies located in the port area in the narrow sense are included in the population if they belong to a branch of interest to the study[130]. Definition of the port area in the narrow sense is in accordance with the Royal Decree of 2 February 1993. A definition of the four port areas in question can be found in annex 2.

Companies in the maritime cluster demonstrate a direct operational link with port activity but are not necessarily situated in the port area. Depending on the definition of their activity, a geographical approach based on the narrow or wider sense has been adopted in the selection of the companies for this cluster (see

[129] In the 2002 report it was included in the Other services sector. See supra.

[130] Of the branches qualifying for inclusion in the study, 238 5-digit NACE-Bel headings are actually represented in the population (see annex 3). Compared to the 2002 report, the study has thus added four branches, owing to their role in certain maritime ports, in this case the Autonomous Port of Liège. They are mentioned in annex 3. See also Working Paper NBB No. 64.

annex 1 to the 2002 report). Some 314 maritime companies were thus selected outside the actual port area, including 301 SMEs. That represents 9.2 p.c. of the total population, which comprised 3,426 enterprises in 2003.

For companies established in more than one location, with at least one place of business and/or their head office outside the port area, the NAI data can be used to identify their places of business within the port area in the broad sense. This latter corresponds to the National Statistical Institute's (NSI) classification. Any more specific particulars, such as the address or post code for the establishment within the port area in the narrow sense, is used where that information is available.

The survey remains a vital source of economic data for 2003 on the public sector enterprises (cf. annex 4). Since the response rate is not 100 p.c., despite the necessary reminders, it was decided to use the 2002 figures for companies still in business but not responding to the survey.

2.2 LATEST ADJUSTMENTS TO THE SAMPLE

In accordance with the method of selection used to define the population, some maritime firms were included although they are based on the outskirts of the ports considered (broad approach, cf. supra). The ones now known to be established in other ports and covered by a similar survey have now been eliminated: e.g. Magasins Généraux de Liège and Somef at the Autonomous Port of Liège, and the Port of Brussels. This adjustment caused a substantial reduction in the VA and employment figures attributed to the category “Outside the ports”.

To ensure complete consistency with the study on the Autonomous Port of Liège, four branches which were covered by that study have now been added to the list of branches covered by the present study. They are the following non-maritime branches: Other printing, Composition and plate-making, Manufacture of steam generators and Manufacture of electric domestic appliances (details in annex 3).

The sample revisions mentioned were undertaken for each year studied. The whole sample was in fact updated when the latest data were extracted in January 2005 at the Central Balance Sheet Office and the National Accounts Institute. That implies certain changes to the results presented in this report, compared to those published in the 2002 report, taking all sectors and years together.

3 PRESENTATION OF THE DIRECT EFFECTS: REVISION

The study focuses first on analysing the actual activities of firms in the population, or their direct effects. It deals with the results in terms of:

- value added at current prices;
- salaried employment (FTEs);
- investment at current prices;
- social balance sheet;
- financial situation: study of the three financial ratios, namely return on equity after tax, liquidity in the broad sense and solvency.

These last two points do not apply to public administrations. Besides, these have undergone a number of revisions, in order to clarify and enrich the analysis, which relates to a constant sample[131] containing all the companies which filed their accounts in 2001, 2002 and 2003 and which satisfy certain quality conditions specified for the headings concerned.

o In addition to the headings studied previously, the following social balance sheet headings are also considered:

TABLE 42 SOCIAL BALANCE SHEET: ADDITIONAL HEADINGS

- o Workers recorded in the staff register - number[132] at the end of the financial year:
  - o 1201 Full-time - men
  - o 1202 Part-time - men
  - o 1211 Full-time - women
  - o 1212 Part-time - women

Source: NBB.

In the case of the social balance sheet, the study offers only a general account covering the four ports (see chapter 2). The complete figures for 2001 to 2003 are set out in annex 7.

o The results for the three financial ratios are summarised in chapter 2, and are now accompanied by a presentation of the financial health of the companies according to the bankruptcy prediction model. In chapter 3, the three ratios are calculated for each port, for each cluster and for each sector, and presented in a single table using the same layout as that for the tables showing VA, employment and investment. This presentation has the advantage of making it possible to link the changes observed in all of these different variables. The approach which takes the average of the globalised data is still preferred, since the financial situation of the sectors considered – at detailed level – is dominated by a few companies. This approach is also adopted in order to compare these results with those of the ratios for all non-financial corporations referred to for information[133]. The analysis concerns the study of a constant sample containing all the companies which filed their accounts in 2001, 2002 and 2003 and whose results satisfy certain quality conditions specified for the calculation of the ratios[134].

[131] The constant sample in the case of the social balance sheet comprises 1,734 companies, or 50.6 p.c. of the total population studied in 2003, which comprises 3,426 companies. For the purpose of examining the financial ratios, the sample comprises 2,463 companies, or 71.9 p.c. of the total population.

[132] For these headings, the figures indicate the number of workers and not the number of FTEs.

[133] Vivet D. (2004) uses both the median ratio and the globalised ratio methods and applies them to a constant sample. Here, only the globalised ratio method is used, since the sample is small and contains sectors which are dominated by a few companies. It is essential to exercise caution in analysing the results, in view of the volatility of the figures.

[134] For the purpose of calculating profitability, the equity capital must be strictly positive and all the data must correspond to a 12-month year. For details, see annex 1 to the 2002 report.

The following three ratios are analysed:

- The return on equity after tax concerns a company's ability to generate profits and gives an indication of the after-tax yield for its shareholders. This is the ratio between the net profit after tax and the equity.
- The liquidity ratio in the broad sense expresses the company's ability to mobilise the cash resources needed to meet its short-term liabilities promptly. It compares the total assets which can be realised or are available (stocks, receivables within one year, cash deposits, available funds and accruals) with the short term liabilities (debts within one year and deferrals). If the liquidity ratio in the broad sense is more than 1, the net working capital is positive.
- Solvency indicates the company's ability to honour all its short and long term liabilities. This ratio also provides information on the company's independence in relation to external funding. It shows the ratio between the equity and the total liabilities.

The bankruptcy prediction model applies to companies in the constant sample employing more than five workers (i.e. 1,095 companies in 2003, or 44.5 p.c. of the population of the constant sample, which contains 2,463). This model, developed by the Bank, uses the information available in the annual accounts filed with the Central Balance Sheet Office and analyses the differences in financial profile between two types of firms: those which do not fail during the ensuing three years, and those which do. A legal criterion is referred to for the definition of financial failure: a firm is regarded as failing if it becomes bankrupt or goes into composition, and the other firms are regarded as non-failing.

The econometric technique used is the logistical regression. The model makes it possible to summarise all aspects of a company's financial situation in a single value: the risk score L, in which most of the explanatory variables are formulated as financial ratios. The firm is classified on the basis of its risk score L.

Four risk classes have been defined.

- class 1 corresponding to healthy businesses, with practically zero risk of failing within three years;
- class 2 comprising neutral businesses with an average risk of failing within three years;
- class 3 comprising businesses in difficulty, with 3 to 4 times the average risk of failing within three years;
- and class 4 comprising businesses in great difficulty, with 10 times the average risk of failing within three years.

This classification has to be regarded *ipso facto* as an indication of financial health rather than an actual prediction of bankruptcy: firms in classes 3 and 4 are not necessarily bound to go bankrupt, but they are prone to serious financial problems[135].

[135] For more information, see Vivet D. (2004).

4 ESTIMATION OF THE INDIRECT EFFECTS: REVISION

The 2002 report explains in detail the reasoning underlying this section of the study. The NAI data[136] permit estimation of the indirect effects of port activities on the Belgian economy. The branches of activity in the port generate indirect VA and employment via the purchases made by the firms considered from their suppliers or subcontractors.

The overall economic impact of the port activities can be estimated by adding together the direct and indirect effects. These cumulative effects at the level of a particular branch offer an estimate of the economic consequences which would result from relocation of the branch. This concerns what the present study refers to as total VA and total employment.

The 2003 update looks at the year-on-year changes in port activities. However, since the figures permitting calculation of the indirect effects are not available for each year, it was decided to present only the overall result in the body of the report, broken down by cluster. A more detailed presentation by sector is offered in annex 5, but only for the years for which the source data are known, namely 1997, 1999, 2000 and 2001.

The methodology for these calculations has been dealt with in Working Paper No. 67[137]. This research has revealed that in certain conditions the method of the technical coefficients and that of the degrees of dependency produce similar results. Besides, it cannot be merely taken for granted that the use of the latest supply and use tables (SUT) provides better results than the input-output tables (IOT), which are less frequently updated but are more accurate. As a precaution, a combined approach seems more appropriate: the indirect effects are therefore estimated on the basis of the average between the results obtained from the SUT and those from the IOT. The margin of error is kept to a minimum. These are in fact estimates, which implies that the greatest care must be taken in interpreting them. The figures supplied by this combined approach are higher, on average, than those obtained by using the 2000 IOT. In order to draw the reader's attention throughout the report to the caution with which the estimates must be interpreted, these estimates are mentioned in italic for all years, except for the year 2000 for which all information is available.

The figures for the indirect effects were therefore modified by comparison with those in the 2002 report, and especially for indirect employment, to which an estimate was added for self-employed subcontractors. The following reasons explain these changes:

- it was decided to take the average of the results obtained by the SUT and IOT approaches, the results of which also differ according to whether the “dependency ratio” or “technical coefficients” are used. Since the IOT produces lower figures than the SUT, the total indirect effects tend to be less if this average is used;
- in order to assess the overall impact of the direct salaried employment of the firms studied on the economy as a whole, self-employed activities were included in the estimation of the indirect effects: the figures for indirect employment are therefore almost 30 p.c. higher than those presented in the 2002 report. The calculation of indirect VA takes account of this revised basis. Indirect salaried employment is indicated in the text for comparison for the year 2003;
- the latest SUTs used (2000 and 2001 versions) are fundamentally different from the previous SUTs used hitherto for this study. For the previous versions (1995, 1997 and 1999), in order to take account of intermediate uses, allocation keys calculated according to the 1995 structural survey were used. These allocation keys define the way in which the intermediate consumption of the branches of activity is divided among products (*inputs*). With effect from the 2000 version of the SUT, the same reasoning is followed but the 2000 structural survey is taken as the basis. These structural

[136] The supply and use tables published by the NAI are usually designated by the English acronym SUT (Supply and Use Tables). This designation also enables the branches included in these tables, and which correspond to precision level 2 of the NACE-Bel codes, to be described in summary form. For the estimation of the indirect effects, the latest figures published by the NAI (SUT for 1997, 1999, 2000 and 2001) and the Federal Planning Bureau (IOT for 1995 and 2000) are used for each year. Annex 5 presents these results in detail by sector for the years 1997, 1999, 2000 and 2001.

[137] Coppens F. (2005), *Indirect effects: a formal definition and degrees of dependency as an alternative to technical coefficients*, NBB, Working Paper No. 67 (Research series).

changes were incorporated in the SUTs for 2000 and 2001[138]. Nevertheless, their effect is attenuated by taking account of the figures supplied by the IOTs of the Federal Planning Bureau[139];

- the population considered was revised as indicated above.

As before, the estimate is not confined to the immediate suppliers (level 1) but includes the indirect effects observed over the whole upstream chain, to infinity. All these levels are aggregated in the total.

The total estimates for indirect VA and employment are given as a guide in chapters 2 and 3 for the years 1997 to 2003, subject to certain assumptions explained in annex 1 to the 2002 report.

The estimate of indirect employment is stated as the number of persons in work. But direct employment is expressed in full-time equivalents (FTEs). For consistency and in order to make certain comparisons, the figure for indirect employment is converted to FTEs by applying the ratio between the number of hours worked per annum, on average, per employee and the number of hours worked per annum per FTE. In 2003, the equivalence factor updated at the end of March 2005 for the 2003 Social Balance Sheet[140] was 0.9009. Taking account of the various arrangements for part-time working, a Belgian employee therefore works on average the equivalent of 90.09 p.c. of a full-time worker's hours.

Being based on more recent data than those in the 2002 report (see supra), the figures for the indirect effects are slightly different in the present study.

[138] Among these changes: Petrofina, the petrochemical holding company has moved from NACE 51 (wholesale trade and commission trade) to NACE 23 (manufacture of coke, refined petroleum products and nuclear fuel), a fact which is clearly apparent in the shift which has occurred between these two branches in the supply of crude oil and other basic chemicals; branch 24 (chemical industry) consumes 46 p.c. more inputs, and that has had a substantial effect on the use of this industry's key inputs, namely basic chemicals, plastics and unrefined rubber products.

[139] The empirical analysis presented in the Working Paper No. 67 shows indeed that the IOTs supplied by the Federal Planning Bureau produce, on average, lower figures than those generated by the SUTs.

[140] Heuze and Delhez (2004).

ANNEX 2: PORT AREAS

These port areas have been defined in accordance with the Royal Decree of 2 February 1993, signed on the occasion of the transfer of port ownership from the State to the Flemish Region. The definition of the four port areas is given in Dutch in the appendix to this Royal Decree, issued on 4 March 1993 in the Belgian Law Gazette.

1 Definition of the Antwerp port area

"De begrenzing van de haven van Antwerpen wordt in dit Koninklijk Besluit omschreven als volgt :

Rechteroever

- *ten noorden, begrensd door de rijksgrens met Nederland vanaf de grens met de gemeente Beveren (het midden van de stroom) tot, oostwaarts, de snijding met de gemeentegrens Antwerpen-Stabroek*
- *ten oosten, de grens Antwerpen-Stabroek tot de rijksgrens A12, verder zuidwaarts tot rijksgrens N144a (Ekersesteenweg) via rijksweg N180 (Noorderlaan) tot de noordelijke oever van het Albertkanaal. Oostwaarts tot rijksweg N129 (Minister Delbekelaan) tot aan de Schijnpoort, de Slachthuislaan, Bredastraat, Viaduct Express, Ellermanstraat tot rijksweg N1 (Italiëlei) zuidelijk tot de Tunnelplaats, Ankerrui, Brouwersvliet tot de Tavernierskaai (waterkerende muur inbegrepen)*
- *ten zuiden, langsheen de waterkerende muur (inbegrepen) van de Scheldekaaien tot Schelde nr. 8. Vervolgens de Generaal Armstronglaan tot aan de spoorlijn Antwerpen-Zuid-Boom, verder tot de Krugerbrug, Naftaweg, de Grenspacht, de grenzen van lot B en J van de Petroleuminstellingen Zuid en de vroegere stadsgrens Antwerpen-Hoboken tot de grens Antwerpen-Zwijndrecht in de stroom*
- *ten westen, de grens Antwerpen-Zwijndrecht in de Scheldebedding. Vervolgens de linkerscheldeoever op Antwerps grondgebied tot aan de grens Zwijndrecht-Antwerpen ter hoogte van Pijp Tabak aan de Schelde. Vanaf hier noordwaarts in het midden van de stroom, de gemeentegrens met Zwijndrecht en Beveren tot aan de rijksgrens met Nederland.*

Linkeroever

- *ten oosten, de grens van de Stad Antwerpen vanaf de rijksgrens met Nederland tot de snijding met rijksweg nr. 617*
- *ten zuiden, de rijksweg nr. 617, vanaf voormeld snijpunt met de provincieweg nr. 356*
- *ten westen, de westelijke grens van de groenzone*
- *ten noorden, de rijksgrens met Nederland*

Sinds het opmaken van deze beschrijvende lijst kan het huidige havengebied op bepaalde plaatsen afwijken als gevolg van nieuwe politieke, ruimtelijke of ecologische afspraken en evoluties."

