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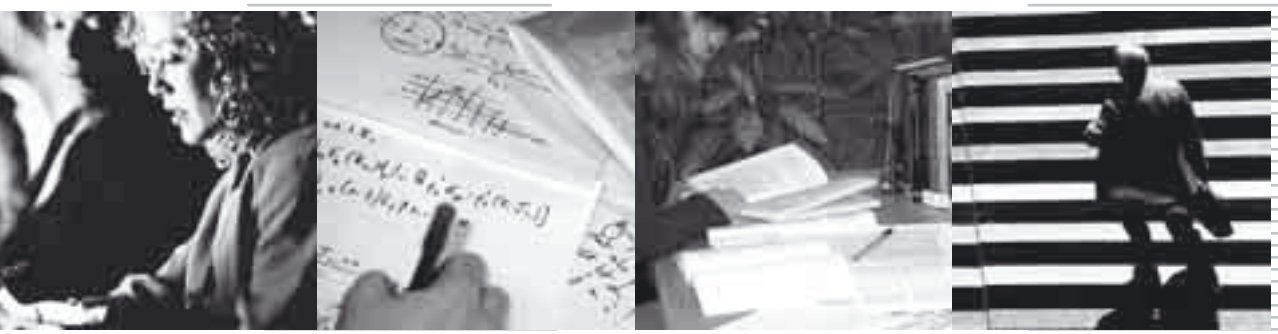
Economic importance of the Belgian ports : Flemish maritime ports and Liège port complex

Report 2004

Frédéric Lagneaux



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ECONOMIC IMPORTANCE OF THE BELGIAN PORTS: REPORT 2004

Flemish maritime ports and Liège port complex

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 (NBB).

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(*) NBB, Microeconomic Information department (e-mail: frederic.lagneaux@nbb.be).

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Abstract

This paper is an annual publication prepared by the Microeconomic Analysis unit of the National Bank of Belgium.

The Flemish maritime ports -Antwerp, Ghent, Ostend, Zeebrugge- and the Autonomous Port of Liège play a major role in their respective regional economies and in the Belgian economy, not only in terms of the industries they encompass but also as intermodal centres where transhipment and industrial activities are concentrated.

This update[1] paper provides for the first time an extensive overview of the economic importance and development of the Flemish maritime ports together with the Liège port complex in 2004. The results for the rest of the period 1999 - 2003 have also been updated. Focusing on the three major variables of value added, employment and investment, the report also provides some information about the financial situation of several 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 socio-economic developments in the ports.

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

The developments concerning economic activity in the five ports in 2003 - 2004 are summarised in this table:

CHANGES FROM 2003 TO 2004 (IN PERCENTAGES)	**VALUE ADDED (CONSTANT PRICES)**	**EMPLOYMENT (FULL-TIME EQUIVALENTS)**	**INVESTMENT (CONSTANT PRICES)**	**TONNAGE (METRIC TONNES)**
FLEMISH MARITIME PORTS				
DIRECT	**+10.7**	**+0.6**	**-7.1**	**+6.1 (SEABORNE)**
INDIRECT	**+6.6**	**+2.1**	**-**	
TOTAL	**+8.7**	**+1.4**	**-**	
LIÈGE PORT COMPLEX				
DIRECT	**+14.9**	**-8.1**	**+14.3**	**+7.2 (INLAND)**
INDIRECT	**+4.7**	**-0.5**	**-**	
TOTAL	**+9.7**	**-3.8**	**-**	

2004 was an excellent year for the Flemish maritime ports as a whole, in terms of the quantity of handled cargo and the value added produced. But the employment situation was more mixed, and private investment dropped. The ongoing developments in the maritime ports sector and in the world economy are having a dramatic impact on the operations of the Flemish ports, which have to deal with the global trend of increasing international competition, expansion and dispersion of foreign trade, capital concentration, privatisation and vertical integration of port logistic services, increase in containerised shipments, and so forth. At the same time, as major logistic centres, they

[1] Update of Lagneaux F. (2005), *Economic importance of the Flemish maritime ports: Report 2003*, NBB, Working Paper No. 69 (Document series) and Lagneaux F. (2005), *Importance économique du Port Autonome de Liège: Report 2003*, NBB, Working Paper No. 75 (Document series).

have to face a dual challenge: increasing demand in terms of capacity, and the necessity to add value to the goods passing through them. By doing so, they pursue one goal: withstanding the climate of increasing regional and international competition, not only within the Hamburg - Le Havre range but also from Asian markets.

The port of Liège, still the second largest inland port in Europe, is striving to turn a threat into an opportunity. Although the Cockerill Sambre blast furnaces are being closed, that is creating new space and the overall Liège port complex is being restructured. In spite of this climate of uncertainty, the main goal of the Autonomous Port of Liège is to establish itself as a major logistic centre in the region, able to attract new businesses. In the meantime, the short-term impact on employment is negative, as direct employment decreased substantially in 2004, whereas value added and investment made up for the ground lost in 2003.

The present report tackles all these issues by giving details per economic sector.

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

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

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FOREWORD

Every year the Bank[2] publishes an update of the study on the economic importance of the Flemish maritime ports and the Liège port complex. An initial attempt at providing an overall picture was undertaken in 2004 for the 2002 report with the presentation in a single volume of the analysis of the socio-economic situation at the ports of Antwerp, Ghent, Ostend and Zeebrugge. On that occasion, the indirect effects upstream of the sector's activity were estimated for the first time in terms of their impact on the overall economy of the country. The same approach was then adopted for the study of the economic importance of the Liège port complex.

This issue continues that process, presenting for the first time all the studies of the main Belgian ports[3] in a single volume. It thus updates the 2003 reports on the Flemish maritime ports and the Liège port complex[4] and offers the advantage of simultaneously publishing that complete set of economic information. The results cover the whole period 1999 - 2004. The methodology hitherto in use applies here.

After the introduction, the report sets out the general economic context and developments per sector up to 2004. This is followed by the analysis proper. For the reader's convenience, in highlighting the specific characteristics of the ports studied, the analysis is presented in two parts: one devoted to the Flemish maritime ports and the other to the Liège port complex.

INTRODUCTION AND AIMS

The study aims to estimate the changing economic importance of the ports considered. The analysis of the economic, social and financial situation covers the population of firms belonging to the branches of activity which have an economic link with the ports. That link is defined in relation to a dual criterion: functional and geographical. The functional dimension refers to the nature of the activity and the geographical dimension refers to the boundary defined[5] for each port. The definition of the port zones considered in the study of the Flemish ports is based on the Royal Decree (A.R.) of 2 February 1993. The Autonomous Port of Liège[6] manages twenty-nine public ports. Together with the private docks, these make up the Liège port complex.

The main developments are studied by focusing on the following variables:

- Value added (or VA) at current prices;
- Employment in FTEs[7];
- Investment at current prices.

The main findings for the social balance sheet and a financial analysis are also presented for the last three years covered by the study. The former is presented globally for the Flemish maritime ports as a whole, and then for the Liège port complex. The latter forms the subject of a section on the movement in certain financial ratios, and is presented for each port individually. To gain a better idea of the financial health of the firms considered, the study of the financial ratios is supplemented by the application of a

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2 National Bank of Belgium (NBB).

3 The Flemish ports studied are the four main maritime ports in Flanders and the Autonomous Port of Liège is Belgium's leading inland port. The port of Brussels, given its specific structural characteristics, constitutes the subject of a separate study conducted by ORBEm, the technical support being provided by the Bank. See ORBEm (2006), publication planned for autumn 2006.

4 Respectively Lagneaux F. (2005), *Economic importance of the Flemish maritime ports: Report 2003*, NBB, Working Paper No. 69 (Document series) and Lagneaux F. (2005), *Importance économique du Port Autonome de Liège: Rapport 2003*, NBB, Working Paper No. 75 (Document series). For the purpose of comparison or analysis of the data since 1997, the reader is requested to consult the previous issues.

5 Details in annex 1 and plans of the port zones in annex 2.

6 A public interest body responsible for managing, organising and equipping the Liège port and industrial zones (and their associated facilities), the management of which was entrusted to it by the Walloon Region. See also the law of 21 June 1937.

7 Full-time equivalents: unit used to express both direct and indirect employment.

bankruptcy prediction model, proposed for the Flemish maritime ports as a whole and for the Liège port complex.

The microeconomic data used come from the accounts filed with the Central Balance Sheet Office[8] and information produced by the National Accounts Institute (NAI[9]). At the Central Balance Sheet Office, the final closure of the accounts for 2004 took place in March 2006.[10] Similarly, the NAI figures for VA and employment, necessary to estimate the indirect effects up to 2004, are published after a certain time lag.

This study is based on the methodology already in use in the 2003 report, both for the Flemish maritime ports and for the Liège port complex. The historical data presented in the previous reports are supplemented by the figures for 2004. The results for earlier years have been updated[11], as have the estimates of the indirect effects[12]. The results are presented in the usual order, starting with an account of the latest developments in the maritime cluster, followed by the non-maritime cluster. The results for the various sectors are presented in order of relative importance. Annex 1 contains the definition of the clusters and sectors. The list of public authorities involved in the study is given in annex 4.

A short survey of the latest developments in the ports' activities in terms of cargo traffic by boat - seaborne in the Flemish maritime ports and inland in the Liège port complex- is provided for information. Wherever possible, certain links between the observed variations within the framework of this research and the country's economy are presented for comparison[13].

8 Service belonging to the Bank's Microeconomic Information department. See www.nbb.be / Central Balance Sheet Office.

9 The National Accounts Institute (NAI) set up by the law of 21 December 1994, links three institutions: the National Statistical Institute (NSI, now the FPS Economy – Directorate General of Statistics and Economic Information), the National Bank of Belgium and the Federal Planning Bureau. The NAI's duties include drawing up the real national accounts and the input-output tables (see annex 1) necessary for the estimation of the indirect effects.

10 Belgian firms are required to submit their annual accounts to the Central Balance Sheet Office by no later than seven months following the end of the financial year. A high proportion of firms -mainly small businesses or those in difficulties- fail to meet the obligation by that date. By the beginning of the following year, i.e. in January 2006 in the case of the 2004 accounts, the proportion failing to submit accounts is down to 5 p.c. In March 2006, that percentage was close to zero and the impact on the figures is minimal.

11 The main changes were made for the year 2003.

12 This update was based on the 1995 and 2000 IOT data, and the SUT data for 1999, 2000, 2001 and 2002, the 2001 and 2002 tables having been revised in February 2006 by the national accounts. Details in annex 1.

13 Main references: the Bank's 2005 Annual Report; Heuse P. and Ph. Delhez (2005), "The Social Balance Sheet 2004", NBB, *Economic Review, 2005/4*; Vivet D. (2005), "Trend in the financial structure and results of firms in 2004", NBB, *Economic Review, 2005/4*; NAI (2006), *Regional Accounts 1995 - 2004*. These publications are available on line: www.nbb.be.

1 GENERAL CONTEXT

In 2004, the world economy grew at its fastest pace for thirty years, stimulated by the emerging Asian economies. Despite rising oil prices and certain budgetary imbalances, the year brought a surge in the economic growth of the euro area, up from 0.7 to 2.1 p.c. The growth rate of the Belgian economy exceeded that average, rising from 0.9 p.c. in 2003 to 2.6 p.c. in 2004, mainly as a result of strengthening trade with other countries and the expansion of domestic spending. The expansion in manufacturing industry and the increase in external trade were the main factors underpinning the revival in Belgian economic activity.

The ports are a key sector for the European economy. While Belgium's intercontinental trade is concentrated on sea transport, many observers – including the European Commission – consider that inland waterways are still under-used, despite the country's exceptional position in that regard. The port authorities and regional authorities in charge of managing and developing the ports and inland waterways are nevertheless doing everything they can to promote their use. In a context of steady growth of container traffic, the Flemish maritime ports produced excellent results in terms of tonnages in 2004, as did the other ports in the Hamburg - Le Havre range. The Liège port complex still ranks second among Europe's inland ports, and certainly aims to defend that position in the years ahead, thanks to the expansion of continental container traffic and despite the significant impact of the closure of the blast furnace.

1.1 NATIONAL AND INTERNATIONAL ECONOMIC CONTEXT[14]

In 2004, world economic growth – estimated at 5.2 p.c. in real terms – was the highest for thirty years, boosted by the emerging Asian economies such as India and China, and by the substantial growth in world trade (+9 p.c.[15]). That year was also notable for the rise in oil prices and some persistent external imbalances, particularly in the United States, where the dollar continued to slide. Compared to the previous year, 2004 brought strengthening economic growth in the euro area, up from 0.7 to 2.1 p.c.

For the second consecutive year, the growth rate of the Belgian economy outpaced the euro area average, rising from 0.9 p.c. in 2003 to 2.6 p.c. in 2004. This consolidation was due to two factors: the dynamism of the global economy and the strengthening trade in the euro area combined with the expansion of domestic spending. Following the May 2003 trough, the business cycle matured during 2004, under the impact of domestic demand and the gradual attenuation of the euro's tendency to appreciate. The recovery of employment which began in 2003 was maintained in Belgium, and in 2004 domestic employment was 0.6 p.c. above the level achieved the previous year. The revival in Belgian economic activity was underpinned mainly by the expansion in manufacturing industry and the growth in trade with the rest of the world, of which the Asian countries. The increasing import from that region highly benefited the Flemish ports. After stagnating in the first half of 2003, the value added of the industry increased once again, the rise continuing into 2004.

At regional level[16], the GDP growth mentioned above was broken down as follows, at constant prices: +2.6 p.c. for the Flemish Region and +2.4 p.c. for the Walloon Region. The number of jobs increased by 0.4 p.c. and 1 p.c. respectively in these two regions.

[14] Sources: NBB Annual Report 2004 and 2005; Belgostat.

[15] The world export in goods grew by 9 p.c. between 2003 and 2004 in real terms, i.e. clearly more than the previous year (almost 5 p.c. in 2003). Source: WTO.

[16] Source NAI (2006), *Regional Accounts 1995 - 2004*.

1.2 TREND IN PORT SECTOR ACTIVITY AND CHALLENGES

1.2.1 Context

The ports are one of the key sectors of Europe's economy and trade, since over 90 p.c. of the EU's trade with non-EU countries and 40 p.c. of intra-EU trade is routed by sea. Belgium is located at the centre of the "European banana", also known as the "blue banana"[17], making it an attractive location for the major European distribution centres. In strategic terms, its economic activity depends on the development of its communication networks. The density of those networks entails a constant effort in regard to organisation and development, as the road arteries are increasingly congested while the inland waterways are largely under-used, according to various observers, including the European Commission. While Belgium has one of the most noteworthy inland waterway densities in Europe (cf. infra), only 19 p.c. of freight is carried by waterway, as opposed to 73 p.c. by road.

At European level, in line with the White Paper entitled "European transport policy for 2010: time to decide"[18], the emphasis was placed on the competitiveness of the port services, achieved by making them compete with one another. While the directive on the liberalisation of port services[19] is still being debated, the period 2000 - 2004 brought some significant progress in regard to the security of vessels and port installations (cf. ISPS standards[20]), projects for developing links with the hinterland, such as the trans-European networks, and compliance with ever stricter environmental standards[21]. Aware of the problems caused by the domination of road haulage and road congestion, the EU aims to encourage modal rebalancing in favour of transport by sea and inland waterway, while also developing the railways. In a context of increasing competition, the emphasis is on promoting investments in favour of combined transport, and on using and training professional operators in the sector with a view to developing sustainable transport[22].

Belgium has four large *maritime ports* in Flanders: Antwerp, Ghent, Ostend and Zeebrugge. Two Belgian *inland ports* are also accessible, in places, to 9,000 tonne convoys and are therefore classed as maritime ports: Brussels and Liège. The Belgian waterway network[23] comprises five main routes: three north-south and two east-west. These are respectively, in the east, the Antwerp-Liège link via the Albert Canal; in the centre, the Antwerp-Brussels-Charleroi route; in the west, the Ghent-Tournai link; the north transverse link between Bruges, Ghent and Antwerp via the Scheldt, and the south transverse link Charleroi-Namur-Liège via the Sambre and the Meuse. This network is located at the heart of western Europe and is suitable for European gauge vessels, i.e. up to 1,350 tonnes. It thus offers access to some major economic centres and to the main maritime and inland ports. The Flemish maritime ports maintain close links not only with one another but also with the inland ports. With the improvement in the service to the hinterland[24], the latter in fact represent a worthwhile solution to the congestion problem facing the seaports[25], particularly in their container terminals where waiting times are increasing.

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17 Notional region covering the distribution centres of Europe. This "banana" extends from the south-east of England to north-eastern Spain. It covers almost the whole of Benelux, eastern France, western Germany and northern Italy.

18 Published by the European Commission in September 2001, this White Paper lists sixty specific measures designed to improve, in particular, the quality and efficiency of transport in Europe between now and 2010.

19 Proposal for a directive of the European Parliament and of the Council COM(2004) 654 on "market access to port services", which aims to redefine the framework of services provided for vessels and the status of shipping agents. In the case of the latter, the directive proposes the general introduction of "self-handling", i.e. allowing the crew of the vessel to load and unload their cargo themselves. This is the point which is generating the strongest opposition. On 18 January 2006, the European Parliament rejected the current text, by a large majority.

20 International Ship and Port Facility Security Code (ISPS code). This concerns measures to increase the security of ships and port facilities. The ISPS code was adopted by the International Maritime Organisation (United Nations) in December 2002 and entered into force on 1 July 2004. This code, which contains a set of detailed rules for the attention of governments and port authorities, was ratified in the EU via Regulation 725/2004.

21 See summary presented in the 2003 report.

22 See also European Commission (2004), *Energy and Transport: Report 2000 - 2004*, Brussels.

23 The map of the Belgian waterway network is given in annex 2.

24 See Vlaamse Instituut voor de Logistiek (2006), *Achterlandverbindingen, multimodale schakel tussen verladers en de Vlaamse havens*, Antwerp.

25 See Office de Promotion des Voies Navigables (2005), *OPVN 1995 - 2005,* Walloon Region.

The developments in port activities are crucial for the decisions taken by the authorities responsible for managing the ports, particularly at regional level. Port activity is often considered from the point of view of the tonnages handled on the quayside, even though – in many ports – this is too simplistic. This is a yardstick – tonnes or thousand tonnes[26]- permitting easily comparisons between competing ports. This applies to the maritime ports sharing the same hinterland, commonly grouped together into a unit known as a range. That is the case for the nine main seaports in north-western Europe forming the Hamburg - Le Havre range.

But before analysing in more detail the latest developments in the ports' cargo-handling activities, the following section focuses on the growth potential of the waterway -real link between the seaports and the inland harbours-. Another paragraph concerning the authorities responsible for port policy and the bodies in charge of managing the ports studied is also included.

1.2.2 Inland waterway transport[27]

The inland waterway network of the EU comprises 30,000 km of waterways, two-thirds of which are concentrated in the countries with the highest concentration of rivers, namely the Netherlands, France, Germany, Belgium and Austria, also known as the Rhine-Scheldt-Meuse basin. Inland waterways carry 440 million tonnes of freight a year in Europe, totalling around 125 billion tonne kilometres (tkm), with the EU 15 accounting for almost all of it[28].

The Belgian inland waterway fleet and related activities

Belgium has one of the most noteworthy densities of navigable waterways in Europe, totalling 1,500 km[29] in a country with an area of 30,500 km². Key economic centres and major sea and river ports are accessible by European gauge vessels (1,350 tonnes capacity). As at 31 December 2004, the fleet of inland waterway shipping operators domiciled in Belgium comprised 1,660 dry cargo vessels with a total capacity of almost 1.5 million tonnes, 227 tanker vessels and 120 pushers. This means a wide range of vessels, some with a capacity of over 4,000 tonnes. There is currently a tendency towards reducing the number of inland waterway vessels but increasing their average capacity.

Performance

In 2002, the share of the three inland transport modes in the total national tonnage of 710 million tonnes was around 19 p.c. for inland waterways[30], 8 p.c. for railways and 73 p.c. for roads. In relation to the 62.5 billion tkm in 2002, these shares were respectively 13, 15 and 75 p.c. The supremacy of road transport over rail and inland waterway traffic is incontestable. However, inland waterways are gradually catching up. Of the 135.8 million tonnes carried on Belgian waterways in 2003, around 45 p.c. corresponded to imports, 30 p.c. to exports, 23 p.c. to national inland traffic and 2 p.c. to transit.

Advantages of river transport

Rivers offer the cheapest and most ecologically sound mode of transport: 5 litres of fuel will take a tonne of freight an average distance of 500 km by river, compared to 333 km by rail, 100 km by road and only 6.6 km by air. Waterways are particularly suitable for large tonnages and bulk goods, and for specialist transport such as the carriage of hazardous products, containers and large one-piece components over medium and long distances. Considered complementary to the other modes, waterway transport is acknowledged for its great reliability, the two key characteristics being safety and regularity.

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[26] In the case of container terminals, the TEU, or Twenty-foot Equivalent Unit, is also frequently used. It measures the capacity of a cargo boat or container terminal. Short containers are 20 feet long. 1 TEU therefore corresponds to the load in a 20 foot container. A 40 foot container is equivalent to 2 TEUs, etc.

[27] Sources: Office de Promotion des Voies Navigables (2005); Institut pour le Transport par Batellerie a.s.b.l. (http://www.itb-info.be); Havenbedrijf Antwerpen (2005), *Yearbook of statistics,* Antwerp; and European Barge Union (2005), *Annual Report 2004*, Rotterdam.

[28] In 2002, traffic totalled 125.1 billion tkm in the EU 15, against 129.4 billion tkm in the EU 25. Source: Eurostat.

[29] Wallonia – Flanders ratio about 1/3 - 2/3.

[30] At European level, the figure is only 6 p.c.

Infrastructures

These require constant upgrading, with the emphasis on increasing the accessibility and capacity of the facilities, in accordance with the RTE-T guidelines[31]. It is also vital to give preference to high value added infrastructures. Development projects such as the Deurganckdok harbour basins in Antwerp –a maritime port which is also very active in inland waterway traffic– and the *Liège TriLogiPort* in the Liège port complex are excellent examples.

1.2.3 Authorities responsible for managing the ports[32]

Each port is managed by its own port authority: an autonomous municipal enterprise in the case of Antwerp, Ghent, Ostend and Liège and a public limited liability company (SA) for Zeebrugge. Their names are respectively *Gemeentelijk Havenbedrijf Antwerpen, Havenbedrijf Gent GAB, AG Haven Oostende* (AGHO), *Port Autonome de Liège* (PAL), and *Maatschappij van de Brugse Zeevaartinrichtingen* (MBZ). These authorities are responsible for developing and planning the port facilities. By that token, they have power to grant concessions and authorisations in the areas concerned to potential investors and users of the port infrastructures, with the financial and logistical support of their own region. The port policy was in fact delegated to the regions in 1989. The regions are responsible for the management, equipment and operation of the inland waterway network and port facilities. In Flanders, that responsibility rests with the Minister of Public Works, Energy and Environment. The Mobility department manages over 1,000 km of navigable waterways, as well as the sea and inland port infrastructures of Flanders. In Wallonia, it is the Minister for the Budget, Finances, Equipment and Cultural Heritage who carries that responsibility. The Directorate General of Waterways of the Walloon Ministry of Equipment and Transport (MET) manages and operates the 460 km of navigable waterway in Wallonia, as well as the port infrastructures in the south of the country.

1.2.4 Maritime goods traffic[33] *in the Hamburg –Le Havre range:*

The Flemish maritime ports, grouped in a 100 km radius, play a major role in the import and export of goods at international and intra-European level. Taking account of all the logistic services which they offer, they are in direct competition with other major seaports in north-western Europe serving the same hinterland. The range which they form 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. 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 Flemish port commission (*Vlaamse Havencommissie)* in its annual report[34].

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31 Trans-European Transport Networks. Following the recommendations made in 2003 by the "Van Miert" group on the RTE-T, the European Commission drew up a list of 30 priority projects which are to be started before 2010. The total cost is estimated at 225 billion euro. This list takes full account of the latest EU enlargement, and aims to set up more sustainable mobility systems by concentrating the investments on rail and waterway transport. See also http://europa.eu/scadplus.

32 For more information on the authorities managing the ports and their legal status, see also the websites of the Vlaamse Havencommissie (http://www.serv.be/vhc), the Directorate General of Waterways (http://voies-hydrauliques.wallonie.be) and the ports concerned.

33 Freight carried via inland routes (inland navigation) is not included in these figures.

34 Source: Merckx J-P. and D. Neyts, Vlaamse Havencommissie (2005), *Jaaroverzicht Vlaamse havens 2004*, SERV, Brussels.

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

	1999	2000	2001	2002	2003	2004	Change 2003 - 2004 (in p.c.)	Average change 1999 - 2004 (in p.c.)	Relative share in the range in 2004 (in p.c.)
Hamburg	81.0	85.1	92.4	97.6	106.3	114.5	+7.7	+7.2	12.5
Bremen	36.0	44.8	46.0	46.5	48.9	52.3	+7.0	+7.8	5.7
Amsterdam[35]	37.6	44.6	49.4	50.3	44.5	51.9	+16.5	+6.7	5.7
Rotterdam	303.6	322.3	314.7	321.9	328.1	352.4	+7.4	+3.0	38.5
Antwerp	115.7	130.5	130.1	131.6	142.9	152.3	+6.6	+5.7	16.6
Ghent	23.9	24.1	23.5	24.0	23.5	25.0	+6.0	+0.9	2.7
Ostend	3.1	4.3	4.8	6.2	7.2	7.5	+4.5	+19.3	0.8
Zeebrugge	35.4	35.5	32.1	32.9	30.6	31.8	+4.0	-2.1	3.5
Total for the Flemish ports	*178.1*	*194.4*	*190.5*	*194.7*	*204.2*	*216.6*	*+6.1*	*+4.0*	*23.7*
Dunkirk	38.3	45.3	44.5	47.6	50.1	51.0	+1.8	+5.9	5.6
Le Havre	64.4	68.0	69.4	68.1	71.9	76.8	+6.7	+3.6	8.4
Total for the ten ports ...	*739.1*	*804.5*	*806.8*	*826.8*	*854.1*	*915.4*	*+7.2*	*+4.4*	*100.0*
Total world traffic	*5,666*	*5,983*	*6,020*	*6,127*	*6,480*	*6,758*	*+4.3*	*+3.6*	
Share of the ten ports in world traffic (in p.c.)	13.0	13.4	13.4	13.5	13.2	13 .5			

Sources: For traffic in the range: port authority data – including the Port of Rotterdam statistics - and *Jaaroverzicht Vlaamse havens 2004* (Annual Report 2004) of Vlaamse Havencommissie; for world traffic: UNCTAD, *Review of Maritime Transport 2005*.

Maritime traffic in the Hamburg - Le Havre range, including the port of Ostend, came to 915.4 million tonnes in 2004, an increase of 7.2 p.c. against the previous year. It was Amsterdam that recorded the strongest growth (+16.5 p.c.). Despite the expansion of the activities of the Asian ports of Shanghai, Shenzen, Dubai, etc., this increase still exceeded the global growth figure (+ 4.3 p.c., table 1). The very strong growth currently being achieved by the Chinese economy is in fact stimulating European imports from that region, and hence demand for shipping capacity. In 2004, the Hamburg - Le Havre range represented 13.5 p.c. of global maritime traffic. The Flemish maritime ports saw 6.1 p.c. growth in that same year[36]. Although slightly below the average expansion recorded by the range (+7.2 p.c.), this growth nonetheless enabled the four Flemish ports -making up nearly a quarter of the total traffic in the range- to boost their share of global maritime traffic, namely to 3.2 p.c. They capitalised on the growth of container traffic and trade with the European ports, and particularly those outside Europe, to establish their international stature. In 2004, Antwerp ranked second in Europe, after Rotterdam, in terms of total maritime traffic, and took third place just behind Hamburg in handling containers.

During the period 1999 - 2004, Ostend's average growth was the most dramatic (+19.3 p.c. per annum), followed by Bremen and Hamburg (+7.8 and +7.2 p.c. respectively). Over the same period, maritime traffic in Antwerp increased by an annual average of 5.7 p.c., whereas in Ghent it stagnated and in Zeebrugge it declined slightly (-2.1 p.c.). Containerisation explains the trend in traffic in the main ports, which managed to take advantage of space remaining available to commission terminals with ever larger capacity. That is true of Hamburg and Antwerp, ports which saw the most significant expansion in this segment[37]. These hinterland maritime ports, where the water depth is non-tidal[38], are working to

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

[36] See also the summary table in point 2.1.7 and the sections of chapter 2 relating to the various ports.

[37] In the range, the market shares of Antwerp and Hamburg in the container cargo handling segment increased between 1990 and 2004, while Rotterdam's market share declined over the same period.

deepen their access channels to the sea so that they can take the new generation container vessels[39]. The deepest draught in the range is found in the port of Rotterdam, the world's third largest port after Singapore and Shanghai. Here it is 24 metres. In 2004 the port of Antwerp ranked tenth in the world, taking all types -conditioning- of goods together, and eleventh in terms of container traffic, but has so far held on to fourth position in the world in terms of international maritime traffic.

Supported by the continuous strong –two-digit– growth of container traffic, the maritime ports have to cater for ever more exacting demands in terms of accessibility and the capacity for handling and storing containerised goods. The trend here is towards the concentration of high value added logistic services. These ports now have to address all these challenges at once in order to remain competitive.

1.2.5 Liège port complex and inland navigation

The Liège port complex is a major *inland port.* It is by far the dominant port in Wallonia. Of the 45.2 million tonnes of river traffic recorded in the Walloon ports in 2004, 49 p.c. was handled by the Liège port infrastructures. From the point of view of inland waterway tonnage, this is the largest inland port in Belgium[40] and ranks second in Europe, after Duisburg and ahead of Paris, two ports which are also located in the large Rhine-Scheldt-Meuse basin (cf. supra). It confirmed that rank in 2004. Altogether, taking public ports and private infrastructures together, 22.1 million tonnes were handled in the Liège port complex, putting it ahead of the autonomous port of Paris which, in the same year, handled 19.6 million tonnes. The veritable river motorway provided by the Rhine enables the German port of Duisburg to remain the undisputed leader among Europe's river ports, having handled 49.2 million tonnes of goods on its waterway in 2004.

The Liège port complex also satisfies the criteria defining a *maritime port:* it is accessible to sea shipping, since it can in certain places take convoys of up to 9,000 tonnes. The port has three access routes to the sea for this purpose: the Albert Canal linking Liège to Antwerp; the Meuse and the Juliana canal linking it to Rotterdam; and Amsterdam (alternative route to the Albert Canal for these destinations). The east-west link to Dunkirk, accessible to European gauge vessels, also offers access to and from the North Sea. This accessibility is essential to the good profitability of water transport, and to the existence along the navigable waterways of loading and unloading facilities capable of handling the goods quickly and cheaply[41].

The traffic considered here is purely river traffic. It is divided between the tonnages handled on the public and private quays, originating from or destined for the waterway. Altogether, the traffic totalled 22.1 million tonnes in 2004.[42] For the Flemish maritime ports, the figures presented in this report concern maritime traffic only, but a considerable proportion of their activity relating to freight transport to the hinterland comes under waterway traffic.

2004 was an exceptional year for inland navigation in Belgium. River freight increased by 4.1 p.c overall to 4.68 billion tkm. The Walloon ports handled record volumes of over 45 million tonnes (+5.4 p.c.). For the first time, the traffic handled by the Flemish ports via the inland waterways passed the 100 million tonne mark (+8.1 p.c.). This increase was due mainly to the growth of container traffic (+38.4 p.c.), according to Promotie Binnenvaart Vlaanderen. No less than 81.9 million tonnes of inland freight was

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38 Antwerp is nevertheless somewhat disadvantaged from this point of view: in 2004 its draught was only 11.9 metres, against 12.8 metres in Hamburg.

39 The latest generation of container vessels: these are vessels of 4,000 TEU or more which can carry even larger volumes of freight at steadily declining rates (economies of scale). Megacarriers with a capacity of over 8,000 TEU are gradually appearing in deep water ports such as Zeebrugge (16.75-metre draught). The container vessels of the future -Ultra-Large Container Ships (ULCS)- will have a capacity of 12,000 TEU, which implies that considerable efforts will continue to be needed to develop "post-Panamax" port infrastructures (draught of over 12 metres, in particular). That applies to Antwerp, where major work to increase the water depth is scheduled for 2007.

40 The PAL currently manages 29 public ports (cf. annex 2 B), including three trimodal sites at Renory, l'Île Monsin and Semeries, soon to be joined by the *TriLogiPort* multimodal platform at Hermalle-sous-Argenteau. In comparison with the maritime ports, the PAL is in fourth place in terms of total tonnage, behind Antwerp, Zeebrugge and Ghent. The autonomous ports of Charleroi, Namur and Centre-Ouest together with the PAL make up the four Walloon autonomous river ports.

41 Source: MET Directorate General of Waterways.

42 Details in point 3.8.

thus loaded or discharged on the quays of Antwerp in 2004 (+7 p.c.). River traffic also made headway in Ghent (+13.1 p.c.) reaching 16.9 million tonnes in 2004. At the same time, some of the traffic recorded by PAL is destined for short sea shipping. Coastal navigation represented around 250,000 tonnes in 2004.

Much of the growth of the maritime port activity is therefore linked to the development of river transport, a mode offering substantial scope for expansion, unlike rail and – above all – road transport, which have reached saturation point. In that regard, the future of river transport looks highly promising. The two main seaports linked to Walloon navigable waterways are Antwerp and Rotterdam. To a lesser extent, Dunkirk also offers them access to the sea. As regards the ports of Ghent, Ostend and Zeebrugge, the hinterland of the former two lies mainly in the direction of France, and these three ports are currently only accessible to vessels up to 1,350 tonnes coming from the Walloon ports[43]. The capacity to take and handle containers will probably double in Antwerp with the opening of the Deurganckdok, where the first terminal was inaugurated in July 2005. Antwerp handled around 6 million TEU in 2004, and the opening of this new basin will increase the port's capacity to 13 million TEU by 2010-2011. This project, which could be supplemented by the Saeftinghedok in the next decade, was eagerly awaited given the two-digit annual growth currently being achieved by maritime container traffic at the port of Antwerp (see section 2.2).

While the majority of these containers are transported from or to the sea, a quite considerable percentage is routed via the continent, by road, rail and inland waterway, the latter being the only mode with substantial capacity still unused. Moreover, the port of Rotterdam, with which Antwerp maintains river links for routing containers, is gradually reaching saturation point itself. That is why the Office de Promotion des Voies Navigables (OPVN[44]) is making provision for a 250 p.c. increase in container traffic by waterway in Belgium between now and 2011, since –according to OPVN forecasts– that traffic might increase from the current 1.1 million TEU to 3.6 million TEU. Of this traffic, 1.7 million TEU has Belgium as its final destination, compared to 187,000 TEU at present. Naturally, Flanders will be in the front line, closely followed by the Liège port complex, given its favoured geographical location in relation to the Antwerp conurbation and its many logistic advantages. The PAL and the Antwerp port authorities intend to collaborate closely to ensure that the Liège port complex is ready to take part of this traffic.

More generally, navigable waterways have for some years enjoyed the special attention of the competent authorities, particularly those of the regions. Aware of these issues, the EU is also investing resources in the search for ways of making this mode of transport more attractive, particularly in order to curb the problem of congestion on the main road networks. It is a question of helping to develop new markets and activities for inland navigation, modernise the fleet, improve working conditions, brand image and the infrastructure, and finally harmonise the regulations[45]. The European Commission recognises that inland navigation has great potential as a substitute mode of transport for freight, in view of its numerous qualities (cf. supra). That is the idea behind the proposed directive on River Information Services (RIS), which is intended to establish a European framework to ensure the compatibility and interoperability of current and future RIS systems at European level. The aim is to achieve genuine interaction between the various information services on navigable waterways. The directive, which has not yet been adopted, will apply to inland ports handling an annual volume of freight of 500,000 tonnes or more[46]. Examples of projects and investments are numerous. They are concentrated on the modernisation of the fleet -modern navigation equipment on board the vessels- and the infrastructures -improving the port facilities, dredging the rivers and canals, increasing draughts and headroom, etc.-.

[43] See also the map of the Belgian river network in annex 2 C.

[44] See OPVN (2005), *Étude du potentiel de transport fluvial de containers le long de la dorsale wallonne*, MET – Walloon Region, Namur.

[45] See also http://www.europa.eu/pol/trans/index_en.htm.

[46] More information at http://europa.eu/scadplus.

2 ECONOMIC IMPORTANCE OF THE FLEMISH MARITIME PORTS

2.1 GENERAL SITUATION

In 2004, the direct VA generated by businesses dependent on the Flemish ports increased by 10.7 p.c. compared to the previous year, at constant prices. At current prices it reached 12.8 billion euro, while the indirect VA totalled 12.1 billion euro.

Direct paid employment increased by 0.6 p.c. to around 105,500 FTEs. There was a further rise in part-time working and in the use of temporary staff. Recruitment in the Flemish maritime ports predominantly concerned graduates, especially in the heavy industries and other logistic services, whereas less time was spent on training. Indirect employment, including self-employed persons, expanded to almost 137,000 FTEs.

Investment in tangible fixed assets, taking private and regional expenditure together, was around 2.6 billion euro in that same year.

The return on equity after taxes in the Flemish ports increased sharply on average in 2004, while the average liquidity ratio in the broad sense and solvency declined. Further, the percentage of firms in difficulty decreased in the case of both large firms and SMEs.

That year also brought 6.1 p.c. growth in the tonnage of maritime freight handled by all the Flemish maritime ports together, bringing the total to almost 217 million tonnes, with dramatic expansion of containerised freight.

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

The tables and the majority of the comments on the movement in VA relate to figures at current prices. Figures are also given at constant prices in certain cases, for information[47].

Between 1999 and 2004, the direct VA of firms dependent on the Flemish maritime ports increased by an average of 5.7 p.c. per annum at current prices (table 2). Taking account of the deflator of gross VA, that increase averaged 3.7 p.c. per annum over the period, at 2000 prices. The most significant increases were recorded by shipping companies, port construction and dredging, the oil industry, chemicals and other land transport.

The contribution to GDP of the four Flemish ports, taking all ports together, surged to 12.8 billion euro in 2004. This increase came to 13.3 p.c. at current prices, or 10.7 p.c. at constant prices. That is remarkable compared with the growth of the Belgian economy as a whole (2.6 p.c.). The port of Ghent did well, particularly in its two main industries – metalworking and car manufacturing – followed by Antwerp, which very much dominates the Flemish port sector since it represents almost 65 p.c. of the VA of the four ports studied. Besides, the chemical industry achieved new records in Antwerp, contrary to the trends observed at the national level. Nor were the maritime sectors left behind, as the Antwerp and Ostend shipping companies recorded significant growth. Shipping agents and forwarders achieved good results in Zeebrugge.

[47] The reference used to calculate the movement in VA at constant prices is the deflator of gross VA. Details in section 2 of annex 1. See also www.belgostat.be.

TABLE 2 **VALUE ADDED IN THE FLEMISH MARITIME PORTS**
(millions of euros - current prices)

	1999	2000	2001	2002	2003	2004	Share in 2004	Change from 2003 to 2004	Annual average change, 1999-2004
							(in p.c.)	(in p.c.)	(in p.c.)
1. DIRECT EFFECTS....	**9,732.5**	**10,867.1**	**10,745.1**	**11,040.0**	**11,321.2**	**12,826.3**	**100.0**	**+13.3**	**+5.7**
Antwerp	6,115.3	6,953.8	6,932.2	7,085.7	7,362.0	8,294.2	64.7	+12.7	+6.3
Ghent.....	2,621.7	2,865.0	2,702.7	2,863.1	2,862.7	3,397.3	26.5	+18.7	+5.3
Ostend.....	272.2	258.1	312.5	323.5	337.7	346.7	2.7	+2.7	+5.0
Zeebrugge	648.4	712.7	723.3	696.4	669.2	705.4	5.5	+5.4	+1.7
Outside the ports[48].....	74.9	77.4	74.5	71.3	89.5	82.8	0.6	-7.5	+2.0
2. INDIRECT EFFECTS	***9,658.1***	**10,442.7**	***10,977.5***	***11,144.7***	***11,134.1***	***12,143.3***	**-**	***+9.1***	***+4.7***
Total value added....	***19,390.6***	**21,309.8**	***21,722.6***	***22,184.7***	***22,455.3***	***24,969.5***	**-**	***+11.2***	***+5.2***

Source: NBB.

Taking account of indirect effects[49], the total VA of the ports considered was in the region of 25 billion euro in 2004, or 15.1 p.c. of the GDP of Flanders and 8.7 p.c. of Belgium's GDP[50]. That total includes all the figures relating to the activity of suppliers used by firms in the population, first-line subcontractors and those further upstream. The study covers the whole of the indirect effects.

As stated in point 2.1.2, this favourable outlook for VA does not necessarily imply expansion in employment.

2.1.2 Overall data on direct and indirect employment

Between 1999 and 2004, employment in the four Flemish maritime ports edged upwards by an average of 0.5 p.c. per annum (table 3). The main expansion was at Antwerp and Ghent, whereas employment declined slightly at Ostend and Zeebrugge. During this period, employment increased overall in port handling whereas shipping companies recorded a decline. Although employment generally declined in the major industries, it nonetheless expanded in construction, the oil industry and land transport.

Direct employment grew by 0.6 p.c. on average in 2004, which corresponds to the development of Belgian domestic employment, the biggest increase being recorded at the port of Ghent. There was a small rise at Antwerp, while jobs were lost at Ostend and Zeebrugge. The expansion at Ghent is attributable in particular to recruitment in the car manufacturing industry. To a lesser extent, the workforce of that industry also prospered at Antwerp – over 58 p.c. of the employment at the four ports – while redundancies in the industry at Ostend and the Zeebrugge maritime cluster reduced the workforce at those two ports.

[48] These figures are stated per Flemish port (cf. points 2.2, 2.3, 2.4 and 2.5) according to the breakdown of VA. Details in point 1 of annex 1.

[49] The breakdown per cluster of the indirect effects is presented for each port in points 2.2 to 2.5. A detailed presentation per sector is also offered as a guide in annex 5.

[50] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy. Source of the regional data: NAI (2006), *Regional Accounts 1995-2004*.

TABLE 3 **EMPLOYMENT IN THE FLEMISH MARITIME PORTS**
(FTEs)

	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999-2004 (in p.c.)
1. DIRECT EFFECTS	**103,134**	**104,697**	**107,353**	**106,038**	**104,899**	**105,489**	**100.0**	**+0.6**	**+0.5**
Antwerp	59,469	60,442	62,629	62,359	61,313	61,558	58.4	+0.4	+0.7
Ghent.....	27,853	28,635	28,778	28,073	27,757	28,313	26.8	+2.0	+0.3
Ostend.....	4,374	3,844	4,056	4,214	4,370	4,286	4.1	-1.9	-0.4
Zeebrugge	10,112	10,445	10,641	10,130	9,856	9,712	9.2	-1.5	-0.8
Outside the ports[51].....	1,326	1,331	1,249	1,262	1,603	1,621	1.5	+1.1	+4.1
2. INDIRECT EFFECTS	***133,989***	**141,845**	***149,250***	***141,061***	***133,978***	***136,740***	**-**	***+2.1***	***+0.4***
Total employment....	***237,123***	**246,541**	***256,603***	***247,100***	***238,877***	***242,229***	**-**	***+1.4***	***+0.4***

Source: NBB.

Total employment, which covers both direct and indirect employment, i.e. including workers employed by suppliers[52] of the firms selected for the study, came to over 242,000 FTEs in 2004. This figure takes account of all levels of subcontracting upstream of the activity pursued directly in the port zones. Taking account of the indirect effects, these four ports represented 11.3 p.c. of domestic employment in Flanders and 6.5 p.c. of Belgian domestic employment in 2004[53].

2.1.3 Overall data on investment

The tables and the majority of the comments on investment relate to figures at current prices. In certain cases, the figures are also given at constant prices, for information[54].

Between 1999 and 2004, direct investment in the Flemish maritime ports increased by an annual average of 4.8 p.c. at current prices (table 4). But taking account of the deflator of gross fixed capital formation by enterprises, this annual increase averaged 3.9 p.c. at 2000 prices over the same period. During that period, the most significant increases were recorded among shipping companies, shipping agents and forwarders, and the chemical and energy industries. Conversely, there was a sharp fall in the case of metalworking and land transport.

[51] These figures are stated per Flemish port (cf. points 2.2, 2.3, 2.4 and 2.5) according to the breakdown of VA. Details in point 1 of annex 1.

[52] Including the self-employed. The breakdown per cluster of the indirect effects is presented for each port in points 2.2 to 2.5. A detailed presentation per sector is also offered as a guide in annex 5.

[53] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy. Source of the regional data: NAI (2006), *Regional Accounts 1995-2004*.

[54] The deflator of gross fixed capital formation by Belgian enterprises was used for the purpose of calculating the movement in investment at constant prices. Details in point 2 of annex 1. Source: NAI.

TABLE 4 **INVESTMENT IN THE FLEMISH MARITIME PORTS**
(millions of euros - current prices)

	1999	2000	2001	2002	2003	2004	Share in 2004	Change from 2003 to 2004	Annual average change, 1999-2004
							(in p.c.)	(in p.c.)	(in p.c.)
Antwerp	1,074.2	1,389.8	1,563.6	1,454.8	1,810.3	2,042.5	77.5	+12.8	+13.7
Ghent	644.5	588.3	604.4	793.8	756.5	356.3	13.5	-52.9	-11.2
Ostend	117.2	99.3	60.0	53.5	61.2	60.4	2.3	-1.2	-12.4
Zeebrugge	198.1	170.4	131.6	148.4	139.7	140.7	5.3	+0.7	-6.6
Outside the ports[55]	52.4	50.6	41.3	38.2	45.4	34.2	1.3	-24.6	-8.2
Direct investment	**2,086.4**	**2,298.4**	**2,401.0**	**2,488.7**	**2,813.0**	**2,634.1**	**-**	**-6.4**	**+4.8**

Source: NBB.

In 2004, investment declined at Ghent in the metalworking and car manufacturing industries and, to a lesser extent, at Ostend in the chemical industry and at Zeebrugge in the electronic equipment industry. Amounting to 6.4 p.c. at current prices, this overall decline came to 7.1 p.c. at constant prices. Only the port of Antwerp, where 77.5 p.c. of the money invested in 2004 was concentrated, resisted this trend, with increases recorded by the energy, oil and shipping company sectors. Taking all the Flemish maritime ports together, investment totalled just over 2.6 billion euro in 2004.

2.1.4 Breakdown of findings by company size[56]

TABLE 5 **BREAKDOWN OF FINDINGS IN THE FLEMISH MARITIME PORTS IN 2004**

Ports	Number of firms[57]		Direct VA (In millions of euros)		Direct employment (in FTEs)		Direct investment (in millions of euros)	
	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs	Large firms	SMEs
Antwerp	358	1,222	7,856.3	437.9	55,450	6,108	1,886.2	156.3
Ghent	153	440	3,222.8	174.4	25,881	2,433	319.8	36.5
Ostend	32	221	278.3	68.4	3,261	1,025	45.1	15.3
Zeebrugge	80	321	588.1	117.3	7,892	1,819	119.7	21.0
Outside the ports	19	318	30.7	52.1	934	686	22.7	11.5
TOTAL	**642**	**2,522**	**11,976.2**	**850.1**	**93,418**	**12,071**	**2,393.5**	**240.6**

Source: NBB.

The number of SMEs remained more or less stable in relation to 2003, at 79.7 p.c. of the population considered. Although they only represent just over one-fifth of the total number of firms recorded in

[55] These figures are stated per Flemish port (cf. points 2.2, 2.3, 2.4 and 2.5) according to the breakdown of VA. Details in point 1 of annex 1.

[56] The definition used is that given in Article 15 of the Companies Code (law of 7 May 1999) in force in 2004. Firms are regarded as large if the annual average workforce exceeds 100 persons or if more than one of the following three thresholds is exceeded: annual average workforce 50 units; annual turnover (excluding VAT) 6.25 million euro; balance sheet total 3.125 million euro.

[57] For each port, this is the number of firms located in the port zone. The same firm may in fact be recorded in more than one port. That is why the total number of firms stated in tables 5 and 47 exceeds 3,268, namely the total number of firms (or VAT numbers) actually considered in the study of the five ports in 2004. In that year, fifty-seven firms were present in two or more ports.

respect of Flanders, large firms accounted for 93.4 p.c. of the wealth created in the four ports studied, and 88.6 p.c. of employment (table 5). They also attracted 90.9 p.c. of the investment. The detailed figures are presented by cluster and by sector for each port, in annex 6.

2.1.5 Social balance sheet in the Flemish maritime ports[58]

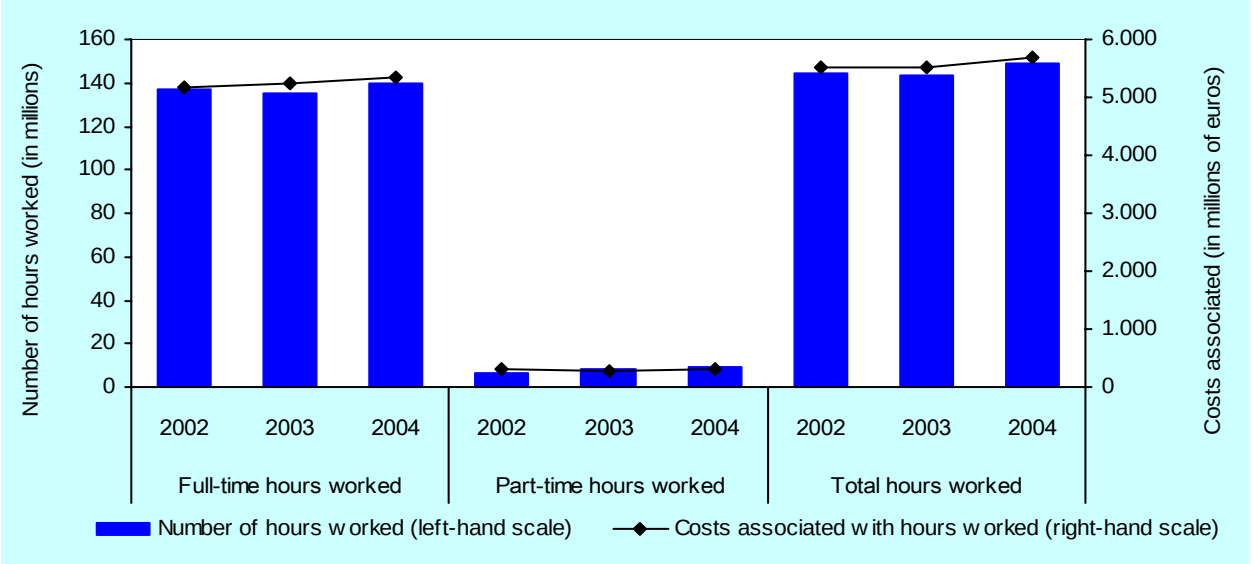
Since its introduction in 1996, the social balance sheet has presented a consistent set of data covering various aspects relating to employment in firms, be it the recruitment and composition of the workforce, the contractual status or standard of education of the employees, staff costs, training policy, 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[59] which was defined for all five ports studied and covered the period 2002-2004. 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 in the full presentation format, as the balance sheet items on which they are based only occur in that presentation.

The comments focus on the changes recorded in the last three years considered. The figures for 2004 are presented in detail in annex 7.

2.1.5.1 Type of contract and human resources

At the end of the 2004 financial year, the ratio of white-collar to blue-collar workers stood at 65.1 p.c., a decline of 1 p.c. against the previous year, while the proportion of blue-collar workers rose.

CHART 1 INTERNAL HUMAN RESOURCES[60]: HOURS WORKED AND ASSOCIATED COSTS



Source: NBB.

Having declined in the previous year, direct employment expanded in 2004 (cf. table 3). The same is true of the number of full-time hours worked, which increased to 140 million in that year, following a 3.4 p.c. rise. Part-time working continues to gain ground, reaching 8.9 millions hours, i.e. a million more than in 2003 (chart 1), while still supporting the rise in employment, as is apparent in the national economy. This trend was particularly marked in metalworking, trade and other logistic services in Antwerp, the Ghent metalworking industry, and other land transport in the four ports.

[58] The national data presented here were taken from Heuse P. and Ph. Delhez (2005). 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 2004. This is a smaller population.

[59] Details on the representativeness of the constant sample are given in point 2 of annex 1.

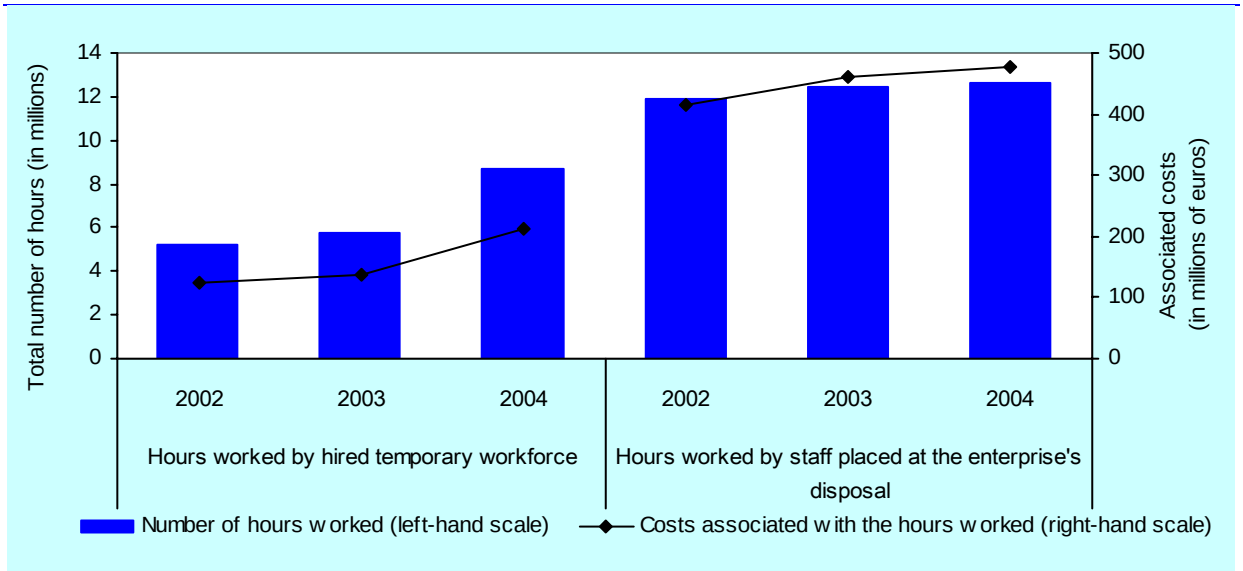
[60] Employees recorded in the staff register of the firms considered.

Altogether, the total number of hours worked thus increased from 143.4 to 148.9 million, and the proportion of full-time working in that total declined once again, dropping by 0.5 point compared to 2003, bringing it to 94 p.c.

Increasing by 2.2 p.c. over the same period, the cost of full-time staff totalled 5.4 billion euro in 2004. Taking account of the change in the number of hours worked on a full-time basis, hourly labour costs dropped by 1.1 p.c. (including the effect of the cost of pensions). The cost of part-time staff increased by 12.7 p.c., corresponding to the change in the number of hours worked and thus maintaining the status quo in terms of the hourly cost for this type of contract. Altogether, taking all categories combined, staff costs rose by 2.8 p.c. in one year and hourly labour costs dipped slightly from 38.5 to 38.1 euro per hour.

The average annual cost per FTE came to 60,144 euro, 1.3 p.c. higher than the 2003 figure. The national figure was 48,355 euro, up by 2.6 p.c. against the previous year.

CHART 2 **EXTERNAL HUMAN RESOURCES[61]: HOURS WORKED AND ASSOCIATED COSTS**



Source: NBB (full presentation accounts only).

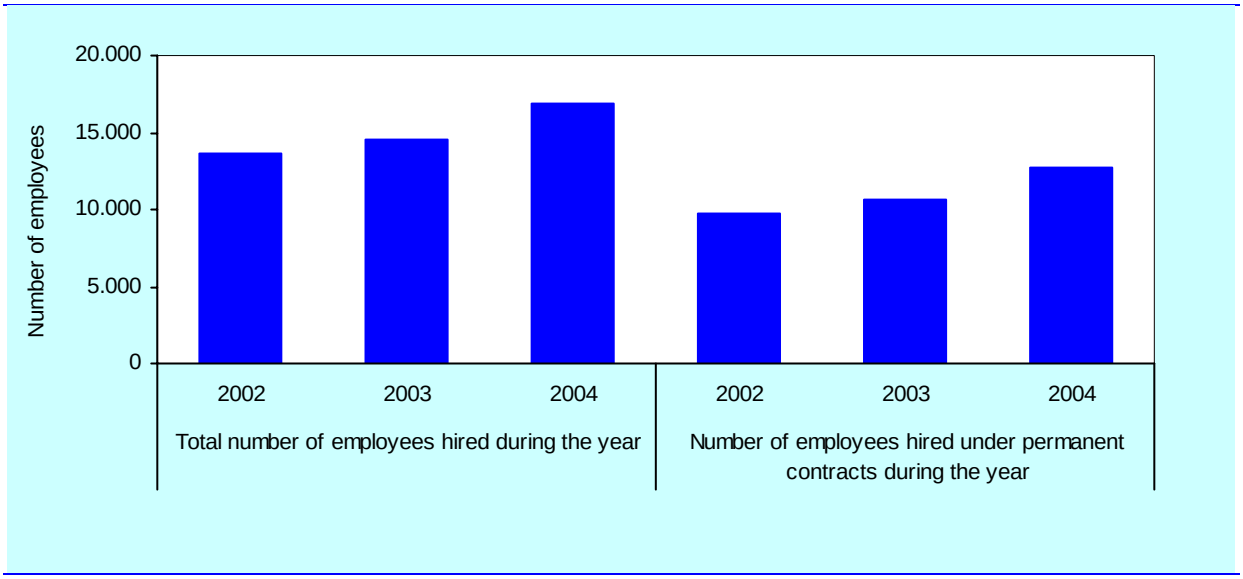
Over the period 2002 - 2004, there was a steady rise in the hours worked by external human resources, especially hired temporary staff (chart 2). From 2003 to 2004, the number of hours worked by hired temporary staff increased by 52 p.c., against a rise of just 1.1 p.c. for staff placed at the enterprise's disposal. Metalworking and other logistic services in Antwerp, car manufacturing and metalworking in Ghent, and electronics and other logistic services in Zeebrugge, plus trade in all four Flemish ports, took on a significantly higher number of temporary staff than in the previous year. The costs relating to these two categories of workers – hired temporary staff and those placed at the enterprise's disposal – increased by 55.6 and 3.9 p.c. respectively. In both cases, the hourly cost increased, namely by 2.4 and 2.8 p.c. respectively. In 2004, workers placed at enterprises' disposal, a very important category in the Flemish ports owing to the dockers' activities, represented only 59.1 p.c. of the hours worked by external human resources, against 68.5 p.c. a year earlier.

[61] Hired temporary staff and staff placed at the enterprise's disposable. The latter refers to the workers an employer places at other users' disposal. Those 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".

2.1.5.2 Staff turnover

Charts 3 to 7 concern “flow” variables since they relate to workers hired and leaving during the year. For that reason, the picture indicated by the charts need not correspond to the general trend in employment presented in table 3 - and in the sections relating to each port - in the form of a “stock” variable. These charts also concentrate on firms in the constant sample submitting their accounts in the full presentation format.

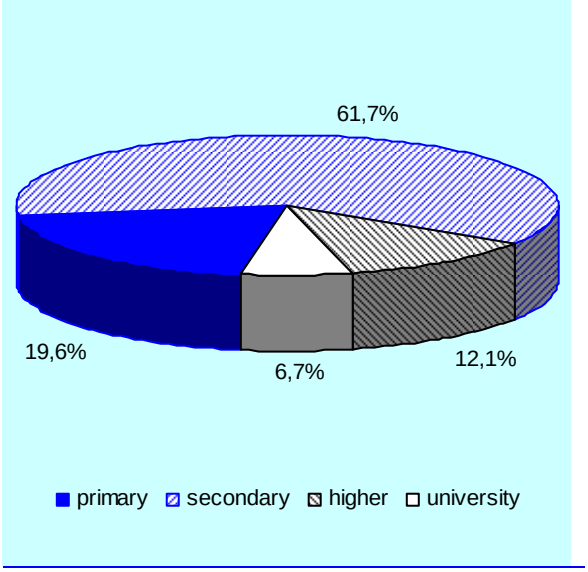
CHART 3 **TOTAL PERSONNEL HIRED IN THE FLEMISH MARITIME PORTS**
(FTEs)



Source: NBB (full presentation accounts only).

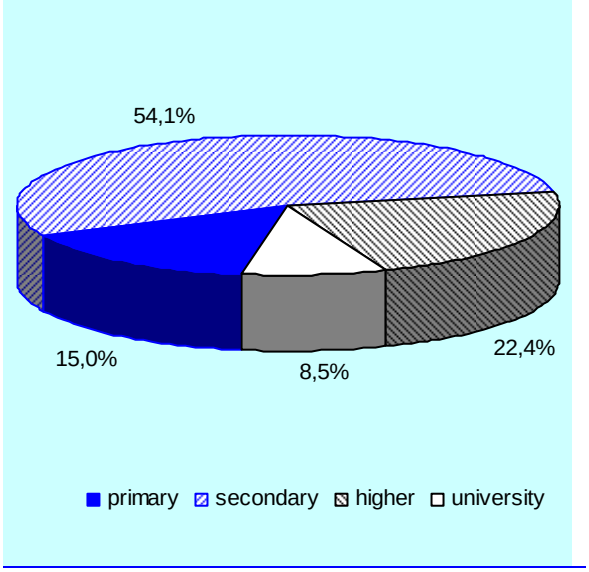
The total number of employees hired during the year 2004 was 16.1 p.c. higher than in the previous year. This meant an increase of 18.8 p.c. for permanent contracts (chart 3). That applies particularly to port cargo handling, the oil industry and trade in Antwerp, metalworking in Ghent, and chemicals and metalworking in Ostend. These increases in the numbers hired led to a rise in employment, as the number of contracts terminated was relatively steady (chart 6).

CHART 4 **STANDARD OF EDUCATION OF MALE STAFF HIRED IN 2004**
(FTEs)



Source: NBB (full presentation accounts only).

CHART 5 **STANDARD OF EDUCATION OF FEMALE STAFF HIRED IN 2004**
(FTEs)



Source: NBB (full presentation accounts only).

Male employees represented 84.3 p.c. of the workforce of the Flemish maritime ports at the end of 2004, a decline of 0.5 point compared to the previous year.

The 16.1 p.c. increase in the numbers hired in 2004 was broken down as follows according to the standard of education of male employees: jobs created for persons with a certificate of secondary or higher non-university education and university graduates increased by 24.2, 6.3 and 33.1 p.c. respectively compared to 2003. The number of graduates hired showed a particularly strong increase in the oil industry and construction in Antwerp, and in metalworking and car manufacturing in Ghent. On the other hand, there was a decline in the recruitment of less educated persons, with a 0.2 p.c. drop in the number of primary education certificate holders hired.

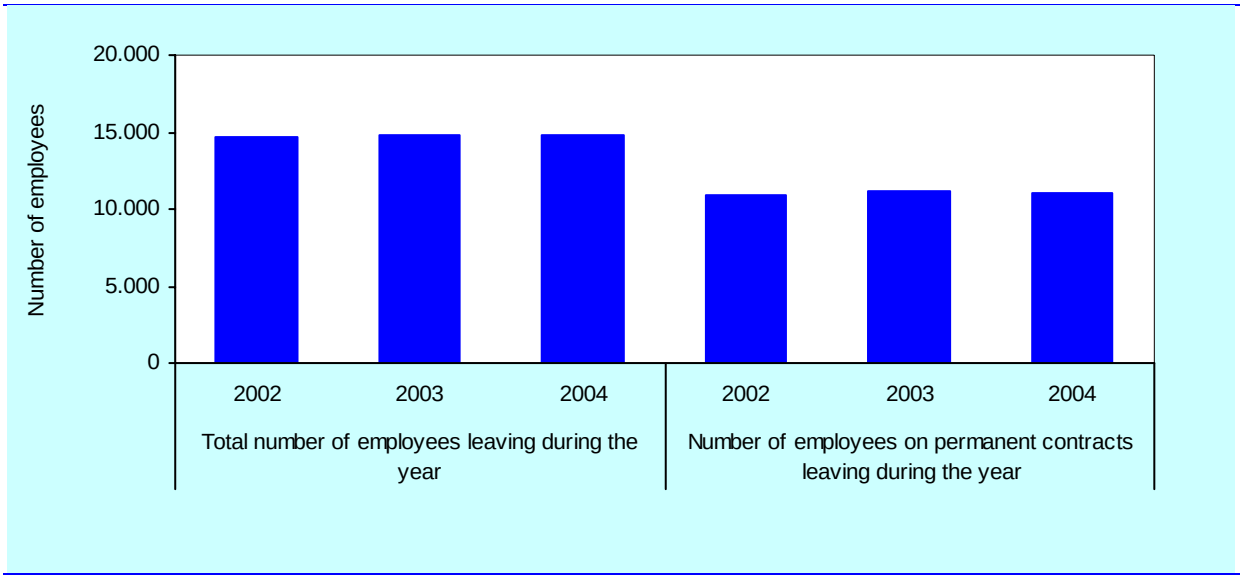
Chart 4 shows the breakdown by standard of education in the case of male personnel hired in 2004.

The proportion of female workers in the Flemish maritime ports has continued to grow, reaching 15.7 p.c. of the total workforce, or 0.5 p.c. more than in 2003.

The pattern of recruitment in the case of female workers according to standard of education corresponds to that seen in the case of their male colleagues. The 16.1 p.c. increase was broken down as follows: jobs created for persons with a certificate of secondary or higher non-university education and university graduates increased by 12.7, 18.4 and 21.9 p.c. respectively compared to 2003. The increase in the number of graduates hired is attributable to the oil industry in Antwerp, the car manufacturing in Ghent and the metalworking in Ostend. On the other hand, there was a 3 p.c. decline in the recruitment of persons holding a certificate of primary education.

Chart 5 shows the breakdown by standard of education in the case of female personnel hired in 2004.

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



Source: NBB (full presentation accounts only).

The total number of employees leaving during 2004 is only 0.4 p.c. more than in 2003. It actually dropped by 2 p.c. in the case of permanent contracts (chart 6). Given this relative stability, the growing numbers hired, as shown in chart 3, led to a marked rise in employment in the Flemish maritime ports.