2 Definition of the Ghent port area

"Onder het begrip havenzone wordt verstaan, het gebied afgebakend door de Koning Boudewijnlaan ten westen van het kanaal Gent-Terneuzen, de Belgisch-Nederlandse grens ten noorden, de Kennedylaan ten oosten en de Dampoort ten zuiden. De bedrijven-zones ten noorden van de R4 en ten oosten van de Kennedylaan, gelegen op Gents grondgebied, worden ook tot de havenzone gerekend. Het totale havenareaal beslaat een oppervlakte van 2.668 hectaren, waarvan 511 hectaren wateroppervlakte."

3 Definition of the Ostend port area

"De havenzone van Oostende werd in dit KB omschreven als de zone begrensd door:
- *ten noorden: de Noordzee;*
- *ten oosten: de grens tussen Oostende en Bredene (van de zeedijk tot de Noord-Ede); vervolgens de Noord-Ede tussen de Spuikom en de Blauwe Sluis; en tot slot de Rijksweg N320 (Plassendaalsesteenweg) tussen de Blauwe Sluis en de Plassendalebrug;*
- *ten zuiden: het kanaal Plassendale-Nieuwpoort, tot aan de spoorlijn;*

- ten westen: de spoorlijn Oostende-Brugge tussen het kanaal Plassendale-Nieuwpoort en het Zwaaidok; vervolgens de Konterdamstraat (langs de spoorlijn) tot de snijding met de N34 (Koninklijke Baan); de N34 tot de snijding met de N334; en tot slot de N334 tot aan de snijding met de zeedijk (d.w.z. de Vindictivelaan en de Visserskaai, zodat zowel de Mercator jachthaven als het Montgomerydok in de zone begrepen zijn).

Deze zone wordt verder aanschouwelijk voorgesteld op de bijgevoegde kaart. Er dient op gewezen dat hierin het zuidelijk deel van de industriezone (d.i. gelegen ten zuiden van de spoorlijn Oostende - Brugge en langs de E40-autosnelweg) niet inbegrepen is."

4 Definition of the Bruges-Zeebrugge port area

"De havenzone wordt daar omschreven als het gebied begrensd door:

- ten noorden :
de Noordzee, met als grens de westelijke en oostelijke dam van de Buitenhaven en de verbindingslijn tussen de damkoppen;

- ten oosten :
de De Maerestraat tussen de Zeedijk en de Kustlaan N34;
de rijksweg N300 tot snijding met N376;
de rijksweg N376 tot snijding met R30;

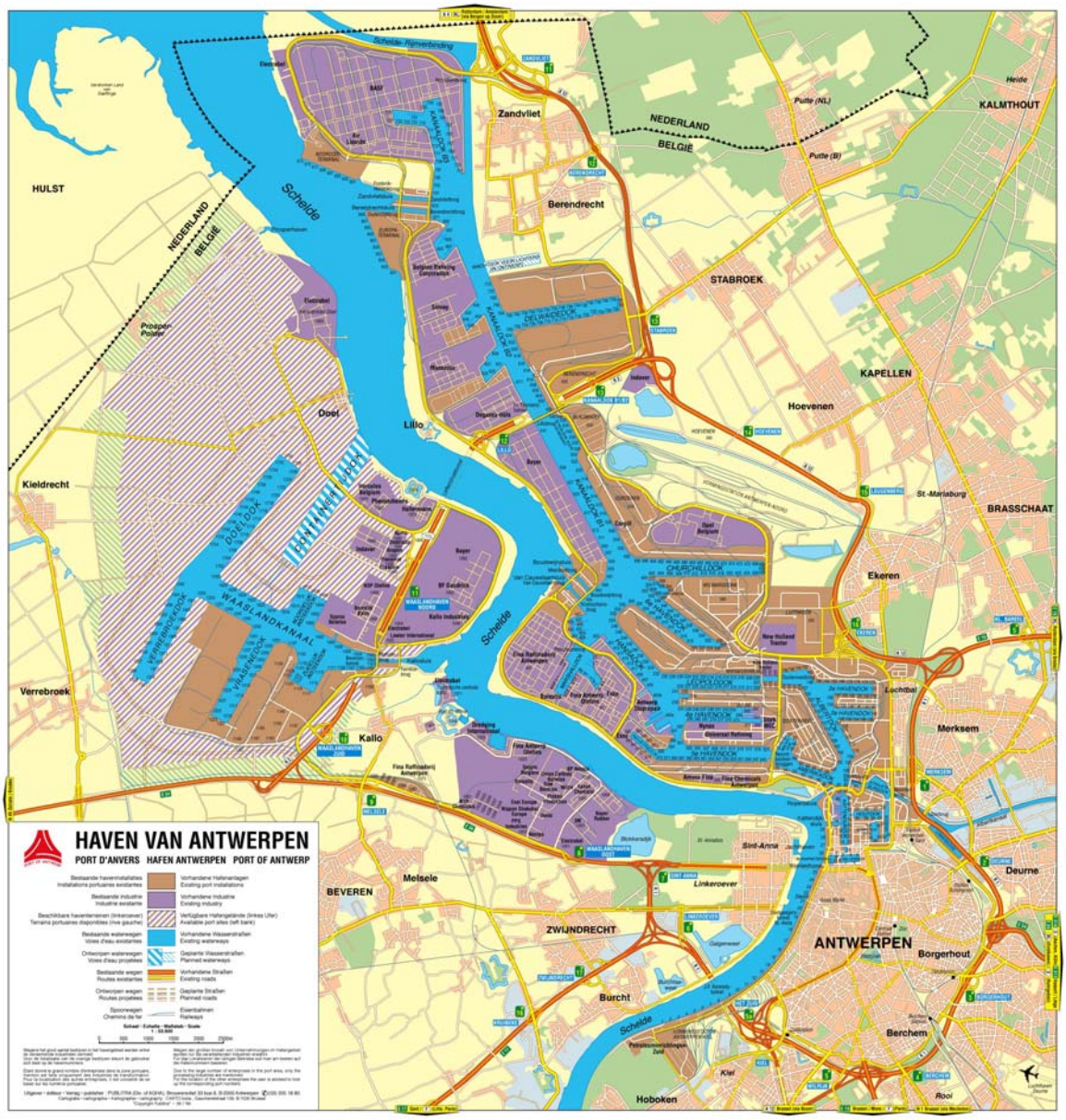
- ten zuiden :
de rijksweg R30 tussen de snijding met N 376 en de Krakelebrug;

- ten westen :
de spoorweg tussen de Krakelebrug en de snijding met het verlengde van de geplande N31 a;
de N31 a tussen voormelde snijding en de Kustlaan N34;
de Baron de Maerelaan tussen de Kustlaan N34 en de Zeedijk."

5 Ports' maps

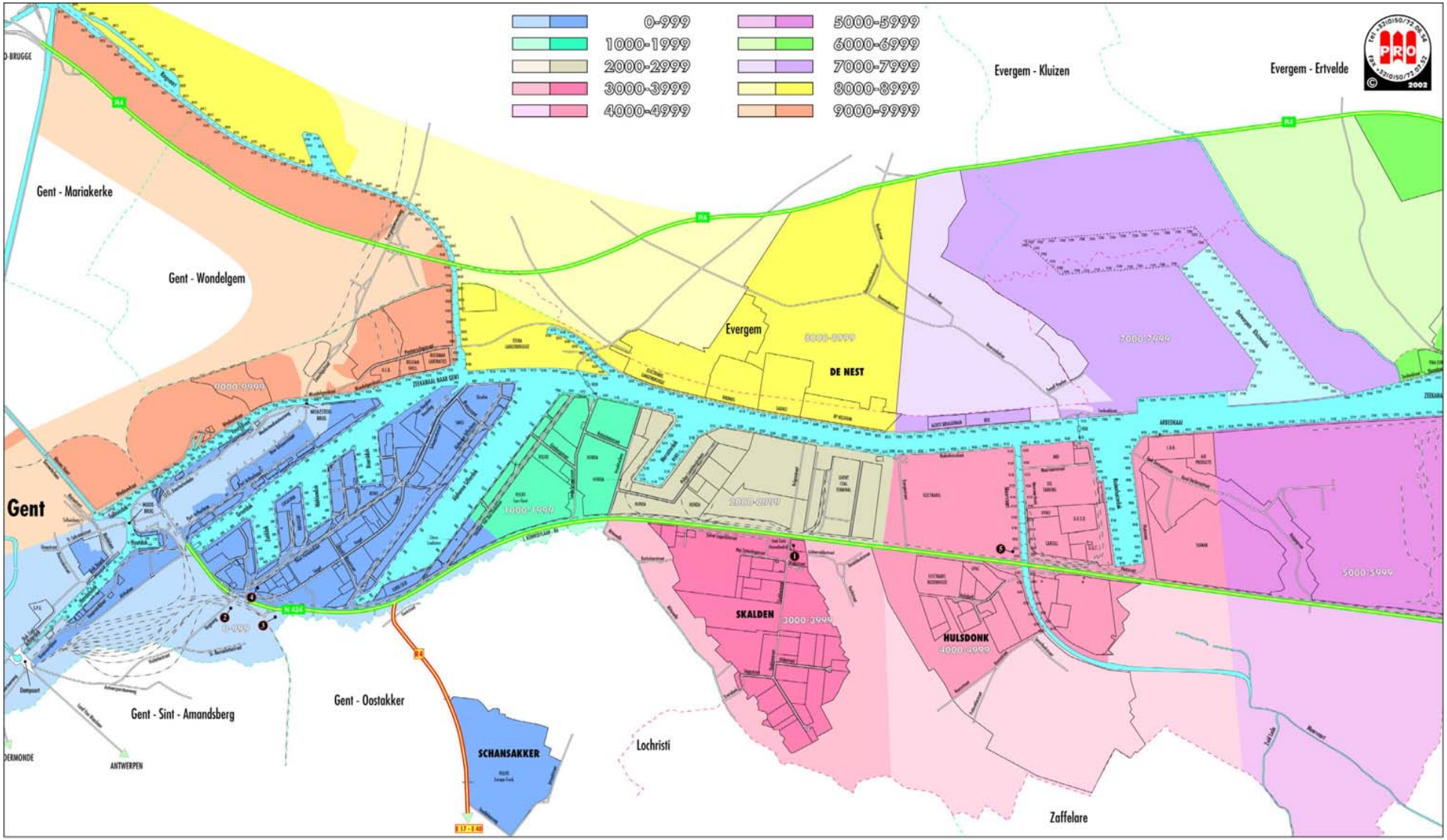
Port of Antwerp
Port of Ghent
Port of Ostend
Port of Zeebrugge

Haven van Antwerpen - Port d'Anvers - Port of Antwerp

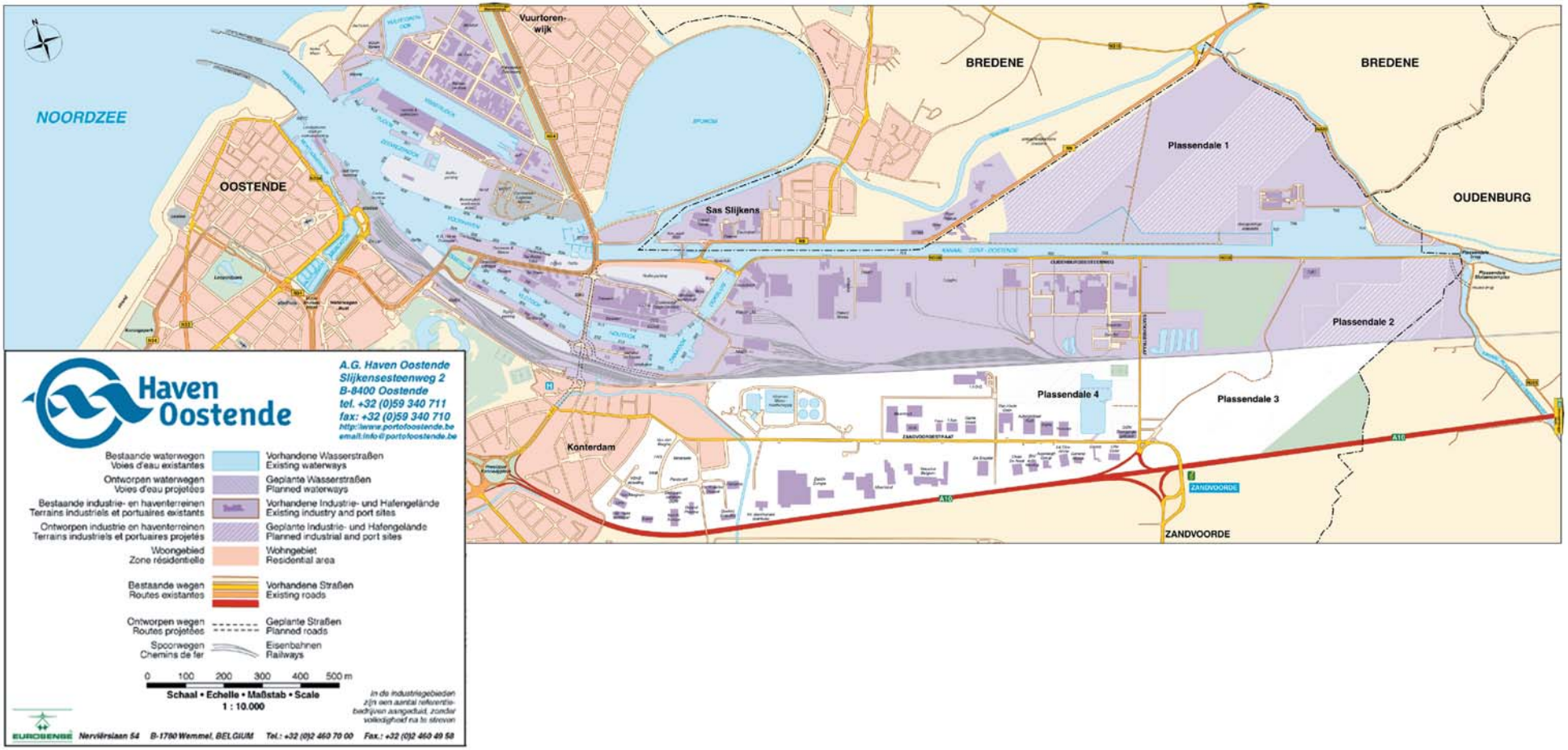


Source - Bron: Havenbedrijf Antwerpen.

Bron - Source: Havenbedrijf Gent GAB.



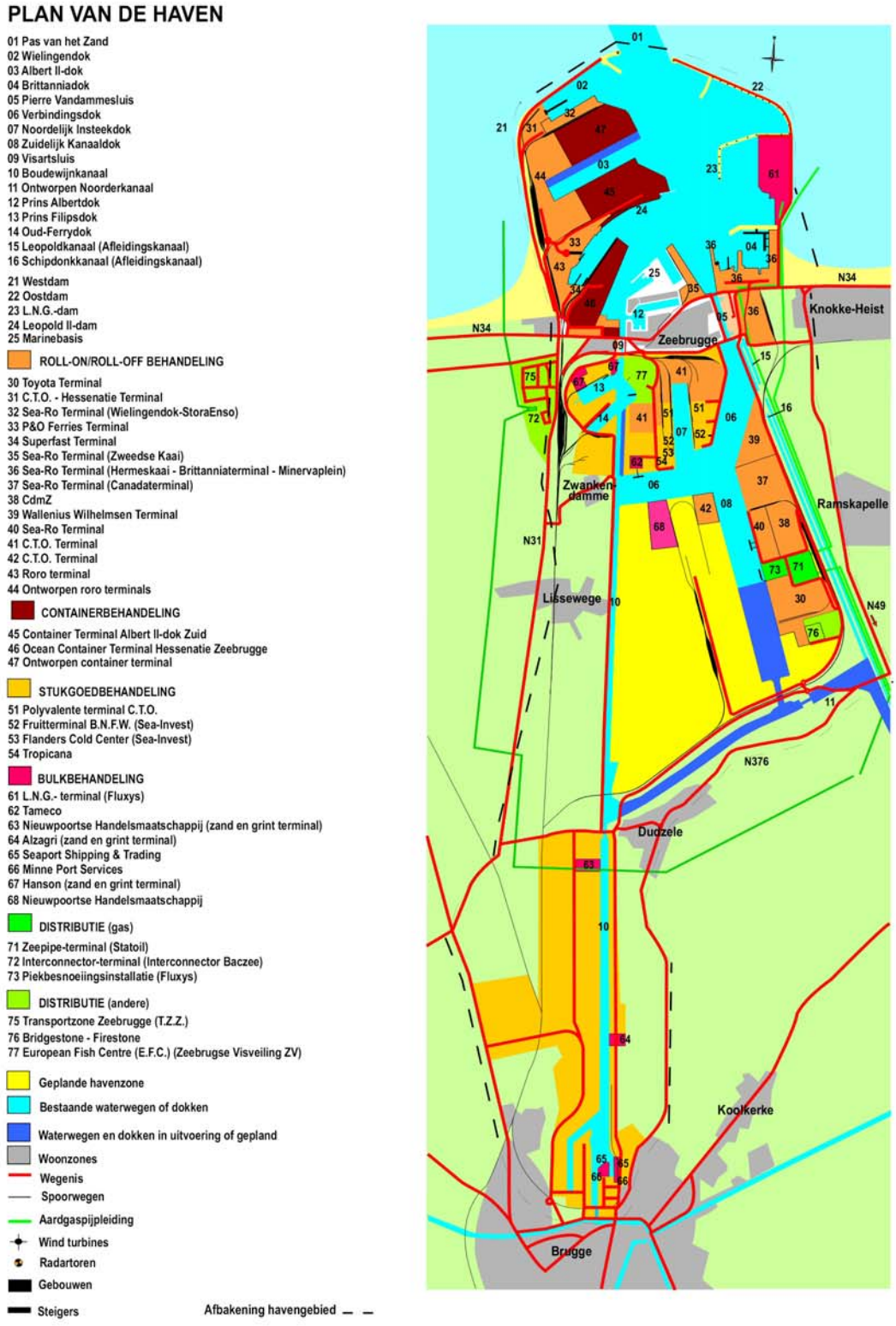
Haven van Gent - Port de Gand - Port of Ghent



Haven van Oostende - Port d'Ostende - Port of Ostend

Source - Bron: AG Haven Oostende.

Haven van Zeebrugge - Port de Zeebrugge - Port of Zeebrugge



Bron - Source: Maatschappij van de Brugse Zeevaartinrichtingen.

ANNEX 3: LIST OF NACE-BEL BRANCHES[141]

TABLE 43 LIST OF BRANCHES

SUT	NACE-Bel	Cluster	Sector	Definition
05A1	05010	MA	VI	Fishing
14A1	14211	IN	AI	Quarrying of sand pits
14A1	14300	IN	AI	Mining of chemical and fertiliser minerals
14A1	14500	IN	AI	Other mining and quarrying n.e.c.
15A1	15131	IN	VO	Production of fresh products made of meat and canned meat
15B1	15201	MA	VI	Processing and preserving of fish - production of fresh fish products
15B1	15202	MA	VI	Processing and preserving of fish - production of deep frozen fish products
15C1	15320	IN	VO	Manufacture of fruit and vegetable juice
15D1	15420	IN	VO	Manufacture of refined oils and fats
15E1	15510	IN	VO	Fabrication of dairies and cheese making
15E1	15520	IN	VO	Manufacture of ice cream
15F1	15610	IN	VO	Manufacture of grain mill products
15G1	15710	IN	VO	Manufacture of prepared feeds for farm animals
15H1	15812	IN	VO	Small-scale bread and pastry bakehouses
15I1	15840	IN	VO	Manufacture of cocoa; chocolate and sugar confectionery
15J1	15890	IN	VO	Manufacture of other food products n.e.c.
15K1	15910	IN	VO	Manufacture of distilled potable alcoholic beverages
17A1	17110	IN	AI	Preparation and spinning of cotton-type fibres
17A1	17150	IN	AI	Throwing and preparation of silk including from noils and throwing and texturing of synthetic or artificial filament yarns
17B1	17402	IN	AI	Manufacture of other textile articles
20A1	20101	IN	AI	Sawmilling and planing of wood
20A1	20102	IN	AI	Impregnation of wood
20A1	20300	IN	AI	Manufacture of builders' carpentry and joinery
20A1	20400	IN	AI	Manufacture of wooden containers
21A1	21121	IN	AI	Manufacture of paper
21A1	21210	IN	AI	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard
21A1	21250	IN	AI	Manufacture of other articles of paper and paperboard n.e.c.
22B1	22220 *	IN	AI	Printing n.e.c.
22B1	22240 *	IN	AI	Composition and plate-making
23A1	23200	IN	PE	Manufacture of refined petroleum products
24A1	24110	IN	CH	Manufacture of industrial gases
24A1	24120	IN	CH	Manufacture of dyes and pigments
24A1	24130	IN	CH	Manufacture of other inorganic basic chemicals
24A1	24140	IN	CH	Manufacture of other organic basic chemicals
24A1	24151	IN	CH	Manufacture of fertilisers
24A1	24160	IN	CH	Manufacture of plastics in primary forms
24A1	24170	IN	CH	Manufacture of synthetic rubber in primary forms
24B1	24200	IN	CH	Manufacture of pesticides and other agro-chemical products
24C1	24300	IN	CH	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
24D1	24410	IN	CH	Manufacture of basic pharmaceutical products
24D1	24421	IN	CH	Manufacture of medicines
24E1	24512	IN	CH	Manufacture of cleaning and polishing preparations
24E1	24520	IN	CH	Manufacture of perfumes and toilet preparations
24F1	24620	IN	CH	Manufacture of glues and gelatines
24F1	24640	IN	CH	Manufacture of photographic chemical material
24F1	24660	IN	CH	Manufacture of other chemical products n.e.c.
25A1	25120	IN	CH	Retreading and rebuilding of rubber tyres
25A1	25130	IN	CH	Manufacture of other rubber products
25B1	25210	IN	CH	Manufacture of plastic plates, sheets, tubes and profiles
25B1	25220	IN	CH	Manufacture of plastic packing goods
25B1	25240	IN	CH	Manufacture of other plastic products

[141] These are the 5-digit NACE-Bel headings appearing in the national accounts: version Rev. 1., applicable since 1995.

TABLE 43 (CONTINUED) LIST OF BRANCHES

26A1	26110	IN	CS	Manufacture of flat glass
26A1	26120	IN	CS	Shaping and processing of flat glass
26C1	26510	IN	CS	Manufacture of cement
26D1	26610	IN	CS	Manufacture of concrete products for construction purposes
26D1	26620	IN	CS	Manufacture of plaster products for construction purposes
26D1	26630	IN	CS	Manufacture of ready-mixed concrete
26D1	26700	IN	CS	Cutting, shaping and finishing of stone
26D1	26820	IN	CS	Manufacture of other non-metallic mineral products n.e.c.
27A1	27100	IN	ME	Manufacture of basic iron and steel and of ferro-alloys (ECSC)*
27A1	27220	IN	ME	Manufacture of steel tubes
27B1	27350	IN	ME	Other first processing of iron and steel n.e.c.; production of non-ECSC* ferro-alloys
27B1	27422	IN	ME	First processing of aluminium
27B1	27510	IN	ME	Casting of iron
28A1	28110	IN	ME	Manufacture of metal structures and parts of structures
28A1	28120	IN	ME	Manufacture of builders' carpentry and joinery of metal
28A1	28210	IN	ME	Manufacture of tanks, reservoirs and containers of metal
28A1	28220	IN	ME	Manufacture of central heating radiators and boilers
28A1	28300 *	IN	ME	Manufacture of steam generators, except central heating hot water boilers
28A1	28401	IN	ME	Forging of metal
28B1	28510	IN	ME	Treatment and coating of metals
28B1	28520	IN	ME	General mechanical engineering
28C1	28741	IN	ME	Manufacture of fasteners and screw machine products
28C1	28742	IN	ME	Manufacture of chain
28C1	28743	IN	ME	Manufacture of springs
28C1	28755	IN	ME	Manufacture of other fabricated metal products n.e.c.
29A1	29110	IN	ME	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
29A1	29120	IN	ME	Manufacture of pumps and compressors
29B1	29220	IN	ME	Manufacture of lifting and handling equipment
29B1	29230	IN	ME	Manufacture of non-domestic cooling and ventilation equipment
29B1	29241	IN	ME	Manufacture of packaging machinery
29B1	29245	IN	ME	Manufacture of filter equipment
29B1	29247	IN	ME	Manufacture of other general purpose machinery n.e.c.
29C1	29403	IN	ME	Manufacture of machine- tools for woodworking
29D1	29710 *	IN	ME	Manufacture of electric domestic appliances
31A1	31100	IN	MP	Manufacture of electric motors, generators and transformers
31A1	31200	IN	MP	Manufacture of electricity distribution and control apparatus
31A1	31501	IN	MP	Manufacture of electric lamps
32A1	32100	IN	MP	Manufacture of electronic valves and tubes and other electronic components
32A1	32300	IN	MP	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
33A1	33103	IN	MP	Manufacture of orthopaedic appliances
33A1	33201	IN	MP	Manufacture of electrical instruments and appliances for measuring, checking, testing and navigating
34A1	34100	IN	AU	Manufacture of motor vehicles
34B1	34201	IN	AU	Manufacture of bodies (coachwork) for motor vehicles and trailers
34B1	34300	IN	AU	Manufacture of parts and accessories for motor vehicles and their engines
35A1	35110	MA	SB	Building and repairing of ships
35A1	35120	MA	SB	Building and repairing of pleasure and sporting boats
35A1	35200	IN	AI	Manufacture of railway and tramway locomotives and rolling stock
36C1	36630	IN	AI	Other manufacturing n.e.c.
37A1	37100	IN	AI	Recycling of metal waste and scrap
37A1	37200	IN	AI	Recycling of non-metal waste and scrap
40A1	40100	IN	EN	Production and distribution of electricity
40A1	40200	IN	EN	Manufacture of gas; distribution of gaseous fuels through mains
45A1	45111	IN	CS	Demolition and wrecking of buildings
45A1	45112	IN	CS	Earth moving
45B1	45211	IN	CS	Construction of individual houses
45B1	45213	IN	CS	Construction of buildings for industrial, commercial or agricultural use
45B1	45214	IN	CS	Construction of tunnels, bridges, viaducts
45B1	45215	IN	CS	Construction of pipelines, telecommunication- and high tension conduit
45B1	45220	IN	CS	Erection of roof covering and frames

TABLE 43 (CONTINUED) LIST OF BRANCHES

45C1	45230	IN	CS	Construction of highways, roads, airfields and sport facilities
45C1	45241	MA	CS	Dredging
45C1	45242	MA	CS	Other construction of water projects
45C1	45250	IN	CS	Other construction work involving special trades
45D1	45310	IN	CS	Installation of electrical wiring and fittings
45D1	45320	IN	CS	Insulation work activities
45D1	45331	IN	CS	Installation of heating, air conditioning and ventilation
45D1	45332	IN	CS	Other plumbing
45D1	45340	IN	CS	Other building installation
45E1	45421	IN	CS	Joinery installation in wood and synthetic material
45E1	45422	IN	CS	Joinery installation in metal
45E1	45441	IN	CS	Painting
45E1	45500	IN	CS	Renting of construction or demolition equipment with operator
50A1	50101	CO	CO	Wholesale of motor vehicles
50A1	50102	CO	CO	Agents involved in the sale of motor vehicles
50A1	50103	CO	CO	Retail sale of motor vehicles
50A1	50200	CO	CO	Maintenance and repair of motor vehicles
50A1	50301	CO	CO	Wholesale of motor vehicle parts and accessories
50B1	50500	CO	CO	Retail sale of automotive fuel
51A1	51110	CO	CO	Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods
51A1	51120	CO	CO	Agents involved in the sale of fuels, ores, metals and industrial chemicals
51A1	51140	CO	CO	Agents involved in the sale of machinery, industrial equipment, ships and aircraft
51A1	51170	CO	CO	Agents involved in the sale of food, beverages and tobacco
51A1	51180	CO	CO	Agents specialising in the sale of particular products or ranges of products n.e.c.
51A1	51190	CO	CO	Agents involved in the sale of a variety of goods
51A1	51210	CO	CO	Wholesale of grain, seeds and animal feeds
51A1	51310	CO	CO	Wholesale of fruit and vegetables
51A1	51332	CO	CO	Wholesale of edible oils and fats
51A1	51340	CO	CO	Wholesale of alcoholic and other beverages
51A1	51381	CO	CO	Wholesale of fish, crustaceans and molluscs
51A1	51384	CO	CO	Specialised wholesale of other food
51A1	51391	CO	CO	Wholesale of deep-frozen foods
51A1	51392	CO	CO	Other non-specialised wholesale of food, beverages and tobacco
51A1	51410	CO	CO	Wholesale of textiles
51A1	51421	CO	CO	Wholesale of clothing, accessories and fur
51A1	51430	CO	CO	Wholesale of electrical household appliances and radio and television goods
51A1	51442	CO	CO	Wholesale of wallpaper and cleaning materials
51A1	51460	CO	CO	Wholesale of pharmaceutical goods
51A1	51478	CO	CO	Wholesale of other household goods n.e.c.
51A1	51510	CO	CO	Wholesale of solid, liquid and gaseous fuels and related products
51A1	51520	CO	CO	Wholesale of metals and metal ores
51A1	51531	CO	CO	Wholesale of wood
51A1	51532	CO	CO	Wholesale construction materials and sanitary equipment
51A1	51541	CO	CO	Wholesale of hardware
51A1	51550	CO	CO	Wholesale of chemical products
51A1	51562	CO	CO	Wholesale of other intermediate products n.e.c.
51A1	51570	CO	CO	Wholesale of waste and scrap
51A1	51610	CO	CO	Wholesale of machine tools
51A1	51620	CO	CO	Wholesale of construction machinery
51A1	51640	CO	CO	Wholesale of office machinery and equipment
51A1	51651	CO	CO	Wholesale of electric and electronic equipment
51A1	51652	CO	CO	Wholesale of other machinery for use in industry n.e.c.
51A1	51700	MA	CO	Other wholesale
52A1	52230	CO	CO	Retail sale of fish, crustaceans and molluscs
52A1	52461	CO	CO	Retail sale of hardware, paints and glass with sale surface less than 400m2
52A1	52481	CO	CO	Retail sale of fuels
52A1	52482	CO	CO	Retail sale of sport goods and camping equipment
52A1	52487	CO	CO	Retail sale of office machinery and equipment and computers
52A1	52498	CO	CO	Other retail sale in specialised stores n.e.c.