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

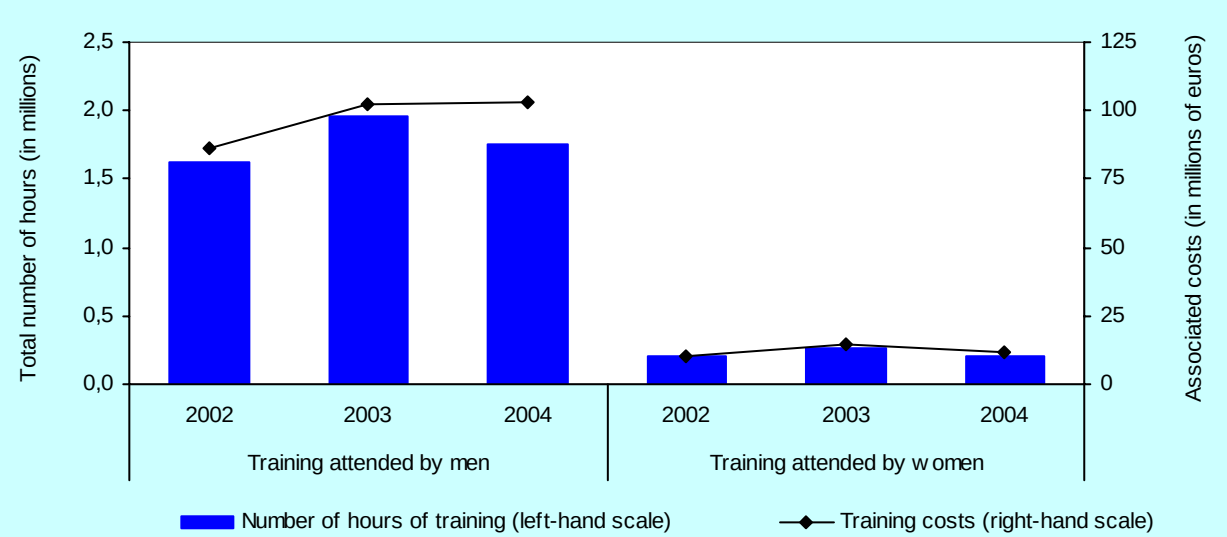
	2002	2003	2004
Retirement	3.9	3.7	4.3
Early retirement	9.8	8.6	7.3
Dismissal	18.5	16.2	16.4
Other reason	67.8	71.5	71.9

Source: NBB (full presentation accounts only).

As is the case at national level, the proportion of persons taking early retirement continued to fall, e.g. in the chemical industry in Antwerp and in metalworking in Ghent. Conversely, the proportion retiring has risen. The increase in contracts terminated by dismissal or for other reasons -termination of temporary contracts and spontaneous departure- is very slight. But, after falling for a year, the number of redundancies could well begin to rise again.

2.1.5.3 Training[62]

CHART 7 HOURS OF TRAINING AND ASSOCIATED COSTS



Source: NBB.

In 2004, 51 p.c. of male staff and 37.9 p.c. of female staff took part in training programmes. Compared to the previous year, this meant a rise of 2.4 points for men but a fall of 2.3 points for women.

Following the 2003 increase, the time which men and women devoted to training declined by 10.9 and 22.4 p.c. respectively (chart 7), particularly in car manufacturing in Antwerp and Ghent, despite a rise in the chemicals in Antwerp. Given the number of men and women concerned, they spent less time on training, on average: having devoted 51.3 hours to training in 2003, male employees spent only 43.1 hours on training in the following year. Similarly, their female colleagues reduced the time spent to 33.2 hours, against 41.9 a year earlier. Taking men and women together, the proportion of total working hours devoted to training declined from 1.56 to 1.32 p.c., though that level is still above the national average (0.82 p.c. in 2004).

The costs incurred in training the employees of the Flemish maritime ports increased slightly for men (+0.4 p.c.) and fell sharply for women (-16.4 p.c.). Altogether, those costs represented 2 p.c. of the wage bill, or 0.1 p.c. less than the previous year. That percentage is well above the national average (1.25 p.c. in 2004).

[62] 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.

2.1.6 Financial situation in the Flemish maritime ports

2.1.6.1 Financial ratios

The financial ratios presented here, i.e. the return on equity after taxes, the liquidity in broad sense and the solvency, are defined in point 2 of annex 1.

The study of financial ratios concerns a constant sample[63] for the years 2002 to 2004, common to the five ports considered. It concerns the firms which filed their accounts at the Central Balance Sheet Office in 2002, 2003 and 2004 and whose results satisfy the conditions required for calculating the ratios[64]. Therefore, the firms studied in the financial section of this report differ from those included in the constant sample of the previous report. That explains the differences in the figures between the two publications. For the comparison with the national figures, the same calculation method -called globalisation[65]- is applied both to the ratios of private firms in the Flemish maritime ports and to the ratios of all Belgian non-financial corporations.

TABLE 7 FINANCIAL RATIOS IN THE FLEMISH MARITIME PORTS FROM 2002 TO 2004

Ports	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
Antwerp	9.6	13.3	17.4	0.57	1.38	0.83	39.0	37.2	31.1
Ghent	-8.0	6.1	20.2	0.94	1.06	1.24	43.2	45.2	47.4
Ostend	7.6	6.4	6.4	1.40	1.39	1.38	42.0	45.8	46.3
Zeebrugge	6.3	7.1	7.2	1.57	1.23	1.27	49.1	44.7	43.8
Weighted average	**5.5**	**11.2**	**17.5**	**0.68**	**1.28**	**0.94**	**40.3**	**39.2**	**34.9**
Non-financial corporations[66]	**4.1**	**7.6**	**6.9**	**1.17**	**1.22**	**1.24**	**39.9**	**40.6**	**41.5**

Source: NBB.

In 2004, there was a marked improvement, on average, in the return on equity after taxes in the firms based in the Flemish ports (+6.3 percentage points, table 7). This rise is due primarily to the Ghent metalworking industry and to the Antwerp oil industry and shipping companies, while this ratio remained stable in Ostend and Zeebrugge (see explanations in subsequent chapters). The trend in the profitability of firms based in the Flemish ports therefore appears to be better than that recorded at national level, as a few very large Belgian companies saw a decline in their exceptional result in 2004, which depressed their overall performance, while SMEs maintained the recovery which had begun in 2003.

In contrast, average liquidity in broad sense dropped below 1 in 2004, corresponding to negative average net working capital. This contrasts with the trend apparent at national level, where firms saw an improvement in their ability to honour their short-term liabilities. The increase recorded at the port of Ghent and maintenance of the status quo at Ostend and Zeebrugge were insufficient to offset the sharp decline which occurred in Antwerp's industry, particularly in chemicals. The average net working capital is negative in Antwerp, whereas it remains positive in the other three ports.

Solvency also declined on average. Once again, this is due to the Antwerp chemical industry, and to the other services in Zeebrugge, albeit to a lesser extent. The Ghent metalworking industry did something to

63 Details concerning the representativeness of the constant sample are given in point 2 of annex 1.

64 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.

65 Vivet D. (2005) used the median ratio and globalisation methods.

66 These figures relate to the situation of all Belgian non-financial corporations, large firms and SMEs taken together. They were recalculated in March 2006 by Vivet D. (2005) according to the globalisation method, and therefore differ from those published in the 2003 report.

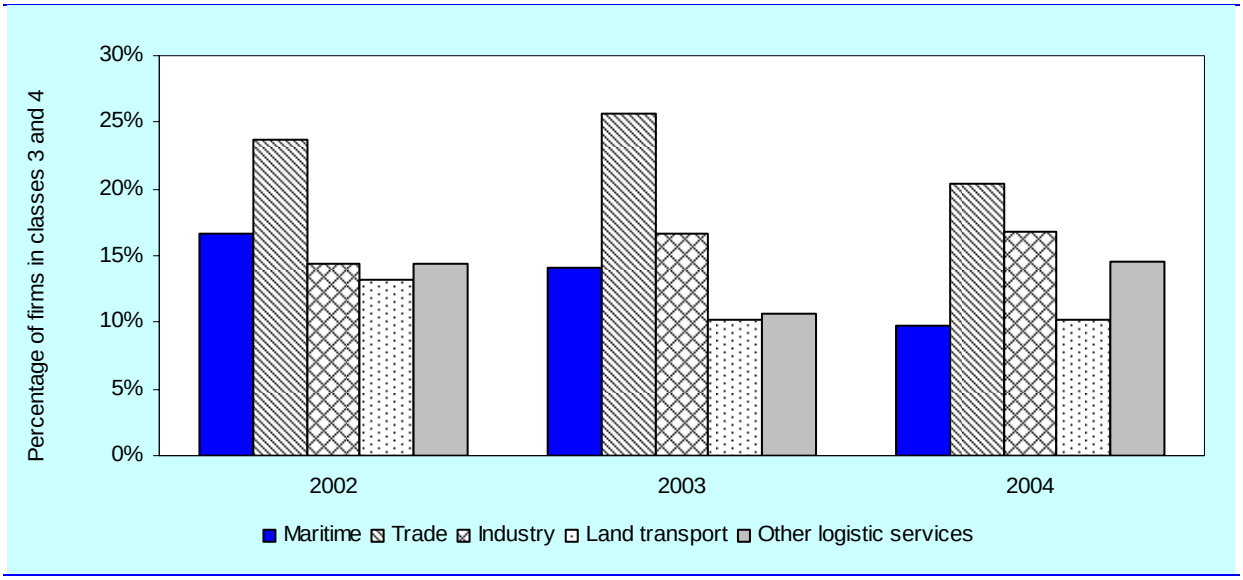
moderate this trend, while the position was more or less stable in Ostend. The average solvency of firms in Antwerp fell short of the national figures in 2004, whereas it was higher in the other three ports. The situation in Antwerp is due to higher debts, in some cases combined with a reduced cash flow.

2.1.6.2 Financial health assessment

The bankruptcy prediction model used here applies to firms in the constant sample[67] employing more than five workers. Precisions in point 2 of annex 1.

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).

CHART 8 **FINANCIAL RISKS IN THE FLEMISH MARITIME PORTS FROM 2002 TO 2004**
(percentages)



Source: NBB.

The percentage of firms in difficulty declined in 2004 in the maritime cluster, and particularly in cargo handling and shipping companies, falling from 14.1 to 9.8 p.c. It also declined in trade, from 25.6 to 20.4 p.c. The percentage of firms in classes 3 and 4, on the other hand, increased in land transport and other logistic services, rising from 10.1 to 10.3 p.c. and from 10.7 to 14.6 p.c. respectively. The status quo observed on average in industry is the outcome of falls in the chemical and metalworking sectors and increases in car manufacturing, construction and electronics.

Overall, this percentage declined from 16.3 to 14 p.c. in the Flemish maritime ports: 10.7 p.c. of large firms experienced financial difficulties in 2004, against 13 p.c. the previous year. For SMEs, the figure was 16.7 p.c., or 2.2 p.c. less than in 2003. The proportion of vulnerable firms is structurally higher for SMEs than for large firms. Thus, at national level in 2004, 18.7 p.c. of SMEs were in classes 3 and 4, while the figure for large firms was 14 p.c.

Comparison of the figures obtained for 2003 in this report with those recorded at national level in the same year reveals that, in first 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 metalworking industry and trade[68].

[67] The constant sample enables comparisons to be made from year to year, but may also have a positive influence on the outcome of this analysis. Details on the representativeness of the constant sample may be found in point 2 of annex 1.

[68] The percentages of firms in difficulty in 2002, recorded in the Flemish maritime ports (this report) and at national level are respectively 11.1 and 15.4 p.c. in the chemical industry, 14.3 and 16.4 p.c. in construction, 10.7 and 18.6 p.c. in the other services, 17.0 and 15.6 p.c. in metalworking and 25.6 and 21.7 p.c. in trade.

These trends are also reflected in the percentage of jobs (FTEs) represented by firms in classes 3 and 4. In 2004, that was 3.4 p.c. in the maritime cluster (-2.4 points compared to 2003), 17.9 p.c. in trade (-3.9 points), 5.6 p.c. in industry (-2.3 points), 4.7 p.c. in land transport (-0.7 point) and 5.5 p.c. in other logistic services (-1.9 points).

2.1.7 Overall data on maritime goods traffic in 2004

TABLE 8 **MARITIME TRAFFIC IN THE FLEMISH PORTS IN 2004**
(thousands of tonnes)

	Antwerp	Ghent	Ostend	Zeebrugge	Total ports	Change 2003 - 2004 (in p.c.)	Share in 2004 (in p.c.)
Containers	68,280	264	79	14,012	82,635	+11.8	38.1
Roll-on/roll-off[69]	3,827	1,579	5,928	11,098	22,432	+4.1	10.4
Conventional general cargo[70]	17,622	1,931	10	802	20,366	+3.5	9.4
Liquid bulk	35,280	2,806	49	4,286	42,422	-1.6	19.6
Solid bulk	27,317	18,377	1,478	1,596	48,768	+6.2	22.5
TOTAL	**152,327**	**24,957**	**7,545**	**31,795**	**216,624**	**+6.1**	**100.0**

Source: *Jaaroverzicht Vlaamse havens 2004* of Vlaamse Havencommissie and ports concerned.

Maritime goods traffic increased by 6.1 p.c in the four ports under review between 2003 and 2004. Containerised freight remains the engine of this expansion, followed by solid bulk and *ro-ro*. The latter staged a strong recovery after a rather poor year in 2003 (table 8). Short sea shipping (SSS)[71] represents over half of the 216.6 million tonnes. These figures are presented in detail for each port in the ensuing sections.

In view of the very strong growth of containerised traffic and the challenges which it continues to pose for the authorities in charge of the ports, in terms of handling capacity and warehousing as well as accessibility, huge efforts have been devoted to upgrading the port infrastructures (cf. infra). The Flemish Region thus invested a total of 395.1 million euro in 2004 in the ports and their accessibility[72].

Cargoes carried by road, rail and river are not included in the figures in table 8. In 2004, apart from the maritime tonnages, the Flemish ports had to handle river traffic which exceeded 100 million tonnes for the first time[73].

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

[70] The term "general cargo" comprises the following categories: containerised goods, ro-ro and conventional general cargo.

[71] Navigation within the limits set for long voyages at a short distance from the coast. In the case of the European ports, this mainly concerns the carriage of freight by sea between two ports in Europe or ports of countries bordering on Europe.

[72] Source: Vlaamse Havencommissie (2005).

[73] Exact figure: 99.6 million tonnes. That corresponds to 4.68 billion tonne-kilometres of traffic on the German river network (+4.1 p.c. since 2003). Source: Promotie Binnenvaart Vlaanderen.

2.2 PORT OF ANTWERP

2.2.1 Highlights in 2004[74]

2.2.1.1 Context

The port of Antwerp enjoyed another record year in terms of maritime traffic. As stated in point 2.2.6, the majority of cargo categories, headed by containerised cargo, recorded an excellent performance. With over 152 million tonnes of freight passing through Antwerp in 2004, and 6.6 p.c. growth, this complex has confirmed its position as Europe's second largest maritime port, and the fourth largest in the world for international maritime traffic[75]. In addition, it is continuing its efforts to expand in the near future. One example, of course, is the Deurganckdok tidal dock, inaugurated in July 2005. Ultimately, this dock will double the capacity for receiving and handling containers, predicted to increase from 6 million TEU[76] in 2004 to around 13 million TEU by 2010 - 2011. This traffic is constantly growing: thus, since 1990 the containerised tonnage has increased fourfold, expanding at an average annual rate of 10.7 p.c. After years of development on the right bank of the Scheldt, this project heralds a new era of the port's deployment on the left bank of the river. Another major project is currently under consideration: the Saeftinghedok tidal dock, which could be brought into service during the coming decade, should enable Antwerp to remain competitive at least up to 2025. But these projects, synonymous with intensive use of the port infrastructures for containerised traffic, also entail answers to the questions concerning the deepening of the Scheldt -that project could start in 2007- and adjustment of the modal balance for transport to the hinterland. In March 2004 a memorandum was signed between Flanders and the Netherlands on the continued deepening of the channel, to cater for vessels with a draught of 43 feet, or 13.1 metres, at all states of the tide. This is in response to the growing demand for container ships with a capacity of over 8,000 TEU. As regards transport to the hinterland, given the current road congestion, it is vital to promote the use of rail transport[77] and of inland waterways. According to the Antwerp port authority, transport by barge was 6.9 p.c. up in 2004, compared to the previous year.

2.2.1.2 Industrial activity

In January 2004, the Dutch salvage and tug group, Smit International, embarked on a 50-50 joint venture with the German tug group Fairplay Schleppdampfschiffs-Reederei Richard Borchard to take control of the *Unie van Redding- en Sleepdienst* (URS). On 16 March in that same year, the Antwerp logistics firm Katoen Natie and the US chemicals company DuPont set up a new titanium dioxide treatment plant. Also in March, the Antwerp logistics firm Wijngaard Natie took over the company Atlantic, which specialises in goods handling and the warehousing of chemicals. At the end of March, the Dutch technology group Stork was commissioned by the Belgian Refining Company (BRC) to build a processing plant on BRC's site in Antwerp.

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74 Sources include Havenbedrijf Antwerpen, Vlaamse Havencommissie (2005) and Lloyd Special Report "Port of Antwerp".

75 See explanations in point 2.2.6.

76 Equivalent to just over 68 million tonnes. See point 2.2.6.

77 Infrabel plans to spend 40 million euro on the entry into service of the 'Iron Rhine' (*Ijzeren Rijn*) rail link between Antwerp and the Ruhr. A total of 49.6 million euro is being invested in the rail infrastructure around the Deurganckdok. Other development work is also planned at the port of Antwerp for 2011-2012, such as the Liefkenshoek link under the Scheldt and around 30 p.c. expansion of the capacity serving the right bank.

The ***petrochemicals*** industry is crucial to the port of Antwerp, which is home to the largest petrochemicals cluster in Europe and the second largest in the world after Houston, USA. Ten of the twenty largest chemical producers in the world have chosen the port of Antwerp as the location for their central facilities.

Five refineries were set up there, including two of the ten largest production units in Europe. With four cracking plants, the port offers a stable local source of ethylene and other basic chemicals, totalling around three hundred products. Almost 2 million tonnes of ethylene and 1.7 million tonnes of propylene are produced there each year, or respectively 9.2 and 11.8 p.c. of European production. Antwerp is the continent's largest centre for basic chemicals and the main hub of western Europe's pipeline[78] network. In addition, it has a substantial concentration of logistics expertise, infrastructure -3.6 million m³ of storage capacity in almost 1,500 reservoirs- and distribution know-how, making this complex one of the most diversified in the world.

Between 1976 and 2000, Antwerp's market share in western Europe increased from 14 to 17 p.c. Its main rivals are Ludwigshafen (Germany) and Rotterdam. In the port of Antwerp, this industry generates traffic of 140 million tonnes per annum[79], 37 p.c. being carried by the hundred or so pipelines linking the various production sites, 25 p.c. by barge and 25 p.c. by sea. Antwerp is at the crossroads of the main pipeline connections of western Europe, and is linked to such places as Rotterdam, Geleen near Liège, Terneuzen and Feluy. Almost the whole of the western part of the right bank is currently occupied by the petrochemical cluster, and another 225 ha are to be made available for it in the next two decades.

The French Air Liquide has inaugurated its new plant on the BASF site. This is the largest unit so far brought into service by Air Liquide for hydrogen production. July 2004 saw the start of construction on the Atlas PCS wharf (Project Cargo Solutions) of a cooling facility for the liquefaction of natural gas, intended for the gas-producing Norwegian island Snøhvit. In the same month, the port authority *Gemeentelijk Havenbedrijf Antwerpen* acquired from New Holland Tractor (Fiat group) a disused 31 ha site on the right bank of the Scheldt. This area is important for the forthcoming port expansion. In August, the German chemicals group BASF and the American Dow Chemicals decided to make a start in 2006 on construction of a new propylene oxide production unit in Antwerp: production of this substance should actually commence in 2008. At the beginning of October the Italian company Fercam opened a branch in the port of Antwerp. This logistic service provider focuses on intermodal transport. In November, Bayer Material Science decided to build a new plant for the production of aniline, a basic material used in making products such as polyurethane. On 10 December 2004, a new ABS[80] plant for the production of synthetic styrene came into service on the BASF Antwerp site. Also in December, the first new model Opel Astra rolled off the assembly line of General Motors Belgium.

2.2.1.3 Infrastructure

2004 brought the completion of the Scheldt estuary development plan for 2010. The findings of the environmental report and the cost-benefit analysis carried out in this connection proved favourable. Similarly, the results of the risk update study were highly positive in regard to the project's external security. On 17 December the Flemish Region approved the strategic decisions of the plan, before the Dutch Transport Minister and the Flemish Minister for Public Works, Energy and the Environment signed a third memorandum of agreement between the two countries on 11 March 2005, committing them to the development of the estuary. It should thus be possible to deepen the western Scheldt to 13.1 metres by 2007.

Another vital project for the port of Antwerp is the Deurganckdok development: this is a tidal dock with a quay length of over 5 km, intended for container warehousing and handling. The construction of the Deurganckdok, launched in September 1999, comprises 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

[78] This category of transport is not included in the traffic presented in this report.

[79] Including raw materials – crude oil – and petroleum products.

[80] Acrylonitrile butadiene styrene.

terminal with an area of 42 ha on the eastern side (quay length: 1,370 m); 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). This work was interrupted on several occasions, but 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. At the new Deurganckdok, concessions were granted as follows: P&O Ports occupies the whole of the eastern side, whereas the western side goes to PSA/HesseNoord Natie. These concessions were signed in February 2004. PSA/HNN has already announced an investment of 300 million euro in the superstructure, namely a 200 ha terminal with a quay length of 2,750 metres. Mediterranean Shipping Company (MSC) decided to concentrate its container lines at its MSC Home Terminal on the Delwaide dock.

The first Deurganckdok terminal has been operational since the autumn of 2005. Between 1996 and 2004 the Flemish Region invested around 371 million euro in this project.

2.2.2 Value added

TABLE 9 **VALUE ADDED AT THE PORT OF ANTWERP FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**6,161.2**	**7,003.1**	**6,971.3**	**7,125.2**	**7,416.3**	**8,344.4**	**100.0**	**+12.5**	**+6.3**
MARITIME CLUSTER	***1,542.7***	***1,785.5***	***1,727.7***	***1,685.4***	***1,968.4***	***2,293.4***	***27.5***	***+16.5***	***+8.3***
Shipping agents and forwarders	467.9	484.9	466.5	470.5	482.7	579.1	6.9	+20.0	+4.4
Cargo handling	741.0	773.8	823.5	831.9	922.1	967.4	11.6	+4.9	+5.5
Shipping companies	78.6	218.4	134.7	59.7	220.0	405.6	4.9	+84.4	+38.8
Shipbuilding and repair	26.4	23.5	26.5	25.6	26.1	27.0	0.3	+3.5	+0.5
Port construction and dredging	52.8	99.7	86.9	103.7	126.9	126.4	1.5	-0.4	+19.1
Fishing	1.2	1.0	1.1	1.0	1.1	0.6	0.0	-44.5	-12.9
Port trade	7.4	9.4	8.3	9.1	12.0	12.7	0.2	+5.6	+11.6
Port authority	167.4	174.7	180.2	184.0	177.5	174.6	2.1	-1.6	+0.8
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Allocation (p.m.)	*45.9*	*49.2*	*39.2*	*39.5*	*54.3*	*50.3*	-	*-7.5*	*+1.8*
NON MARITIME CLUSTER	***4,618.6***	***5,217.5***	***5,243.7***	***5,439.8***	***5,447.9***	***6,051.0***	***72.5***	***+11.1***	***+5.6***
TRADE	603.8	704.8	677.9	735.4	793.2	856.8	10.3	+8.0	+7.2
INDUSTRY	3,488.3	3,970.8	3,950.3	4,055.6	3,977.5	4,482.1	53.7	+12.7	+5.1
Energy	140.0	163.7	199.1	191.3	101.2	178.1	2.1	+76.0	+4.9
Oil industry	735.1	1,008.2	868.0	924.9	1,072.1	1,284.7	15.4	+19.8	+11.8
Chemicals	1,852.4	2,070.7	2,137.1	2,132.6	2,043.8	2,252.1	27.0	+10.2	+4.0
Car manufacturing	556.1	492.2	467.7	501.5	454.7	481.2	5.8	+5.8	-2.9
Electronics	10.2	13.2	16.5	16.0	10.9	10.5	0.1	-3.9	+0.6
Metalworking industry	88.7	87.2	105.8	116.2	119.1	98.3	1.2	-17.5	+2.1
Construction	64.0	71.2	92.9	98.4	101.3	104.2	1.2	+2.8	+10.2
Food industry	16.5	32.6	33.7	42.2	44.2	40.1	0.5	-9.2	+19.4
Other industries	25.2	31.8	29.6	32.5	30.2	33.0	0.4	+9.2	+5.5
LAND TRANSPORT	153.4	160.5	170.3	188.1	204.9	210.9	2.5	+2.9	+6.6
Road transport	78.6	80.5	73.1	79.4	85.5	83.7	1.0	-2.1	+1.3
Other land transport	74.8	79.9	97.2	108.7	119.3	127.2	1.5	+6.6	+11.2
OTHER LOGISTIC SERVICES	373.0	381.5	445.1	460.6	472.3	501.3	6.0	+6.2	+6.1
Other services	281.0	290.2	349.6	366.6	377.2	405.9	4.9	+7.6	+7.6
Public sector	92.1	91.3	95.4	94.1	95.1	95.4	1.1	+0.4	+0.7
2. INDIRECT EFFECTS	***6,043.9***	**6,841.2**	***7,153.0***	***7,203.8***	***7,082.2***	***7,691.3***	**-**	***+8.6***	***+4.9***
MARITIME CLUSTER	*2,354.6*	2,541.5	*2,762.3*	*2,577.2*	*2,599.1*	*2,808.0*	-	*+8.0*	*+3.6*
NON MARITIME CLUSTER	*3,689.2*	4,299.7	*4,390.7*	*4,626.6*	*4,483.2*	*4,883.3*	-	*+8.9*	*+5.8*
TOTAL VALUE ADDED	***12,205.1***	**13,844.3**	***14,124.4***	***14,329.0***	***14,498.6***	***16,035.7***	**-**	***+10.6***	***+5.6***

Source: NBB.

2.2.2.1 General developments

Direct VA at current prices increased by an average of 6.3 p.c. per annum from 1999 to 2004, and 12.5 p.c. between 2003 and 2004 (table 9). At 2000 prices[81], the increase over the period averaged 4.3 p.c. per annum, and 9.9 p.c. over the last year.

The trend in indirect VA has been similarly favourable but less marked. Total VA – the sum of direct and indirect VA – thus exceeded 16 billion euro in 2004, a record for Antwerp. That corresponds to 9.7 p.c. of the Flemish Region's GDP, and 5.6 p.c. of Belgium's GDP[82].

2.2.2.2 Direct VA in 2004

Maritime cluster

- There was a 4.9 p.c. rise in VA in cargo handling at the port of Antwerp in 2004. The CEPA's[83] contingent was increased in 2004, which explains the higher VA figures, these being calculated on the basis of the employment. Increases were recorded at Nova & Hesse-Noord Natie Stevedoring, P&O Ports Antwerp and Katoen Natie Terminals.
- The VA of shipping agents and forwarders was also up (+20 p.c.), thanks inter alia to the rise at Conti-Lines.
- The dramatic increase (+84.4 p.c.) recorded by the shipping companies is due to substantial growth at Bocimar International and Safmarine Container Lines, which are back in profit, while Exmar Marine saw a decline in VA.
- The VA of the Antwerp port authority, Havenbedrijf Antwerpen, was 1.6 p.c. down, although the level of employment was maintained (cf. infra).
- A slight fall was recorded by port construction and dredging (-0.4 p.c.). The decline at Dredging International (job cuts) was offset by higher profits at Herbosch-Kiere and Deme Environmental Contractors.
- In the shipbuilding and repair firms, VA was 3.5 p.c. up. These good figures are attributable partly to Antwerp Shiprepair, Marine Repairs Services and Bartholomeeussen.
- Port trade was up (+5.6 p.c.), thanks to the good results at General Bunkering Services and Kayak Maritime Services.

Non maritime cluster

- Trade
  - Trade, which accounts for over one-tenth of the direct VA of the port of Antwerp, saw an 8 p.c. rise in its contribution to GDP. Large increases were recorded by Kuwait Petroleum Belgium, Solvin[84], whose operating profit increased practically tenfold, and Firme Léon Van Parys.

- Industry
  - Chemicals, the leading sector in terms of VA and employment, achieved a 10.2 p.c. increase in its VA. This rise is due to BASF Antwerpen and Oxeno Antwerpen, whose profits are up. Bayer Antwerpen restructured its capital in 2004, a year which was also dominated by the partial demerger of the business: the semi-crystalline products and rubber derivatives divisions were hived off and taken over by Lanxess, a newly formed company. This transfer caused a slight drop in VA of Bayer Antwerpen.
  - The oil companies recorded a substantial increase of 19.8 p.c., due to the significant rise in the operating profits of Exxonmobil Petroleum & Chemical.
  - In car manufacturing, VA increased by 5.8 p.c. GM Automotive Services Belgium is largely responsible for that, with the takeover of the GM staff, while General Motors Belgium[85] is

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81 See explanations at point 2.1.1.

82 These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

83 Port of Antwerp Employers' Association. In Dutch: *Centrale der Werkgevers aan de Haven van Antwerpen*. The whole of the contingent is taken into account in calculating the CEPA's employment and VA at Antwerp.

84 Joint venture set up in 1999 by Solvay and BASF, Solvin is specialized in the vinyl segment (PVC and PVDC).

85 In 2004, this company was called Opel Belgium.

temporarily making a loss, as its operating costs have soared with the production of the new Astra range.

- The sharp rise recorded by energy (+76 p.c.) is attributable to Electrabel. One year after the start of the liberalisation of the electricity sector in Flanders, the company built up again a substantial contingency and loss provision in 2004. Its operating result has also risen, offsetting the decline in staff expenses following the job cuts.
- In construction, the rise was more modest (+2.8 p.c.), owing to the advent of Nacap, relocating from Ghent, and a significant increase in depreciation at Stork Materieel. These increases were offset by a fall at Strabag Benelux.
- The decline recorded in metalworking (-17.5 p.c.) is due to the absorption of Lauer and Lemmens Services by the Danish Group ISS, classified under the other services (cf. infra).
- The food industry saw a 9.2 p.c. fall in VA. This was due partly to the substantial decline at Cargill, despite the increases achieved by Belgomilk and Ysco.
- Other industries did better (+9.2 p.c.), thanks partly to the good performance of Belgian Scrap Terminal, which tripled its operating profit.
- In electronics, VA was 3.9 p.c. down, the main factor being the decline at Etamo and Oosterweel.

o Land transport

- Road transport saw VA fall by 2.1 p.c. Factors involved here were the decline recorded at Valkeniersnatie Storage and there being no data for Riga Natie, though this was partly offset by the arrival of Schenk Tanktransport Belgium, transferred from Ghent to Antwerp.
- Conversely, other land transport achieved a 6.6 p.c. rise, mainly because of the reduction in the BNRC[86]'s operating loss and higher profits at ASX Ibeco. As regards the BNRC, which is a "multi-district" enterprise, it should also be noted that the percentage of its activity which the national accounts assign to the Flemish port zones in the broad sense (cf. NSI code) has risen from 6 to 7 p.c., accentuating this increase.

o Other logistic services

- The VA of public administration showed no significant change (+0.4 p.c.) in 2004.
- Conversely, the other services saw a 7.6 p.c. increase, as substantial rises were recorded by Tunnel Liefkenshoek, SD Services and Cuypers Vorkliften. Combined with the advent of ISS, these increases limited the impact of the departure of BASF Coordination Centre and the falls at Stalil and SD Software Solutions.

[86] Belgian National Railway Company. Also known as *SNCB* in French, *NMBS* in Dutch.

2.2.2.3 VA top 10 at the port of Antwerp in 2004

TABLE 10 **VALUE ADDED TOP 10 AT THE PORT OF ANTWERP IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	B.A.S.F. ANTWERPEN	Chemicals	1,048.3
2	EXXONMOBIL PETROLEUM & CHEMICAL	Oil industry	797.2
3	KUWAIT PETROLEUM-BELGIUM	Trade	581.8
4	GENERAL MOTORS BELGIUM	Car manufacturing	305.8
5	TOTAL RAFFINADERIJ ANTWERPEN	Oil industry	239.6
6	BAYER ANTWERPEN	Chemicals	232.3
7	HESSE NOORD NATIE	Cargo handling	218.9
8	BELGIAN REFINING CORPORATION	Oil industry	218.6
9	BOCIMAR INTERNATIONAL	Shipping companies	184.0
10	ELECTRABEL	Energy	178.2
	Total of top 10		**4,004.6**

Source: NBB.

The top three companies in this list hold the same positions as in 2003. With over 4 billion euro, this top 10 represents 48 p.c. of the direct VA of the port of Antwerp (table 10). General Motors Belgium and Total Raffinaderij Antwerpen moved up one and three places respectively, while the next three companies lost ground. Bocimar International and Electrabel are newcomers in the top 10.