TABLE 43 (CONTINUED) LIST OF BRANCHES

52A1	52502	CO	CO	Retail sale of second-hand goods
52A1	52621	CO	CO	Retail sale of food via stalls and markets
52A1	52740	CO	CO	Repair n.e.c.
55B1	55301	CO	CO	Restaurants
55B1	55302	CO	CO	Fast food, snack bars
55B1	55522	CO	CO	Taking care of parties and receptions
60A1	60100	TR	TP	Transport via railways
60B1	60230	TR	TP	Other land passenger transport
60C1	60241	TR	TP	Furniture removal by road
60C1	60242	TR	WE	Freight transport by road
60C1	60300	TR	TP	Transport via pipelines
61A1	61100	MA	RE	Sea and coastal water transport
61B1	61200	MA	RE	Inland water transport
62A1	62200	TR	TP	Non-scheduled air transport
63B1	63111	MA	GO	Cargo handling in sea ports
63B1	63112	MA	GO	Other cargo handling
63B1	63121	MA	GO	Storage and warehousing in cold-storage buildings
63B1	63122	MA	GO	Other storage and warehousing
63B1	63210	LO	AD	Other supporting land transport activities
63B1	63220	MA	GO	Other supporting water transport activities
63A1	63301	LO	AD	Travel agencies
63B1	63401	MA	SE	Forwarding offices
63B1	63402	MA	SE	Chartering
63B1	63403	MA	SE	Ships' agencies
63B1	63404	MA	SE	Customs agencies
63B1	63405	MA	SE	Transport mediation
63B1	63406	MA	SE	Other activities of transport agencies
64A1	64120	TR	TP	Courier activities other than national post activities
64B1	64200	TR	TP	Telecommunications
66A2	66031	LO	AD	Direct non-life insurance operations
67A1	67130	LO	AD	Activities auxiliary to financial intermediation n.e.c.
67A1	67201	LO	AD	Insurance brokers and agents
67A1	67202	LO	AD	Damage and risk experts
67A1	67203	LO	AD	Other activities auxiliary to insurance
70A1	70111	LO	AD	Development of real estate (residential)
70A1	70113	LO	AD	Development of real estate (infrastructure)
70A1	70201	LO	AD	Letting of houses, except. welfare lodging
70A1	70203	LO	AD	Letting of non-residential buildings
70A1	70311	LO	AD	Mediation in buying, selling and letting of real estate
70A1	70321	LO	AD	Management of residential buildings
70A1	70322	LO	AD	Management of other real estate
71A1	71100	LO	AD	Renting of automobiles
71A1	71210	LO	AD	Renting of other land transport equipment
71A1	71220	MA	RE	Renting of water transport equipment
71B1	71320	LO	AD	Renting of construction and civil engineering machinery and equipment
71B1	71340	LO	AD	Renting of other machinery and equipment n.e.c.
71B1	71408	LO	AD	Renting of personal and household goods n.e.c.
72A1	72200	LO	AD	Software consultancy and supply
73A1	73100	LO	AD	Research and experimental development on natural sciences and engineering
74A1	74124	LO	AD	Tax consultancy
74A1	74131	LO	AD	Market research
74B1	74142	LO	AD	Other business and management consultancy activities
74B1	74151	LO	AD	Management activities of holding companies
74B1	74152	LO	AD	Coordination centres
74C1	74203	LO	AD	Technical consultancy and engineering activities
74C1	74302	LO	AD	Other technical testing and analysis
74E1	74502	LO	AD	Temporary employees agencies and providers of temporary personnel
74F1	74601	LO	AD	Security activities
74F1	74700	LO	AD	Industrial cleaning

TABLE 43 (CONTINUED) LIST OF BRANCHES

74F1	74820	LO	AD	Packaging activities
74F1	74835	LO	AD	Other administrative activities n.e.c.
74F1	74849	LO	AD	Other business activities n.e.c.
75B3	75220	MA	PU	Defence activities
90A1	90001	LO	AD	Effluent water collection and purification
90A1	90002	LO	AD	Collection and processing of household refuse
90A1	90003	LO	AD	Collection and processing of agricultural and industrial refuse
91A1	91110	LO	AD	Activities of business and employers organisations
92D1	92613	LO	AD	Operation of other sports accommodations
92D1	92723	LO	AD	Operation of beach, bicycle, pedal boats, ponies infrastructures and similar

Source: NBB.

The branches asterisked are those added further to the study of the Autonomous Port of Liège, for consistency, regarding all the maritime ports studied.

Legend

Code cluster	Cluster definition	Code sector	Sector definition
MA	Maritime	SE	Shipping agents and forwarders
		GO	Cargo handling
		RE	Shipping companies
		SB	Shipbuilding and repair
		CS	Port construction and dredging
		VI	Fishing
		CO	Port trade
		PU	Public sector
CO	Trade	CO	Trade
IN	Industry	EN	Energy
		PE	Oil industry
		CH	Chemicals
		AU	Car manufacturing
		MP	Electronics
		ME	Metal-working industry
		CS	Construction
		VO	Food industry
		AI	Other industries
TP	Transport	WE	Road transport
		TP	Other land transport
LO	Other logistic services	AD	Other services
		PU	Public sector

ANNEX 4: LIST OF PUBLIC ADMINISTRATIONS

TABLE 44 PUBLIC ADMINISTRATIONS

Ports	Names
AN-GN-OO-ZB	FOD Financiën - Administratie der Douane en Accijnzen
AN-GN-OO-ZB	FOD Binnenlandse Zaken - Scheepvaartpolitie
OO-ZB	FOD Defensie - Belgische Marine
AN-GN	FOD Economie, KMO, Middenstand en Energie - Bestuur Kwaliteit en Veiligheid - Metrolologische Dienst
AN-GN-OO-ZB	FOD Mobiliteit en Vervoer - Maritiem vervoer - Scheepvaartcontrole en scheepvaartveiligheid
AN-GN-ZB	FOD Volksgezondheid, Veiligheid van de voedselketen en Leefmilieu - Gezondheidsinspectie der haven
AN-ZB	FOD Volksgezondheid, Veiligheid van de voedselketen en Leefmilieu - Federaal agentschap voor de veiligheid van de voedselketen
AN	FOD Werkgelegenheid, Arbeid en Sociaal Overleg - Pool van de Zeelieden ter Koopvaardij
OO	Ministerie van de Vlaamse Gemeenschap - Departement voor Zeevisserij
AN-GN	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Milieu, Natuur, Land en Waterbeheer - Afdeling Milieuvergunningen
AN-GN	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Afdeling Maritieme Toegang
AN-GN-OO-ZB	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Loodswezen DAB
AN-GN-OO-ZB	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Afdeling Vloot
AN-GN-OO-ZB	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Afdeling Beleid Havens, Waterwegen en Zeewezen
GN-OO-ZB	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Afdeling Scheepvaartbegeleiding
OO-ZB	Ministerie van de Vlaamse Gemeenschap - Departement Leefmilieu en Infrastructuur - Administratie Waterwegen en Zeewezen - Afdeling Waterwegen Kust
AN	Provincie Antwerpen - Havencentrum Lillo
AN-GN-ZB	Stad - Brandweer Havenafdeling
AN-GN-ZB	VDAB - Aanwervingslokaal Havenarbeiders
ZB	VDAB - Centrum voor Maritieme Opleidingen

Source: NBB.

Legend :

Key	Port
AN	ANTWERP
GN	GHENT
OO	OSTEND
ZB	ZEEBRUGGE

ANNEX 5: BREAKDOWN OF INDIRECT EFFECTS BY SECTOR: 1997, 1999, 2000 AND 2001

This detailed breakdown is given only for the years for which supply and use tables' data have been updated in the national accounts: 1997, 1999, 2000 and 2001.

1. PORT OF ANTWERP

1.1. VA

TABLE 45 INDIRECT VALUE ADDED IN THE PORT OF ANTWERP
(millions of euros - current prices)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**6,109.2**	**6,071.7**	**6,861.2**	**6,620.3**
MARITIME CLUSTER	***2,740.6***	***2,365.8***	***2,546.9***	***2,309.4***
Shipping agents and forwarders	694.2	585.7	594.7	516.1
Cargo handling	1,219.6	1,151.3	1,179.2	1,125.8
Shipping companies	736.0	532.4	647.4	535.3
Shipbuilding and repair	17.6	23.5	18.2	20.4
Port construction and dredging	70.5	68.1	98.8	105.6
Fishing	0.5	0.8	0.5	0.5
Port trade	2.2	4.0	8.2	5.7
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***3,368.6***	***3,705.9***	***4,314.4***	***4,311.0***
TRADE	241.3	349.0	618.7	483.7
INDUSTRY	2,799.7	2,940.1	3,237.1	3,341.2
Energy	55.1	45.8	53.0	70.7
Oil industry	664.7	671.0	731.8	688.9
Chemicals	935.8	1,023.5	1,480.4	1,418.5
Car manufacturing	867.6	921.6	627.3	754.1
Electronics	4.2	5.4	8.8	12.3
Metal-working industry	59.6	62.6	70.5	87.7
Construction	117.6	136.1	138.3	168.7
Food industry	75.9	54.4	104.2	118.0
Other industries	19.1	19.7	22.9	22.3
TRANSPORT	81.9	83.7	67.8	60.5
Road transport	64.5	66.6	51.6	42.9
Other land transport	17.4	17.1	16.2	17.6
OTHER LOGISTIC SERVICES	245.7	333.1	390.8	425.5
Other services	245.7	333.1	390.8	425.5
Public sector	n.	n.	n.	n.
TOTAL	**6,109.2**	**6,071.7**	**6,861.2**	**6,620.3**

Source: NBB.

TABLE 46 INDIRECT EMPLOYMENT IN THE PORT OF ANTWERP
(FTEs)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**82,394**	**82,252**	**91,789**	**88,250**
MARITIME CLUSTER	***35,969***	***34,029***	***35,807***	***29,372***
Shipping agents and forwarders	9,217	8,219	8,471	6,640
Cargo handling	20,117	17,892	17,813	14,839
Shipping companies	5,595	6,764	8,272	6,493
Shipbuilding and repair	435	499	461	519
Port construction and dredging	553	553	606	744
Fishing	6	11	9	7
Port trade	47	90	176	128
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***46,424***	***48,223***	***55,982***	***58,879***
TRADE	1,862	2,214	3,076	2,598
INDUSTRY	39,079	39,898	46,164	48,988
Energy	1,347	1,143	997	1,380
Oil industry	7,622	7,891	10,167	10,527
Chemicals	9,465	10,778	16,934	16,167
Car manufacturing	15,783	15,401	12,034	13,779
Electronics	68	92	151	163
Metal-working industry	1,128	1,154	1,350	1,617
Construction	1,699	1,899	1,814	2,147
Food industry	1,706	1,252	2,417	2,908
Other industries	261	289	299	303
TRANSPORT	1,478	1,448	1,199	1,053
Road transport	1,233	1,191	815	618
Other land transport	245	258	384	436
OTHER LOGISTIC SERVICES	4,005	4,663	5,544	6,239
Other services	4,005	4,663	5,544	6,239
Public sector	n.	n.	n.	n.
TOTAL	**82,394**	**82,252**	**91,789**	**88,250**

Source: NBB.

2. PORT OF GHENT

2.1. VA

TABLE 47 **INDIRECT VALUE ADDED IN THE PORT OF GHENT**
(millions of euros - current prices)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**2,448.2**	**2,683.6**	**2,759.5**	**2,858.5**
MARITIME CLUSTER	***225.9***	***251.5***	***217.3***	***199.5***
Shipping agents and forwarders	49.0	47.1	53.1	56.2
Cargo handling	163.8	163.0	148.8	122.4
Shipping companies	10.8	36.9	10.0	13.5
Shipbuilding and repair	1.5	3.0	2.7	3.4
Port construction and dredging	0.0	0.0	0.0	2.4
Fishing	0.6	1.2	1.2	0.7
Port trade	0.2	0.3	1.5	0.8
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***2,222.3***	***2,432.1***	***2,542.1***	***2,659.0***
TRADE	257.8	355.8	472.6	423.5
INDUSTRY	1,791.0	1,979.5	1,890.4	2,089.9
Energy	62.2	37.7	47.0	60.2
Oil industry	0.0	0.0	2.8	4.7
Chemicals	85.6	104.6	131.2	129.6
Car manufacturing	828.1	908.2	682.6	877.6
Electronics	50.9	48.6	66.1	42.3
Metal-working industry	461.6	579.0	637.5	576.6
Construction	140.3	144.2	157.8	194.4
Food industry	104.0	91.5	103.5	125.5
Other industries	58.2	65.6	62.0	78.9
TRANSPORT	25.8	29.3	31.0	26.6
Road transport	21.9	25.0	27.4	22.2
Other land transport	3.8	4.3	3.6	4.3
OTHER LOGISTIC SERVICES	147.7	67.5	148.1	119.1
Other services	147.7	67.5	148.1	119.1
Public sector	n.	n.	n.	n.
TOTAL	**2,448.2**	**2,683.6**	**2,759.5**	**2,858.5**

Source: NBB.

TABLE 48 INDIRECT EMPLOYMENT IN THE PORT OF GHENT
(FTEs)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**32,086**	**35,459**	**36,114**	**37,129**
MARITIME CLUSTER	***2,617***	***3,032***	***2,688***	***2,311***
Shipping agents and forwarders	745	751	774	701
Cargo handling	1,665	1,629	1,616	1,234
Shipping companies	146	555	206	236
Shipbuilding and repair	41	65	60	83
Port construction and dredging	0	0	0	30
Fishing	13	23	14	10
Port trade	7	9	17	16
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***29,470***	***32,427***	***33,426***	***34,818***
TRADE	2,346	2,655	2,940	2,653
INDUSTRY	25,221	28,091	27,960	30,101
Energy	1,519	942	884	1,028
Oil industry	0	0	256	239
Chemicals	1,371	1,624	2,253	2,245
Car manufacturing	11,497	14,005	10,439	13,130
Electronics	728	670	1,282	985
Metal-working industry	5,623	6,200	8,095	7,456
Construction	2,081	2,231	2,065	1,984
Food industry	1,408	1,613	1,837	2,097
Other industries	993	806	850	937
TRANSPORT	435	405	376	329
Road transport	377	341	315	259
Other land transport	58	63	60	69
OTHER LOGISTIC SERVICES	1,468	1,276	2,151	1,735
Other services	1,468	1,276	2,151	1,735
Public sector	n.	n.	n.	n.
TOTAL	**32,086**	**35,459**	**36,114**	**37,129**

Source: NBB.

3. PORT OF OSTEND

3.1. VA

TABLE 49 **INDIRECT VALUE ADDED IN THE PORT OF OSTEND**
(millions of euros - current prices)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**124.2**	**365.0**	**304.7**	**266.0**
MARITIME CLUSTER	***5.8***	***123.5***	***56.1***	***52.3***
Shipping agents and forwarders	7.0	5.8	7.3	2.9
Cargo handling	8.0	5.0	5.1	5.3
Shipping companies	-90.1	32.6	0.0	-8.0
Shipbuilding and repair	1.7	4.7	3.9	3.9
Port construction and dredging	40.8	42.7	19.3	26.0
Fishing	38.3	32.7	20.4	22.1
Port trade	0.0	0.0	0.1	0.1
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***118.5***	***241.5***	***248.6***	***213.7***
TRADE	14.9	20.6	25.0	19.3
INDUSTRY	80.6	103.2	91.9	120.7
Energy	0.0	0.3	0.3	0.3
Oil industry	0.0	0.0	0.0	0.0
Chemicals	15.9	15.8	15.8	15.1
Car manufacturing	0.0	0.0	0.0	0.0
Electronics	0.0	0.0	0.5	0.6
Metal-working industry	37.9	67.2	60.7	84.2
Construction	20.7	12.3	9.2	10.2
Food industry	1.6	3.9	1.8	5.9
Other industries	4.5	3.7	3.4	4.3
TRANSPORT	9.7	9.9	8.0	10.1
Road transport	9.1	9.8	7.8	9.9
Other land transport	0.6	0.2	0.1	0.3
OTHER LOGISTIC SERVICES	13.3	107.8	123.8	63.6
Other services	13.3	107.8	123.8	63.6
Public sector	n.	n.	n.	n.
TOTAL	**124.2**	**365.0**	**304.7**	**266.0**

Source: NBB.

TABLE 50 INDIRECT EMPLOYMENT IN THE PORT OF OSTEND
(FTEs)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**9,526**	**7,778**	**4,147**	**4,175**
MARITIME CLUSTER	***7,345***	***4,615***	***851***	***908***
Shipping agents and forwarders	107	104	104	29
Cargo handling	55	70	99	70
Shipping companies	6,049	3,379	0	152
Shipbuilding and repair	42	91	85	103
Port construction and dredging	409	292	167	207
Fishing	684	679	395	346
Port trade	0	0	1	2
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***2,180***	***3,162***	***3,297***	***3,267***
TRADE	340	368	503	405
INDUSTRY	1,354	1,409	1,485	1,531
Energy	0	6	5	5
Oil industry	0	0	0	0
Chemicals	331	382	456	344
Car manufacturing	0	0	0	0
Electronics	0	0	9	8
Metal-working industry	434	618	730	812
Construction	448	219	170	182
Food industry	46	97	43	113
Other industries	95	88	72	68
TRANSPORT	138	132	97	146
Road transport	126	130	91	113
Other land transport	12	2	7	33
OTHER LOGISTIC SERVICES	348	1,253	1,210	1,185
Other services	348	1,253	1,210	1,185
Public sector	n.	n.	n.	n.
TOTAL	**9,526**	**7,778**	**4,147**	**4,175**

Source: NBB.

4. PORT OF ZEEBRUGGE

4.1. VA

TABLE 51 **INDIRECT VALUE ADDED IN THE PORT OF ZEEBRUGGE**
(millions of euros - current prices)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**409.5**	**575.9**	**543.3**	**544.2**
MARITIME CLUSTER	***164.1***	***283.2***	***207.4***	***200.9***
Shipping agents and forwarders	29.5	33.4	37.3	30.5
Cargo handling	56.2	85.0	109.5	102.3
Shipping companies	39.8	106.8	1.6	9.5
Shipbuilding and repair	3.7	6.0	7.0	7.4
Port construction and dredging	11.0	25.0	32.9	31.9
Fishing	23.7	26.9	18.8	19.2
Port trade	0.1	0.1	0.3	0.1
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***245.4***	***292.7***	***335.9***	***343.3***
TRADE	41.5	57.3	68.0	59.4
INDUSTRY	145.1	164.5	199.0	212.8
Energy	11.0	21.3	26.1	27.8
Oil industry	0.0	0.0	0.0	0.0
Chemicals	16.5	19.4	16.5	15.0
Car manufacturing	2.2	2.8	3.4	9.6
Electronics	26.2	26.9	46.4	47.8
Metal-working industry	12.6	12.7	13.3	13.7
Construction	39.2	47.1	66.7	69.8
Food industry	30.4	24.9	16.7	18.4
Other industries	7.0	9.4	9.9	10.6
TRANSPORT	32.7	41.2	33.3	37.4
Road transport	28.7	36.2	25.8	24.9
Other land transport	4.0	5.0	7.5	12.5
OTHER LOGISTIC SERVICES	26.1	29.7	35.5	33.8
Other services	26.1	29.7	35.5	33.8
Public sector	n.	n.	n.	n.
TOTAL	**409.5**	**575.9**	**543.3**	**544.2**

Source: NBB.

TABLE 52 INDIRECT EMPLOYMENT IN THE PORT OF ZEEBRUGGE
(FTEs)

Sectors	1997	1999	2000	2001
1. INDIRECT EFFECTS	**7,901**	**8,843**	**10,012**	**9,061**
MARITIME CLUSTER	***2,783***	***3,611***	***4,411***	***3,346***
Shipping agents and forwarders	351	453	404	341
Cargo handling	1,287	1,541	1,743	1,359
Shipping companies	475	768	1,353	805
Shipbuilding and repair	95	153	164	189
Port construction and dredging	144	247	319	300
Fishing	429	447	415	345
Port trade	3	2	12	6
Public sector	n.	n.	n.	n.
NON-MARITIME CLUSTER	***5,118***	***5,232***	***5,601***	***5,715***
TRADE	863	1,092	1,217	1,049
INDUSTRY	2,575	2,886	3,048	3,337
Energy	148	386	384	411
Oil industry	0	0	0	0
Chemicals	286	302	251	240
Car manufacturing	19	16	32	154
Electronics	556	533	755	793
Metal-working industry	202	213	242	240
Construction	553	588	704	773
Food industry	646	643	497	554
Other industries	165	205	184	172
TRANSPORT	1,094	665	480	619
Road transport	510	575	374	353
Other land transport	584	91	107	265
OTHER LOGISTIC SERVICES	586	589	856	710
Other services	586	589	856	710
Public sector	n.	n.	n.	n.
TOTAL	**7,901**	**8,843**	**10,012**	**9,061**

Source: NBB.

ANNEX 6: BREAKDOWN OF FINDINGS BY COMPANY SIZE IN 2003

TABLE 53 BREAKDOWN OF FINDINGS AT THE PORT OF ANTWERP IN 2003

Sectors	Number of companies		Value added (in millions of euros)		Employment (in FTEs)		Investments (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***159***	***618***	***1,660.1***	***228.9***	***19,030***	***3,230***	***346.6***	***34.3***
Shipping agents and forwarders	90	336	323.8	138.7	4,367	2,130	31.7	10.0
Cargo handling	44	107	1,033.8	51.4	13,160	631	205.1	13.7
Shipping companies	16	111	173.9	19.7	383	152	53.5	6.9
Shipbuilding and repair	3	24	12.8	7.6	292	133	0.4	0.8
Port construction and dredging	5	1	114.3	1.1	824	21	55.7	0.2
Fishing	0	3	0.0	0.5	0	8	0.0	0.0
Port trade	1	36	1.5	9.9	4	156	0.1	2.7
Public sector	0	0	0.0	0.0	0	0	0.0	0.0
NON-MARITIME CLUSTER	***199***	***713***	***5,284.1***	***225.0***	***35,771***	***3,320***	***1,013.4***	***76.6***
TRADE	54	235	737.8	58.5	1,890	914	110.1	15.8
INDUSTRY	77.0	104.0	3,976.9	51.7	26,161	957	739.7	5.6
Energy	1	0	107.9	0.0	1,098	0	8.9	0.0
Oil industry	5	3	1,062.6	0.6	3,107	0	111.9	0.0
Chemicals	31	5	2,099.4	2.7	11,165	9	430.0	0.0
Car manufacturing	5	9	446.7	8.0	6,508	188	164.2	0.8
Electronics	3	4	14.5	1.3	152	27	0.2	0.0
Metal-working industry	10	20	88.0	11.8	1,777	225	3.5	1.0
Construction	15	45	88.1	21.8	1,366	371	7.9	3.0
Food industry	3	0	42.5	0.0	744	0	10.3	0.0
Other industries	4	18	27.1	5.6	244	138	2.7	0.7
TRANSPORT	20	57	165.7	42.2	2,757	636	56.6	8.7
Road transport	17	48	52.2	36.4	757	554	32.8	7.9
Other land transport	3	9	113.5	5.8	2,000	82	23.8	0.9
OTHER LOGISTIC SERVICES	48	317	403.6	72.6	4,963	812	107.0	46.5
Other services	47	317	309.2	72.6	2,911	812	37.9	46.5
Public sector	1	0	94.5	0.0	2,052	0	69.1	0.0
TOTAL	**358**	**1,331**	**6,944.2**	**453.9**	**54,801**	**6,550**	**1,360.0**	**111.0**

Source: NBB.

TABLE 54 BREAKDOWN OF FINDINGS AT THE PORT OF GHENT IN 2003

Sectors	Number of companies		Value added (in millions of euros)		Employment (in FTEs)		Investments (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***28***	***104***	***137.6***	***48.9***	***1,175***	***736***	***29.3***	***13.1***
Shipping agents and forwarders	12	28	37.0	10.0	557	168	4.1	4.8
Cargo handling	12	29	93.6	26.4	560	432	23.2	4.0
Shipping companies	1	34	2.2	6.5	25	56	1.7	3.3
Shipbuilding and repair	0	6	0.0	2.9	0	47	0.0	0.5
Port construction and dredging	2	0	0.9	0.0	11	0	0.2	0.0
Fishing	0	1	0.0	1.3	0	8	0.0	0.2
Port trade	1	6	3.9	1.7	22	25	0.1	0.2
Public sector	0	0	0.0	0.0	0	0	0.0	0.0
NON-MARITIME CLUSTER	***137***	***429***	***2,624.9***	***135.9***	***24,319***	***2,017***	***682.9***	***25.1***
TRADE	36	144	605.4	47.3	2,184	665	43.2	7.8
INDUSTRY	75	108	1,882.9	44.6	20,160	836	609.7	7.6
Energy	2	1	97.7	0.0	895	0	7.5	0.2
Oil industry	1	0	8.1	0.0	58	0	5.0	0.0
Chemicals	18	7	210.0	5.3	1,856	45	31.2	0.3
Car manufacturing	7	1	506.7	0.8	7,132	19	172.8	0.0
Electronics	4	1	66.4	0.0	990	0	4.6	0.0
Metal-working industry	12	23	764.2	10.8	6,417	208	156.2	1.6
Construction	16	51	84.7	22.0	1,260	434	7.8	3.0
Food industry	7	7	67.0	0.8	483	11	10.1	0.1
Other industries	8	17	78.0	4.8	1,070	119	214.6	2.5
TRANSPORT	9	26	48.9	15.2	753	238	9.6	4.7
Road transport	7	24	25.9	12.9	332	190	7.5	3.9
Other land transport	2	2	23.0	2.3	421	48	2.1	0.7
OTHER LOGISTIC SERVICES	17	151	87.7	28.8	1,223	279	20.4	5.1
Other services	16	151	77.7	28.8	963	279	9.4	5.1
Public sector	1	0	10.0	0.0	260	0	11.1	0.0
TOTAL	**165**	**533**	**2,762.5**	**184.8**	**25,494**	**2,753**	**712.3**	**38.2**

Source: NBB.

TABLE 55 BREAKDOWN OF FINDINGS AT THE PORT OF OSTEND IN 2003

Sectors	Number of companies		Value added (in millions of euros)		Employment (in FTEs)		Investments (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***9***	***57***	***44.6***	***16.5***	***666***	***308***	***8.6***	***2.1***
Shipping agents and forwarders	1	9	0.1	3.1	2	50	0.0	0.4
Cargo handling	1	10	3.1	2.8	35	64	5.0	0.2
Shipping companies	1	2	1.0	0.0	14	1	0.0	0.0
Shipbuilding and repair	1	11	1.2	3.9	7	73	0.1	0.2
Port construction and dredging	3	0	26.0	0.0	274	0	0.9	0.0
Fishing	1	23	2.5	6.5	67	117	2.5	1.3
Port trade	0	2	0.0	0.3	0	3	0.0	0.0
Public sector	1	0	10.7	0.0	268	0	0.0	0.0
NON-MARITIME CLUSTER	***25***	***192***	***223.2***	***48.1***	***2,538***	***784***	***37.8***	***22.5***
TRADE	4	69	10.6	11.8	136	200	2.6	3.4
INDUSTRY	10	34	153.3	14.9	1,547	272	20.9	1.8
Energy	1	1	0.3	0.1	3	0	0.0	0.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	4	1	35.0	0.1	403	3	7.5	0.0
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	0	1	0.0	0.7	0	12	0.0	0.1
Metal-working industry	1	7	108.6	2.2	1,014	40	10.1	0.4
Construction	1	15	0.5	5.9	5	112	0.1	0.6
Food industry	1	1	5.9	0.6	51	12	0.7	0.2
Other industries	2	8	3.1	5.3	72	94	2.4	0.5
TRANSPORT	4	10	11.8	10.9	123	188	1.1	0.7
Road transport	2	9	8.3	10.0	64	169	0.7	0.7
Other land transport	2	1	3.5	0.9	59	18	0.5	0.0
OTHER LOGISTIC SERVICES	7	79	47.6	10.5	732	124	13.2	16.6
Other services	6	79	25.1	10.5	181	124	4.6	16.6
Public sector	1	0	22.5	0.0	551	0	8.6	0.0
TOTAL	**34**	**249**	**267.8**	**64.6**	**3,205**	**1.092**	**46.4**	**24.6**

Source: NBB.

TABLE 56 BREAKDOWN OF FINDINGS AT THE PORT OF ZEEBRUGGE IN 2003

Sectors	Number of companies		Value added (in millions of euros)		Employment (in FTEs)		Investments (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER......	***24***	***98***	***209.7***	***38.3***	***3,355***	***469***	***40.6***	***7.8***
Shipping agents and forwarders	9	29	20.8	11.8	215	136	6.2	1.2
Cargo handling	8	24	83.5	7.0	1,174	78	30.4	2.0
Shipping companies	1	10	12.7	4.2	39	45	2.7	0.4
Shipbuilding and repair..	1	6	3.4	2.5	63	47	0.0	0.2
Port construction and dredging	2	1	19.6	0.9	268	11	1.1	0.6
Fishing..........................	2	25	3.8	11.6	112	145	0.2	3.4
Port trade......................	0	3	0.0	0.3	0	7	0.0	0.0
Public sector.................	1	0	66.0	0.0	1,484	0	0.0	0.0
NON-MARITIME CLUSTER	***59***	***261***	***366.5***	***81.0***	***4,852***	***1,434***	***63.8***	***17.7***
TRADE	18	103	51.3	24.0	746	433	10.0	3.3
INDUSTRY	22	65	220.3	32.2	2,535	573	35.9	6.3
Energy..........................	2	0	52.7	0.0	367	0	6.1	0.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals.....................	3	4	24.3	2.3	265	55	1.5	0.6
Car manufacturing	1	0	9.1	0.0	52	0	5.5	0.0
Electronics....................	3	5	76.8	3.6	866	75	14.8	0.2
Metal-working industry...	3	16	8.8	8.7	125	167	1.2	0.7
Construction	6	24	32.0	9.7	474	132	4.6	2.1
Food industry................	2	8	6.0	5.5	142	107	0.6	0.9
Other industries	2	8	10.7	2.3	244	38	1.5	1.8
TRANSPORT	11	23	47.6	17.9	769	326	10.4	4.1
Road transport..............	9	20	32.7	16.2	492	282	9.1	3.9
Other land transport.......	2	3	15.0	1.7	277	44	1.4	0.3
OTHER LOGISTIC SERVICES......................	8	70	47.2	6.9	802	102	7.5	3.9
Other services	7	70	29.9	6.9	488	102	2.2	3.9
Public sector.................	1	0	17.4	0.0	314	0	5.3	0.0
TOTAL	**83**	**359**	**576.1**	**119.3**	**8,207**	**1,902**	**104.4**	**25.4**

Source: NBB.