2.2.3 Employment

TABLE 11 **EMPLOYMENT AT THE PORT OF ANTWERP FROM 1999 TO 2004**
(FTEs)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**60,320**	**61,277**	**63,399**	**63,145**	**62,378**	**62,659**	**100.0**	**+0.5**	**+0.8**
MARITIME CLUSTER	***22,249***	***22,100***	***22,368***	***22,602***	***23,339***	***23,864***	***38.1***	***+2.3***	***+1.4***
Shipping agents and forwarders	6,328	6,453	6,379	6,509	6,683	6,655	10.6	-0.4	+1.0
Cargo handling	11,713	11,549	12,283	12,433	12,702	13,265	21.2	+4.4	+2.5
Shipping companies	1,168	1,028	653	593	611	661	1.1	+8.2	-10.8
Shipbuilding and repair	565	544	530	543	556	502	0.8	-9.7	-2.3
Port construction and dredging	511	603	720	757	987	965	1.5	-2.2	+13.6
Fishing	16	15	13	12	15	12	0.0	-20.5	-6.0
Port trade	117	133	121	141	170	185	0.3	+8.7	+9.6
Port authority	1,832	1,775	1,669	1,615	1,614	1,619	2.6	+0.3	-2.4
Public sector	0	0	0	0	0	0	0.0	n.	n.
Allocation (p.m.)	*851*	*835*	*770*	*786*	*1,065*	*1,101*	-	*+3.3*	*+5.3*
NON MARITIME CLUSTER	***38,070***	***39,177***	***41,031***	***40,544***	***39,039***	***38,795***	***61.9***	***-0.6***	***+0.4***
TRADE	2,511	2,361	2,461	2,502	2,852	2,827	4.5	-0.9	+2.4
INDUSTRY	27,365	28,034	29,119	28,756	27,135	26,569	42.4	-2.1	-0.6
Energy	1,029	983	1,194	1,166	1,030	858	1.4	-16.7	-3.6
Oil industry	2,672	2,797	2,780	3,137	3,146	3,210	5.1	+2.0	+3.7
Chemicals	11,495	11,920	12,217	11,740	10,996	10,786	17.2	-1.9	-1.3
Car manufacturing	8,360	8,158	7,883	7,523	6,696	6,948	11.1	+3.8	-3.6
Electronics	192	182	208	162	130	127	0.2	-2.7	-7.9
Metalworking industry	1,875	1,797	2,244	2,317	2,402	1,893	3.0	-21.2	+0.2
Construction	1,155	1,247	1,591	1,626	1,606	1,641	2.6	+2.2	+7.3
Food industry	292	625	676	742	774	776	1.2	+0.2	+21.6
Other industries	296	326	327	343	355	329	0.5	-7.1	+2.2
LAND TRANSPORT	3,053	3,275	3,342	3,373	3,348	3,498	5.6	+4.5	+2.8
Road transport	1,464	1,462	1,259	1,320	1,256	1,293	2.1	+2.9	-2.4
Other land transport	1,590	1,813	2,084	2,053	2,092	2,205	3.5	+5.4	+6.8
OTHER LOGISTIC SERVICES	5,141	5,506	6,108	5,912	5,704	5,900	9.4	+3.4	+2.8
Other services	2,954	3,366	3,992	3,826	3,649	3,838	6.1	+5.2	+5.4
Public sector	2,187	2,140	2,116	2,086	2,055	2,062	3.3	+0.3	-1.2
2. INDIRECT EFFECTS	***81,964***	**91,551**	***96,485***	***89,604***	***83,768***	***85,299***	**-**	***+1.8***	***+0.8***
MARITIME CLUSTER	*34,074*	35,820	*37,286*	*33,674*	*31,934*	*32,310*	-	*+1.2*	*-1.1*
NON MARITIME CLUSTER	*47,890*	55,731	*59,199*	*55,930*	*51,834*	*52,989*	-	*+2.2*	*+2.0*
TOTAL EMPLOYMENT	***142,284***	**152,827**	***159,884***	***152,750***	***146,146***	***147,957***	**-**	***+1.2***	***+0.8***

Source: NBB.

2.2.3.1 General developments

Direct employment expanded at an annual average rate of 0.8 p.c. from 1999 to 2004, and 0.5 p.c. between 2003 and 2004 (table 11).

Indirect employment grew at a moderate pace over the period, but more strongly in the last year. Total employment, the sum of direct and indirect employment, came to nearly 148,000 FTEs, thus more or less regaining the level reached at the beginning of this decade. That figure corresponds to 6.9 p.c. of the Flemish Region's domestic employment, and 4 p.c. of Belgian domestic employment[87].

2.2.3.2 Direct employment in 2004

Maritime cluster

- There was a 4.4 p.c. rise in employment in cargo handling. The CEPA figures were revised upwards to take account of the increasing Antwerp contingent. Increases were also recorded by Nova & Hesse-Noord Natie Stevedoring, New Wave Logistics and Wijngaard Natie.
- The numbers employed by shipping agents and forwarders remained static (-0.4 p.c.). Jobs were cut at Cobelfret, and Atramef went bankrupt, while employment expanded at Kuhne en Nagel.
- The Antwerp port authority, Havenbedrijf Antwerpen, recorded a 0.3 p.c. rise in employment.
- Port construction and dredging recorded a slight fall (-2.2 p.c.). There were job losses at Dredging International and Herbosch-Kiere.
- Shipping companies expanded their workforce by 8.2 p.c., partly as a result of recruitment at URS Ocean Towage.
- In shipbuilding and repair, employment was 9.7 p.c down, owing to the loss of 66 FTEs following the bankruptcy of New Arf Shipping.
- In port trade, employment expanded (+8.7 p.c.), thanks to staff recruitment at General Bunkering Services and Proios Maritime.

Non maritime cluster

- Trade
  - Trading companies recorded a slight fall (-0.9 p.c.) in 2004 at the port of Antwerp, notably at Établissements De Crane Marsily, Conceptronic and Fabory Centres Belgium, and despite a large increase in employment at Kuwait Petroleum Belgium.

- Industry
  - In chemicals, employment was down slightly (-1.9 p.c.), the main factors being Bayer's part takeover of Lanxess, an operation which cut Bayer Antwerpen jobs from 1,659 to 1,070 FTEs. Degussa Antwerpen also cut jobs.
  - In car manufacturing, employment expanded (+3.8 p.c.) thanks to GM Automotive Services Belgium, and despite the job losses at General Motors Belgium.
  - The Antwerp oil companies such as Exxonmobil Petroleum & Chemical and Total Raffinaderij Antwerpen took on staff in 2004 (+2 p.c.).
  - The large drop in employment in the metalworking industry (-21.2 p.c.) is due to the absorption of Lauer and Lemmens Services by ISS (other logistic services), those companies having a workforce of 242 and 98 FTEs respectively in 2003.
  - Many SMEs active in the construction sector took on staff in 2004 (+2.2 p.c.). In addition, there was a newcomer at the port of Antwerp in 2004: Nacap, previously registered in Ghent, employs 71 FTEs.
  - Employment declined in energy (-16.7 p.c.), owing to the on-going restructuring at Electrabel. The company is continuing its European expansion while limiting its workforce in Belgium. Many staff took early retirement in 2004.

[87] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

- In the food industry the situation was unchanged, as job losses at Belgomilk were offset by recruitment at Ysco.
- Other industries saw a decline in employment (-7.1 p.c.), the trend being fairly uniform throughout the sector.

o Land transport
- Road transport recorded an increase in employment (+2.9 p.c.). Apart from the growth at Hoyer België and a few other SMEs, the carrier Schenk Tanktransport Belgium relocated from Ghent to Antwerp, bringing with it 66 FTEs.
- Other land transport also had a good year (+5.4 p.c.), at both BNRC and ASX-Ibeco.

o Other logistic services
- In public administration, the situation was more or less unchanged.
- In the other services, employment expanded (+5.2 p.c.). SD Diensten and SGS Systems & Services recruited in 2004.

2.2.3.3 Employment top 10 at the port of Antwerp in 2004

TABLE 12 **EMPLOYMENT TOP 10 AT THE PORT OF ANTWERP IN 2004**
(FTEs)

Ranking	Name of company	Sector	Employment
1	GENERAL MOTORS BELGIUM	Car manufacturing	4.072
2	B.A.S.F. ANTWERPEN	Chemicals	3.627
3	HESSE NOORD NATIE	Cargo handling	2.685
4	PUBLIC ADMINISTRATION	Public sector	2.062
5	BNRC	Other land transport	1.938
6	EXXONMOBIL PETROLEUM & CHEMICAL	Oil industry	1.889
7	HAVENBEDRIJF ANTWERPEN	Port authority	1.619
8	GM AUTOMOTIVE SERVICES, BELGIUM	Car manufacturing	1.347
9	DEGUSSA ANTWERPEN	Chemicals	1.074
10	LANXESS	Chemicals	1.070
	Total of top 10		**21.383**

Source: NBB.

The top three companies in this ranking and Degussa Antwerpen hold the same positions as in 2003 (table 12). Bayer, having handed over part of its business to Lanxess, is out of this top 10, while GM Automotive Services and Lanxess have entered it. Each of the other four companies moves up a place. Altogether, these ten companies – with over 21,000 FTEs - represent 34.1 p.c. of direct employment in Antwerp.

2.2.4 Investment

TABLE 13 **INVESTMENT AT THE PORT OF ANTWERP FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
MARITIME CLUSTER	***320.8***	***416.5***	***431.7***	***465.9***	***771.4***	***946.7***	***45.8***	***+22.7***	***+24.2***
Shipping agents and forwarders	67.6	88.5	92.4	82.5	74.3	156.6	7.6	+110.8	+18.3
Cargo handling	110.2	141.4	177.4	138.2	167.5	182.9	8.8	+9.2	+10.7
Shipping companies	44.6	95.8	47.6	68.9	390.6	499.2	24.1	+27.8	+62.1
Shipbuilding and repair	1.8	3.2	3.4	2.6	2.0	2.9	0.1	+41.6	+10.2
Port construction and dredging	34.8	14.9	24.1	86.6	57.7	13.4	0.6	-76.7	-17.4
Fishing	0.8	0.6	0.2	0.2	0.1	0.1	0.0	+37.3	-33.0
Port trade	2.1	2.0	1.3	2.5	2.8	3.5	0.2	+22.7	+10.5
Port authority	58.9	70.2	85.2	84.5	76.4	88.2	4.3	+15.4	+8.4
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Allocation (p.m.)	*22.0*	*24.0*	*26.2*	*25.2*	*34.3*	*26.1*	-	*-23.8*	*+3.4*
NON MARITIME CLUSTER	***775.4***	***997.3***	***1.158.1***	***1.014.1***	***1.073.1***	***1.121.8***	***54.2***	***+4.5***	***+7.7***
TRADE	38.7	38.5	46.7	55.8	65.0	52.0	2.5	-20.0	+6.1
INDUSTRY	565.7	725.2	898.7	774.7	790.9	866.5	41.9	+9.6	+8.9
Energy	18.9	17.1	25.9	6.7	6.9	61.1	3.0	+786.2	+26.4
Oil industry	166.2	154.1	98.0	108.9	112.8	173.1	8.4	+53.5	+0.8
Chemicals	321.6	485.9	707.0	550.9	478.4	492.4	23.8	+2.9	+8.9
Car manufacturing	37.1	41.7	23.8	72.9	165.0	99.2	4.8	-39.9	+21.7
Electronics	0.3	2.8	0.6	0.3	0.2	0.1	0.0	-13.3	-16.1
Metalworking industry	4.0	5.3	3.2	3.1	5.2	5.2	0.3	+0.2	+5.3
Construction	6.2	8.6	13.9	13.8	8.4	17.4	0.8	+107.9	+22.8
Food industry	7.1	6.1	6.5	9.5	10.7	11.5	0.6	+6.9	+10.2
Other industries	4.1	3.7	19.9	8.6	3.3	6.3	0.3	+90.6	+8.9
LAND TRANSPORT	52.5	79.3	56.8	42.5	65.2	37.1	1.8	-43.2	-6.7
Road transport	23.7	18.4	16.1	9.9	40.3	15.3	0.7	-62.0	-8.4
Other land transport	28.8	60.8	40.7	32.6	24.9	21.7	1.1	-12.6	-5.4
OTHER LOGISTIC SERVICES	118.5	154.3	155.9	141.1	152.0	166.3	8.0	+9.4	+7.0
Other services	69.6	107.6	117.9	71.2	82.9	87.8	4.2	+5.9	+4.8
Public sector	48.8	46.7	38.0	69.9	69.1	78.5	3.8	+13.5	+9.9
DIRECT INVESTMENT	**1,096.3**	**1,413.8**	**1,589.9**	**1,480.0**	**1,844.5**	**2,068.6**	**100.0**	**+12.1**	**+13.5**

Source: NBB.

2.2.4.1 General developments

Investment at current prices grew at an annual average rate of 13.5 p.c. from 1999 to 2004, and 12.1 p.c. between 2003 and 2004 (table 13). At 2000 prices[88], growth averaged 12.6 p.c. per annum over the period and 11.3 p.c. last year.

2.2.4.2 Direct investment in 2004

Maritime cluster

- The leading maritime sector in this ranking, shipping companies invested 27.8 p.c. more than in 2003. Safmarine Container Lines and Bocimar International were among those investing substantial amounts.
- The trend was similarly positive in cargo handling, where investment was 9.2 p.c. up. This concerned Hesse-Noord Natie, P&O Ports Antwerp, Schelde Terminal Noord, Antwerp Distribution and Products Operations, Antwerp Gas Terminal and Oiltanking Antwerp.
- In the case of shipping agents and forwarders, investment doubled, owing to the substantial volume handled by Cobelfret Bulk Carriers, Antwerp Bulk Terminal and Vopak Terminal ACS[89].
- The port authority invested 15.4 p.c. more than the previous year.
- Conversely, a sharp fall was recorded in the case of port construction and dredging (-76.7 p.c.). In 2004, a year of consolidation and international expansion, the DEME group cut back its investments in Antwerp. This concerned its subsidiaries Dredging, Environmental & Marine Engineering, Dredging International and DEME Environmental Contractors.

Non maritime cluster

- Trade
  - Investment was 20 p.c. down in the trading companies based in the port of Antwerp. This concerned Catracom, Pioneer Europe, AOR and Immoto.

- Industry
  - In chemicals, investment rose by 2.9 p.c. The increases recorded at Degussa Antwerpen -new installation for the production of methionine-, BASF Antwerpen, L'Air Liquide Belge and Solvic were offset by lower investment at Bayer Antwerpen, Borealis Kallo, Speciality Polymers Antwerp and Eval Europe.
  - The oil industry recorded a 53.5 p.c. increase, attributable to Total Raffinaderij Antwerpen -launch of the new Clean Gasoline plant- and Belgian Refining Corporation -construction of the Total Isomerisation Plant-.
  - A decline of almost 40 p.c. was recorded in car manufacturing. After 2003, a year of heavy investment at General Motors Belgium, the figure dropped back below 100 million euro in 2004. Investment was also down at New Holland Tractor Ltd.
  - The figure recorded for the energy sector in 2004 is in a different league from that of the previous year. The main reason is the presence in this sector of Slib en Co Verwerkingscentrale[90], where investment topped 49 million euro in 2004 -construction at the SLECO power station of a facility for producing electricity from waste- and to higher investment by the Electrabel group[91], which is replacing the Doel 2 unit's steam generators.

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88 See explanations at point 2.1.3.

89 These companies are registered in the shipping agents and forwarders branch according to the National accounts classification.

90 According to the national accounts, Slib en Co comes under NACE-Bel branch 40.11, "operation of electricity production installations, regardless of the technique used, including thermal, nuclear, hydro-electric or gas turbine production, diesel generating plant or other renewable energy sources". This company therefore comes under the energy industry.

91 In each of the Flemish ports, the Electrabel investment figures correspond to the breakdown of employment per establishment in accordance with the national accounts.

- Investment in construction, having doubled, exceeded the figures recorded for the sector in 2001 and 2002. This revival is due to BPB Belgium, Entreprises Jan De Nul, Mourik and Stork Materieel.
- In the food industry, investment was 6.9 p.c. up, e.g. at Ysco.

o Land transport
- With a 62 p.c. decline in 2004, investment in road transport has reverted to the level of the beginning of this decade. Cobelfret Rail and Katoen Natie Trucking were among those responsible for the fall.
- In other land transport, there was 12.6 p.c. fall, attributable to BNRC[92].

o Other logistic services
- The 5.9 p.c. rise in the other services is due to T.I.P. Trailer Rentals and C-Power (DEME Group).
- In the public sector, investment was 13.5 p.c. up.

2.2.4.3 Investment top 10 at the port of Antwerp in 2004

TABLE 14 **INVESTMENT TOP 10 AT THE PORT OF ANTWERP IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	B.A.S.F. ANTWERPEN	Chemicals	177.6
2	SAFMARINE CONTAINER LINES	Shipping companies	162.5
3	BOCIMAR INTERNATIONAL	Shipping companies	130.8
4	TOTAL RAFFINADERIJ ANTWERPEN	Oil industry	120.1
5	DEGUSSA ANTWERPEN	Chemicals	117.8
6	COBELFRET BULK CARRIERS	Shipping agents and forwarders	96.3
7	GENERAL MOTORS BELGIUM	Car manufacturing	95.3
8	HAVENBEDRIJF ANTWERPEN	Port authority	88.2
9	EXMAR SHIPPING	Shipping companies	85.4
10	PUBLIC ADMINISTRATION	Public sector	78.5
	Total of top 10		**1,152.4**

Source: NBB.

BASF Antwerpen is still the largest private investor at the port of Antwerp (table 14). Shipping companies have now joined the top 10, with Safmarine Container Lines and Bocimar International, seizing second and third place. General Motors Belgium and the port authority come five places lower. Cobelfret Bulk Carriers appears for the first time in this top 10, which altogether accounts for 55.7 p.c. of investment in the port of Antwerp in 2004.

[92] Investment at the BNRC was broken down according to the survey figures.

2.2.5 Financial ratios

TABLE 15 FINANCIAL RATIOS AT THE PORT OF ANTWERP FROM 2002 TO 2004

Sectors	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
MARITIME CLUSTER	***5.8***	***5.9***	***16.4***	***0.87***	***0.88***	***1.02***	***41.0***	***40.8***	***39.5***
Shipping agents and forwarders	21.9	13.8	17.1	0.97	0.95	0.98	23.8	26.1	24.4
Cargo handling	2.4	5.3	7.5	0.71	0.75	1.02	40.5	42.5	41.3
Shipping companies	4.2	4.2	49.7	0.97	1.00	1.35	49.7	43.5	42.9
Shipbuilding and repair	3.3	13.2	14.8	1.31	1.25	1.12	27.3	26.0	21.3
Port construction and dredging	10.5	16.0	12.8	0.82	0.94	1.02	28.4	29.9	35.1
Fishing	11.9	7.9	-6.2	1.13	1.13	0.76	29.9	34.2	34.5
Port trade	11.8	12.8	-10.0	1.48	1.39	1.10	27.8	28.7	23.0
Port authority	0.4	0.4	0.4	0.47	0.42	0.48	66.3	65.5	60.2
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON MARITIME CLUSTER	***10.4***	***14.7***	***17.6***	***0.52***	***1.57***	***0.80***	***38.6***	***36.5***	***29.8***
TRADE	-6.4	6.8	5.7	1.08	1.23	1.27	25.9	33.7	32.5
INDUSTRY	14.4	20.2	24.0	0.31	1.36	0.56	32.8	29.8	24.1
Energy	21.6	31.5	14.2	1.54	1.23	1.32	38.5	36.1	34.4
Oil industry	22.9	20.2	34.9	0.10	1.09	0.99	29.3	24.9	21.3
Chemicals	4.9	18.5	13.1	0.56	1.60	0.40	38.3	39.1	26.6
Car manufacturing	-0.4	35.7	25.6	1.11	0.88	0.92	14.8	20.0	20.9
Electronics	7.2	2.5	3.6	0.78	0.73	0.77	15.1	18.9	20.9
Metalworking industry	-4.0	9.6	9.4	1.12	1.03	1.08	24.9	27.7	28.5
Construction	3.9	5.0	11.8	1.05	1.07	1.07	27.1	24.9	34.9
Food industry	13.0	-0.3	-6.2	0.89	0.77	0.73	33.0	32.0	27.4
Other industries	10.8	8.9	11.6	0.56	0.80	0.87	47.3	46.9	43.0
LAND TRANSPORT	-16.8	-5.3	-7.3	0.89	0.84	0.67	27.4	24.9	14.8
Road transport	7.1	10.4	9.9	1.08	1.07	1.09	26.3	26.6	28.1
Other land transport	-21.3	-8.4	-13.5	0.82	0.76	0.58	27.7	24.6	12.6
OTHER LOGISTIC SERVICES	4.2	4.9	5.1	3.20	3.36	3.24	72.9	73.7	71.0
Other services	4.2	4.9	5.1	3.20	3.36	3.24	72.9	73.7	71.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
Weighted average	**9.6**	**13.3**	**17.4**	**0.57**	**1.38**	**0.83**	**39.0**	**37.2**	**31.1**

Source: NBB.

- The profitability of Antwerp firms increased by 4.1 percentage points in 2004 (table 15). This rise is attributable to the shipping companies and to the oil industry, in companies such as Belgische Scheepvaartmaatschappij, Safmarine Container Lines, Portlink in the first category, and Exxonmobil Petroleum & Chemical in the second. In contrast, this ratio was down in the chemical industry, where BASF Antwerpen saw a sharp fall in profitability following the transfer of the BASF Coordination Center's shares to BASF Antwerpen, in the wake of the restructuring started in 2003. This entailed an important increase of its equity capital and therefore a decline in its profitability ratio.

- The significant decline in liquidity at the port of Antwerp in 2004 (-0.54) is due primarily to the chemical industry. The net working capital of BASF Antwerpen further dropped below zero (liquidity in broad sense of less than 1). A more modest fall was recorded in the oil industry, where the net working capital of Total Raffinaderij Antwerpen became negative.
- Solvency declined (-6.1 points) in all the port's key sectors, in both the maritime and the non maritime cluster. The largest fall occurred in the chemical industry, e.g. at BASF Antwerpen, Bayer Antwerpen, following the group's capital restructuring, at Degussa Antwerpen, the debts of which increased. Declines were also recorded at Exxonmobil Petroleum & Chemical, Exmar Marine, in the port authority, at Sita Recycling Services (other services) and in the other land transport. The financial debts of BNRC soared, owing to the absorption of Financière TGV.

2.2.6 *Maritime goods traffic at the port of Antwerp in 2004: summary*[93]

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

	Unloaded	Loaded	Total 2004	Change 2003 - 2004 (in p.c.)	Share in 2004 (in p.c.)
Containers	27,838	40,442	68,280	+11.3	44.8
Roll-on/roll-off	2,146	1,681	3,827	+12.2	2.5
Conventional general cargo	7,991	9,632	17,622	+3.2	11.6
Liquid bulk	24,386	10,895	35,280	+0.4	23.2
Solid bulk	20,749	6,568	27,317	+5.4	17.9
TOTAL	**83,109**	**69,217**	**152,327**	**+6.6**	**100.0**

Source: Havenbedrijf Antwerpen.

Maritime traffic at the port of Antwerp passed the 140 million tonne mark in 2003. In 2004, a new record was set, since the port of Antwerp handled no less than 152.3 million tonnes of maritime freight (table 16).

In the case of general cargo, the growth was just as remarkable as in the previous year. An increase of 7.9 million tonnes, or 9.6 p.c., due mainly to containerised traffic, even if the 11.3 p.c. growth fell short of the 15.7 p.c. recorded the previous year. But with growth of over 10 p.c. per annum, the number of containers handled each year must be expected to double in just under eight years. Once the Deurganckdok is operational, the annual handling capacity will total 13 million TEU at Antwerp, which should be sufficient to cope with this situation. The increase in container traffic in fact raises the question of congestion at the terminals, which could be remedied by improving the interface with the hinterland. That means increasing the number of intermodal land services. Conventional general cargo declined to its lowest level since 1980, while ro-ro passed the 7 million tonne mark for the first time.

Also noteworthy is the strong revival of solid bulk, which had been declining for three years. The main increases were recorded in coal and chemicals. Liquid bulk remained more or less steady at the previous year's level, the decline in crude oil transhipment being offset by an increase in the transhipment of petroleum products.

In 2004, 15,371 vessels berthed at the port of Antwerp, 353 units or 2.2 p.c. down against the previous year. However, the average size of the vessels has increased by 6.5 p.c. Around 36 p.c. of the tonnage entering (unloading) at the port of Antwerp originated from Europe in 2004, followed by Asia (8 p.c.), North America (17 p.c.), Africa (16 p.c.) and South America (10 p.c.). In terms of traffic leaving (loading), Asia is still first at 33 p.c.[94], followed by Europe (27 p.c.), North America (23 p.c.) and Africa (11 p.c.).

[93] Sources: Havenbedrijf Antwerpen and Vlaamse Havencommissie (2005). See also table 72 (annex 8) for more details on maritime traffic by category of goods at the port of Antwerp in 2004.

[94] In relative terms, as in 2003, Asia accounts for one-third of the loading at the port of Antwerp. In absolute terms, that corresponds to an increase of 1.3 million tonnes between 2003 and 2004. For comparison, cargo bound for Europe was down by almost 1 million tonnes.

The port of Antwerp ranks tenth in the world in terms of maritime traffic tonnages, and fourth from the point of view of international trade.

2.3 PORT OF GHENT

2.3.1 Highlights in 2004[95]

2.3.1.1 Context

This industrial port had an exceptional year from the point of view of its maritime traffic, which totalled almost 25 million tonnes in 2004. Imports reached a new record, and that had a very significant impact on activity at the port of Ghent, which is specifically a port of importation. Four-fifths of its tonnages in fact correspond to goods unloaded, headed by raw materials for the metalworking industry, generally delivered in bulk. 2004 was also a record year for barge transport. Ghent is home to some key industries, such as metalworking and car manufacturing, in which the main players continue to invest at the site. The best month of the year was probably December. Sidmar was the main engine of growth in transhipment, in view of its increased production capacity. The entry into service of the Kluizendok, on the left bank of the Ghent–Terneuzen canal, opening up 200 ha of land for new port activities, means that the future can be faced with confidence. Phase 1 of this major project has been operational since 2005.

Nonetheless, the Ghent port authorities are aware of the threats to the port's future[96]. Ghent is dependent on its only direct access to the sea, namely the Ghent–Terneuzen canal. The Terneuzen sea lock currently in service can only take medium-sized vessels, up to a maximum of 80,000 tonnes. Brought into service in 1968, it long ago reached its maximum capacity. Entry into service of a new lock at Terneuzen, capable of taking vessels of 160,000 tonnes, is crucial to the maintenance and development of activity at the port of Ghent, especially for firms located on the banks of the canal, such as Sidmar. But such facilities will probably not be operational before 2017. The deepening of the canal to 17 metres has also been postponed.

2.3.1.2 Industrial activity

At the beginning of March 2004, the Ghent cargo handling company Sea-Invest acquired a majority stake in the capital of Locachim, which operates a chemical terminal. It was also renamed Sea-Tank Terminal - Gent. This means diversification for Sea-Invest, hitherto known as a firm warehousing and transhipping solid bulk and fruit. On 3 June, the Volvo Cars Gent plant produced its three millionth car, thirty-nine years after the assembly line was launched. Having invested 340 million euro at the beginning of this decade, the Swedish manufacturer is planning to expand the capacity of its plant still further, to 300,000 vehicles per annum, making it the group's largest plant and the leading car maker in Belgium. At the beginning of July a new concession, valid for twenty-six years, was signed between the port authority and Honda Europe, permitting the Japanese manufacturer to develop its logistic facilities. On 15 July Volvo Europa Truck produced its five hundred thousandth lorry, while one of its two assembly lines was converted to a mixed line which can be used for assembling both FL type delivery vehicles and bigger lorries of the FM and FH types. At the end of September, a concession agreement was signed between the board of directors of the Ghent port authority and the cargo handling firm, Sea-Invest, concerning a 3.6 ha site at the new Kluizendok.

[95] Sources include Havenbedrijf Gent GAB, Vlaamse Havencommissie (2005) and Lloyd Special Report "Port of Ghent".

[96] Maritime traffic at the port of Ghent in fact declined sharply in 2005 (-12 p.c.).

The ***metalworking*** sector is central to industrial activity at the port of Ghent. Sidmar, producing flat steel sheets, is located alongside the Ghent-Terneuzen canal. At the port of Ghent, Sidmar was the largest employer and the principal contributor of value added, but also the biggest private investor in 2004. The steel maker currently employs 5,500 people there, and produces 5 million tonnes of steel a year. Sidmar is a subsidiary of the Arcelor group, the second largest steel maker in the world, with output of 47 million tonnes and a workforce of 95,000 (2004 figures). The principal applications for Sidmar's products are the car industry, domestic appliances, furniture, sanitary ware, tubes and packaging. In 2004, Sidmar's turnover in Ghent totalled 2.2 billion euro. The question of the entry into service of a new lock at Terneuzen is vital for the future of the steel maker, in a context of competition not only from outside the Arcelor group, but also from within, with the development of its other maritime sites (Dunkirk, Marseille-Fos and Gijón-Aviles).

2.3.1.3 Infrastructure

The expansion of a port inevitably adds to the work that has to be done by the port authority. *Havenbedrijf Gent GAB* has been short of space for some years now. That is why its administrative offices were recently extended to 1,800 m², the main work taking place in 2004.

On 28 June 2004, the new rail freight line 55 between Wondelgem and Zelzate, diverted on account of the Kluizendok development, officially entered into service. This new route enabled work to continue in 2004 on two sections of quay at the Kluizendok. Phase 1 of the quay wall construction involved the building of a 1,200 metre quay, which was delayed because of pollution discovered in the ground. The clean-up was carried out by DEME Environmental Contractors. On 15 March 2004, phase 2 of the improvements to the road network began in the vicinity of the Kluizendok, and at the end of November it was possible to start building a large wind turbine park for SPE and Ecopower. The whole of the work on this terminal, which has a total quay length of 4,280 metres, will be completed in 2006.

2.3.2 Value added

TABLE 17 **VALUE ADDED AT THE PORT OF GHENT FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**2,626.5**	**2,867.6**	**2,707.4**	**2,867.7**	**2,870.0**	**3,404.5**	**100.0**	**+18.6**	**+5.3**
MARITIME CLUSTER	***185.5***	***171.0***	***171.5***	***182.7***	***184.4***	***198.5***	***5.8***	***+7.6***	***+1.4***
Shipping agents and forwarders	31.3	36.0	43.9	50.8	40.1	41.1	1.2	+2.5	+5.6
Cargo handling	113.4	104.5	93.8	96.4	107.5	116.3	3.4	+8.2	+0.5
Shipping companies	21.1	9.0	10.2	10.4	11.3	11.4	0.3	+0.7	-11.6
Shipbuilding and repair	3.4	3.5	4.4	4.4	4.1	4.2	0.1	+2.8	+4.2
Port construction and dredging	0.0	0.0	2.0	0.9	0.0	0.0	0.0	n.	-100.0
Fishing	0.5	1.1	0.6	1.1	1.3	1.0	0.0	-22.6	+15.0
Port trade	0.6	1.8	1.2	2.2	5.8	6.2	0.2	+6.0	+61.6
Port authority	15.2	15.2	15.5	16.5	14.3	18.3	0.5	+27.7	+3.8
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Allocation (p.m.)	*4.7*	*2.6*	*4.7*	*4.6*	*7.3*	*7.2*	-	*-0.6*	*+8.9*
NON MARITIME CLUSTER	***2,441.0***	***2,696.5***	***2,535.9***	***2,685.0***	***2,685.5***	***3,206.0***	***94.2***	***+19.4***	***+5.6***
TRADE	536.2	542.2	606.5	577.4	607.3	716.6	21.0	+18.0	+6.0
INDUSTRY	1,782.0	1,976.8	1,765.6	1,931.1	1,896.6	2,298.1	67.5	+21.2	+5.2
Energy	115.4	145.0	169.4	165.2	74.2	149.2	4.4	+101.0	+5.3
Oil industry	0.0	3.8	5.9	6.8	8.1	7.8	0.2	-4.1	n.
Chemicals	181.9	225.5	224.6	216.6	218.4	227.8	6.7	+4.3	+4.6
Car manufacturing	510.7	493.7	492.2	507.0	494.3	640.4	18.8	+29.6	+4.6
Electronics	91.0	99.4	57.2	56.5	66.4	46.0	1.4	-30.7	-12.7
Metalworking industry	644.8	754.3	516.5	694.5	774.0	962.2	28.3	+24.3	+8.3
Construction	87.9	106.9	128.1	112.7	109.5	97.0	2.9	-11.4	+2.0
Food industry	53.5	56.1	58.7	70.9	68.8	59.8	1.8	-13.0	+2.3
Other industries	96.8	92.0	112.9	100.8	82.7	107.7	3.2	+30.2	+2.2
LAND TRANSPORT	49.6	63.3	60.5	63.6	63.7	66.4	1.9	+4.2	+6.0
Road transport	29.5	42.8	37.9	37.1	38.5	38.1	1.1	-0.9	+5.3
Other land transport	20.2	20.5	22.7	26.5	25.2	28.2	0.8	+12.0	+7.0
OTHER LOGISTIC SERVICES	73.1	114.2	103.2	112.9	117.9	124.9	3.7	+5.9	+11.3
Other services	61.9	105.4	94.1	101.8	106.0	113.2	3.3	+6.8	+12.8
Public sector	11.2	8.9	9.1	11.1	11.9	11.7	0.3	-1.8	+0.9
2. INDIRECT EFFECTS	***2,667.2***	**2,745.9**	***2,941.1***	***3,079.4***	***3,190.5***	***3,569.3***	**-**	***+11.9***	***+6.0***
MARITIME CLUSTER	*242.0*	207.5	*221.3*	*255.5*	*224.6*	*257.9*	-	*+14.8*	*+1.3*
NON MARITIME CLUSTER	*2,425.1*	2,538.3	*2,719.9*	*2,823.9*	*2,965.8*	*3,311.4*	-	*+11.7*	*+6.4*
TOTAL VALUE ADDED	***5,293.7***	**5,613.4**	***5,648.5***	***5,947.1***	***6,060.4***	***6,973.8***	**-**	***+15.1***	***+5.7***

Source: NBB.

2.3.2.1 General developments

Direct VA at current prices increased by an average of 5.3 p.c. per annum from 1999 to 2004, and by 18.6 p.c. between 2003 and 2004 (table 17). At 2000 prices[97], the increase over the period averaged 3.4 p.c. per annum, and 15.9 p.c. last year.

Indirect VA followed a similar pattern over the period, but growth last year was more modest. Total VA, the sum of direct and indirect VA, reached almost 7 billion euro in 2004, an unprecedented figure. It corresponds to 4.2 p.c. of the Region's GDP and 2.4 p.c. of the Belgian total[98].

2.3.2.2 Direct VA in 2004

Maritime cluster

- VA grew by 8.2 p.c. in cargo handling. This expansion was attributable partly to Frans Maas Automotive Belgium, whose operating profit increased six-fold, with the workforce more than tripled.
- Shipping agents and forwarders also recorded a rise in VA (+ 2.5 p.c.). The improvement in the results of Furness Logistics (Ghent) and Transuniverse Cargo accounted for this progress.
- VA was 27.7 p.c. up at the port authority, Havenbedrijf Gent GAB, owing to the increase in the provisions for liabilities and charges.
- The situation was unchanged in the shipping companies, as the higher profits at Rederij Lalemant were offset by a decline at Rederij Intermas and Navitank.
- Port trade grew by 6 p.c., Euromat Gent and Field Packaging Belgium being among those responsible.
- VA increased by 2.8 p.c. in shipbuilding and repair. A newcomer, Blatoma, has boosted the sector's VA, which was attenuated somewhat by the decline at Verica.

Non maritime cluster

- Trade
  - Trade, which accounts for over one-fifth of wealth creation at the port of Ghent, saw an 18 p.c. rise in VA. This remarkable increase was due partly to higher profits at Total Belgium, Belgian Shell, Honda Europe and Van Der Sluijs Groep.

- Industry
  - Metalworking, a sector which represents the largest share of VA at the port of Ghent, saw growth of 24.3 p.c. World demand for steel – particularly demand from Asia – reached record levels in 2004: for the first time, the quantity produced passed the billion tonne mark. Compared to 2003, Sidmar's turnover was 15 p.c. up and its operating profit more than doubled in 2004. Also noteworthy is the increase recorded at Fabricom GTI, following the absorption by Fabricom of GTI Infra, a company previously classed under construction.
  - In the car industry, VA increased by 29.6 p.c. The leading player in the sector, Volvo Cars, took on staff and that had a favourable impact on its VA, as did higher operating profits and depreciation. The latter concerned downward value adjustments following the entry into service of the new platform for producing the S60 and V70 range. Increases were also recorded at Plastal and Tower Automotive Belgium, where VA is positive once again, following absorption of the previous year's losses.
  - Chemicals also recorded an increase (+4.3 p.c.), attributable in part to CRI Catalyst Company and Oleon. UCB's Methylamines & Derivatives activities in Ghent were transferred by the Belgian group to Taminco, causing VA to dip slightly.
  - Substantial growth was recorded in the energy sector (+101 p.c.). This was due to the increase in VA at Electrabel (cf. explanations in point 2.2.2.2) and a large increase at SPE, which was back in profit in 2004.

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[97] See explanations at point 2.1.1.

[98] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

- In the other industries, VA increased sharply (+30.2 p.c.), partly on account of Stora Enso Langerbrugge, whose operating losses were 61 p.c. down.
- Construction recorded a fall (-11.4 p.c.), due partly to the absorption of De Paepe Aannemingen by Shanks Vlaanderen and of GTI Infra by Fabricom GTI, which comes in the metalworking category. Moreover, Nacap moved to Antwerp. These falls were partly offset by the increase at Denys, whose operating profit quadrupled.
- The food industry's VA was also down (-13 p.c.), following falls at Cargill and Ceres, both loss-making.
- A steep decline was recorded in electronics (-30.7 p.c.), owing to the decline at GE Power Controls Belgium and Pauwels Trafo Gent, which are loss-making companies.
- The oil sector, though marginal at the port of Ghent, saw its VA decline by 4.1 p.c., partly as a result of a fall at Adpo-Ghent.

o Land transport
- Road transport saw a 0.9 p.c. drop in VA. This small decline was due to the relocation of Schenk Tanktransport Belgium to Antwerp, offset in part by an increase in VA at Hallens, which took on staff and achieved higher operating profits.
- Other land transport performed better (+12 p.c.), as a result of the growth recorded by BNRC (cf. point 2.2.2.2) and Selectacars René De Swaef en Zonen.

o Other logistic services
- The VA of public administration dropped by 1.8 p.c., owing to the reduction in its workforce (cf. infra).
- Conversely, the VA of the other services was 6.8 p.c. up. A significant rise was recorded by Bayer Bioservices, and the advent of General Industrial Assistance Cataro offset to some extent the decline recorded by Volvo-Continental.

2.3.2.3 VA top 10 at the port of Ghent in 2004

TABLE 18 **VALUE ADDED TOP 10 AT THE PORT OF GHENT IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	SIDMAR	Metalworking industry	870.3
2	VOLVO CARS	Car manufacturing	360.6
3	TOTAL BELGIUM	Trade	323.1
4	VOLVO EUROPA TRUCK	Car manufacturing	164.7
5	BELGIAN SHELL	Trade	109.0
6	ELECTRABEL	Energy	104.5
7	HONDA EUROPE	Trade	75.4
8	STORA ENSO LANGERBRUGGE	Other industries	63.2
9	PLASTAL	Car manufacturing	55.2
10	S.P.E.	Energy	44.8
	Total of top 10		**2,170.7**

Source: NBB.

The first seven places in this top 10 are held by the same companies as in 2003, and in the same order. Stora Enso Langerbrugge, Plastal and SPE replaced UCB, GE Power Controls Belgium and BP Belgium. Altogether, these ten companies, with 2.2 billion euro, represent 63.8 p.c. of direct VA at the port of Ghent (table 18).

2.3.3 Employment

TABLE 19 **EMPLOYMENT AT THE PORT OF GHENT FROM 1999 TO 2004**
(FTEs)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**27,925**	**28,686**	**28,843**	**28,136**	**27,862**	**28,424**	**100.0**	**+2.0**	**+0.4**
MARITIME CLUSTER	***2,069***	***1,862***	***1,903***	***1,819***	***1,831***	***1,920***	***6.8***	***+4.9***	***-1.5***
Shipping agents and forwarders	473	472	523	573	574	513	1.8	-10.6	+1.7
Cargo handling	1,077	1,057	1,004	866	887	1,010	3.6	+13.9	-1.3
Shipping companies	274	92	88	102	97	111	0.4	+14.1	-16.5
Shipbuilding and repair	73	71	85	83	70	76	0.3	+8.7	+0.8
Port construction and dredging	0	0	29	11	0	0	0.0	n.	n.
Fishing	11	8	8	8	8	8	0.0	-5.1	-6.5
Port trade	11	13	15	30	49	52	0.2	+6.2	+35.5
Port authority	149	149	150	146	145	150	0.5	+3.5	+0.1
Public sector	0	0	0	0	0	0	0.0	n.	n.
Allocation (p.m.)	*73*	*52*	*66*	*63*	*105*	*111*	-	*+5.2*	*+8.8*
NON MARITIME CLUSTER	***25,857***	***26,825***	***26,940***	***26,317***	***26,031***	***26,504***	***93.2***	***+1.8***	***+0.5***
TRADE	2,431	2,523	2,687	2,730	2,692	2,727	9.6	+1.3	+2.3
INDUSTRY	21,438	21,771	21,786	21,108	20,856	21,206	74.6	+1.7	-0.2
Energy	848	871	890	935	654	633	2.2	-3.2	-5.7
Oil industry	0	70	63	56	58	63	0.2	+8.7	n.
Chemicals	1,817	2,058	2,096	2,000	1,919	1,830	6.4	-4.6	+0.1
Car manufacturing	6,791	6,532	6,851	6,791	7,189	8,090	28.5	+12.5	+3.6
Electronics	1,395	1,493	1,185	1,099	990	899	3.2	-9.2	-8.4
Metalworking industry	7,413	7,340	7,280	6,831	6,602	6,525	23.0	-1.2	-2.5
Construction	1,677	1,811	1,733	1,682	1,766	1,581	5.6	-10.5	-1.2
Food industry	504	509	523	508	493	484	1.7	-1.8	-0.8
Other industries	993	1,087	1,166	1,206	1,186	1,102	3.9	-7.0	+2.1
LAND TRANSPORT	826	992	1,006	980	984	1,001	3.5	+1.7	+3.9
Road transport	420	566	528	506	516	452	1.6	-12.5	+1.5
Other land transport	406	427	478	474	467	549	1.9	17.5	+6.2
OTHER LOGISTIC SERVICES	1,162	1,539	1,460	1,499	1,499	1,571	5.5	+4.8	+6.2
Other services	867	1,301	1,216	1,222	1,225	1,303	4.6	+6.4	+8.5
Public sector	295	238	244	277	274	268	0.9	-2.2	-1.9
2. INDIRECT EFFECTS	***35,121***	**35,824**	***37,572***	***36,557***	***36,043***	***37,572***	***-***	***+4.2***	***+1.4***
MARITIME CLUSTER	*2,889*	2,530	*2,603*	*2,532*	*2,329*	*2,615*	-	*+12.3*	*-2.0*
NON MARITIME CLUSTER	*32,232*	33,294	*34,969*	*34,025*	*33,714*	*34,957*	-	*+3.7*	*+1.6*
TOTAL EMPLOYMENT	***63,046***	**64,511**	***66,416***	***64,693***	***63,905***	***65,996***	***-***	***+3.3***	***+0.9***

Source: NBB.

2.3.3.1 General developments

Direct employment grew by an annual average of 0.4 p.c. from 1999 to 2004, and 2 p.c. between 2003 and 2004 (table 19).

Indirect employment expanded faster, both over the period as a whole and between 2003 and 2004. In that last year, total employment, being the sum of direct and indirect employment, came close to the 2001 level at almost 66,000 FTEs. That corresponds to 3 p.c. of the Flemish Region's domestic employment and 1.8 p.c. of the national figure[99].

2.3.3.2 Direct employment in 2004

Maritime cluster

- The workforce expanded by 13.9 p.c. in cargo handling. Contributory factors here were the increase in the contingent of dockers at CEPG[100] and large-scale recruitment at Frans Maas Automotive Belgium, whose just-in-time activity is rapidly expanding.
- Shipping agents and forwarders recorded a 10.6 p.c. decline in employment. This was partly due to the preparations for the absorption of Intercargo by Transuniverse Cargo, which actually happened in 2005 and resulted in the loss of 20 FTEs in 2004. Employment was also down at Furness Logistics (Ghent).
- The port authority, Havenbedrijf Gent GAB, took on staff in 2004 (+3.5 p.c.).
- Shipping companies recruited workers (+14.1 p.c.). One such company was Gent-Watertoerist.
- Employment grew by 8.7 p.c. in shipbuilding and repair, e.g. at Scheepselectro De Backer.
- The port trade workforce expanded by 6.2 p.c., e.g. at Field Packaging Belgium.

Non maritime cluster

o Trade
- The growth of employment in trade (+1.3 p.c.) is attributable to recruitment by firms such as BP Belgium.

o Industry
- Car manufacturing, the largest employer at the port of Ghent, continued recruiting in 2004 (+12.5 p.c.). This applied, in particular, to Volvo Cars, where the workforce was increased from 4,104 FTEs in 2003 to 4,656 FTEs in 2004. Tower Automotive Belgium and Benteler Automotive Belgium also took on staff.
- Employment in the metalworking industry was down slightly (-1.2 p.c.). This was due mainly to Sidmar, in a context of restructuring at Arcelor, partly offset by the effect of the takeover of GTI Infra by Fabricom (cf. supra). The workforce of the first company, previously placed in the construction category, now comes under the second, in metalworking.
- The chemical industry recorded lower employment (-4.6 p.c.), contributory factors being the cuts at Bayer and Rhodia Chemie. These were offset by recruitment at Rhodia Eco-Services and the fact that some of U.C.B.'s activities were taken over by Taminco, one of the main methylamines producers, had no negative impact on employment.
- The decline recorded in construction (-10.5 p.c.) is due to several factors: Nacap's departure for Antwerp, integration of GTI Infra in the Fabricom GTI group (cf. supra) and the absorption of De Paepe Aannemingen by Shanks. On the other hand, Denys took on staff in 2004.
- In the other industries, employment was down (-7 p.c.), particularly at Stora Enso Langerbrugge and in a number of SMEs.
- There was a similarly marked fall in electronics (-9.2 p.c.), with job losses at GE Power Controls Belgium and Pauwels Trafo Gent -which stopped its activities in Ghent in 2004-, while employment expanded at Rogers.

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[99] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

[100] Port of Ghent Employers' Association. In Dutch: *Centrale der Werkgevers aan de Haven van Gent*.

- Energy recorded a slight fall (-3.2 p.c.), as the cuts at Electrabel were not offset by the expansion at SPE.
- In the food industry, there was a 1.8 p.c. decline, owing to modest falls among various SMEs.

o Land transport
- The relocation of the activity of Schenk Tanktransport Belgium (64 FTEs in 2003) to Antwerp contributed to the fall in employment in road transport (-12.5 p.c.), despite the recruitment at Hallens.
- The growth of the workforce in other land transport (+17.5 p.c.) is due to the BNRC.

o Other logistic services
- Employment declined by 2.2 p.c. in public administration.
- Employment increased by 6.4 p.c. in the other services, one factor being the advent of General Industrial Assistance Cataro (127 FTEs), an industrial cleaning specialist.

2.3.3.3 Employment top 10 at the port of Ghent in 2004

TABLE 20 **EMPLOYMENT TOP 10 AT THE PORT OF GHENT IN 2004**
(FTEs)

Ranking	Name of company	Sector	Employment
1	SIDMAR	Metalworking industry	5,490
2	VOLVO CARS	Car manufacturing	4,656
3	VOLVO EUROPA TRUCK	Car manufacturing	2,438
4	HONDA EUROPE	Trade	600
5	GE POWER CONTROLS BELGIUM	Electronics	572
6	ELECTRABEL	Energy	503
7	BNRC	Other land transport	471
8	STORA ENSO LANGERBRUGGE	Other industries	459
9	DENYS	Construction	407
10	TOWER AUTOMOTIVE BELGIUM	Car manufacturing	334
	Total of top 10		**15,930**

Source: NBB.

The main firms in this ranking hold the same positions as in 2003. However, Honda Europe and Electrabel have changed places, as have BNRC and Stora Enso Langerbrugge. UCB is out of the top 10 while Tower Automotive Belgium has entered the list (table 20). In all, these ten firms represented 56 p.c. of direct employment at the port of Ghent in 2004.

2.3.4 Investment

TABLE 21 **INVESTMENT AT THE PORT OF GHENT FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
MARITIME CLUSTER	***59.3***	***38.8***	***35.0***	***49.6***	***45.3***	***47.2***	***13.2***	***+4.2***	***-4.5***
Shipping agents and forwarders	3.1	3.1	4.5	4.3	8.4	7.0	2.0	-16.7	+17.8
Cargo handling	35.1	18.0	9.2	8.6	15.5	13.1	3.6	-15.8	-17.9
Shipping companies	5.1	3.8	3.9	12.0	7.4	1.7	0.5	-77.2	-20.0
Shipbuilding and repair	0.4	0.5	0.6	0.7	0.6	5.0	1.4	+692.7	+69.1
Port construction and dredging	0.0	0.0	0.3	0.1	0.0	0.0	0.0	n.	n.
Fishing	0.1	0.1	0.2	0.6	0.2	0.6	0.2	+161.7	+45.0
Port trade	0.1	0.1	0.0	0.1	0.2	0.3	0.1	+40.3	+42.2
Port authority	15.4	13.3	16.1	23.2	12.9	19.6	5.5	+51.7	+4.9
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Allocation (p.m.)	*3.4*	*1.6*	*2.5*	*2.8*	*3.4*	*2.4*	-	*-30.6*	*-6.8*
NON MARITIME CLUSTER	***588.6***	***551.1***	***571.9***	***747.0***	***714.6***	***311.4***	***86.8***	***-56.4***	***-12.0***
TRADE	38.9	49.5	63.3	62.8	47.5	36.3	10.1	-23.7	-1.4
INDUSTRY	509.4	439.4	461.4	646.6	627.9	233.9	65.2	-62.8	-14.4
Energy	15.6	15.3	18.7	5.5	5.0	7.2	2.0	+44.4	-14.4
Oil industry	0.0	1.6	0.3	0.1	5.0	1.1	0.3	-77.6	n.
Chemicals	34.6	32.9	46.8	38.3	32.1	24.5	6.8	-23.7	-6.7
Car manufacturing	220.2	90.0	77.3	148.0	186.3	61.7	17.2	-66.9	-22.5
Electronics	8.4	12.3	13.8	9.6	4.6	4.6	1.3	+0.7	-11.3
Metalworking industry	152.1	231.5	223.1	121.3	157.7	89.7	25.0	-43.1	-10.0
Construction	33.5	21.2	25.4	11.9	10.1	7.5	2.1	-25.8	-25.9
Food industry	26.6	14.0	12.9	16.9	10.6	10.4	2.9	-2.7	-17.2
Other industries	18.4	20.7	43.0	295.1	216.5	27.3	7.6	-87.4	+8.2
LAND TRANSPORT	18.1	10.2	9.8	9.9	14.1	13.0	3.6	-8.0	-6.4
Road transport	16.9	7.4	8.0	7.7	11.3	10.7	3.0	-5.6	-8.8
Other land transport	1.2	2.8	1.8	2.2	2.8	2.3	0.6	-17.8	+13.8
OTHER LOGISTIC SERVICES	22.2	52.0	37.4	27.7	25.1	28.4	7.9	+12.9	+5.1
Other services	13.3	37.9	26.9	15.2	14.1	15.6	4.4	+11.0	+3.3
Public sector	8.9	14.1	10.5	12.5	11.1	12.8	3.6	+15.4	+7.5
DIRECT INVESTMENT	**647.9**	**589.9**	**606.9**	**796.6**	**759.9**	**358.7**	**100.0**	**-52.8**	**-11.2**

Source: NBB.

2.3.4.1 General developments

Investment at current prices declined by an average of 11.2 p.c. per annum from 1999 to 2004, and over 50 p.c. in the last year covered by the survey (table 21). At 2000 prices[101], the decline averaged 11.9 p.c. per annum over the period, much of it being due to the 53.2 p.c. fall recorded in 2004, a very quiet year for investment in Ghent.

2.3.4.2 Direct investment in 2004

Maritime cluster

- The port authority invested 51.7 p.c. more than in 2003 in the port of Ghent: laying of roads, building of quay wall at the south of Kluizendok, extension of the administrative building, etc.
- Investment in cargo handling was 15.8 p.c. down, the fall being attributable to Frans Maas Automotive Belgium, Manuport and Sabeen, among others.
- The same trend (-16.7 p.c.) was evident in the case of shipping agents and forwarders, such as Furness Logistics (Ghent), Sogatra and Tailormade Logistics.
- Shipbuilding and repair had an exceptional year, attributable partly to Blatoma.
- The decline which had begun in 2003 in the case of shipping companies continued with a 77.2 p.c. fall, attributable to Rederij Intermas and Gunbas.

Non maritime cluster

o Trade
- The 23.7 p.c. fall recorded by trading companies is due to reductions at American Clothing Distribution, Vander Sluijs Groep, Rousselot and Citrosuco Europe.

o Industry
- The leading sector responsible for the decline in investment at the port of Ghent is indubitably the metalworking industry, which recorded a 43.1 p.c. fall. This was due to the 46.5 p.c. reduction at Sidmar –its major investment programme at the Ghent site was completed in 2003– offset by the increase at Fabricom GTI. Despite this fall, metalworking remains the leading private investor.
- An even steeper decline occurred in the car industry (-66.9 p.c.). This can be explained by the combined effect of a 70 p.c. fall at Volvo Cars, with the completion in 2004 of the investment plan relating to a new production line for two new models, and reductions at Plastal, Benteler Automotive Belgium and Tower Automotive Belgium.
- After two years of substantial investment at Stora Enso Langerbrugge - construction of a paper machine with a capacity of 400,000 tonnes per annum - 2004 was a very quiet year for the other industries (-87.4 p.c.). However, an increase was recorded at SCA Packaging Belgium.
- Investment was 23.7 p.c. down in chemicals, e.g. at Oleon, Air Products and EOC Polymers.
- The food industry recorded a more modest fall (-2.7 p.c.), given the opposing effects of reductions at Cargill and Algist Bruggeman and an increase at Fuji Oil Europe.
- Investment in construction continued to fall (-25.8 p.c.), examples being Cimenteries CBR and Denys.
- Energy was the only one of all the industrial sectors to record an increase in its investments (+44.4 p.c.). This applied to Electrabel.

o Land transport
- In road transport, investment was 5.6 p.c. down, in view of the cuts recorded at Hallens and Frans Maas.
- In other land transport it was also down (-17.8 p.c.). A small increase at BNRC was not enough to offset the reductions recorded at Selectacars and René De Swaef en Zonen.

[101] See explanations at point 2.1.3.

- o Other logistic services
  - Investment in the other services grew by 11 p.c., partly thanks to Sita Recycling Services, Holding Immotur and Bayer Bioservice.
  - The public sector also recorded an increase of 15.4 p.c.

2.3.4.3 Investment top 10 at the port of Ghent in 2004

TABLE 22 **INVESTMENT TOP 10 AT THE PORT OF GHENT IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	SIDMAR	Metalworking industry	78.9
2	VOLVO CARS	Car manufacturing	46.8
3	HET HAVENBEDRIJF GENT GAB	Port authority	19.6
4	PUBLIC ADMINISTRATION	Public sector	12.8
5	STORA ENSO LANGERBRUGGE	Other industries	12.3
6	S C A PACKAGING BELGIUM	Other industries	10.3
7	VOLVO EUROPA TRUCK	Car manufacturing	7.2
8	TAMINCO	Chemicals	7.0
9	BAYER BIOSERVICE	Other services	6.9
10	ELECTRABEL	Energy	6.9
	Total of top 10		**208.7**

Source: NBB.

Despite the decline in investment at Sidmar, the steel maker is at the top of this ranking (table 22). The cuts were in fact even larger at Stora Enso Langerbrugge, which drops four places, and Volvo Cars, in relation to the amounts invested in the previous year. For the first time, Taminco and Electrabel enter this top 10 for which the total, though down sharply against 2003, corresponds to 58.2 p.c. of the funds invested at the port of Ghent in 2004.

2.3.5 *Financial ratios*

TABLE 23 FINANCIAL RATIOS AT THE PORT OF GHENT FROM 2002 TO 2004

Sectors	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
MARITIME CLUSTER	***3.1***	***2.3***	***3.7***	***1.11***	***1.18***	***1.24***	***58.3***	***58.5***	***59.8***
Shipping agents and forwarders	7.9	9.4	15.0	1.05	1.08	1.07	27.9	23.1	21.9
Cargo handling	6.1	3.3	4.7	1.01	1.07	1.27	44.8	46.0	52.0
Shipping companies	3.7	3.0	13.2	1.06	1.13	1.25	35.5	33.6	39.5
Shipbuilding and repair	28.3	21.0	13.5	1.54	1.32	1.35	50.1	44.1	51.8
Port construction and dredging	20.2	n.	n.	0.99	n.	n.	28.2	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	14.3	12.4	15.2	1.40	1.27	0.86	28.7	21.2	19.3
Port authority	0.8	0.9	1.5	1.52	2.36	1.78	80.6	83.7	81.3
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON MARITIME CLUSTER	***-8.8***	***6.4***	***21.4***	***0.94***	***1.05***	***1.24***	***42.4***	***44.5***	***46.7***
TRADE	-7.3	3.7	17.8	0.71	0.79	0.81	35.6	37.2	39.0
INDUSTRY	-7.4	10.2	31.6	0.96	1.01	1.04	33.4	31.4	32.9
Energy	17.4	27.1	11.2	1.58	1.37	1.54	43.3	41.8	40.5
Oil industry	5.7	7.7	-4.2	1.11	1.30	2.07	48.2	46.0	50.7
Chemicals	-0.5	6.6	15.0	1.26	1.68	1.64	45.2	44.1	43.5
Car manufacturing	3.8	39.8	13.3	0.63	0.74	0.74	27.3	23.2	21.2
Electronics	22.3	9.3	0.7	1.06	1.41	1.41	51.0	59.0	56.2
Metalworking industry	-32.9	-15.6	58.5	1.02	1.07	1.12	30.2	27.1	32.0
Construction	8.5	9.6	4.8	1.22	1.09	1.13	33.6	35.1	41.8
Food industry	19.5	11.4	0.1	1.05	0.96	0.90	33.2	34.0	29.7
Other industries	16.9	14.6	6.8	1.46	1.41	1.24	45.6	45.6	42.1
LAND TRANSPORT	-10.7	-7.9	1.4	0.98	0.90	0.75	27.5	25.2	17.5
Road transport	13.0	-2.5	19.1	1.27	1.14	1.19	27.8	26.6	30.2
Other land transport	-22.4	-10.7	-12.8	0.79	0.74	0.58	27.3	24.5	13.1
OTHER LOGISTIC SERVICES	-11.1	3.8	13.3	1.39	2.21	7.28	75.7	84.3	88.8
Other services	-11.1	3.8	13.3	1.39	2.21	7.28	75.7	84.3	88.8
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
Weighted average	**-8.0**	**6.1**	**20.2**	**0.94**	**1.06**	**1.24**	**43.2**	**45.2**	**47.4**

Source: NBB.

The financial indicators were set fair at the port of Ghent in 2004 (table 23):

- Profitability jumped by 14.1 percentage points compared to 2003, primarily thanks to the excellent performance of the metalworking industry, e.g. at Sidmar, Galva Power Group and Galtec. Cargo handling, trade, chemicals, road transport and the other services were not left behind, with strong improvements recorded at Euro-Silo, Belgian Shell, Oleon and Hallens. The port authority also produced a good performance. The decline in the car industry is due to Volvo Europa Truck.

- Leaving aside certain falls recorded by chemicals, shipping agents and forwarders and the port authority, liquidity increased (+0.18). This applied to firms such as Sidmar and Galtec (metalworking), Bayer Bioservice (other services), Belgian Shell and Honda Europe (trade).
- Most of the sectors saw their solvency increase in 2004 (+2.2 points). This was the case in cargo handling, trade, metalworking and the other services. Manuport, Belgian Shell, Galtec and Volvo Treasury Europe Coordination showed a significant increase in their capacity to honour their short and long term liabilities.

2.3.6 Maritime goods traffic at the port of Ghent in 2004: summary[102]

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

	Unloaded	Loaded	Total 2004	Change 2003- 2004 (in p.c.)	Share in 2004 (in p.c.)
Containers	86	178	264	+8.5	1.1
Roll-on/roll-off	886	693	1,579	+10.7	6.3
Conventional general cargo	687	1,244	1,931	+0.7	7.7
Liquid bulk	2,321	486	2,806	-9.1	11.2
Solid bulk	16,683	1,693	18,377	+8.9	73.6
TOTAL	**20,663**	**4,294**	**24,957**	**+6.0**	**100.0**

Source: Havenbedrijf Gent GAB.

A 6 p.c. increase was recorded in maritime traffic at Ghent, a port of importation[103] which practically attained the 25 million tonne mark (table 24).

Most of the traffic handled at the Ghent terminals consists of bulk cargo. Solid bulk increased by 8.9 p.c., following the sharp fall in 2003, due partly to the temporary closure of the Sidmar blast furnaces for maintenance purposes. There was a strong rise in the transhipment of iron ore, coke and scrap. Conversely, liquid bulk recorded a decline of 9.1 p.c., due partly to the fall in consignments of fruit juice. There was an increase in general cargo overall in 2004. Although less representative at the port of Ghent than in the other Flemish ports studied, these goods gained ground, especially ro-ro and containers which recorded growth of 10.7 and 8.5 p.c. respectively. Ro-ro in particular was boosted by the transport of cars via the *Eurobridge*[104]. After the 2002 decline, conventional general cargo recovered in 2003. The next year it maintained that level of 1.9 million tonnes.

The average size of the vessels handled at the port of Ghent increased by 1 p.c. in 2004. 3,044 vessels entered Ghent during that year, or 1.2 p.c. more than in 2003. In 2004, 33 p.c. of the goods unloaded came from South America, 30 p.c. from Europe, 14 p.c. from North America, 12 p.c. from Asia and 6 p.c. from Africa. In the same year, 90 p.c. of the freight loaded in Ghent was bound for Europe. Only 5 p.c. of this total was shipped to North America, 2 p.c. to Africa and 2 p.c. to Asia.

[102] Sources: Havenbedrijf Gent GAB and Vlaamse Havencommissie (2005). See also table 73 (annex 8) for more details on maritime traffic per category of goods at the port of Ghent in 2004.

[103] In 2004, goods unloaded made up 82.8 p.c. of the total maritime traffic handled at the port of Ghent.

[104] Eurobridge is a service provided by Tor Line since 1994. It forms a hub of ro-ro lines between Ghent and Göteborg in Sweden.

2.4 PORT OF OSTEND

2.4.1 Highlights in 2004[105]

2.4.1.1 Context

2004 was a very favourable year at the port of Ostend, as regards the trend in maritime traffic, which exceeded 7.5 million tonnes. This coastal port met its targets for the year, thanks to the ro-ro activity which remains the engine of growth and whose leading operators, Transeuropa Ferries and Ferryways[106], benefited from this growth. Containerised traffic and passenger transport also increased. However, development projects or those concerning facilities for new operators were hampered by problems of accessibility, not only from the sea but also from the hinterland. All efforts are now being concentrated on opening up the port. Solutions have been found to improve the access by road. Conversely, the situation is much more difficult in regard to inland navigation, because of the persistent bottleneck at the ring canal of Bruges. Until such time as a solution is found, the authorities have decided to count on rail, with for instance the railway extension towards the Ferryways terminal. Rail freight, which was marginal in 2004 at 2.8 p.c. of the ro-ro and containerised traffic, should be stepped up in the initial phase to 5 p.c. of this total by attracting a growing volume of rail traffic to Ostend. The fishing port is still one of the biggest in Europe, with its 1,425 metres of mooring space and the *Visserijdok*, a floating dock permitting highly efficient loading and unloading at all states of the tide.

2.4.1.2 Industrial activity

Since 1 January 2004, the port has had a waste management plan and a control system, so that it is now better able to apply the European directive 2000/59/CE[107]. In August, the Dutch transport firm Balkenende decided to organise the distribution of perishable foodstuffs from Africa on the British market by using Ostend's port and airport facilities. The coastal port thus became a central point in the multimodal transport of fruit, vegetables and flowers from Zambia, South Africa, Uganda and Kenya.

On 30 September, Icemark was welcomed as a new investor in the Plassendale IV industrial zone. This company is an importer and wholesaler of fresh fish, imported from Iceland, Canada and Uganda.

In recent years, several industrial zones have developed in and around the port of Ostend. Known by the name ***Plassendale*** and owned by the company Plassendale – named after the canal running alongside the complex – in charge of its development, this 150 ha complex currently comprises four zones, numbered I to IV[108].
- Plassendale I is the main one, with a usable area of 90 ha. Three types of business exist side by side here: shipyards, industries using the waterway, and logistic companies as well as the permanent industrial or logistic sites. The Sea Gate logistic complex, creating hundreds of jobs, is also expected to occupy 22 ha here.
- Plassendale II occupies the 16 ha site between Oudenburgsesteenweg and the Ostend-Brussels railway line. This location is ideal for transport and construction companies.
- Plassendale III is located between the railway line and the A10 motorway. With its excellent access, this 29 ha zone is preferred by new, expanding industries such as information and communication technologies, the pharmaceutical industry, biotechnology and R&D.
- Plassendale IV covers an area of 18 ha between the railway line, Stationstraat, Zandvoordestraat and Klokhofstraat. It comprises two sub-zones, the first being occupied by small manufacturing businesses, and the second earmarked for the development of firms involved in logistics, construction and recycling.

A 40 ha zone reserved for the chemical industry completes this complex. Huber and Proviron are among the companies located there.

[105] Sources include AG Haven Oostende and Vlaamse Havencommissie (2005).

[106] Transeuropa Ferries currently provides about ten services to Ramsgate every day. Ferryways provides one daily service to Killingholme, up to two to Immingham and up to three to Ipswich.

[107] Directive 2000/59/CE of the European Parliament and of the Council of 27 November 2 on port reception facilities for ship-generated waste and cargo residues.

[108] Plassendale III and IV are not included in the area covered by this study.

2.4.1.3 Infrastructure

Apart from the substantial investments achieved within the context of the strict compliance with the ISPS norms -increasing security for the port facilities and preventing stowaways, particularly with the installation of fifty cameras-, work on improvements to the infrastructures has continued. Three projects merit a mention: the continuing work at Wandelaarkaai, the preliminary work in preparation for construction of a waiting quay at the Demey lock and the renovation of the lock gates there. In front of the old quay wall of the Wandelaarkaai, an entirely new 250 m quay was built, catering for vessels with a draught of 8.5 m. The work on the 150 m waiting quay began in May 2004. The problems of access to the Demey lock were analysed, in view of the growing congestion facing users of the port. The old lock gates, dating from 1905, were deteriorating. The timber was replaced by steel, the work being carried out by the Zeebrugge hydraulic engineering firm, Depret, for a budget of 3.3 million euro. Having begun early in 2004, this work was completed in 2005.