TABLE 57 SOCIAL BALANCE SHEET IN 2001

AVERAGE NUMBER OF EMPLOYEES

Sectors	Number			Hours actually worked (1)			Personnel costs (2)			Hired temporary staff			Persons placed at the enterprise's disposal		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	number	hours actually worked (1)	costs (2)	number	hours actually worked (1)	costs (2)
	1001	1002	1003	1011	1012	1013	1021	1022	1023	1501	1511	1521	1502	1512	1522
MARITIME CLUSTER	***24,287***	***1,122***	***24,999***	***37.2***	***1.2***	***38.4***	***1,180.1***	***34.9***	***1,215.0***	***934***	***1.71***	***35.4***	***6,595***	***11.15***	***396.4***
Shipping agents and forwarders	6,547	592	6,928	11.0	0.6	11.7	311.8	18.2	330.0	320	0.61	11.4	777	1.30	44.9
Cargo handling	14,367	293	14,560	20.4	0.3	20.7	697.4	9.9	707.2	508	0.92	20.0	5,722	9.69	346.0
Shipping companies	677	85	718	1.2	0.1	1.3	41.1	2.2	43.2	22	0.03	0.5	96	0.16	5.5
Shipbuilding and repair	759	34	777	1.1	0.0	1.2	28.1	0.6	28.7	63	0.12	2.4	0	0.00	0.0
Port construction and dredging	1,212	29	1,231	2.3	0.0	2.3	69.2	0.8	69.9	11	0.02	0.4	0	0.00	0.0
Fishing	594	70	646	0.9	0.1	1.0	27.0	3.0	30.0	10	0.02	0.7	0	0.00	0.0
Port trade	131	19	140	0.2	0.0	0.2	5.5	0.3	5.8	1	0.00	0.0	0	0.00	0.0
NON-MARITIME CLUSTER	***67,354***	***4,541***	***70,214***	***103.3***	***4.5***	***107.8***	***3,788.4***	***152.6***	***3,941.0***	***1,835***	***3.39***	***77.9***	***617***	***1.04***	***36.9***
TRADE	5,649	765	6,083	9.0	0.7	9.7	267.0	17.7	284.7	250	0.47	10.3	70	0.12	5.7
INDUSTRY	52,125	2,580	53,876	78.7	2.7	81.4	3,093.0	106.2	3,199.2	1,289	2.37	56.3	260	0.43	15.6
Energy	2,350	120	2,444	3.2	0.1	3.3	191.4	6.1	197.5	20	0.04	0.8	0	0.00	0.0
Oil industry	2,696	205	2,843	4.8	0.3	5.1	242.4	14.6	257.1	50	0.09	2.1	1	0.00	0.1
Chemicals	14,197	802	14,735	22.2	0.9	23.1	1,028.1	38.8	1,066.9	264	0.48	13.2	3	0.01	0.3
Car manufacturing	14,034	730	14,510	20.1	0.7	20.7	671.8	23.0	694.8	421	0.77	18.8	131	0.19	6.9
Electronics	1,322	114	1,423	2.0	0.2	2.2	67.8	5.7	73.5	75	0.14	3.2	0	0.00	0.0
Metal-working industry	10,280	266	10,454	15.4	0.3	15.7	572.4	9.2	581.6	188	0.34	7.6	101	0.19	6.4
Construction	4,116	104	4,179	6.2	0.1	6.4	180.8	2.8	183.6	67	0.12	2.9	4	0.01	0.2
Food industry	1,393	161	1,498	2.1	0.2	2.2	59.7	3.7	63.5	146	0.29	5.4	11	0.02	0.7
Other industries	1,739	78	1,791	2.7	0.1	2.8	78.6	2.2	80.8	57	0.10	2.2	10	0.02	0.9
TRANSPORT	5,116	301	5,331	8.3	0.4	8.7	207.6	9.8	217.4	122	0.22	4.3	160	0.28	8.2
Road transport	2,594	88	2,649	4.7	0.1	4.7	107.0	2.1	109.1	105	0.19	3.8	159	0.28	8.2
Other land transport	2,523	213	2,682	3.7	0.3	3.9	100.5	7.7	108.2	17	0.03	0.5	1	0.00	0.0
OTHER LOGISTIC SERVICES	4,464	896	4,925	7.2	0.8	8.0	220.8	19.0	239.8	175	0.33	6.9	127	0.22	7.4
Other services	4,464	896	4,925	7.2	0.8	8.0	220.8	19.0	239.8	175	0.33	6.9	127	0.22	7.4
TOTAL	**91,641**	**5,664**	**95,213**	**140.5**	**5.7**	**146.2**	**4,968.5**	**187.5**	**5,156.0**	**2,769**	**5.11**	**113.3**	**7,212**	**12.19**	**433.3**

Source: NBB.

Sectors	NUMBER OF PERSONS EMPLOYED AT THE END OF THE YEAR											TRAINING		
	Number			Men			Women			Number		Men		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	employee	worker	number	hours (1)	costs (2)
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1343	1323	5801	5802	5803
MARITIME CLUSTER	***24,454***	***1,160***	***25,197***	***20,213***	***328***	***20,406***	***4,241***	***832***	***4,791***	***10,111***	***14,458***	***3,745***	***0.11***	***3.6***
Shipping agents and forwarders	6,498	609	6,891	3,867	104	3,921	2,631	505	2,970	6,043	665	755	0.02	0.7
Cargo handling	14,599	293	14,792	13,363	94	13,421	1,236	199	1,370	2,916	11,467	2,101	0.06	2.2
Shipping companies	674	81	714	535	23	542	139	58	172	500	196	151	0.00	0.2
Shipbuilding and repair	766	34	783	733	15	740	33	19	43	125	653	88	0.00	0.1
Port construction and dredging	1,231	31	1,252	1,158	12	1,166	73	19	86	397	844	646	0.02	0.5
Fishing	556	95	627	462	73	517	94	22	109	45	581	1	0.00	0.0
Port trade	130	17	139	95	7	98	35	10	41	85	52	3	0.00	0.0
NON-MARITIME CLUSTER	***66,996***	***4,465***	***69,807***	***58,975***	***1,684***	***60,046***	***8,021***	***2,781***	***9,761***	***25,498***	***41,102***	***37,302***	***1.64***	***77.3***
TRADE	5,781	787	6,216	4,502	218	4,606	1,279	569	1,610	3,346	2,673	1,564	0.06	2.0
INDUSTRY	51,632	2,448	53,311	46,532	1,053	47,258	5,100	1,395	6,053	17,375	33,165	32,104	1.40	68.9
Energy	2,260	109	2,343	1,968	21	1,985	292	88	358	1,889	63	1,300	0.04	2.5
Oil industry	2,688	210	2,839	2,356	128	2,446	332	82	393	2,213	500	2,017	0.14	9.7
Chemicals	14,303	803	14,847	13,027	364	13,270	1,276	438	1,577	6,924	7,043	10,270	0.40	25.1
Car manufacturing	13,890	604	14,302	12,574	364	12,838	1,316	240	1,464	1,539	11,801	11,574	0.42	14.9
Electronics	1,198	119	1,303	986	16	999	212	103	304	443	850	460	0.02	0.8
Metal-working industry	10,067	271	10,242	9,253	79	9,303	814	191	939	2,622	7,350	4,344	0.30	13.7
Construction	4,134	102	4,196	3,910	37	3,931	224	65	266	904	3,219	793	0.03	0.9
Food industry	1,353	156	1,451	1,031	26	1,048	322	130	403	374	1,045	519	0.01	0.4
Other industries	1,739	74	1,787	1,427	18	1,438	312	56	348	468	1,294	827	0.04	0.9
TRANSPORT	5,111	311	5,333	4,619	180	4,748	492	132	585	1,693	3,583	2,206	0.14	4.6
Road transport	2,571	90	2,627	2,289	28	2,305	281	63	323	609	1,998	503	0.01	0.2
Other land transport	2,540	221	2,706	2,329	152	2,443	211	69	262	1,084	1,585	1,703	0.12	4.4
OTHER LOGISTIC SERVICES	4,472	919	4,947	3,322	233	3,434	1,150	686	1,513	3,083	1,680	1,428	0.04	1.8
Other services	4,472	919	4,947	3,322	233	3,434	1,150	686	1,513	3,083	1,680	1,428	0.04	1.8
TOTAL	**91,450**	**5,626**	**95,003**	**79,188**	**2,012**	**80,451**	**12,262**	**3,614**	**14,552**	**35,609**	**55,559**	**41,047**	**1.74**	**80.9**

Source: NBB.

TABLE 57 (continued) SOCIAL BALANCE SHEET IN 2001

Sectors	TRAINING					ENTERED								RESIGNED	
	Women			Number (in FTEs)	Indefinite period	Men				Women				Number (in FTEs)	Indefinite period
	number	hours (1)	costs (2)			primary	secundary	higher	university	primary	secundary	higher	university		
	5811	5812	5813	2053	2103	2203	2213	2223	2233	2303	2313	2323	2333	3053	3103
MARITIME CLUSTER	***1,148***	***0.03***	***1.0***	***7,596***	***4,821***	***1,473***	***1,853***	***571***	***168***	***141***	***838***	***384***	***48***	***6,721***	***4,051***
Shipping agents and forwarders	520	0.02	0.5	2,405	1,775	56	761	285	48	26	519	303	27	2,015	1,439
Cargo handling	517	0.01	0.4	2,789	2,340	1,282	711	137	50	106	265	66	17	2,522	2,044
Shipping companies	49	0.00	0.0	362	145	9	77	29	18	6	42	10	1	301	79
Shipbuilding and repair	5	0.00	0.0	168	26	0	28	1	1	1	3	0	0	132	18
Port construction and dredging	54	0.00	0.0	504	439	43	265	116	49	0	7	3	4	445	388
Fishing	0	0.00	0.0	1,290	84	82	7	0	1	2	3	0	0	1,237	78
Port trade	4	0.00	0.0	78	12	0	4	4	2	0	0	2	0	69	5
NON-MARITIME CLUSTER	***5,340***	***0.21***	***9.6***	***13,518***	***7,785***	***1,154***	***5,440***	***1,273***	***620***	***258***	***1,383***	***656***	***279***	***12,468***	***7,121***
TRADE	545	0.02	0.6	2,337	1,110	107	688	197	73	39	304	96	53	1,891	788
INDUSTRY	4,153	0.17	8.0	7,899	4,510	813	3,668	763	386	160	740	383	164	8,026	4,780
Energy	241	0.01	0.3	187	36	0	60	18	22	0	49	28	10	405	230
Oil industry	239	0.02	1.1	292	199	0	76	85	47	0	14	51	19	297	231
Chemicals	1,180	0.04	2.8	2,371	1,502	70	1,214	355	204	10	254	162	89	1,921	1,150
Car manufacturing	1,481	0.05	2.0	1,464	754	187	756	130	25	69	131	53	17	1,688	745
Electronics	107	0.01	0.2	208	144	28	91	22	7	8	15	4	2	425	391
Metal-working industry	575	0.04	1.2	1,256	655	107	667	61	49	36	99	31	19	1,239	820
Construction	63	0.00	0.2	1,422	950	306	583	63	17	3	31	28	3	1,370	914
Food industry	86	0.00	0.1	403	142	66	132	19	6	19	119	9	4	386	162
Other industries	183	0.01	0.2	296	129	49	89	11	11	15	28	17	2	294	137
TRANSPORT	233	0.01	0.5	1,428	865	185	497	48	8	51	91	48	2	1,289	746
Road transport	86	0.00	0.0	1,056	616	146	352	33	2	7	42	38	0	1,017	592
Other land transport	146	0.01	0.5	372	249	39	145	15	6	44	49	10	2	271	154
OTHER LOGISTIC SERVICES	410	0.01	0.5	1,854	1,300	50	588	264	153	8	248	129	60	1,263	807
Other services	410	0.01	0.5	1,854	1,300	50	588	264	153	8	248	129	60	1,263	807
TOTAL	**6,488**	**0.25**	**10.6**	**21,114**	**12,606**	**2,627**	**7,294**	**1,843**	**788**	**399**	**2,221**	**1,040**	**328**	**19,190**	**11,171**

Source: NBB.

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

(2) The personnel costs and costs in terms of millions of euros.

Source: NBB.

TABLE 58 SOCIAL BALANCE SHEET IN 2002

AVERAGE NUMBER OF EMPLOYEES

Sectors	Number			Hours actually worked (1)			Personnel costs (2)			Hired temporary staff			Persons placed at the enterprise's disposal		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	number	hours actually worked (1)	costs (2)	number	hours actually worked (1)	costs (2)
	1001	1002	1003	1011	1012	1013	1021	1022	1023	1501	1511	1521	1502	1512	1522
MARITIME CLUSTER	***24,700***	***1,504***	***25,696***	***37.5***	***1.7***	***39.2***	***1,229.9***	***136.8***	***1,366.7***	***1051***	***1.95***	***45.1***	***6,513***	***11.35***	***395.4***
Shipping agents and forwarders	6,606	742	7,093	11.1	0.9	12.0	319.4	26.3	345.6	389	0.74	16.5	647	1.08	35.1
Cargo handling	14,590	530	14,971	20.4	0.6	21.1	723.8	104.0	827.8	549	1.00	24.2	5,760	10.09	353.4
Shipping companies	694	91	737	1.2	0.1	1.3	43.1	2.4	45.5	24	0.05	0.8	106	0.18	6.9
Shipbuilding and repair	760	41	783	1.1	0.0	1.2	28.5	0.9	29.4	56	0.10	2.4	0	0.00	0.0
Port construction and dredging	1,283	41	1,311	2.4	0.0	2.4	79.4	1.9	81.3	11	0.02	0.4	0	0.00	0.0
Fishing	624	34	643	0.9	0.0	1.0	29.3	0.8	30.0	21	0.04	0.7	0	0.00	0.0
Port trade	143	24	158	0.2	0.0	0.3	6.4	0.6	7.0	1	0.00	0.0	0	0.00	0.0
NON-MARITIME CLUSTER	***66,827***	***4,847***	***69,984***	***101.3***	***5.1***	***106.4***	***4,012.7***	***191.0***	***4,203.6***	***1,775***	***3.30***	***79.6***	***591***	***0.97***	***35.9***
TRADE	5,901	716	6,303	9.4	0.7	10.0	295.1	16.8	311.8	280	0.52	12.1	70	0.12	4.9
INDUSTRY	51,036	2,954	53,071	75.9	3.2	79.1	3,236.5	138.1	3,374.6	1,159	2.13	54.1	267	0.42	16.3
Energy	2,387	129	2,489	3.2	0.1	3.3	210.2	8.7	219.0	20	0.03	0.8	0	0.00	0.0
Oil industry	3,034	219	3,193	5.3	0.3	5.6	366.2	18.3	384.5	40	0.07	2.4	2	0.00	0.3
Chemicals	13,708	884	14,313	20.6	1.0	21.7	993.6	49.4	1,043.0	233	0.44	12.6	3	0.01	0.3
Car manufacturing	13,717	848	14,291	19.6	0.8	20.4	688.8	30.2	719.1	360	0.65	16.0	143	0.21	8.1
Electronics	1,216	128	1,315	1.8	0.1	1.9	69.8	5.5	75.3	44	0.08	1.9	0	0.00	0.0
Metal-working industry	9,853	321	10,070	14.9	0.3	15.3	586.3	13.5	599.9	132	0.26	6.4	94	0.17	6.1
Construction	3,938	137	4,026	5.8	0.2	5.9	175.9	4.7	180.6	92	0.16	4.2	0	0.00	0.0
Food industry	1,442	194	1,569	2.2	0.2	2.4	64.6	5.0	69.7	132	0.25	5.1	18	0.02	1.0
Other industries	1,741	93	1,804	2.6	0.1	2.7	81.1	2.6	83.7	107	0.18	4.7	5	0.01	0.4
TRANSPORT	5,201	340	5,448	8.4	0.4	8.8	223.6	12.2	235.8	121	0.23	4.5	138	0.23	7.9
Road transport	2,547	102	2,613	4.6	0.1	4.7	109.8	2.8	112.6	107	0.20	4.0	137	0.23	7.9
Other land transport	2,654	239	2,836	3.8	0.3	4.2	113.7	9.4	123.1	14	0.02	0.5	1	0.00	0.0
OTHER LOGISTIC SERVICES	4,689	837	5,162	7.6	0.8	8.4	257.5	23.9	281.4	215	0.42	9.0	117	0.20	6.8
Other services	4,689	837	5,162	7.6	0.8	8.4	257.5	23.9	281.4	215	0.42	9.0	117	0.20	6.8
TOTAL	**91,528**	**6,351**	**95,680**	**138.8**	**6.8**	**145.6**	**5,242.6**	**327.8**	**5,570.4**	**2,826**	**5.25**	**124.7**	**7,103**	**12.32**	**431.4**

TABLE 58 (continued)

Source: NBB.