2.4.2 Value added

TABLE 25 **VALUE ADDED AT THE PORT OF OSTEND FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**281.8**	**266.6**	**322.9**	**332.5**	**348.0**	**356.3**	**100.0**	**+2.4**	**+4.8**
MARITIME CLUSTER	***85.8***	***69.5***	***71.1***	***69.6***	***79.2***	***89.9***	***25.2***	***+13.6***	***+0.9***
Shipping agents and forwarders	4.5	5.8	2.6	4.2	3.0	3.1	0.9	+4.8	-7.2
Cargo handling	3.0	3.1	3.9	4.8	6.4	7.1	2.0	+11.5	+18.6
Shipping companies	3.2	0.0	-1.4	-3.9	1.0	3.4	1.0	+236.0	+1.1
Shipbuilding and repair	5.3	5.0	5.1	4.8	6.5	6.7	1.9	+2.5	+4.6
Port construction and dredging	33.1	19.5	21.4	28.8	29.9	35.6	10.0	+18.9	+1.5
Fishing	24.2	24.4	28.7	16.2	18.3	17.5	4.9	-4.4	-6.2
Port trade	0.1	0.2	0.2	0.2	0.2	0.2	0.1	+39.5	+33.2
Port authority	2.3	2.8	2.9	3.2	3.1	4.8	1.4	+55.0	+16.1
Public sector	10.1	8.7	7.8	11.2	10.8	11.4	3.2	+6.1	+2.4
Allocation (p.m.)	*9.7*	*8.5*	*10.4*	*9.0*	*10.3*	*9.6*	-	*-6.5*	*-0.1*
NON MARITIME CLUSTER	***196.0***	***197.1***	***251.9***	***263.0***	***268.8***	***266.3***	***74.8***	***-0.9***	***+6.3***
TRADE	24.3	26.1	24.0	21.3	22.0	22.1	6.2	+0.2	-1.9
INDUSTRY	126.7	120.1	166.4	169.6	167.6	161.5	45.3	-3.6	+5.0
Energy	0.9	1.0	0.8	0.6	0.2	0.4	0.1	+52.3	-16.0
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	29.5	22.6	23.6	36.6	35.1	33.8	9.5	-3.9	+2.7
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics	0.0	0.7	0.8	0.8	0.7	0.7	0.2	-2.4	n.
Metalworking industry	83.3	85.0	125.6	115.2	110.7	102.9	28.9	-7.0	+4.3
Construction	6.3	5.7	6.4	5.7	6.1	6.3	1.8	+4.1	+0.1
Food industry	2.9	0.6	3.9	6.0	6.4	9.7	2.7	+51.3	+27.2
Other industries	3.9	4.5	5.4	4.7	8.3	7.7	2.2	-7.2	+14.5
LAND TRANSPORT	12.3	13.3	20.1	20.9	22.6	24.3	6.8	+7.5	+14.5
Road transport	11.5	12.2	16.8	17.3	18.3	18.6	5.2	+1.9	+10.0
Other land transport	0.8	1.1	3.3	3.6	4.3	5.7	1.6	+31.0	+47.8
OTHER LOGISTIC SERVICES	32.6	37.5	41.3	51.2	56.6	58.5	16.4	+3.4	+12.4
Other services	11.8	14.0	16.9	26.0	34.6	37.6	10.6	+8.7	+26.1
Public sector	20.9	23.5	24.4	25.2	22.0	20.9	5.9	-4.8	+0.0
2. INDIRECT EFFECTS	***363.4***	**304.4**	***274.9***	***202.2***	***285.6***	***312.0***	**-**	***+9.2***	***-3.0***
MARITIME CLUSTER	*125.3*	58.0	*52.7*	*-27.7*	*71.2*	*84.3*	-	*+18.3*	*-7.6*
NON MARITIME CLUSTER	*238.1*	246.4	*222.2*	*229.9*	*214.3*	*227.7*	-	*+6.2*	*-0.9*
TOTAL VALUE ADDED	***645.2***	**571.0**	***597.8***	***534.7***	***633.6***	***668.3***	**-**	***+5.5***	***+0.7***

Source: NBB.

2.4.2.1 General developments

Direct VA at current prices increased by an average of 4.8 p.c. per annum from 1999 to 2004, and by 2.4 p.c. between 2003 and 2004 (table 25). At 2000 prices[109], the increase over the period averaged 2.9 p.c. per annum, and 0.1 p.c. last year.

Indirect VA was harder hit by the impact of the departure of the shipping company RTM (Régie des Transports Maritimes) in 2000, which accounts for the substantial fall recorded in the maritime cluster at that time. Conversely, the year 2004 was noted for continuation of the rise which had begun the previous year. Total VA, being the sum of direct and indirect VA, thus came to almost 670 million euro, equivalent to 0.4 p.c. of the Region's GDP[110].

2.4.2.2 Direct VA in 2004

Maritime cluster

- Port construction and dredging recorded an 18.9 p.c. increase in VA. Contributory factors here were the increase in the provisions for liabilities and charges at Baggerwerken Decloedt en Zoon.
- Fishing, an important sector at Ostend, recorded a slight fall (-4.4 p.c.), owing to the operating losses of Stolt Sea Farm (currently Marine Harvest Belgium) and Rederij De Zwerver.
- In the Navy (public sector), VA increased by 6.1 p.c., owing to the increase in the staff costs.
- The contribution to GDP made by Ostend cargo handling was 11.5 p.c. higher. The main firms responsible for this increase were Searoad Stevedores, Searoad Security and CEWO[111], the staff costs of which increased in 2004.
- In shipbuilding and repair, VA increased by 2.5 p.c. Thus, higher figures were recorded at SKB Yard, whose operating profit practically tripled, and North Sea Marine, which is back in profit, though there were falls at Damen Shipyards Oostende and Scheepswerf IDP.
- The VA of the port authority, AGHO, showed a substantial increase (+55 p.c.), owing to expansion of its workforce and restoration of profitability.
- The shipping companies saw their VA more than triple. This was due mainly to Ferryways. This company took on more staff and its operating result was back in profit during 2004.
- The VA of shipping agents and forwarders grew by 4.8 p.c., thanks to the increase recorded by firms such as Transeuropa Ferries, the staff costs of which have risen, Cross Channel Storage Services, whose operating profit more than doubled, and despite a decline at Botra.

Non maritime cluster

- Trade
  - A very small increase was recorded by trade (+0.2 p.c.), mainly at Oswald De Bruycker and Total Belgium – higher profits -, offset by widespread falls within the sector.

- Industry
  - VA declined in the metalworking industry (-7 p.c.), owing to the fall in VA at Daikin Europe, due primarily to reductions in the depreciation and other operating expenses.
  - In chemicals, the decline (-3.9 p.c.) was due to the takeover of Provironftal by Proviron Fine Chemicals, which led to a drop in VA. Small increases were recorded by Orac and J M Huber Belgium.

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[109] See explanations at point 2.1.1.

[110] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

[111] Port of Ostend Employers' Association. In Dutch: *Centrale der Werkgevers aan de Haven van Oostende*. For the first time, a survey has made it possible to calculate the whole of the VA and employment of the dockers in Ostend.

- In contrast, the food industry had a good year, with a 51.3 p.c. rise in VA. This substantial increase was seen, in particular, at Chocolaterie Jacali, which took on staff and virtually doubled its operating profit.
- In the other industries, VA was down by 7.2 p.c., owing to the operating losses of Rail Services International Belgium and Tolsa Benelux.
- Construction recorded a 4.1 p.c. rise in VA. This was due to the good results of Opdedrynck and Reynders, offset by the decline at Viertorre.
- Electronics saw a 2.4 p.c. fall in VA, owing to a decrease at Dekomte Benelux.

o Land transport
- In road transport, VA grew by 1.9 p.c. There were increases at Transport Maenhout and Maenhout Logistics, offset by reductions at Continental Cargo Carriers and Bretrans.
- There was a substantial increase in other land transport (+31 p.c.), due primarily to BNRC (cf. point 2.2.2.2).

o Other logistic services
- Public administrations recorded a 4.8 p.c. reduction in VA, following the decline in the workforce.
- In contrast, the other services saw a healthy increase in VA (+8.7 p.c.), thanks to Delight Information Systems, Grondmaatschappij van België and Plassendale, and despite a decline at Morubel.

2.4.2.3 VA top 10 at the port of Ostend in 2004

TABLE 26 **VALUE ADDED TOP 10 AT THE PORT OF OSTEND IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	DAIKIN EUROPE	Metalworking industry	101.2
2	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging	31.8
3	PROVIRON FINE CHEMICALS	Chemicals	26.6
4	PUBLIC ADMINISTRATION	Public sector	20.9
5	MORUBEL	Other services	13.6
6	DEFENCE (NAVY)	Public sector	11.4
7	CHOCOLATERIE JACALI	Food industry	9.2
8	TRANSPORT MAENHOUT	Road transport	6.7
9	OSWALD DE BRUYCKER	Trade	6.4
10	AUTONOOM GEMEENTEBEDRIJF HAVEN OOSTENDE	Port authority	4.8
	Total of top 10		**232.7**

Source: NBB.

Apart from a few firms changing places, this ranking is the same as in 2003. Provironftal is out of the top 10, having been taken over by Proviron Fine Chemicals, which moved up two places, while the port authority AGHO is a newcomer (table 26). Together, these ten companies represented 65.3 p.c. of direct VA at the port of Ostend in 2004.

2.4.3 Employment

TABLE 27 **EMPLOYMENT AT THE PORT OF OSTEND FROM 1999 TO 2004**
(FTEs)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**4,515**	**3,973**	**4,186**	**4,337**	**4,511**	**4,439**	**100.0**	**-1.6**	**-0.3**
MARITIME CLUSTER	***1,629***	***1,044***	***1,040***	***1,069***	***1,224***	***1,242***	***28.0***	***+1.5***	***-5.3***
Shipping agents and forwarders	79	78	27	55	46	50	1.1	+8.2	-8.7
Cargo handling	70	84	71	87	121	131	3.0	+8.4	+13.5
Shipping companies	391	0	12	15	15	18	0.4	+25.3	-45.7
Shipbuilding and repair	103	100	105	99	114	109	2.5	-4.0	+1.2
Port construction and dredging	270	166	201	257	324	308	6.9	-5.0	+2.7
Fishing	435	350	382	244	299	313	7.0	+4.7	-6.4
Port trade	0	1	1	2	2	3	0.1	+66.3	+97.8
Port authority	23	28	28	28	35	41	0.9	+15.7	+11.8
Public sector	259	237	212	282	268	269	6.1	+0.4	+0.8
Allocation (p.m.)	*141*	*130*	*130*	*123*	*141*	*153*	-	*+8.3*	*+1.7*
NON MARITIME CLUSTER	***2,886***	***2,930***	***3,146***	***3,268***	***3,287***	***3,196***	***72.0***	***-2.8***	***+2.1***
TRADE	370	417	408	364	337	320	7.2	-5.1	-2.9
INDUSTRY	1,639	1,568	1,724	1,813	1,810	1,750	39.4	-3.3	+1.3
Energy	5	5	4	3	1	1	0.0	-6.7	-27.6
Oil industry	0	0	0	0	0	0	0.0	n.	n.
Chemicals	464	369	307	408	405	403	9.1	-0.7	-2.8
Car manufacturing	0	0	0	0	0	0	0.0	n.	n.
Electronics	0	11	11	12	12	12	0.3	-3.4	n.
Metalworking industry	882	945	1,109	1,142	1,051	988	22.3	-5.9	+2.3
Construction	144	136	151	127	114	109	2.5	-3.6	-5.3
Food industry	48	11	56	62	63	79	1.8	+26.4	+10.4
Other industries	96	91	86	59	166	159	3.6	-4.0	+10.5
LAND TRANSPORT	172	180	297	290	310	329	7.4	+6.1	+13.8
Road transport	160	163	231	226	233	237	5.3	+1.5	+8.1
Other land transport	12	17	66	65	77	92	2.1	+20.2	+50.3
OTHER LOGISTIC SERVICES	705	764	718	801	830	797	18.0	-4.0	+2.5
Other services	178	195	197	273	291	285	6.4	-2.0	+9.9
Public sector	527	569	521	528	539	512	11.5	-5.0	-0.6
2. INDIRECT EFFECTS	***7,799***	**4,172**	***4,510***	***4,818***	***4,735***	***4,642***	**-**	***-2.0***	***-9.9***
MARITIME CLUSTER	*4,666*	902	*1,003*	*1,105*	*1,130*	*1,183*	-	*+4.7*	*-24.0*
NON MARITIME CLUSTER	*3,133*	3,271	*3,507*	*3,713*	*3,605*	*3,459*	-	*-4.1*	*+2.0*
TOTAL EMPLOYMENT	***12,314***	**8,146**	***8,696***	***9,155***	***9,246***	***9,081***	**-**	***-1.8***	***-5.9***

Source: NBB.

2.4.3.1 General developments

Direct employment declined by an average of 0.3 p.c. per annum from 1999 to 2004, and by 1.6 p.c. between 2003 and 2004 (table 27).

Indirect employment declined even more sharply over the period, for the same reasons as VA, since subcontracting is very common among shipping companies. At under 9,100 FTEs in 2004, total employment at the port of Ostend corresponds to 0.4 p.c. the Region's domestic employment[112].

2.4.3.2 Direct employment in 2004

Maritime cluster

- Employment expanded by 4.7 p.c. in fishing.
- In port construction and dredging, the workforce contracted by 5 p.c. This fall was due in particular to Baggerwerken Decloedt en Zoon.
- In the Navy (public sector), employment did not change.
- Cargo handling recorded an 8.4 p.c. increase in the workforce, mainly following an increase in the workforce at Searoad Security.
- Employment declined (- 4 p.c.) in a large number of SMEs active in shipbuilding and repair. However, a number of jobs were created at SKB Yard.
- Shipping agents and forwarders saw an 8.2 p.c. rise in employment, attributable to Transeuropa Ferries.
- The port authority, AGHO, recruited staff (+15.7 p.c.).
- Employment expanded in the shipping companies, particularly at Ferryways.

Non maritime cluster

o Trade
- The decline in employment in trade at the port of Ostend (-5.1 p.c.) was common to most of the firms in the sector.

o Industry
- The declining employment at Daikin Europe accounts for many of the job losses in the metalworking industry (-5.9 p.c.).
- The situation was unchanged in chemicals, as the absorption of Provironftal by Proviron Fine Chemicals did not lead to any significant decline in employment in the sector.
- Employment was down in the other industries (-4 p.c.), including at Rail Services International Belgium.
- A small decline was recorded in construction (-3.6 p.c.).
- In contrast, Chocolaterie Jacali took on staff, which accounts for the increase recorded by the food industry (+26.4 p.c.).
- In electronics there was no significant change in employment.

o Land transport
- The small rise (+1.5 p.c.) in road transport is due partly to recruitment at Maenhout Logistics.
- The substantial increase (+20.2 p.c.) recorded in other land transport is due to BNRC.

o Other logistic services
- Employment declined in public administration (-5 p.c.).
- A decline was also recorded in the other services (-2 p.c.).

[112] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

2.4.3.3 Employment top 10 at the port of Ostend in 2004

TABLE 28 **EMPLOYMENT TOP 10 AT THE PORT OF OSTEND IN 2004**
(FTEs)

Ranking	Name of company	Sector	Employment
1	DAIKIN EUROPE	Metalworking industry	959
2	PUBLIC ADMINISTRATION	Public sector	512
3	PROVIRON FINE CHEMICALS	Chemicals	299
4	FDEFENCE (NAVY)	Public sector	269
5	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging	236
6	MORUBEL	Other services	97
7	VANHUELE GEBROEDERS	Port construction and dredging	71
8	BNRC	Other land transport	70
9	CHOCOLATERIE JACALI	Food industry	67
10	OSWALD DE BRUYCKER	Trade	65
	Total of top 10		**2,645**

Source: NBB.

The leading companies held on to their 2003 position in this ranking. The main changes are due to the absorption of Provironftal by Proviron Fine Chemicals, and the appearance in the top 10 of Van Huele Gebroeders, BNRC and Chocolaterie Jacali, while Stolt Sea Farm and Rail Services International are out (table 28). These ten companies represented almost 60 p.c. of direct employment at the port of Ostend in 2004.

2.4.4 *Investment*

TABLE 29 **INVESTMENT AT THE PORT OF OSTEND FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
MARITIME CLUSTER	***71.1***	***35.7***	***15.4***	***9.8***	***12.2***	***15.9***	***25.6***	***+30.8***	***-25.9***
Shipping agents and forwarders	0.5	0.5	0.3	0.3	0.4	0.5	0.7	+5.8	-2.1
Cargo handling	0.7	0.1	0.4	0.4	0.2	0.2	0.3	-9.6	-22.5
Shipping companies	0.0	0.0	0.0	0.8	0.1	0.1	0.2	+132.4	+33.5
Shipbuilding and repair	2.9	2.4	0.8	0.4	0.5	0.5	0.8	-12.9	-30.5
Port construction and dredging	42.6	6.2	0.6	0.8	1.0	3.8	6.0	+268.7	-38.5
Fishing	16.5	17.7	6.8	3.1	4.9	4.5	7.2	-7.6	-22.9
Port trade	0.2	0.2	0.0	0.1	0.0	0.1	0.2	+1215.0	-10.4
Port authority	7.6	8.5	4.7	3.9	5.0	6.3	10.1	+25.6	-3.8
Public sector	0.0	0.0	1.7	0.0	0.0	0.0	0.0	n.	n.
Allocation (p.m.)	*9.1*	*6.0*	*3.4*	*1.9*	*1.3*	*1.8*	-	*+36.2*	*-27.8*
NON MARITIME CLUSTER	***55.2***	***69.7***	***48.0***	***45.6***	***50.3***	***46.3***	***74.4***	***-8.0***	***-3.5***
TRADE	7.0	7.5	4.3	6.0	5.9	5.1	8.3	-13.6	-6.1
INDUSTRY	26.5	38.2	30.3	17.8	22.6	19.8	31.8	-12.4	-5.7
Energy	0.1	0.2	0.1	0.0	0.0	0.1	0.1	+370.9	-8.2
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	12.5	20.6	7.6	7.3	7.5	5.7	9.2	-24.2	-14.5
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics	0.0	0.0	0.0	0.1	0.1	0.0	0.1	-56.2	n.
Metalworking industry	11.8	13.9	17.3	7.7	10.5	9.2	14.8	-11.8	-4.8
Construction	0.5	0.4	0.6	0.6	0.7	0.6	1.0	-6.8	+6.7
Food industry	1.3	0.3	4.0	1.0	0.9	2.7	4.3	+207.4	+15.0
Other industries	0.4	2.8	0.8	1.0	3.0	1.5	2.3	-50.7	+32.9
LAND TRANSPORT	2.6	3.7	4.8	5.3	1.8	3.0	4.8	+64.2	+2.9
Road transport	2.6	3.7	4.5	3.4	1.3	2.4	3.9	+80.5	-1.4
Other land transport	0.0	0.0	0.3	1.9	0.5	0.6	0.9	+19.2	n.
OTHER LOGISTIC SERVICES	19.1	20.3	8.6	16.6	19.9	18.3	29.5	-8.0	-0.8
Other services	2.9	2.9	2.4	4.6	11.3	11.7	18.8	+3.4	+31.9
Public sector	16.1	17.4	6.2	12.0	8.6	6.7	10.7	-22.8	-16.2
DIRECT INVESTMENT	**126.3**	**105.3**	**63.4**	**55.4**	**62.5**	**62.2**	**100.0**	**-0.4**	**-13.2**

Source: NBB.

2.4.4.1 General developments

Investment at current prices declined by an average of 13.2 p.c. per annum from 1999 to 2004, and 0.4 p.c. between 2003 and 2004 (table 29). At 2000 prices[113], the decline averaged 13.9 p.c. per annum over the period, and 1.2 p.c. last year. The largest reductions during the period were recorded in 2000 and 2001.

2.4.4.2 Direct investment in 2004

Maritime cluster

- Investment was 25.6 p.c. higher at the port authority: finishing work at Plassendale I and at Wandelaarkaai, renovation of the Demey lock, etc.
- It was 7.6 p.c. down in fishing, owing to cuts at Stolt Sea Farm and Wilmar, among others.
- The amounts invested in port construction and dredging were virtually four times higher than in 2003, the companies responsible being Baggerwerken Decloedt en Zoon and, to a lesser extent, Vanhuele Gebroeders. 2004 was a very busy year for Baggewerken: at Ostend, the year was dominated by the dredging along the Oostwal quay wall and construction of the "Noordstrand".
- Shipbuilding and repair recorded a small decline. The reduction seen at Damen Shipyards Oostende was partly offset by the increase at Noordzee Kranen en Transport.
- A rise was recorded by shipping agents and forwarders, such as Oostends Transport Bedrijf and TMC Belgium.

Non maritime cluster

- Trade
  - Trading companies recorded a 13.6 p.c. decline. This was attributable to the cuts at Gesco, Viswaren Bonnet and a large number of SMEs.

- Industry
  - Metalworking saw a decline in investment (-11.8 p.c.), attributable to Daikin Europe.
  - The same applies to chemicals (-24.2 p.c.), one factor here being the absorption of Provironftal, which had invested 3 million euro a year earlier, by Proviron Fine Chemicals.
  - In contrast, investment tripled in the food industry, thanks to Chocolaterie Jacali.
  - Investments in the other industries, down by 50.7 p.c. in 2004, regained their 2002 level. This was attributable mainly to Tolsa Benelux, after an exceptional year marked by the conclusion of numerous financial leasing contracts, and despite an increase at Goekint Graphics.
  - A small decline was recorded in construction, e.g. at Reynders and Versluys, despite the increases at Hanson Aggregates Belgium and De Viertorre.

- Land transport
  - The year brought a surge in investment (+80.5 p.c.) in road transport. This was due to increases at Transport Maenhout and Vervoer Depoorter.
  - A favourable trend in other land transport (+19.2 p.c.) was also seen in 2004.

- Other logistic services
  - The 3.4 p.c. increase in investment in the other services corresponds to higher investment at Intergemeentelijk Vereniging voor het Afvalbeheer voor Oostende en Ommeland and Macrifi, tempered by reductions at Morubel and Seagull Decor.
  - Public sector investment was 22.8 p.c. down.

[113] See explanations at point 2.1.3.

2.4.4.3 Investment top 10 at the port of Ostend in 2004

TABLE 30 **INVESTMENT TOP 10 AT THE PORT OF OSTEND IN 2004**[114]
(millions of euros)

Ranking	Name of company	Sector	Investment
1	DAIKIN EUROPE	Metalworking industry	8.3
2	PUBLIC ADMINISTRATION	Public sector	6.7
3	AUTONOOM GEMEENTEBEDRIJF HAVEN OOSTENDE	Port authority	6.3
4	INTERGEMEENTELIJKE VERENIGING VOOR HET AFVALBEHEER VOOR OOSTENDE EN OMMELAND	Other services	4.3
5	PROVIRON FINE CHEMICALS	Chemicals	3.5
6	BAGGERWERKEN DECLOEDT EN ZOON	Port construction and dredging	3.4
7	OSWALD DE BRUYCKER	Trade	2.6
8	CHOCOLATERIE JACALI	Food industry	2.6
9	ORAC	Chemicals	1.6
10	WESTERDAL	Other services	1.5
	Total of top 10		**40.7**

Source: NBB.

Daikin Europe is in first place in this top 10 (table 30). Baggerwerken Decloedt en Zoon, Chocolaterie Jacali, Orac and Westerdal joined the top 10 in 2004. At 40.7 million euro, these ten companies represent 65.4 p.c. of investment at the port of Ostend this year.

[114] The Stadsvernieuwing Oostende development projects carried out in 2004 were not included in this section, as they were not directly related to the port development.

2.4.5 Financial ratios

TABLE 31 FINANCIAL RATIOS AT THE PORT OF OSTEND FROM 2002 TO 2004

Sectors	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
MARITIME CLUSTER	***2.5***	***4.3***	***3.5***	***1.32***	***1.20***	***1.33***	***40.7***	***38.0***	***39.2***
Shipping agents and forwarders	35.5	4.0	11.8	1.04	1.06	1.06	17.3	22.5	20.0
Cargo handling	2.5	0.2	-0.1	1.07	0.76	1.00	71.8	62.2	64.6
Shipping companies	9.8	6.1	5.3	1.14	1.23	1.16	34.6	36.0	31.6
Shipbuilding and repair	3.1	12.8	13.8	1.20	0.91	0.90	20.5	16.7	12.6
Port construction and dredging	3.3	9.1	6.6	1.62	1.56	2.19	31.1	30.5	31.5
Fishing	-6.0	-2.3	-10.7	1.03	0.99	0.98	32.6	30.7	33.8
Port trade	25.4	30.4	32.8	1.26	1.66	2.20	22.5	33.0	43.8
Port authority	2.2	0.5	3.8	1.67	1.33	1.33	86.7	85.3	86.9
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON MARITIME CLUSTER	***8.7***	***6.8***	***6.9***	***1.41***	***1.42***	***1.39***	***42.3***	***47.7***	***48.0***
TRADE	1.8	5.6	4.5	1.46	1.55	1.53	37.9	39.9	40.7
INDUSTRY	12.1	7.5	7.6	0.70	0.77	0.76	29.4	36.3	36.8
Energy	7.9	7.9	2.2	1.44	1.27	1.43	61.6	66.9	66.7
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	-19.4	-2.6	-1.9	0.94	6.32	5.45	70.8	87.0	84.6
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	1.5	13.7	7.5	1.11	1.31	1.20	13.4	23.3	18.3
Metalworking industry	19.1	11.2	9.0	0.62	0.60	0.59	25.4	28.9	30.2
Construction	5.8	15.4	16.9	1.22	1.15	1.10	24.7	23.8	25.4
Food industry	42.2	28.9	55.1	1.58	1.84	2.13	25.3	33.7	41.0
Other industries	32.0	9.3	4.2	1.40	1.23	1.05	28.3	27.1	22.5
LAND TRANSPORT	6.3	5.7	11.6	1.24	1.60	1.37	42.5	44.1	36.8
Road transport	13.8	18.4	17.4	1.59	1.78	1.79	45.8	50.1	50.7
Other land transport	-11.0	-39.3	-11.0	0.44	1.08	0.72	36.5	30.8	17.7
OTHER LOGISTIC SERVICES	7.8	6.5	6.1	3.63	4.05	3.80	58.9	66.8	68.3
Other services	7.8	6.5	6.1	3.63	4.05	3.80	58.9	66.8	68.3
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
Weighted average	**7.6**	**6.4**	**6.4**	**1.40**	**1.39**	**1.38**	**42.0**	**45.8**	**46.3**

Source: NBB.

- On average, the profitability of firms at the port of Ostend remained unchanged from 2003 to 2004 (table 31). While it declined significantly in sectors such as fishing -Stolt Sea Farm-, port construction and dredging -Baggerwerken Decloedt en Zoon-, metalworking -Daikin Europe- and the other services -Morubel-, it improved in the case of the port authority, chemicals and other land transport, where net profits went up.
- The liquidity ratio was also fairly stable, with the increases in port construction and dredging and in cargo handling compensating for the lower ratios in chemicals and other land transport.

- On average, the firms located at the port of Ostend were slightly more solvent in 2004 than in 2003 (+0.5 p.c.), in both the maritime and the non maritime cluster. Thus, significant increases were recorded in cargo handling, port construction and dredging, fishing and the port authority, and in metalworking and the other services, offsetting the reductions in chemicals and other land transport.

2.4.6 Maritime goods traffic at the port of Ostend in 2004: summary[115]

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

	Unloaded	Loaded	Total 2004	Change 2003- 2004 (in p.c.)	Share 2004 (in p.c.)
Containers	51	29	79	+9.2	1.1
Roll-on-roll-off	2,173	3,755	5,928	+5.7	78.6
Conventional general cargo	10	0	10	-52.4	0.1
Liquid bulk	49	0	49	+25.6	0.6
Solid bulk	1,478	0	1,478	-0.1	19.6
TOTAL	**3,761**	**3,784**	**7,545**	**+4.5**	**100.0**

Source: AG Haven Oostende.

Maritime traffic at Ostend consists mainly of ro-ro freight and solid bulk. Following the decline in the 1990s and the recovery since 2000, 2004 brought a renewed expansion in port activity, with maritime traffic 4.5 p.c. up against the previous year (table 32). The volume exceeded 7.5 million tonnes, a record for Ostend.

Ro-ro traffic produced strong growth in 2004 (+5.7 p.c.), attributable to the increase in the number of departures for various UK destinations. Following the very substantial decline in 2003, the figures for passenger transport[116] were 9.7 p.c. higher in 2004, at over 163,000. This is connected with the reopening of the Ostend - Ramsgate service managed by Transeuropa Ferries. The decline recorded in the case of solid bulk corresponds to a small reduction in the transport of sand. Although still marginal at Ostend, containerised freight continues to expand. In 2004, 15,418 TEU was loaded or unloaded, or 16.2 p.c. more than in 2003. In tonnage, that corresponds to a rise of 9.2 p.c., though that is well below the 75.6 p.c. recorded a year earlier.

No less than 99 p.c. of the cargo entering Ostend in 2004 came from Europe (mainly Great Britain), 17 p.c. being marine cargo (sand and gravel). In the same year, 4,883 vessels entered Ostend, which was higher than the 1993 figure.

[115] Sources: AG Haven Oostende and Vlaamse Havencommissie (2005). See also table 74 (annex 8) for more details on maritime traffic per category of goods at the port of Ostend in 2004.

[116] This activity is not included in table 32.

2.5 PORT OF ZEEBRUGGE

2.5.1 Highlights in 2004[117]

2.5.1.1 Context

The growth in containerised transport and conventional general cargo produced a 4 p.c. increase in maritime traffic at Zeebrugge in 2004. The number of new cars transhipped has been rising constantly since 1997, making Zeebrugge the world leader in this activity. It is also Europe's leading port for short sea ro-ro, a type of goods handled mainly by Sea-Ro Terminal. But this growth also implies new challenges in terms of capacity and accessibility. The port of Zeebrugge allowed APM Terminals, of the Danish Møller-Mærsk group, to build terminals which should ultimately be capable of handling another 1.2 to 2 million TEU per annum. Improved access to the port is also necessary for its expansion. Zeebrugge is in a difficult situation in regard to inland navigation, hence the establishment of the *PortConnect* facility, to encourage the multi-modal transport of containers from and to the hinterland. There is continuing severe pressure on all the transport infrastructures, which suffer from congestion. This applies to the road network to which the port has direct access. Given the problems encountered in the vicinity of Antwerp and Brussels, it seems wise to consider greater use of inland waterways, particularly for the transportation of cars. Inland navigation is noted for its reliability over medium distances, but it also implies the reorganisation of all the logistic chains. The Flemish government is supporting various projects at the port of Zeebrugge, including the improvements to the Albert II dock, expansion of the marshalling yard and completion of the Toyota quay in the inner port.

2.5.1.2 Industrial activity

On 1 February the Ghent cargo handler, Stukwerkers, launched its activities at the port of Zeebrugge, taking on the handling of Toyota's intra-European services, involving four to five calls a week and a total of 140,000 cars a year. On 3 February, CTS[118] acting jointly with Inter Ferry Boats launched a rail shuttle service between Cologne and Antwerp, Zeebrugge and the UK, named the "Cologne Rail Shuttle". A train capable of carrying 60 TEU leaves Cologne three times a week and serves all these destinations via the Muizen hub terminal. In mid-February, the floating dry dock "Dok 7" was moored alongside the Bastenakenkaai in the inner port. This dock, 122 metres long and 22 metres wide, can take vessels up to 106 metres long and weighing up to 7,000 tonnes for dry docking. At the end of March, new facilities operated by European Transport Systems (ETS) and its sister company Cheron entered service in the Zeebrugge transport zone.

At the beginning of March 2004, APX (Amsterdam Power Exchange), Endex (European energy Derivatives Exchange) and the Zeebrugge gas hub operator, Huberator, signed a declaration of intent to conduct a feasibility study on a natural gas exchange at the Zeebrugge Hub. Since the outcome of this study was positive, APX Gas Zeebrugge, a joint venture between APX and Huberator, was set up at the beginning of 2005. It consists of a system for trading and selling natural gas on-line, via an electronic platform. At the end of June, CREG[119] approved the main conditions which suppliers must satisfy in order to have access to the Fluxys LNG terminal at Zeebrugge. Fluxys was also granted permission to build a fourth gasometer. In July, various agreements were signed for the handling of gas at this terminal from 2007, notably between Fluxys LNG / Distrigas and Tractebel Global LNG (Suez).

[117] Sources include Maatschappij van de Brugse Zeevaartinrichtingen (MBZ), Vlaamse Havencommissie (2005) and Lloyd Special Report "Zeebrugge".

[118] Container-Terminal GmbH Rhein-See-Land Service.

[119] Belgian Federal Commission for the Regulation of the Electricity and Gas Markets.

The role of Belgium as a central pivot in western Europe's ***gas supply***, thanks to Zeebrugge and the transit network through Belgium, is confirmed year by year. The long-term reserve transit capacity is around 48 billion m³ per year – or almost three times the amount consumed by Belgium – and is set to increase. In 2004, the breakdown of Belgium's sources of gas was as follows: 15 p.c. of gas from Algeria, 40 p.c. from Norway, 38 p.c. from the Netherlands and 7 p.c. bought on the Zeebrugge spot market.

With most of its output intended for export, probably increasing from 75 billion m³ in 2004 to 120 billion m³ in 2010, and development of its export capacity (expansion of the capacity of the *Zeepipe* to Zeebrugge is under consideration), Norway is strengthening its position as the supplier of north-western Europe. The contract between Distrigaz and the Algerian company, Sonatrach, expires at the end of 2006.

Following the agreements signed by Fluxys LNG [120] with Qatar Petroleum/Exxon Mobil, Distrigaz and Tractebel Global LNG, Qatar will be one of the producer countries serving the LNG terminal at Zeebrugge from 2007; that will improve the diversification and hence the security of the country's gas supply. It was also decided to double the transit capacity of the LNG terminal to around 7 million tonnes per year, i.e. 9 billion cubic metres, following an investment of 165 million euro[121].

At the end of September, the new tug boat "Union Coral" entered service at the port of Zeebrugge, the first to be delivered following the order for two boats, each with a 65-tonne towing power, placed by URS[122] at the Spanish shipyard Astilleros Armon. At the same time, the refloating of the Norwegian carrier Tricolor, which had sunk in the Dover Straits in 2003, was completed. At the end of October, Hanson Aggregates Belgium brought into service a totally new concrete plant and a sand and gravel unit at the Prins-Filipdok. In the same period, Combined Terminal Operators, a subsidiary of the cargo handler PSA/Hesse-Noord Natie, started building an entirely new car terminal at Bastenakenkaai, in the inner port. On 1 November 2004, PSA/Hesse-Noord Natie took total control of the OCHZ[123] terminal in the outer port. On the same day, the StoraEnso terminal, operated by Sea-Ro Terminal at the Wielingendok in the outer port, was linked for the first time to Cologne by the rail shuttle developed by the Belgian operator DLC. StoraEnso generates daily traffic requiring four or five freight trains carrying 1,000 to 1,500 tonnes each, to various European destinations. At the end of December, a concession contract was signed with APM Terminals for the development and operation of a multi-purpose terminal on the site of the FCT container terminal, so far the subject of talks between MBZ, Katoen Natie and Cobelfret. In 2004, DEME Environmental Contractors (DEC) built a centre for the storage and treatment of silt and alluvium resulting from dredging activities in the outer port of Zeebrugge.

2.5.1.3 Infrastructure

Capacity and accessibility, those are the main issues for the port of Zeebrugge. The Noordelijk Insteekdok, in the inner port, has been upgraded, notably by construction of a sheet-pile wall right across the dock (225 metres). Construction of the quay wall, 657 metres long at the Wielingendok and 440 metres at the Albert II dock, was completed in the outer port, mainly for the benefit of the StoraEnso terminal. At the Council of Ministers meeting on 6 February, the Flemish government agreed to release the 282 ha of land at the inner port of Zeebrugge, previously reserved as a bird sanctuary[124]. This area can once again be used for economic and port activities, since other conservation areas are being created instead. At the beginning of April, renovation work began on the banks of the Verbindingsdok (inner port), between the P. Vandamme lock and the Baudouin canal. In July, Electrawinds began construction of seven new wind turbines along Kleine Pathoekweg in the Bruges inner port. These wind

[120] Liquid Natural Gas. Fluxys LNG is a subsidiary of Fluxys.

[121] More information on http://www.unece.org/ie.

[122] *Union de Remorquage et de Sauvetage*. In Dutch: *Unie van Redding- en Sleepdienst.*

[123] Ocean Containerterminal Hesse-Noord Natie Zeebrugge. OCHZ was set up in 1997 via a partnership between Hessenatie and Inter Ferry Boats, a subsidiary of BNRC dealing with maritime freight.

[124] Cf. the European Council directives 79/409/EEC, on the conservation of wild birds, and 92/43/CEE, on the conservation of natural habitats and wild flora and fauna.

turbines are 120 metres high, with rotors 70 metres in diameter. Between September and November, the Noordzee & Kust consortium, supported by the Flemish Region, carried out excavation works at the far end of the Albert II dock, in the western outer port. On 1 December 2004, the Flemish Region also announced that it would continue to invest in improvements to this dock, and in the enlargement of the marshalling yard and completion of the Toyota quay in the inner port. The port authority MBZ carried out various work in 2004. This concerned the maintenance of certain facilities in its area and the P. Vandamme lock, and renovation of the road network and quay asphalting. It also had to implement the latest ISPS regulations in the management of the port. Ecorem put probes into the ground with a view to stabilisation. Finally, in the same year Sea-Ro Terminal began the construction of warehouses at the StoraEnso terminal and asphalting of the ro-ro terminal at the Brittaniadok.

2.5.2 Value added

TABLE 33 **VALUE ADDED AT THE PORT OF ZEEBRUGGE FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**663.0**	**729.9**	**743.5**	**714.6**	**686.9**	**721.1**	**100.0**	**+5.0**	**+1.7**
MARITIME CLUSTER	***245.3***	***277.6***	***277.7***	***271.9***	***278.6***	***284.7***	***39.5***	***+2.2***	***+3.0***
Shipping agents and forwarders	26.4	30.0	27.2	28.5	35.7	39.2	5.4	+9.9	+8.3
Cargo handling	61.1	80.9	86.6	87.4	90.8	87.9	12.2	-3.1	+7.6
Shipping companies	13.0	2.5	4.3	9.0	18.4	12.4	1.7	-32.4	-0.8
Shipbuilding and repair	6.8	9.1	9.6	8.4	7.6	7.7	1.1	+1.3	+2.6
Port construction and dredging	19.4	33.2	26.2	24.4	17.0	22.6	3.1	+33.0	+3.2
Fishing	26.0	30.3	34.8	32.1	27.4	22.6	3.1	-17.4	-2.7
Port trade	0.2	0.4	0.1	0.2	0.8	0.6	0.1	-29.1	+25.1
Port authority	16.1	18.3	18.5	20.8	14.7	21.3	3.0	+44.5	+5.7
Public sector	76.4	73.1	70.2	61.1	66.2	70.2	9.7	+6.1	-1.7
Allocation (p.m.)	*14.5*	*17.2*	*20.2*	*18.2*	*17.7*	*15.7*	-	*-11.1*	*+1.6*
NON MARITIME CLUSTER	***417.6***	***452.2***	***465.8***	***442.7***	***408.3***	***436.4***	***60.5***	***+6.9***	***+0.9***
TRADE	85.3	75.9	81.2	65.3	62.0	64.7	9.0	+4.3	-5.4
INDUSTRY	232.4	277.4	278.3	261.4	226.5	246.5	34.2	+8.8	+1.2
Energy	65.1	80.5	78.1	79.0	24.7	32.1	4.5	+29.9	-13.2
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	26.9	28.5	29.0	29.4	26.5	27.1	3.8	+2.3	+0.1
Car manufacturing	0.3	0.1	7.9	0.1	0.0	0.1	0.0	n.	-12.6
Electronics	56.5	72.0	65.5	66.9	80.6	87.1	12.1	+8.1	+9.1
Metalworking industry	14.9	14.7	16.6	16.6	16.8	14.7	2.0	-12.3	-0.2
Construction	42.9	55.7	57.1	44.8	41.7	42.9	6.0	+2.8	+0.0
Food industry	14.3	13.0	11.5	10.3	22.9	27.6	3.8	+20.7	+14.1
Other industries	11.5	13.0	12.6	14.4	13.2	14.7	2.0	+11.1	+5.0
LAND TRANSPORT	54.9	53.7	56.1	62.9	65.1	68.4	9.5	+5.0	+4.5
Road transport	42.7	40.3	42.2	46.2	48.3	47.3	6.6	-2.0	+2.1
Other land transport	12.2	13.4	13.9	16.7	16.8	21.0	2.9	+25.2	+11.4
OTHER LOGISTIC SERVICES	45.1	45.2	50.2	53.1	54.6	56.8	7.9	+4.0	+4.7
Other services	29.3	31.3	32.7	35.6	37.2	39.9	5.5	+7.3	+6.4
Public sector	15.7	13.9	17.5	17.5	17.4	16.9	2.3	-3.1	+1.4
2. INDIRECT EFFECTS	***583.7***	**551.2**	***608.5***	***659.3***	***575.8***	***570.6***	**-**	***-0.9***	***-0.5***
MARITIME CLUSTER	*294.9*	219.7	*245.3*	*339.7*	*255.9*	*237.6*	-	*-7.2*	*-4.2*
NON MARITIME CLUSTER	*288.9*	331.5	*363.2*	*319.6*	*319.9*	*333.1*	-	*+4.1*	*+2.9*
TOTAL VALUE ADDED	***1,246.7***	**1,281.1**	***1,351.9***	***1,373.9***	***1,262.7***	***1,291.7***	**-**	***+2.3***	***+0.7***

Source: NBB.

2.5.2.1 General developments

Direct VA at current prices increased by an average of 1.7 p.c. per annum from 1999 to 2004, and by 5 p.c. between 2003 and 2004 (table 33). At 2000 prices[125], it declined by an average of 0.2 p.c. per annum, but increased by 2.6 p.c. last year.

Indirect VA presents a similar picture though the overall outcome was tempered by the decline in the activity of the shipping companies, a sector heavily dependent on subcontracting. At just under 1.3 billion euro in 2004, total VA, being the sum of direct and indirect VA, was equivalent to 0.8 p.c. of the Region's GDP[126].

2.5.2.2 Direct VA in 2004

Maritime cluster

- The VA of the Navy (public sector) was up by 6.1 p.c., owing to the increased staff costs.
- In cargo handling, VA declined by 3.1 p.c. This was due to the takeover of Ocean Container terminal Hessenatie Zeebrugge (OCHZ) by the PSA-Hesse-Noord Natie group (HNN) in 2004. HNN signed an agreement with Inter Ferry Boats (IFB) whereby HNN acquired IFB's 50 p.c. stake in OCHZ. This event was partly offset by some developments within the HNN group: Sea-Ro Terminal's profits and the expansion of the workforce of Accessory Plant Zeebrugge and Combined Terminal Operators (cf. infra).
- Shipping agents and forwarders recorded a 9.9 p.c. increase in their contribution to the GDP, as the strong performance by ECS European Containers and profitability of IFB compensated for the latter's loss of assets following the liquidation of OCHZ.
- In fishing, the figures are down (-17.4 p.c.), due to the absorption of Brugse Visrokerij Alloo by the Brugse Visrokerij F. Alloo group, classified in NACE branch 74.142 (other services, cf. infra). The VA of Rederij Noordpas and Zeebrugse Visveiling also declined.
- Port construction and dredging performed well (+33 p.c.), thanks to good results at Depret and the increase in the provisions for liabilities and charges at Baggerwerken Decloedt en Zoon.
- The VA of the port authority, MBZ, reverted to a level comparable to that of 2002, thanks to a profit on the increase. The main reason for the decline in 2003 had been the reduction in the provisions for liabilities and charges, which had depressed VA.
- The shipping companies' VA was 32.4 p.c. down, the main reason being a marked fall at Cobelfret Ferries, the profit of which is going down.
- In shipbuilding and repair, VA grew by 1.3 p.c. thanks to Verheye Joel, despite a decline at Longueville Zeebrugge.
- Port trade recorded a decline.

Non maritime cluster

o Trade
- Trade saw a 4.3 p.c. rise in VA in 2004. Higher profits at Auto Terminus and Bridgestone Logistics Europe were among the reasons.

o Industry
- Electronics recorded an increase in VA (+8.1 p.c.), with higher operating profits at Jabil Circuit Belgium and – to a lesser extent - Philips Innovative Applications.
- In construction, VA was up by 2.8 p.c., partly thanks to Seapane, which reduced its losses, and Entreprises Jan De Nul which is back in profit.
- The surge in VA in the energy sector (+29.9 p.c.) is attributable to Electrabel (cf. point 2.2.2.2) and Fluxys, which recorded higher operating profits and provisions for liabilities and charges.

[125] See explanations at point 2.1.1.

[126] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

- In chemicals, VA was 2.3 p.c. higher as a result of increased profits at Corn. Van Loocke and Arplam, despite the shutting down of Punch Platics.
- The food industry did well (+20.7 p.c.), owing to the increases recorded at PBI Fruit Juice Company[127] -expansion of the workforce and higher profits- and Kathy Chocolaterie, which is back in profit.
- The sharp decline in metalworking (-12.3 p.c.) is due to several falls recorded by a number of firms in the sector.
- The VA of the other industries increased by 11.1 p.c. The strong performance by Denolf Recycling was one reason here.
- In the last report, Combined Terminal Operators was included in the car manufacturing sector, in accordance with its classification in the national accounts (branch 34). But this is a cargo handling company. From now on this company is included in the maritime sector. This change explains the absence of figures for car manufacturing.

o Land transport
- In road transport, VA was 2 p.c. down owing to falls at D. D. Trans (lower profits) and Tracto (Brugge) (higher losses), attenuated by Norbert Dentressangle Silo Belgium which was back in profit.
- Conversely, in other land transport VA increased by 25.2 p.c. This was due mainly to BNRC (cf. point 2.2.2.2).

o Other logistic services
- The VA of public administration declined by 3.1 p.c., following contraction of its workforce (cf. infra).
- In contrast, the other services posted a 7.3 p.c. increase. This was due to various factors, including the development of *PortConnect*, and the Brugse Visrokerij F. Alloo (cf. supra), partly offset by the decline at IVBO[128].

2.5.2.3 VA top 10 at the port of Zeebrugge in 2004

TABLE 34 **VALUE ADDED TOP 10 AT THE PORT OF ZEEBRUGGE IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	DEFENCE ACTIVITIES (NAVY)	Public sector	70.2
2	PHILIPS INNOVATIVE APPLICATIONS	Electronics	58.6
3	SEA-RO TERMINAL	Cargo handling	43.5
4	JABIL CIRCUIT BELGIUM	Electronics	25.0
5	COMBINED TERMINAL OPERATORS	Cargo handling	22.9
6	MAATSCHAPPIJ VAN DE BRUGSE ZEEVAARTINRICHTINGEN	Port authority	21.3
7	FLUXYS	Energy	21.0
8	PEMCO BRUGGE	Chemicals	18.5
9	GLAVERBEL	Construction	17.7
10	PUBLIC ADMINISTRATION	Public sector	16.9
	Total of top 10		**315.6**

Source: NBB.

The first three names in this top 10 are the same as before. Jabil Circuit Belgium has moved up four places, Combined Terminal Operators, the port authority MBZ and Glaverbel have entered the ranking, while Electrabel, Fjord Seafood Pieters and DD Trans are out of the top 10 (table 34). At 316 million euro, these ten operators represented 44 p.c. of wealth creation at the port of Zeebrugge in 2004.

[127] This Zeebrugge subsidiary of Tropicana was added to the population for the years 2002 to 2004.

[128] Intergemeentelijk Samenwerkingsverband voor Vuilverwijdering en -verwerking in Brugge en Ommeland.

2.5.3 Employment

TABLE 35 **EMPLOYMENT IN THE PORT OF ZEEBRUGGE FROM 1999 TO 2004**
(FTEs)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**10,374**	**10,760**	**10,924**	**10,420**	**10,148**	**9,968**	**100.0**	**-1.8**	**-0.8**
MARITIME CLUSTER	***4,622***	***4,980***	***4,805***	***4,378***	***4,294***	***4,227***	***42.4***	***-1.5***	***-1.8***
Shipping agents and forwarders	343	303	320	347	400	410	4.1	+2.4	+3.6
Cargo handling	1,246	1,399	1,355	1,363	1,340	1,326	13.3	-1.0	+1.3
Shipping companies	109	115	83	91	94	94	0.9	+0.5	-2.9
Shipbuilding and repair	173	194	193	167	150	146	1.5	-2.5	-3.4
Port construction and dredging	228	317	291	287	246	243	2.4	-1.0	+1.3
Fishing	398	497	488	484	412	363	3.6	-11.8	-1.8
Port trade	2	9	6	5	16	9	0.1	-44.9	+31.5
Port authority	167	163	162	156	152	150	1.5	-1.4	-2.1
Public sector	1,956	1,982	1,907	1,480	1,484	1,486	14.9	+0.1	-5.3
Allocation (p.m.)	*262*	*315*	*283*	*290*	*292*	*256*	-	*-12.2*	*-0.4*
NON MARITIME CLUSTER	***5,751***	***5,780***	***6,119***	***6,042***	***5,854***	***5,740***	***57.6***	***-1.9***	***+0.0***
TRADE	1,176	981	1,036	1,096	965	928	9.3	-3.8	-4.6
INDUSTRY	2,832	2,997	3,241	2,967	2,881	2,727	27.4	-5.3	-0.8
Energy	348	378	355	384	131	127	1.3	-2.4	-18.2
Oil industry	0	0	0	0	0	0	0.0	n.	n.
Chemicals	347	321	357	346	320	283	2.8	-11.4	-4.0
Car manufacturing	7	3	176	1	0	2	0.0	n.	-24.9
Electronics	729	786	802	789	942	906	9.1	-3.8	+4.4
Metalworking industry	251	259	286	271	281	262	2.6	-6.8	+0.8
Construction	561	700	736	600	604	542	5.4	-10.1	-0.7
Food industry	298	271	267	275	313	335	3.4	+7.2	+2.4
Other industries	292	280	263	300	292	270	2.7	-7.7	-1.5
LAND TRANSPORT	947	924	983	1,066	1,093	1,142	11.5	+4.5	+3.8
Road transport	707	670	719	758	770	766	7.7	-0.5	+1.6
Other land transport	241	254	264	309	323	376	3.8	+16.4	+9.3
OTHER LOGISTIC SERVICES	797	878	858	913	915	943	9.5	+3.1	+3.4
Other services	394	530	520	577	601	642	6.4	+6.9	+10.3
Public sector	403	348	338	336	314	301	3.0	-4.1	-5.7
2. INDIRECT EFFECTS	***9,105***	**10,298**	***10,683***	***10,082***	***9,432***	***9,227***	***-***	***-2.2***	***+0.3***
MARITIME CLUSTER	*3,929*	4,742	*4,476*	*4,314*	*3,919*	*3,680*	-	*-6.1*	*-1.3*
NON MARITIME CLUSTER	*5,176*	5,555	*6,207*	*5,768*	*5,512*	*5,547*	-	*+0.6*	*+1.4*
TOTAL EMPLOYMENT	***19,478***	**21,058**	***21,607***	***20,502***	***19,580***	***19,194***	***-***	***-2.0***	***-0.3***

Source: NBB.

2.5.3.1 General developments

Direct employment declined by an average of 0.8 p.c. per annum from 1999 to 2004, and 1.8 p.c. between 2003 and 2004 (table 35).

Indirect employment also contracted in 2004, while a modest expansion was recorded, on average, over the period. Total employment, being the sum of direct and indirect employment, stood at just over 19,000 FTEs, or 0.9 p.c. of employment in the Region[129].

2.5.3.2 Direct employment in 2004

Maritime cluster

- The Navy (public sector), the leading employer at the port of Zeebrugge, maintained its workforce at 1,486 FTEs.
- In cargo handling, there was a 1 p.c. decline in the workforce, owing to the liquidation of Ocean Container terminal Hessenatie Zeebrugge and job losses at Sea Park. The increase in the staff of Combined Terminal Operators and Accessory Plant Zeebrugge compensates for these cuts.
- Shipping agents and forwarders recruited in 2004 (+2.4 p.c.), particularly at Zeebrugge Shipping and Bunkering Company. The absorption of Mc Cann by the holding company of the same name, classified in the other services, tempered this rise.
- There were job losses in the fishing sector (-11.8 p.c.). Brugse Visrokerij Alloo was taken over, and this was additional to the reductions recorded by a large number of SMEs in the sector.
- In firms involved in port construction and dredging, there was a slight drop in employment (-1 p.c.), the decrease recorded by Baggerwerken Decloedt en Zoon being offset by recruitment at Diving Engineering and Consultancy Office.
- The port authority maintained a staff of 150 FTEs.
- In shipbuilding and repair, employment was 2.5 p.c. down, owing to cuts at Scheepswerken De Graeve and Longueville Zeebrugge, mitigated by new jobs created at Verheye Joel.
- Shipping companies maintained their workforce at the previous year's level.
- Port trade recorded a moderate decline.

Non maritime cluster

- Trade
  - The decline recorded in trade (-3.8 p.c.) is due partly to the reduction at Fjord Seafood Pieters.

- Industry
  - In electronics, the workforce contracted (-3.8 p.c.), particularly at Philips Innovative Applications.
  - A decline (-10.1 p.c.) was recorded in construction, e.g. at Glaverbel and in a number of SMEs.
  - The expansion of the workforce in the food industry (+7.2 p.c.) was due to recruitment at PBI Fruit Juice Company and Kathy Chocolaterie.
  - In chemicals, the fall (-11.4 p.c.) was attributable partly to Arplam and the shutting down of Punch Plastics.
  - The job cuts at Uco Yarns and Walleyn Graphics account for the negative trend in the other industries sector (-7.7 p.c.).
  - A decline was also recorded in metalworking (-6.8 p.c.), e.g. at Werkhuizen Lavy.
  - At Fluxys there was no change, while at Electrabel jobs were cut, causing employment in energy to fall by 2.4 p.c.

- Land transport
  - In road transport, employment was relatively stable.

[129] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

- The impact of the recruitment at BNRC was felt in the other land transport sector (+16.4 p.c.).

o Other logistic services
  - Public administration saw a decline in employment (-4.1 p.c.).
  - In the other services, employment expanded by 6.9 p.c. One factor was probably the impact of the absorption of the financial division of Fjord Seafood Pieters by Fjord Seafood Services. The recording of Brugse Visrokerij F. Alloo within the other services also caused employment to rise in this sector.

2.5.3.3 Employment top 10 in the port of Zeebrugge in 2004

TABLE 36 **EMPLOYMENT TOP 10 IN THE PORT OF ZEEBRUGGE IN 2004**
(FTEs)

Ranking	Name of company	Sector	Employment
1	DEFENCE ACTIVITIES (NAVY)	Public sector	1,486
2	PHILIPS INNOVATIVE APPLICATIONS	Electronics	578
3	SEA-RO TERMINAL	Cargo handling	461
4	PUBLIC ADMINISTRATION	Public sector	301
5	BNRC	Other land transport	287
6	COMBINED TERMINAL OPERATORS	Cargo handling	274
7	JABIL CIRCUIT BELGIUM	Electronics	267
8	FJORD SEAFOOD PIETERS	Trade	212
9	D.D. TRANS	Road transport	208
10	I.V.B.O.	Other services	178
	Total of top 10		**4,251**

Source: NBB.

The changes in this top 10 correspond to those recorded for VA (cf. supra). The first three names are the same as in 2003, public administration and BNRC have risen in the ranking, unlike Fjord Seafood Pieters which dropped four places. Combined Terminal Operators and IVBO have entered the list, replacing Electrabel and Glaverbel (table 36). The workforce of these ten enterprises corresponds to 42.6 p.c. of direct employment at the port of Zeebrugge.

2.5.4 *Investment*

TABLE 37 **INVESTMENT AT THE PORT OF ZEEBRUGGE FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
MARITIME CLUSTER	***117.5***	***95.1***	***58.0***	***52.7***	***58.3***	***48.0***	***33.2***	***-17.6***	***-16.4***
Shipping agents and forwarders	13.1	5.4	10.5	6.5	7.5	14.7	10.2	+95.1	+2.4
Cargo handling	33.4	18.6	17.7	13.6	13.1	10.9	7.6	-16.9	-20.1
Shipping companies	1.6	3.3	2.1	8.5	4.5	3.8	2.6	-16.5	+18.6
Shipbuilding and repair	0.8	1.7	0.5	0.4	0.4	0.4	0.3	-6.8	-14.9
Port construction and dredging	11.0	8.8	1.7	1.4	1.6	2.6	1.8	+67.2	-25.1
Fishing	22.1	21.1	10.1	9.3	5.2	3.8	2.6	-26.4	-29.6
Port trade	0.0	0.0	0.1	0.0	0.1	0.1	0.1	-7.4	+196.0
Port authority	34.7	32.0	14.4	13.1	25.9	11.7	8.1	-54.7	-19.5
Public sector	0.7	4.2	0.8	0.0	0.0	0.0	0.0	n.	-100.0
Allocation (p.m.)	*17.9*	*18.9*	*9.2*	*8.4*	*6.4*	*3.9*	-	*-38.4*	*-26.1*
NON MARITIME CLUSTER	***98.5***	***94.2***	***82.8***	***104.0***	***87.7***	***96.6***	***66.8***	***+10.1***	***-0.4***
TRADE	13.7	10.2	13.7	10.9	12.1	7.3	5.1	-39.4	-11.8
INDUSTRY	34.0	37.0	38.5	64.6	48.6	36.8	25.5	-24.2	+1.6
Energy	7.2	7.4	7.7	4.5	3.3	3.2	2.2	-0.8	-14.8
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	3.0	3.5	3.3	2.7	2.2	2.8	1.9	+26.8	-1.4
Car manufacturing	0.0	0.0	0.2	0.0	0.0	0.0	0.0	n.	-100.0
Electronics	8.7	9.1	13.7	7.6	15.0	10.3	7.1	-31.0	+3.5
Metalworking industry	1.8	1.4	2.8	1.9	1.7	3.2	2.2	+81.7	+12.3
Construction	5.0	10.7	7.7	5.1	6.8	6.2	4.3	-9.1	+4.3
Food industry	2.7	1.5	1.2	37.6	16.3	8.3	5.7	-49.1	+25.1
Other industries	5.6	3.5	1.8	5.2	3.4	2.9	2.0	-15.5	-12.7
LAND TRANSPORT	16.0	14.9	9.5	17.7	15.6	14.4	9.9	-7.8	-2.1
Road transport	11.4	9.4	7.5	13.1	13.9	12.2	8.5	-12.0	+1.5
Other land transport	4.7	5.5	2.0	4.5	1.7	2.1	1.5	+27.9	-14.5
OTHER LOGISTIC SERVICES	34.7	32.1	21.1	10.9	11.4	38.1	26.3	+233.3	+1.8
Other services	10.6	11.1	9.7	6.4	6.1	24.1	16.6	+294.1	+17.9
Public sector	24.2	21.0	11.4	4.4	5.3	14.0	9.7	+163.5	-10.4
DIRECT INVESTMENT	**216.0**	**189.3**	**140.8**	**156.7**	**146.1**	**144.6**	**100.0**	**-1.0**	**-7.7**

Source: NBB.

2.5.4.1 General developments

Investment at current prices declined by an average of 7.7 p.c. per annum over the period, and 1 p.c. between 2003 and 2004 (table 37). At 2000 prices[130], these reductions averaged 8.5 p.c. per annum over the period and 1.7 p.c. last year.

2.5.4.2 Direct investment in 2004

Maritime cluster

- Shipping agents and forwarders virtually doubled their investment in 2004. This growth was mostly due to ECS European Containers and Middlegate Europe.
- The opposite occurred at the port authority. There had been substantial investments in 2003. Investments in 2004 concentrated on maintenance and renovation works, as well as the implementation of the ISPS regulation.
- Cargo handling recorded a 16.9 p.c. decline owing to the large cuts at Combined Terminal Operators, partly offset by an increase at Sea-Ro Terminal.
- A fall of 26.4 p.c. was recorded in fishing. Vaya Con Dios and European Fish Centre invested less than in 2003.
- Investment was 16.5 p.c. down in shipping companies, such as Cobelfret Ferries and Compagnie d'O (bankrupt).
- It continued to increase (+67.2 p.c.) in port construction and dredging, examples being Depret and Baggerwerken Decloedt en Zoon, as a result of the work to the entrance to the Albert II dock and the LNG dock.

Non maritime cluster

o Trade
- In trade, investment was down by 39.4 p.c. following substantial reductions at Fjord Seafood Pieters and Auto Terminus Brugge, after a year of strong increases.

o Industry
- Following the year 2003, notable for the absorption of Philips Industrial Activities by Philips Innovative Applications, investment in electronics dropped by 31 p.c., the reduction also being due to Jabil Circuit Belgium.
- The food industry also recorded lower investment (-49.1 p.c.), attributable to PBI Fruit Juice Company, after two years of expansion, and despite an increase at Kathy Chocolaterie.
- A 9.1 p.c. decline occurred in construction, e.g. at Seapane and Traen Gebroeders.
- A slight fall was recorded in energy, owing to the combined effects of a decline at Fluxys and increase at Electrabel.
- A steep increase was recorded in metalworking (+81.7 p.c.), attributable partly to the considerable amounts invested in R&D by Pattyn Packing Lines in 2004.
- There was a 15.5 p.c. reduction in investment in the other industries, e.g. at Uco Yarns and Denolf Recycling.
- In contrast, the chemical sector recorded an increase, e.g. at Corn. Van Loocke.

o Land transport
- There was a 12 p.c. fall in investment in road transport, with a notable reduction at DD Trans.
- However, there was a strong rise (+27.9 p.c.) in other land transport, e.g. at BNRC and Auto Luc.

o Other logistic services
- In the other services, investment increased almost four-fold, as a result of the renovation of the combustion installation at IVBO, among other things.
- It more than doubled in the public sector, owing to the works at Wielingendok, Albert II-dok and Zuidelijk dok.

[130] See explanations at point 2.1.3.

2.5.4.3 Investment top 10 at the port of Zeebrugge in 2004

TABLE 38 **INVESTMENT TOP 10 AT THE PORT OF ZEEBRUGGE IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Investment
1	I.V.B.O.	Other services	20.7
2	PUBLIC ADMINISTRATION	Public sector	14.0
3	MAATSCHAPPIJ VAN DE BRUGSE ZEEVAARTINRICHTINGEN	Port authority	11.7
4	PHILIPS INNOVATIVE APPLICATIONS	Electronics	9.8
5	E.C.S. EUROPEAN CONTAINERS	Shipping agents and forwarders	9.7
6	PBI FRUIT JUICES COMPANY	Food industry	6.3
7	EUROLINES	Road transport	5.1
8	SEA-RO TERMINAL	Cargo handling	3.5
9	COMBINED TERMINAL OPERATORS	Cargo handling	3.2
10	COBELFRET FERRIES	Shipping companies	2.6
	Total of top 10		**86.7**

Source: NBB.

IVBO joined the top 10 investors at the port of Zeebrugge in 2004, taking first place (table 38). PBI Fruit Juices Company, Eurolines and Sea-Ro Terminal appeared in the top 10. At 86.7 million euro, this represents 60 p.c. of investment at the port in 2004.

2.5.5 Financial ratios

TABLE 39 FINANCIAL RATIOS AT THE PORT OF ZEEBRUGGE FROM 2002 TO 2004

Sectors	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
MARITIME CLUSTER	***7.3***	***8.2***	***9.3***	***1.40***	***1.39***	***1.61***	***53.1***	***55.4***	***58.6***
Shipping agents and forwarders	18.2	23.3	23.8	1.05	1.03	1.00	21.6	21.2	22.2
Cargo handling	32.8	10.9	17.6	1.08	1.25	1.77	36.8	43.2	57.1
Shipping companies	2.9	12.3	4.7	5.02	4.66	4.95	81.5	80.5	80.2
Shipbuilding and repair	8.0	6.1	15.8	1.67	1.73	1.50	41.7	41.1	34.6
Port construction and dredging	11.2	14.5	21.5	1.64	1.20	1.66	29.1	24.3	31.3
Fishing	0.0	-2.0	-5.8	1.07	1.12	0.97	31.9	32.1	30.3
Port trade	-7.4	0.1	-71.6	5.49	3.23	3.18	63.5	55.5	32.5
Port authority	1.9	4.1	6.4	0.58	0.57	0.90	80.0	78.9	81.2
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON MARITIME CLUSTER	***5.8***	***6.2***	***5.2***	***1.64***	***1.16***	***1.14***	***47.3***	***38.6***	***35.6***
TRADE	8.0	12.5	16.9	1.00	0.87	0.92	29.3	25.7	27.2
INDUSTRY	8.7	4.1	5.8	1.33	1.04	1.12	43.2	39.2	39.2
Energy	11.9	12.2	7.2	1.65	1.42	1.56	51.1	56.2	55.1
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	9.3	-30.1	-7.5	0.99	0.66	0.71	43.6	24.5	27.3
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	-3.4	8.4	20.7	1.36	1.40	1.55	26.5	28.7	35.1
Metalworking industry	12.2	7.9	10.2	1.48	1.69	1.73	44.9	49.7	49.8
Construction	3.4	-3.2	5.6	1.17	0.87	0.90	30.5	27.2	27.1
Food industry	-26.9	-16.7	2.7	1.05	1.01	1.18	21.5	19.1	25.9
Other industries	-6.5	1.5	5.4	0.96	1.29	1.28	37.8	42.7	41.8
LAND TRANSPORT	-3.7	1.6	-0.1	1.00	0.98	0.85	36.0	34.1	24.3
Road transport	14.5	10.6	9.5	1.22	1.28	1.63	50.2	51.7	52.7
Other land transport	-21.9	-8.2	-16.4	0.83	0.78	0.58	28.0	25.0	12.7
OTHER LOGISTIC SERVICES	3.1	9.4	0.8	3.21	1.80	1.51	68.1	49.6	39.6
Other services	3.1	9.4	0.8	3.21	1.80	1.51	68.1	49.6	39.6
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
Weighted average	**6.3**	**7.1**	**7.2**	**1.57**	**1.23**	**1.27**	**49.1**	**44.7**	**43.8**

Source: NBB.

- The small rise in profitability at the port of Zeebrugge (+0.04 point, table 39) can be credited to cargo handling companies such as Sea-Ro Terminal, the port authority and electronics. These increases cushioned the reductions recorded in fishing, energy, land transport and other logistic services.
- The situation is much the same in the case of liquidity (+0.04): increases in cargo handling, e.g. at Zeebrugse Behandelingsmaatschappij, the port authority, electronics and energy, but significant reductions in fishing and other logistic services.

- o A sharp decline in solvency was recorded in other logistic services, fishing, land transport - BNRC[131]- and energy -Fluxys- while this ratio increased significantly in cargo handling, port construction and dredging, the port authority and electronics. On average, solvency was 0.9 point down.