Sectors	NUMBER OF PERSONS EMPLOYED AT THE END OF THE YEAR											TRAINING		
	Number			Men			Women			Number		Men		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	employee	worker	number	hours (1)	costs (2)
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1343	1323	5801	5802	5803
MARITIME CLUSTER	***24,519***	***1,513***	***25,540***	***20,414***	***484***	***20,734***	***4,105***	***1,029***	***4,805***	***10,235***	***14,654***	***4,533***	***0.11***	***4.9***
Shipping agents and forwarders	6,473	776	6,992	3,941	135	4,017	2,532	642	2,975	6,047	740	784	0.02	1.4
Cargo handling	14,636	527	15,011	13,422	282	13,628	1,214	245	1,382	3,016	11,599	2,806	0.06	2.3
Shipping companies	671	64	709	536	12	542	135	52	168	487	206	176	0.00	0.2
Shipbuilding and repair	752	40	773	723	21	735	29	19	38	130	635	56	0.00	0.1
Port construction and dredging	1,354	45	1,385	1,281	14	1,291	74	31	95	447	929	707	0.03	1.0
Fishing	482	36	504	401	13	407	81	23	97	30	471	0	0.00	0.0
Port trade	151	25	166	111	7	114	40	18	51	78	74	4	0.00	0.0
NON-MARITIME CLUSTER	***65,505***	***4,872***	***68,727***	***57,545***	***2,107***	***58,954***	***7,960***	***2,764***	***9,773***	***26,003***	***39,620***	***35,917***	***1.54***	***82.1***
TRADE	5,932	741	6,352	4,543	233	4,660	1,388	508	1,692	3,505	2,678	1,912	0.04	2.2
INDUSTRY	49,751	2,973	51,808	44,790	1,464	45,823	4,961	1,509	5,985	17,502	31,606	30,529	1.30	72.1
Energy	2,417	93	2,484	2,075	12	2,083	343	81	401	2,036	65	1,448	0.06	4.9
Oil industry	3,040	226	3,205	2,622	138	2,724	417	88	481	2,620	510	2,390	0.15	10.3
Chemicals	13,396	915	14,010	12,185	466	12,493	1,211	449	1,517	6,467	6,597	9,375	0.29	20.0
Car manufacturing	12,954	803	13,519	11,791	516	12,177	1,163	287	1,343	1,541	11,067	10,117	0.37	16.9
Electronics	1,182	118	1,273	970	23	987	211	95	287	436	831	830	0.02	0.7
Metal-working industry	9,712	369	9,969	8,921	167	9,042	792	201	927	2,642	7,116	4,030	0.32	15.1
Construction	3,889	150	3,986	3,675	69	3,721	213	81	265	879	3,032	921	0.02	1.3
Food industry	1,402	198	1,533	1,076	47	1,107	326	151	425	386	1,099	626	0.01	0.4
Other industries	1,758	101	1,827	1,473	26	1,489	285	75	339	496	1,289	792	0.05	2.6
TRANSPORT	5,170	343	5,422	4,703	198	4,849	467	145	573	1,673	3,707	2,080	0.15	6.1
Road transport	2,518	98	2,582	2,283	28	2,297	235	70	285	572	1,997	243	0.00	0.1
Other land transport	2,652	245	2,840	2,420	170	2,552	232	75	288	1,101	1,711	1,837	0.15	6.0
OTHER LOGISTIC SERVICES	4,653	815	5,144	3,509	212	3,622	1,144	602	1,523	3,323	1,629	1,396	0.04	1.7
Other services	4,653	815	5,144	3,509	212	3,622	1,144	602	1,523	3,323	1,629	1,396	0.04	1.7
TOTAL	**90,024**	**6,384**	**94,266**	**77,959**	**2,591**	**79,688**	**12,065**	**3,794**	**14,578**	**36,238**	**54,274**	**40,450**	**1.64**	**87.1**

TABLE 58 (continued) SOCIAL BALANCE SHEET IN 2002

Sectors	TRAINING					ENTERED								RESIGNED	
	Women			Number (in FTEs)	Indefinite period	Men				Women				Number (in FTEs)	Indefinite period
	number	hours (1)	costs (2)			primary	secundary	higher	university	primary	secundary	higher	university		
	5811	5812	5813	2053	2103	2203	2213	2223	2233	2303	2313	2323	2333	3053	3103
MARITIME CLUSTER	***1,162***	***0.03***	***0.8***	***5,990***	***3,873***	***333***	***2,387***	***543***	***208***	***58***	***630***	***254***	***56***	***6,062***	***4,033***
Shipping agents and forwarders	570	0.01	0.4	1,865	1,300	122	473	256	49	33	378	190	31	1,837	1,315
Cargo handling	476	0.01	0.3	2,310	1,904	105	1,609	111	71	22	219	52	19	2,497	2,131
Shipping companies	58	0.00	0.1	310	97	12	61	19	12	1	16	9	5	316	90
Shipbuilding and repair	3	0.00	0.0	142	33	1	34	3	5	1	1	0	0	147	44
Port construction and dredging	52	0.00	0.1	507	487	58	199	152	70	2	12	3	1	364	353
Fishing	0	0.00	0.0	769	45	35	4	0	2	0	4	0	0	843	97
Port trade	3	0.00	0.0	86	7	0	7	1	0	0	0	0	0	59	4
NON-MARITIME CLUSTER	***5,522***	***0.18***	***9.3***	***10,702***	***5,481***	***1,207***	***3,907***	***878***	***583***	***305***	***1,150***	***527***	***197***	***12,258***	***7,138***
TRADE	766	0.01	0.8	2,111	939	105	630	151	72	47	302	85	27	1,845	761
INDUSTRY	4,125	0.14	7.6	5,889	2,715	747	2,463	473	402	134	618	312	113	7,760	4,602
Energy	308	0.01	0.8	308	86	0	97	43	18	0	66	77	7	366	127
Oil industry	331	0.02	1.2	393	289	2	51	76	166	0	9	58	30	349	294
Chemicals	1,028	0.03	2.1	1,269	522	99	586	142	96	11	177	104	41	1,864	1,210
Car manufacturing	1,242	0.04	2.1	1,286	444	334	560	48	40	90	83	18	8	2,123	1,131
Electronics	223	0.00	0.1	126	88	0	66	17	9	0	15	4	4	224	187
Metal-working industry	658	0.03	1.0	875	440	73	425	66	33	6	112	17	10	1,132	716
Construction	82	0.00	0.1	981	642	195	420	49	11	4	14	22	3	1,063	682
Food industry	115	0.00	0.1	317	90	18	127	6	5	19	107	4	1	334	114
Other industries	138	0.01	0.2	334	114	25	132	27	25	5	36	7	8	306	140
TRANSPORT	192	0.01	0.5	1,230	760	245	420	40	7	53	75	19	6	1,222	778
Road transport	42	0.00	0.0	954	581	211	325	28	3	7	38	10	1	970	622
Other land transport	150	0.01	0.4	276	179	34	95	12	4	46	37	8	5	252	156
OTHER LOGISTIC SERVICES	438	0.01	0.5	1,472	1,067	109	394	215	102	71	156	112	52	1,431	997
Other services	438	0.01	0.5	1,472	1,067	109	394	215	102	71	156	112	52	1,431	997
TOTAL	**6,684**	**0.21**	**10.2**	**16,692**	**9,354**	**1,540**	**6,294**	**1,421**	**792**	**363**	**1,780**	**781**	**253**	**18,320**	**11,171**

Source: NBB.

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

(2) The personnel costs and costs in terms of millions of euros.

TABLE 59 **SOCIAL BALANCE SHEET IN 2003**

AVERAGE NUMER OF EMPLOYEES

Sectors	Number			Hours actually worked (1)			Personnel costs (2)			Hired temporary staff			Persons placed at the enterprise's disposal		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	number	hours actually worked (1)	costs (2)	number	hours actually worked (1)	costs (2)
	1001	1002	1003	1011	1012	1013	1021	1022	1023	1501	1511	1521	1502	1512	1522
MARITIME CLUSTER	***24,978***	***1,737***	***26,157***	***37.8***	***2.0***	***39.8***	***1,348.9***	***66.6***	***1,415.4***	***893***	***1.68***	***37.1***	***6,893***	***11.65***	***432.1***
Shipping agents and forwarders	6,778	893	7,377	11.2	1.0	12.2	336.1	28.5	364.6	310	0.60	12.9	737	1.25	41.6
Cargo handling	14,600	602	15,031	20.5	0.8	21.3	819.5	30.9	850.4	473	0.87	19.3	5,948	10.06	378.1
Shipping companies	691	74	735	1.2	0.1	1.3	44.2	2.8	47.0	12	0.02	0.6	208	0.35	12.4
Shipbuilding and repair	725	56	756	1.1	0.0	1.1	28.8	1.2	30.0	61	0.11	2.7	0	0.00	0.0
Port construction and dredging	1,386	48	1,420	2.7	0.1	2.7	83.4	1.8	85.2	10	0.02	0.5	0	0.00	0.0
Fishing	635	36	659	0.9	0.0	1.0	29.9	0.7	30.6	25	0.05	1.0	0	0.00	0.0
Port trade	162	29	180	0.2	0.0	0.3	6.9	0.7	7.6	2	0.00	0.1	0	0.00	0.0
NON-MARITIME CLUSTER	***64,746***	***5,821***	***68,660***	***100.0***	***6.0***	***106.1***	***4,021.0***	***223.2***	***4,244.3***	***2,098***	***3.94***	***97.7***	***680***	***1.11***	***41.5***
TRADE	5,878	879	6,427	9.4	0.9	10.2	303.8	24.5	328.2	324	0.60	13.7	115	0.18	6.6
INDUSTRY	48,846	3,523	51,325	74.5	3.8	78.3	3,214.1	158.5	3,372.5	1,492	2.80	72.3	320	0.52	20.2
Energy	2,274	110	2,364	3.0	0.1	3.1	196.0	6.8	202.8	25	0.04	0.9	0	0.00	0.0
Oil industry	2,982	254	3,165	5.0	0.3	5.3	368.7	19.7	388.4	44	0.08	2.1	2	0.00	0.3
Chemicals	13,022	1,026	13,729	19.8	1.1	20.9	996.1	54.3	1,050.4	212	0.40	12.0	3	0.01	0.4
Car manufacturing	13,048	1,009	13,762	20.5	1.1	21.6	672.4	36.6	709.0	613	1.16	30.5	194	0.31	11.8
Electronics	1,124	131	1,224	1.7	0.1	1.8	61.6	5.2	66.8	65	0.13	3.2	0	0.00	0.0
Metal-working industry	9,441	487	9,785	14.2	0.5	14.7	591.6	20.5	612.1	188	0.36	8.7	101	0.18	6.6
Construction	3,857	165	3,970	5.7	0.2	5.9	178.9	5.5	184.4	82	0.15	4.0	0	0.00	0.0
Food industry	1,394	226	1,542	2.2	0.2	2.4	64.6	6.3	70.9	166	0.29	6.2	15	0.02	0.8
Other industries	1,705	116	1,786	2.5	0.1	2.7	84.2	3.6	87.8	99	0.18	4.6	4	0.01	0.3
TRANSPORT	5,208	375	5,482	8.2	0.4	8.6	228.5	12.6	241.1	109	0.21	4.3	134	0.22	8.0
Road transport	2,547	100	2,612	4.4	0.1	4.5	111.2	2.7	113.9	86	0.17	3.5	133	0.22	8.0
Other land transport	2,660	274	2,870	3.8	0.3	4.2	117.3	9.9	127.2	23	0.04	0.8	1	0.00	0.1
OTHER LOGISTIC SERVICES	4,815	1,043	5,425	8.0	1.0	8.9	274.7	27.6	302.4	173	0.33	7.4	111	0.19	6.7
Other services	4,815	1,043	5,425	8.0	1.0	8.9	274.7	27.6	302.4	173	0.33	7.4	111	0.19	6.7
TOTAL	**89,725**	**7,558**	**94,817**	**137.9**	**8.1**	**145.9**	**5,369.9**	**289.8**	**5,659.7**	**2,990**	**5.61**	**134.7**	**7,573**	**12.77**	**473.6**

Source: NBB.

TABLE 59 (continued) SOCIAL BALANCE SHEET IN 2003

Source: NBB.

Sectors	NUMBER OF PERSONS EMPLOYED AT THE END OF THE YEAR											TRAINING		
	Number			Men			Women			Number		Men		
	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	full-time	part-time	total (in FTEs)	employee	worker	number	hours (1)	costs (2)
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1343	1323	5801	5802	5803
MARITIME CLUSTER	***25,064***	***1,746***	***26,262***	***20,818***	***583***	***21,208***	***4,246***	***1,163***	***5,054***	***10,514***	***15,056***	***4,067***	***0.14***	***5.0***
Shipping agents and forwarders	6,695	912	7,315	4,087	166	4,185	2,609	746	3,130	6,257	857	978	0.01	0.5
Cargo handling	14,907	608	15,346	13,652	332	13,895	1,255	275	1,451	3,024	11,887	2,077	0.09	3.1
Shipping companies	653	60	693	508	12	515	145	48	178	483	193	160	0.00	0.2
Shipbuilding and repair	712	59	745	682	40	705	30	19	40	138	598	68	0.00	0.2
Port construction and dredging	1,393	48	1,426	1,320	18	1,332	72	30	94	464	951	774	0.03	1.0
Fishing	539	28	553	449	6	452	90	22	102	38	497	2	0.00	0.0
Port trade	165	30	184	120	8	125	45	22	59	110	73	8	0.00	0.0
NON-MARITIME CLUSTER	***63,817***	***5,733***	***67,729***	***56,136***	***2,667***	***57,981***	***7,681***	***3,066***	***9,748***	***25,805***	***38,877***	***35,523***	***1.86***	***100.1***
TRADE	5,801	909	6,371	4,516	293	4,686	1,285	616	1,685	3,569	2,652	1,603	0.04	1.8
INDUSTRY	48,113	3,496	50,572	43,347	1,895	44,701	4,765	1,601	5,872	16,905	31,018	30,201	1.66	91.5
Energy	2,254	113	2,348	1,898	27	1,922	356	87	426	1,860	79	1,342	0.06	5.4
Oil industry	2,957	250	3,138	2,563	158	2,677	394	92	462	2,568	502	2,271	0.12	8.2
Chemicals	12,616	988	13,289	11,528	535	11,886	1,088	453	1,403	6,222	6,115	9,848	0.30	19.8
Car manufacturing	13,017	1,052	13,764	11,780	721	12,310	1,237	331	1,454	1,509	11,415	9,685	0.70	38.9
Electronics	1,104	130	1,203	912	30	935	192	100	268	419	776	483	0.01	0.4
Metal-working industry	9,343	446	9,660	8,612	237	8,788	731	209	871	2,584	6,872	4,428	0.38	15.6
Construction	3,818	169	3,935	3,618	83	3,676	200	86	259	893	2,975	819	0.02	0.8
Food industry	1,352	229	1,501	1,047	63	1,089	305	166	412	390	1,058	515	0.01	0.4
Other industries	1,652	119	1,735	1,389	41	1,417	263	78	318	460	1,226	812	0.06	2.1
TRANSPORT	5,109	397	5,403	4,619	245	4,802	490	153	601	1,775	3,566	2,249	0.12	5.0
Road transport	2,510	104	2,577	2,261	37	2,281	249	68	296	596	1,952	375	0.00	0.1
Other land transport	2,599	293	2,826	2,358	208	2,521	241	85	304	1,179	1,614	1,874	0.11	4.9
OTHER LOGISTIC SERVICES	4,794	930	5,383	3,654	234	3,792	1,140	696	1,591	3,556	1,641	1,470	0.04	1.7
Other services	4,794	930	5,383	3,654	234	3,792	1,140	696	1,591	3,556	1,641	1,470	0.04	1.7
TOTAL	**88,880**	**7,478**	**93,991**	**76,953**	**3,249**	**79,189**	**11,927**	**4,229**	**14,802**	**36,319**	**53,933**	**39,590**	**2.00**	**105.1**

Sectors	TRAINING					ENTERED								RESIGNED	
	Women			Number (in FTEs)	Indefinite period	Men				Women				Number	Durée
	number	hours (1)	costs (2)			primary	secundary	higher	university	primary	secundary	higher	university	(in FTEs)	duur
	5811	5812	5813	2053	2103	2203	2213	2223	2233	2303	2313	2323	2333	3053	3103
MARITIME CLUSTER	***1,362***	***0.03***	***1.1***	***7,686***	***4,725***	***860***	***3,080***	***589***	***188***	***120***	***800***	***269***	***73***	***6,891***	***3,996***
Shipping agents and forwarders	756	0.01	0.4	2,182	1,565	191	561	250	59	61	482	188	53	1,782	1,217
Cargo handling	495	0.02	0.5	3,555	2,533	589	2,232	174	63	33	278	57	14	3,172	2,185
Shipping companies	54	0.00	0.1	375	126	14	73	10	19	3	19	16	2	399	137
Shipbuilding and repair	2	0.00	0.0	134	32	0	36	3	2	2	3	2	0	153	41
Port construction and dredging	48	0.00	0.1	450	426	66	164	151	45	0	9	4	4	407	384
Fishing	0	0.00	0.0	913	40	0	14	0	0	21	9	0	0	900	28
Port trade	7	0.00	0.0	76	4	0	0	2	1	0	0	2	0	78	4
NON-MARITIME CLUSTER	***5,410***	***0.24***	***14.0***	***12,061***	***6,183***	***1,837***	***3,456***	***951***	***531***	***421***	***921***	***474***	***213***	***13,472***	***7,743***
TRADE	691	0.01	0.6	2,812	775	127	436	139	64	50	192	68	27	2,741	730
INDUSTRY	4,132	0.21	12.6	6,336	3,739	1,425	2,246	500	344	227	556	275	127	8,088	5,559
Energy	356	0.01	1.0	260	77	0	38	40	63	0	33	55	31	1,133	930
Oil industry	261	0.04	3.0	301	205	4	53	76	104	0	7	38	21	356	300
Chemicals	1,086	0.03	2.2	1,257	506	92	554	185	94	20	155	92	40	1,899	1,175
Car manufacturing	1,323	0.08	5.0	2,119	1,763	904	687	66	29	182	101	37	18	1,806	1,465
Electronics	126	0.00	0.1	82	66	3	44	11	3	1	7	3	2	144	118
Metal-working industry	620	0.03	0.7	772	353	98	341	56	29	2	96	20	7	1,051	667
Construction	91	0.00	0.1	967	577	280	304	42	6	3	14	12	3	1,022	644
Food industry	103	0.00	0.1	311	99	9	115	7	9	10	117	7	1	329	81
Other industries	167	0.01	0.4	266	93	34	109	17	7	9	26	12	4	348	178
TRANSPORT	191	0.01	0.3	1,061	647	186	426	34	7	13	66	14	5	1,088	708
Road transport	68	0.00	0.0	889	535	167	383	20	4	7	28	11	0	876	546
Other land transport	123	0.01	0.3	172	112	19	43	13	3	5	38	2	5	212	163
OTHER LOGISTIC SERVICES	395	0.01	0.4	1,852	1,022	99	347	278	116	131	107	117	54	1,556	746
Other services	395	0.01	0.4	1,852	1,022	99	347	278	116	131	107	117	54	1,556	746
TOTAL	**6,772**	**0.28**	**15.0**	**19,747**	**10,908**	**2,696**	**6,536**	**1,541**	**720**	**541**	**1,720**	**742**	**286**	**20,363**	**11,739**

Source: NBB.

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

(2) The personnel costs and costs in terms of millions of euros.

ANNEX 8: MARITIME TRAFFIC AT THE PORTS IN 2003: DETAILS PER CATEGORY OF GOODS

TABLE 60 TRANSHIPMENT AT THE PORT OF ANTWERP

Commodity	Unloaded	Loaded	Total	Relative share
		(in thousands of tonnes)		(in p.c.)
General cargo	33,896	47,940	81,835	57.3
Iron and steel products	2,496	6,870	9,366	6.6
Non-ferrous metals	411	66	478	0.3
Fertilizers / chemicals	64	210	273	0.2
Wood	433	110	542	0.4
Paper and cellulose	2,574	314	2,888	2.0
Fruit	1,499	7	1,506	1.1
Cereals	4	14	18	0.0
Rolling material	678	1,493	2,171	1.5
Flour	0	375	375	0.3
Sugar	1	534	536	0.4
Containers	25,042	36,308	61,350	42.9
Other general cargo	694	1,639	2,333	1.6
Bulk cargo	43,701	17,339	61,039	42.7
Crude oil	6,874	0	6,874	4.8
Petroleum products	13,140	8,062	21,202	14.8
Chemicals	4,292	2,286	6,578	4.6
Ores	6,261	616	6,877	4.8
Coal	7,290	396	7,685	5.4
Cereals	710	550	1,261	0.9
Fertilizers	1,761	3,343	5,105	3.6
Sand and gravel	903	442	1,344	0.9
Other bulk cargo	2,469	1,644	4,113	2.9
TOTAL	**77,596**	**65,278**	**142,875**	**100.0**

Source: Havenbedrijf Antwerpen.

TABLE 61 TRANSHIPMENT AT THE PORT OF GHENT

Commodity	Unloaded	Loaded	Total	Relative share
		(in thousands of tonnes)		(in p.c.)
Agricultural products	987	205	1,192	5.1
Foodstuffs and cattle feed	3,817	567	4,384	18.6
Solid mineral fuels	3,447	165	3,611	15.3
Petroleum and petroleum products	2,032	455	2,486	10.6
Ores and metal residues	4,714	683	5,397	22.9
Products from the metal industry	583	992	1,575	6.7
Crude minerals and buidling materials	906	227	1,133	4.8
Fertilizers	909	263	1,172	5.0
Chemicals	556	150	706	3.0
Other cargo	982	907	1,890	8.0
TOTAL	**18,932**	**4,613**	**23,546**	**100.0**

Source: Havenbedrijf Gent GAB.

TABLE 62 TRANSHIPMENT AT THE PORT OF OSTEND

Commodity	Unloaded	Loaded	Total	Relative share
		(in thousands of tonnes)		(in p.c.)
General cargo and bulk	**1,537**	**3**	**1,540**	**21.3**
Ferrochrome	38	0	38	0.5
Gasoil	39	0	39	0.5
Sand and gravel	1,303	0	1,303	18.0
Wood	11	0	11	0.2
Cobblestone	5	0	5	0.1
Magnesium oxide	7	0	7	0.1
Microsilica	4	0	4	0.1
Manure	2	2	4	0.1
Orthoxylene	4	0	4	0.1
Sepiolite	82	0	82	1.1
Silo machinery Jetfoil	0	1	1	0.0
Coal	25	0	25	0.3
Cattle feed	1	0	1	0.0
Glass	16	0	16	0.2
Containers	**46**	**26**	**72**	**1.0**
Roll-on / Roll-off	**2,117**	**3,490**	**5,607**	**77.7**
TOTAL	**3,700**	**3,519**	**7,219**	**100.0**

Sources: AG Haven Oostende and Vlaamse Havencommissie.

TABLE 63 TRANSHIPMENT AT THE PORT OF ZEEBRUGGE

Commodity	Unloaded	Loaded	Total	Relative share
	(in thousands of tonnes)			(in p.c.)
Agricultural products	292	11	303	1.0
Other foodstuffs and cattle feed	200	60	261	0.9
Solid mineral fuels	69	0	69	0.2
Petroleum and petroleum products	2,900	17	2,917	9.5
Ores, metal scrap, roasted iron pyrite	7	0	7	0.0
Iron, steel and non-ferrous metals	0	12	13	0.0
Crude minerals and buidling materials	1,482	10	1,492	4.9
Chemicals	243	3	246	0.8
Other cargoes	10,784	14,479	25,264	82.6
TOTAL	**15,978**	**14,592**	**30,570**	**100.0**

Source: Maatschappij van de Brugse Zeevaartinrichtingen.

ANNEX 9: GLOSSARY[142]

Cargo categories: General cargo or bulk. The former is divided into containerised cargo, ro-ro and conventional general cargo. The latter is divided into liquid bulk and dry bulk.

Cargo ship: Vessel for transporting goods (e.g. general cargo).

Coastal shipping (also *short sea shipping* or *SSS*): Navigation carried out within the limits assigned to long-distance voyages, and at a limited distance from the coastline. For the European ports, transport of goods by sea between two ports in Europe or ports of countries bordering Europe.

Container: Standard-format container for transporting goods, stackable and capable of being transhipped horizontally or vertically. Containers are a standard size: the commonest sizes are 20 or 40 feet in length. According to the International Standards Organisation (ISO), a freight container is a means of transport whose primary function is to facilitate the carriage of goods, by one or more mode of transport, without intermediate reloading.

Container terminal capacity: The number of containers that can be handled at the terminal in one year. The capacity is measured either in TEU (the most commonly-used unit), tonnes, or the number of containers. It depends on technical factors such as the length of the quay wall, the ground depth and the length of time that the containers remain at the terminal.

Draught: Vertical distance between the waterline of a vessel and the bottom of the keel. Depths in maritime ports are generally divided into two categories: Panamax (13.5 m) and capesize (18 m).

Dry bulk: Cargo transported loose (ores, coal, grain, etc.).

Deadweight tonnage or dwt: A ship's maximum authorised freight, expressed in tonnes - including cargo, passengers and fuel.

European banana: Notional region covering the major distribution centres of Europe. This “banana” starts in the south-east of England and ends in north-eastern Spain. It covers almost the whole of Benelux, eastern France, western Germany and northern Italy. Also called the "blue banana".

Hamburg - Le Havre range: A group of nine large north European sea ports serving the same hinterland. This range comprises the following nine ports, from north to south: Hamburg and Bremen in Germany, Amsterdam and Rotterdam in the Netherlands, Antwerp, Ghent and Zeebrugge in Belgium and Dunkirk and Le Havre in France.

Intermodal platform: Logistically integrated platform using two or more modes of transport. The latter have common characteristics as regards handling, so that freight (or passengers) can be transferred between the modes via this platform, during the journey from the point of origin to the destination. Note that intermodal transport is not applicable in all cases, mainly because of factors concerning space and time, network design, number of nodal points and links, and the types of trains and terminals and their characteristics.

IOT (Input-Output Table): The supply and use tables (cf. infra) can be used to connect branches of activity or products by constructing the input-output table. Unlike the SUT, the IOT does not link groups of products to branches of activity, but links either groups of products or branches of activity to one another.

Leisure port: Port equipped with facilities for yachting, sailing, etc.

Liquid bulk: Liquid cargo, mainly oil and derivatives.

Logistic centre[143]: Centre dealing with the organisation of flows of goods and services, and the associated information. There are several different levels of logistical integration, designated by the initials PL ("party logistics"), ranging from the least integrated (1PL, “In-house logistics”) to the most integrated (4PL, “Logistic service provider”).

[142] Definitions obtained from *Petit Robert* dictionary, Martin Stopford “Maritime Economics” (1997, London), the Eurostat glossary of transport statistics, and the Federal Department of Science, Technology and Culture (SSTC - ULg).

Maritime port: Natural or artificial place of shelter on the coast or close to the sea, with facilities for receiving and protecting ships and enabling them to load and unload. By extension, a port accessible to high-tonnage sea-going vessels. The European Commission uses objective criteria to designate some 300 maritime ports included in the plans for the trans-European network, such as whether they are open to commercial traffic, the volume of traffic and the port's strategic importance.

Maritime traffic: Sum of all the goods loaded and unloaded in a maritime port during a given period. Maritime ports are generally classified on the basis of this criterion.

Multi-modal platform: Platform combining different modes of transport and offering links between origins and destinations.

Ro-ro or Roll-on/roll-off: Horizontal handling of cargo by means of wheeled vehicles inside and outside the vessel. Cf. lo-lo (Lift-on/lift-off), vertical handling. Part of the ro-ro transhipment is containerised. In this report, it is included under ro-ro heading.

Sizes: Vessel dimensions are constantly increasing in line with technical progress, and particularly since the end of the 1950s in the transportation of petroleum products (closure of the Suez Canal). Thus, oil tankers have progressed from the super tankers - 100,000 dwt - to the VLCCs (very large crude carriers) - 300.000 dwt[144] - which are the European maximum. For the same draught, the size has increased from 120,000 dwt in 1970 to an average of 170,000 dwt in 2000 for capesize units, and from 70,000 to 105,000 dwt for Panamax units. These maximum sizes are being constantly increased, and the main public investments in maritime ports are concentrated on projects to improve accessibility.

SUT (Supply and Use Table): The supply table breaks down supplies of goods and services by product and by origin (by branch, domestic production and imports), while the use table details the uses of goods and services by product and by type (intermediate consumption, final consumption, gross capital formation and exports). The designation "SUT" also enables the branches included in these tables, and which correspond to precision level 2 of the NACE-Bel codes, to be described in summary form.

Terminal: Part of the port comprising one or more berths for handling a particular type of cargo. Examples: container terminal, ro-ro terminal, fruit terminal, etc.

TEU or "Twenty-Foot Equivalent Unit": Unit used to measure the capacity of a cargo ship or of a container terminal, and to work out statistics related to transhipment of containers in a given port. Short containers are twenty feet in length. 1 TEU therefore corresponds to the load of a 20 ft container. The load represented by the average TEU is estimated at around 11 tonnes of cargo.

Wet dock: A dock in which the water level is maintained at all states of the tide.

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[143] See e-Chain Logistics, "Logistics and Supply Chain Management", October 2002, Brussels.

[144] VLCCs are tankers ranging from 200 to 300,000 dwt. There are also the ULCCs (*Ultra large crude carriers*), in excess of 300,000 dwt. The Flemish ports are not in that caregory. Such vessels can enter ports such as Rotterdam (maximum draught: 24 m.), Singapore, etc.

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