2.5.6 *Maritime goods traffic at the port of Zeebrugge in 2004: summary*[132]

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

	Unloaded	Loaded	Total 2004	Change 2003- 2004 (in p.c.)	Share 2004 (in p.c.)
Containers	5,937	8,075	14,012	+14.2	44.1
Roll-on-roll-off	4,518	6,580	11,098	-0.1	34.9
Conventional general cargo	644	159	802	+21.3	2.5
Liquid bulk	3,501	785	4,286	-12.0	13.5
Solid bulk	1,564	32	1,596	-3.9	5.0
TOTAL	**16,165**	**15,631**	**31,796**	**+4.0**	**100.0**

Source: Maatschappij van de Brugse Zeevaartinrichtingen.

Following the 2003 decline, maritime traffic at the port of Zeebrugge increased by 4 p.c. (table 40). In 2004, containerised freight confirmed its position at the top of this table, now representing 44.1 p.c. of the total, while ro-ro and liquid and solid bulk lost ground.

The number of TEUs handled increased by 18.2 p.c., or +14.2 p.c. in tonnage, in both short sea and long distance shipping. The decision by the French shipping company CMA CGM to include the port of Zeebrugge in its new South China Express schedule boosted intercontinental containerised traffic. The *PortConnect* facility set up in 2002 by the port management to encourage the multi-modal transport of containers from and to the hinterland also led to the establishment of access or feeder services to neighbouring ports and various ports on the Rhine. In 2004, 27.2 p.c. of supplementary containers were routed via *PortConnect*.

Ro-ro traffic declined slightly in the first half of 2004, one reason being the departure of part of the Ford service provided by Cobelfret Ferries to Flessingue and the launch by P&O North Sea Ferries of a freight service between Rotterdam and Purfleet. The reduction in sand and gravel deliveries explains the decline in solid bulk, and in the case of liquid bulk the decrease was due to the fall in liquid natural gas transport (LNG). The increase in conventional general cargo is due to the growth recorded in the transhipment of fruit and vegetables, and paper pulp. The port of Zeebrugge is still the leading port for passenger transport[133] in Belgium, with almost 650,000 passengers carried.

63 p.c. of the goods unloaded at the port came from Europe (mainly Britain) in 2004, and 14 p.c. from Africa, while Asia's share continued to grow, increasing to 9 p.c. The breakdown in the case of goods loaded was as follows: 75 p.c. bound for Europe, 14 p.c. for Asia, 4 and 2 p.c. for North America and Africa respectively. 7,847 vessels moored at Zeebrugge in 2004, and the average size of the vessels is still increasing.

[131] BNRC's financial debts rose (cf. point 2.2.5).

[132] Sources: Maatschappij van de Brugse Zeevaartinrichtingen and Vlaamse Havencommissie (2005). See also table 75 (annex 8) for more details on maritime traffic by category of goods at the port of Zeebrugge in 2004.

[133] This activity is not included in table 40.

3 ECONOMIC IMPORTANCE OF THE LIÈGE PORT COMPLEX

3.1 HIGHLIGHTS IN 2004[134]

3.1.1 Context

2004 was a record year for the Autonomous Port of Liège (PAL). With an overall total of 21 million tonnes, the public ports achieved their absolute best-ever performance, taking all modes of transport together. And river transport, with a total of over 15 million tonnes on its own, recorded its best performance since the PAL was set up.

The PAL holds a key position in plans for the future of Wallonia, which entail developing mobility and activities generating value added. Cockerill Sambre (Arcelor group), which is to close down its hot rolling phase in the Liège basin in the medium term, has hitherto been central to the activity of this industrial port. The essential redevelopment of the port involves numerous modernisation projects to make it into a major logistics centre for high value added activities. This includes transport and logistics, two sectors which have been constantly expanding in Wallonia since the mid 1990s.

The Walloon Region's priority action plan for the future of Wallonia[135] includes the easing of the taxation burden on businesses by creating "free zones" and the abolition of navigation fees on Walloon waterways[136]. The Liège basin should be one of the principal beneficiaries of this plan.

3.1.2 Industrial activity

Industry accounts for over 85 p.c. of employment and value added at the port of Liège, whereas it represents only around 30 p.c. of employment in the province as a whole. Industry is therefore highly concentrated in the port complex. Metalworking predominates, followed by construction, energy and chemicals. Arcelor currently employs over 5,000 full-time workers in the Liège basin, at Cockerill Sambre, Arcelor Produits Plats Wallonie and Cockerill Forges and Ringmill. Numerous subsidiaries and related industries are also located in this area, such as Cockerill Maintenance et Ingénierie (Euremis holding company), Cockerill Sambre Mécanique Prestations, Somef (Cockerill Sambre) and Segal (Corus group), bringing the total employment directly linked to the steel industry to almost 7,000 FTEs. As announced at the beginning of 2003, Arcelor's strategy is to concentrate essential investment in hot rolling lines at the most efficient sites, located on the coast. By 2009, Cockerill Sambre will have closed down its hot rolling activity in the Liège basin[137]. These closures are expected to result in 2,700 direct job losses. In theory, if no action were taken in the short term to redevelop the local economic set-up and to redeploy the people concerned, the total number affected could be around 7,200 FTEs (including indirect employment)[138]. Although the cold steel-making activities are to be perpetuated, the total loss of traffic is expected to be in the order of 8 million tonnes, according to an estimate produced by PAL officials. This major restructuring in fact modifies the nature of the trade between the port of Liège and its partners. Traditional raw materials are gradually being replaced by semi-finished products sent to Liège for finishing before being dispatched abroad, mainly to Germany and Eastern Europe. This structural change explains the need to develop high value added logistic activities (cf. infra).

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134 Sources: Autonomous Port of Liège and "Annuaire 2005 du Port Autonome de Liège", *Lloyd Special Report*.

135 Adopted by the Walloon government on 30 August 2005, this is often called the "Wallonia relaunch plan" or "Walloon Marshall Plan".

136 On the proposal of the Walloon government as part of its programme of priority measures, the Walloon parliament passed a decree, on 22 February 2006, abolishing navigation fees in the Walloon Region. This move represents an annual saving of almost five million euro for the sector. See also the MET website (http://met.wallonie.be).

137 That is already the case for the Seraing "HF6" blast furnace, shut down in April 2005 ; the closure of the Ougrée "HFB" and the Chertal steel works and hot rolling line is scheduled for 2009 at the latest.

138 Arcelor intends to terminate the "hot" phase and continue developing the "cold" line. The group has also appointed its subsidiary, Sodie (Société pour le Développement de l'Industrie et de l'Emploi), to assist in creating 2,700 jobs in the Liège region. Financial aid for SMEs is one of the tools favoured by Sodie, which opened an agency in Liège in 2004. The reasoning behind this theoretical estimate is developed in Lagneaux F. (2005), *Importance économique du Port Autonome de Liège: Rapport 2003*, NBB, Working Paper No. 75 (Document series).

In May 2004, the frequency of the containerised shuttle service between the Renory trimodal terminal and the port of Antwerp was doubled, increasing from two to four departures daily. Since September 2002, the Portier Group, based at this trimodal site, has operated daily shuttle services to Antwerp via its subsidiary T.F.C. (Transport Fluvial de Containers). Now equipped with two boats with a capacity of 54 TEU, this company is positioning itself as a key player in logistics at the port of Liège. On the basis of the growth of containerised traffic, estimated at 10 p.c. per annum in the major seaports, the Portier Group intends to manage this growth by offering a range of services relating to container transport. Its various Liège subsidiaries each play their part in this mission: T.F.C. manages the daily link by river to the port of Antwerp, the forwarding agent Eucotrans offers to take charge of end-to-end road transport, I.F.B./Portmade deals with all the container handling and all the customs formalities for Renory, and Renory supplies all the logistics relating to containerisation, and container storage and maintenance. In 2004, firms such as Carmeuse of Engis made more use of waterways than in previous years[139]. Carmeuse is one of the companies in the Liège basin with its own loading and unloading infrastructures (cf. annex 2 B).

3.1.3 Infrastructure

The Walloon Region, responsible for waterway infrastructures via the Ministry of Equipment and Transport (MET), attaches particular importance to the development of port infrastructures. Some major improvement projects are being implemented to develop the potential of the Liège basin. The MET registered commitment appropriations totalling 58 million euro for the region's waterways in the 2004 financial year. With the aid of the European Regional Development Fund (ERDF), under the Objective 2 programme for Meuse-Vesdre 2000-2006, and the Walloon Region, the PAL is investing in upgrading the port areas which it is responsible for managing. On the basis of the growth of container traffic, the MET decided to invest 40 million euro in the port's logistics areas in 2006.

According to a study by the American consultant Cushman & Wakefield Healey & Baker, since 2003 Belgium has been the most attractive location in Europe for the establishment of logistics firms. According to that study, the province of Liège is among the top European regions with the most potential in this field.

The Liège region therefore has numerous opportunities in terms of transport and logistics, so long as it adheres to the following three objectives – as pointed out by some experts from the Liège transport centre – following the restructuring of the steel industry: create at least 2,700 jobs, reallocate disused land, and lay down a general framework for directing the redevelopment via a general scheme for land use planning.

[139] In 2005, this company succeeded in consigning two-thirds of its output (sand, granulates, limestone, etc.) by boat. This good result was achieved by the excellent collaboration between the quarry and the river freight companies.

A real debate concerning the development of high value added logistics activities is essential, as foreseen by the project for the creation of a “logistics village" at the port of Hermalle-sous-Argenteau (municipality of Oupeye), named the ***Liège TriLogiPort***[140]***.*** This area where logistics and distribution activities are concentrated is undoubtedly proving attractive. In January 2004 the Walloon Region acquired the ownership of land on the right bank of the Albert Canal, following a compulsory purchase procedure. Management of the site was entrusted to the PAL in June 2004. This 100 ha site, served by road and rail, has a 1,850 m quay alongside the Albert Canal and a dock with a 350 m quay. 12 ha have been earmarked for the container terminal, with a 600 m quay. An area of the same size will be set up as the depot, with the possibility of a ro-ro wharf. 17 ha will be made available to river or sea-river operators, and 36 ha to businesses not directly connected with the water. The plan is that this trimodal logistics platform should be developed via cooperation between the ports of Antwerp and Liège, with the support of SPI+[141]; this was set up recently in the form of an economic interest group. The port of Antwerp, which has faced congestion problems for some years now, mainly because of the growth of containerised traffic (cf. supra), will thus work jointly with the PAL in establishing this platform. The work began in 2005 on the future cargo handling area. Phase 1 of the container terminal – about 2 ha – should be completed by mid 2007. The cost of phase 1 of the project is estimated at 30 million euro. A 180 ha extension could also be considered on rehabilitation of the Chertal site (300 ha), south of Hermalle-sous-Argenteau, following the closure of the hot steel plant. With *TriLogiPort*, the port of Liège is setting an example in the redevelopment of the Walloon economic fabric, which is accompanying the transition from an economy centred on heavy industry -iron and steel- to one geared more to high value added logistics.

Regional European projects are also continuing, such as the “Meuse-Rhine Triangle", plus work at the port of Hermalle-sous-Huy, on Île Monsin, at the port of Visé and at the "Port des Yachts". These projects highlight the importance, for inland ports, of standing up to competition from road transport. The abolition of river navigation fees in Wallonia is a strong signal in favour of a more sustained use of waterways for inland freight transport.

[140] This name refers to the following characteristics of this "logistics village": it has 3 access routes to the sea (Antwerp, Dunkirk and Rotterdam), using 3 modes of transport (water, rail and road) and targets the 3 countries on Europe’s borders (Germany, France and the Netherlands).

[141] Development Agency for the Province of Liège "*Services Promotion Initiatives*".

3.2 Value added

TABLE 41 **VALUE ADDED IN THE LIÈGE PORT COMPLEX FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**1,032.3**	**1,185.6**	**1,125.8**	**1,141.0**	**1,000.3**	**1,176.4**	**100.0**	**+17.6**	**+2.6**
MARITIME CLUSTER	***19.4***	***21.8***	***22.2***	***21.2***	***21.2***	***23.2***	***2.0***	***+9.5***	***+3.7***
Shipping agents and forwarders	6.0	7.8	5.1	4.3	4.7	5.4	0.5	+15.7	-2.2
Cargo handling	9.1	10.9	10.4	10.5	11.4	11.7	1.0	+3.0	+5.3
Shipping companies	0.1	0.3	3.9	3.1	2.3	3.0	0.3	+29.7	+95.8
Shipbuilding and repair	0.6	0.6	0.6	0.9	1.0	1.3	0.1	+29.0	+17.3
Port construction and dredging	1.8	0.5	0.6	0.5	0.0	0.0	0.0	n.	-100.0
Fishing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port authority	1.8	1.7	1.8	1.8	1.8	1.8	0.1	-2.2	-0.2
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
NON MARITIME CLUSTER	***1,012.9***	***1,163.8***	***1,103.5***	***1,119.7***	***979.1***	***1,153.2***	***98.0***	***+17.8***	***+2.6***
TRADE	69.4	78.9	67.7	68.9	81.9	97.8	8.3	+19.5	+7.1
INDUSTRY	907.9	1,044.0	990.4	1,000.9	847.3	1,004.8	85.4	+18.6	+2.0
Energy	160.6	186.7	244.8	205.0	120.2	241.0	20.5	+100.6	+8.5
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	59.0	81.4	96.6	104.8	91.2	98.8	8.4	+8.4	+10.8
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics	6.2	7.4	8.0	5.9	2.8	5.1	0.4	+79.8	-3.7
Metalworking industry	462.2	544.7	435.0	454.0	426.6	460.1	39.1	+7.9	-0.1
Construction	158.7	165.2	153.2	174.3	158.7	155.6	13.2	-2.0	-0.4
Food industry	48.5	43.3	36.3	40.0	33.4	31.3	2.7	-6.1	-8.4
Other industries	12.6	15.3	16.6	16.9	14.5	12.9	1.1	-10.9	+0.4
LAND TRANSPORT	4.6	4.9	4.6	7.9	7.9	8.2	0.7	+3.1	+12.0
Road transport	2.3	2.5	2.2	5.5	5.4	5.9	0.5	+8.8	+21.1
Other land transport	2.4	2.5	2.5	2.5	2.5	2.3	0.2	-9.3	-1.0
OTHER LOGISTIC SERVICES	31.0	35.9	40.8	41.9	42.0	42.4	3.6	+1.0	+6.5
Other services	31.0	35.9	40.8	41.9	42.0	42.4	3.6	+1.0	+6.5
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
2. INDIRECT EFFECTS	***954.8***	**1.088.1**	***1.137.4***	***1.137.1***	***1.006.3***	***1.077.4***	**-**	***+7.1***	***+2.4***
MARITIME CLUSTER	*40.1*	48.0	*46.0*	*45.9*	*44.1*	*45.6*	-	*+3.4*	*+2.6*
NON MARITIME CLUSTER	*914.7*	1.040.2	*1.091.5*	*1.091.1*	*962.2*	*1.031.8*	-	*+7.2*	*+2.4*
TOTAL VALUE ADDED	***1,987.1***	**2,273.8**	***2,263.2***	***2,278.0***	***2,006.6***	***2,253.8***	**-**	***+12.3***	***+2.6***

Source: NBB.

3.2.1 General developments

Direct VA at current prices increased by an average of 2.6 p.c. per annum from 1999 to 2004, and by 17.6 p.c. between 2003 and 2004 (table 41). At 2000 prices[142], the increase over the period averaged 0.8 p.c. per annum, and 14.9 p.c. last year.

Indirect VA produced similar growth over the period, though the increase was more modest in 2004. In that year, total VA, being the sum of direct and indirect VA, once again crossed the 2.2 billion euro mark, at a level equivalent to 3.3 p.c. of Wallonia's GDP and 0.8 p.c. of Belgian GDP[143].

3.2.2 Direct VA in 2004

Maritime cluster

- In cargo handling, VA rose by 3 p.c., thanks to higher operating profits at Magasins Généraux de Liège (Magemon) and at CTB Logistics.
- A sharp rise (+15.7 p.c.) was recorded by shipping agents and forwarders, due to the good performance by Magetra and Brucargo, and recruitment at Eucotrans.
- Shipping companies also saw VA increase strongly (+29.7 p.c.), the reason being the higher operating results recorded by Somef, while the VA of Transport Fluvial de Containers (TFC) became negative owing to persistent losses.
- The very small contraction of the workforce at the port authority, the PAL, led to a corresponding decline in VA.
- In shipbuilding and repair, VA was 29 p.c. up, as a result inter alia of higher operating profits at Meuse et Sambre.

Non maritime cluster

o Trade

- The contribution to GDP made by trading companies based at the port of Liège increased by 19.5 p.c. This rise originated from the higher operating profits at Total Belgium, Terval, Intramet Metal Center and Eagle Energy.

o Industry

- Metalworking, the primary source of wealth creation and the leading employer in the port complex, recorded a 7.9 p.c. rise in its VA. The sector enjoyed a boom in 2004 (cf. point 2.3.2.2). However, this resulted in a mixed picture at the Liège port complex. While its workforce declined (cf. infra), the Arcelor group produced good results. Cockerill Sambre actually saw an increase in VA, thanks mainly to losses reduction, associated with restructuring. With the benefit of soaring global demand for steel, increases were also recorded by Ausa Europe Special Steels and Arcelor Produits Plats Wallonie, whose profits climbed, while the VA of Cockerill Maintenance & Ingénierie subsided by a few points.
- Energy doubled its VA (+100.6 p.c.), as a result of substantial increases at Electrabel and SPE. Electrabel reconstituted its provisions for liabilities and charges, and the increase in its operating result was enough to counterbalance the negative impact of the contraction of its workforce. SPE was back in profit in 2004, took on staff and raised its provisions for liabilities and charges.
- In construction, VA was 2 p.c. down. The absorption of Holcim Haccourt by Holcim Belgique had a negative impact on VA, as did the weak operating results at Bouygues Béton Amay and Cimenteries CBR. But these falls were offset by a higher operating result at Carrières et Fours à Chaux Dumont-Wautier.
- In contrast, chemicals saw an 8.4 p.c. rise in VA. Notable increases were recorded by Prayon, which is back in profit, and Imerys Belgique, whose workforce expanded, while the VA of Treofan Benelux was down as a result of losses.
- In the food industry, the decline (-6.1 p.c.) was due partly to Raffinerie Tirlemontoise. Its operating profit diminished owing to structural excess capacity in a context of restrictions on

[142] See explanations at point 2.1.1.

[143] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

sugar exports at European level. Moreover, the closure of the Genappe sugar factory in 2004 was accompanied by restructuring at other group sites, such as Wanze.
- The VA of the other industries was also down (-10.9 p.c.), examples being Gravière d'Amay, where depreciation went down, and Roues et Trains Montés, the profits of which declined.
- Electronics recorded a strong rise (+79.8 p.c.), attributable to substantial increases at Constructions Electroniques + Telecommunications (CE+T) and SGL Carbon, which are both back in profit.

o Land transport
- In road transport, VA increased by 8.8 p.c., owing to such factors as the lower operating loss at Simex, and higher depreciation in the same company.
- Conversely, in the case of other land transport the figures were down (-9.3 p.c.), because of reductions at BNRC, as the share of activity attributed to Bressoux declined in 2004.

o Other logistic services[144]
- The VA of the other services increased by 1 p.c. The Association Intercommunale pour le Démergement et l'Epuration des Communes de la Province de Liège recorded a lower loss than in 2003.

3.2.3 VA top 10 at the Liège port complex in 2004

TABLE 42 **VALUE ADDED TOP 10 AT THE LIÈGE PORT COMPLEX IN 2004**
(millions of euros)

Ranking	Name of company	Sector	Value added
1	COCKERILL SAMBRE	Metalworking industry	345.5
2	ELECTRABEL	Energy	175.2
3	S.P.E.	Energy	74.2
4	PRAYON	Chemicals	58.1
5	CIMENTERIES CBR	Construction	57.7
6	COCKERILL MAINTENANCE & INGENIERIE	Metalworking industry	51.0
7	TOTAL BELGIUM	Trade	49.7
8	CARRIERES ET FOURS A CHAUX DUMONT WAUTIER	Construction	31.6
9	RAFFINERIE TIRLEMONTOISE	Food industry	30.4
10	IMERYS BELGIQUE	Chemicals	21.6
	Total of top 10		**895.0**

Source: NBB.

This ranking is much the same as in 2003 (table 42). The main changes are the rise of SPE and the decline of Cimenteries CBR and Raffinerie Tirlemontoise. Eurogal gave way to Imerys Belgique. Altogether, these ten companies contribute 76 p.c. of wealth creation at the Liège port complex.

[144] Note: no figures are available for public administration active at the Liège port complex. Details in annex 1.

3.3 Employment

TABLE 43 **EMPLOYMENT IN THE LIÈGE PORT COMPLEX FROM 1999 TO 2004**
(FTEs)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
1. DIRECT EFFECTS	**13,679**	**13,665**	**13,936**	**13,731**	**12,235**	**11,249**	**100.0**	**-8.1**	**-3.8**
MARITIME CLUSTER	***314***	***329***	***354***	***349***	***328***	***328***	***2.9***	***+0.0***	***+0.9***
Shipping agents and forwarders	103	107	69	61	64	68	0.6	+7.5	-7.8
Cargo handling	142	151	162	158	160	142	1.3	-11.0	+0.0
Shipping companies	0	4	55	52	42	50	0.4	+19.4	n.
Shipbuilding and repair	12	12	12	24	26	31	0.3	+21.6	+21.2
Port construction and dredging	20	18	19	17	0	0	0.0	n.	-100.0
Fishing	0	0	0	0	0	0	0.0	n.	n.
Port trade	0	0	0	0	0	0	0.0	n.	n.
Port authority	37	37	37	37	37	36	0.3	-2.7	-0.5
Public sector	0	0	0	0	0	0	0.0	n.	n.
NON MARITIME CLUSTER	***13,365***	***13,336***	***13,582***	***13,381***	***11,907***	***10,921***	***97.1***	***-8.3***	***-4.0***
TRADE	560	568	483	502	641	612	5.4	-4.6	+1.8
INDUSTRY	12,427	12,317	12,597	12,346	10,710	9,724	86.4	-9.2	-4.8
Energy	1,201	1,142	1,233	1,132	1,059	1,066	9.5	+0.6	-2.4
Oil industry	0	0	0	0	0	0	0.0	n.	n.
Chemicals	973	1,041	1,078	1,083	1,040	1,018	9.0	-2.1	+0.9
Car manufacturing	0	0	0	0	0	0	0.0	n.	n.
Electronics	166	128	132	119	98	74	0.7	-24.7	-15.0
Metalworking industry	8,109	8,011	8,020	7,885	6,618	5,726	50.9	-13.5	-6.7
Construction	1,549	1,570	1,617	1,626	1,528	1,472	13.1	-3.7	-1.0
Food industry	227	213	200	193	162	160	1.4	-1.2	-6.8
Other industries	203	212	317	309	205	209	1.9	+2.0	+0.6
LAND TRANSPORT	83	88	83	134	135	141	1.3	+4.5	+11.2
Road transport	37	42	37	89	90	102	0.9	+13.4	+22.6
Other land transport	46	46	46	45	45	39	0.3	-13.3	-3.2
OTHER LOGISTIC SERVICES	295	363	419	400	421	444	3.9	+5.4	+8.5
Other services	295	363	419	400	421	444	3.9	+5.4	+8.5
Public sector	0	0	0	0	0	0	0.0	n.	n.
2. INDIRECT EFFECTS	***14,708***	**17,761**	***17,354***	***18,229***	***15,803***	***15,716***	**-**	***-0.5***	***+1.3***
MARITIME CLUSTER	*820*	986	*901*	*861*	*797*	*784*	-	*-1.6*	*-0.9*
NON MARITIME CLUSTER	*13,889*	16,775	*16,453*	*17,368*	*15,006*	*14,932*	-	*-0.5*	*+1.5*
TOTAL EMPLOYMENT	***28,387***	**31,426**	***31,290***	***31,960***	***28,038***	***26,965***	**-**	***-3.8***	***-1.0***

Source: NBB.

3.3.1 General developments

Direct employment continued the decline which had begun in 2002, dropping by 8.1 p.c. from 2003 to 2004 (table 43), with an annual average fall of 3.8 p.c. over the period.

Indirect employment was more stable, and actually increased on average, one factor being the growth in the other services. Total employment, being the sum of direct and indirect employment, declined below 27,000 FTEs, or 2.7 p.c. of Walloon employment and 0.7 p.c. of Belgian employment[145].

3.3.2 Direct employment in 2004

Maritime cluster

- Employment declined by 11 p.c. in cargo handling, one reason being the transfer of several employees from Société industrielle de Renory to other companies of the Portier Group, another reason being a diminished workforce at CTB Logistics.
- Shipping agents and forwarders recorded expansion of their workforce (+7.5 p.c.), the most notable increase occurring at Brucargo.
- In shipping companies, employment also increased (+19.4 p.c.), e.g. at Somef.
- The PAL port authority made no major changes to its workforce (loss of one FTE).
- The workforce in shipbuilding and repair grew (+21.6 p.c.).

Non maritime cluster

o Trade
- In trade, the decline (-4.6 p.c.) is due to Akers Belgium, and to a number of SMEs.

o Industry
- Employment was down by 13.5 p.c. in the metalworking industry, the biggest employer in the Liège port complex (over 50 p.c. of employment in 2004). The reason was the restructuring in the Arcelor group, which affected Cockerill Sambre -loss of 848 FTEs in 2004, mainly in anticipation of the forthcoming closure of the blast furnaces- and Cockerill Sambre Mécanique Prestations. The whole sector is affected, except for Cockerill Maintenance & Ingénierie (Euremis holding company) which took on staff in 2004.
- The fall recorded in construction (-3.7 p.c.) was due to redundancies at Bouygues Béton Amay and Cimenteries CBR.
- In energy, the situation was unchanged as the staff reductions at Electrabel and Socolie were balanced by recruitment at SPE.
- A slight fall was recorded by chemicals (-2.1 p.c.), while at Prayon and Treofan Benelux employment was down, in contrast to expansion at Imerys Belgique.
- The small rise in employment in the other industries (+2 p.c.) was due partly to the advent of Locorem, Wandre (16 FTEs), though this was tempered somewhat by cuts in other SMEs, such as Gravière d'Amay.
- In the food industry, the situation was fairly stable.
- The decline recorded in electronics (-24.7 p.c.) is attributable to CE+T and SGL Carbon.

o Land transport
- The rise in employment in road transport (+13.4 p.c.) was partly due to recruitment by Cuypers Logistics.
- The contraction seen in other land transport (-13.3 p.c.) was attributable to BNRC.

o Other logistic services
- Shanks Liège-Luxembourg and T.P.F. Seges recorded an increase in jobs, leading to a rise of 5.4 p.c. in the workforce of the other services.

[145] These comparisons are only an indication. The indirect effects are not limited to the region but apply to the whole of the national economy.

3.3.3 Employment top 10 at the Liège port complex in 2004

TABLE 44 **EMPLOYMENT TOP 10 AT THE LIÈGE PORT COMPLEX IN 2004**
(FTEs)

Ranking	Name of company	Sector	Employment
1	COCKERILL SAMBRE	Metalworking industry	4,315
2	ELECTRABEL	Energy	844
3	COCKERILL MAINTENANCE & INGENIERIE	Metalworking industry	746
4	PRAYON	Chemicals	631
5	CIMENTERIES CBR	Construction	298
6	CARRIERES ET FOURS A CHAUX DUMONT WAUTIER	Construction	262
7	AXIMA SERVICES	Construction	261
8	S.P.E.	Energy	215
9	COCKERILL MECANIQUE PRESTATIONS	Metalworking industry	152
10	AKERS BELGIUM	Trade	144
	Total of top 10		**7,867**

Source: NBB.

This ranking is the same as in 2003, except for two points: Raffinerie Tirlemontoise has given way to Akers Belgium, and the employment represented by these ten enterprises is down sharply against a year ago (1,114 FTEs fewer, table 44), though it still accounts for 70 p.c. of the workforce of the Liège port complex in 2004.

3.4 Investment

TABLE 45 **INVESTMENT IN THE LIÈGE PORT COMPLEX FROM 1999 TO 2004**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)	Change from 2003 to 2004 (in p.c.)	Annual average change, 1999 to 2004 (in p.c.)
MARITIME CLUSTER	***6.6***	***6.1***	***3.0***	***4.4***	***4.6***	***5.4***	***3.9***	***+16.5***	***-4.0***
Shipping agents and forwarders	1.1	2.3	0.8	0.7	0.9	1.5	1.1	+75.1	+6.3
Cargo handling	4.8	3.2	1.7	3.2	3.1	3.3	2.4	+6.2	-7.0
Shipping companies	0.0	0.2	0.0	0.1	0.2	0.3	0.2	+100.4	+148.2
Shipbuilding and repair	0.0	0.0	0.0	0.1	0.2	0.1	0.1	-32.8	+42.2
Port construction and dredging	0.2	0.1	0.2	0.0	0.0	0.0	0.0	n.	-100.0
Fishing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port trade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Port authority	0.4	0.1	0.3	0.4	0.3	0.1[146]	0.1	-73.5	-29.5
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
NON MARITIME CLUSTER	***210.5***	***293.8***	***282.6***	***149.7***	***115.1***	***132.5***	***96.1***	***+15.1***	***-8.8***
TRADE	7.1	7.7	5.2	5.7	5.6	3.5	2.6	-36.4	-12.9
INDUSTRY	172.3	238.8	255.3	119.5	94.9	117.3	85.1	+23.6	-7.4
Energy	9.0	9.5	24.3	5.9	7.7	11.2	8.1	+45.5	+4.4
Oil industry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Chemicals	13.2	14.3	19.8	21.2	24.0	14.0	10.2	-41.7	+1.2
Car manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
Electronics	0.2	0.4	0.6	0.1	0.1	0.2	0.1	+17.7	-6.5
Metalworking industry	111.1	107.0	63.9	52.3	37.2	65.3	47.4	+75.6	-10.1
Construction	26.5	93.1	139.7	31.3	20.7	20.4	14.8	-1.3	-5.0
Food industry	7.3	4.5	4.5	5.5	3.5	3.6	2.6	+2.2	-13.2
Other industries	4.9	9.8	2.5	3.1	1.7	2.6	1.9	+55.3	-12.3
LAND TRANSPORT	2.9	5.5	4.7	5.1	5.0	2.5	1.8	-50.3	-3.4
Road transport	1.5	3.8	3.4	3.2	3.3	1.0	0.7	-71.6	-9.1
Other land transport	1.4	1.7	1.3	1.9	1.6	1.5	1.1	-6.0	+1.6
OTHER LOGISTIC SERVICES	28.2	41.8	17.5	19.4	9.7	9.2	6.7	-4.5	-20.1
Other services	28.2	41.8	17.5	19.4	9.7	9.2	6.7	-4.5	-20.1
Public sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.	n.
DIRECT INVESTMENT	**217.1**	**299.9**	**285.7**	**154.1**	**119.7**	**137.9**	**100.0**	**+15.2**	**-8.7**

Source: NBB.

[146] In addition to this 72,000 euro, the MET provided funding of 286,000 euro and the ERDF 119,000 euro, making a total of 477,000 euro, well short of the amount committed a year earlier (1.8 million euro).

3.4.1 General developments

Investment at current prices declined by an average of 8.7 p.c. per annum from 1999 to 2004, but increased by 15.2 p.c. between 2003 and 2004 (table 45). At 2000 prices[147], the decline averaged 9.4 p.c. per annum over the period, but investment grew by 14.3 p.c. last year.

3.4.2 Direct investment in 2004

Maritime cluster

- Investment increased by 6.2 p.c. at current prices in cargo handling in 2004. The expansion at CTB Logistics and Société Industrielle de Renory was offset by a decline at Magasins Généraux de Liège.
- Shipping agents and forwarders stepped up their investment by 75.1 p.c., owing to the increase recorded at Magetra.
- These figures were twice as high for the shipping companies, owing to the inclusion of Latitude Océane in the population.
- A sharp fall was also recorded by the port authority (-73.5 p.c.), the PAL. A similar decline was seen in the amount invested by the MET and the ERDF.
- In shipbuilding and repair, the picture was similar (-32.8 p.c.), with cuts recorded at Meuse et Sambre.

Non maritime cluster

o Trade
- The investment of trading companies was 36.4 p.c., with cuts by Belgomazout-Liège, Indumet, L'Universelle and Mategro, for example.

o Industry
- In metalworking, investment grew by 75.6 p.c. This increase was due mainly to Cockerill Sambre, which recorded higher acquisitions of fixed assets[148], and to a lesser extent to Société Belge d'Oxycoupage, Segal and Cockerill Forges and Ringmill.
- In construction, there was a slight fall. Investments by Cimenteries CBR and Carrières et Fours à Chaux Dumont-Wautier declined, while they increased at Préfabrications et Ferraillages, Holcim (Belgique) and Inter-Béton.
- There was a sharp fall (-41.7 p.c.) in the chemical sector, e.g. at Prayon and Société Industrielle Liégeoise des Oxydes.
- Energy recorded an increase of 45.5 p.c., attributable to Electrabel[149] -investments at Awirs 4 - Pellets Biomasse and Tihange, particularly in the Tihange 3 cooling tower- and despite a decline at SPE.
- Investment increased by only 2.2 p.c. in the food industry, on account of relative stagnation at Raffinerie Tirlemontoise.
- Other industries recorded an increase of 55.3 p.c., e.g. at Locorem, George et Compagnie, and La Filière Bois, despite cuts at Roues et Trains Montés.

o Land transport
- A sharp fall (-71.6 p.c.) was recorded in road transport, due partly to Cuypers Logistics and to A. et F. Ribauville et Compagnie, Transports et Matériaux.
- In other land transport, the decline was more modest (-6 p.c.). Investment was down at BNRC, while at Pierre Renquin Promotion it increased.

o Other logistic services
- Investment was reduced by 4.5 p.c. in the other services. There were cuts at the Association Intercommunale de Traitement des Déchets de la Région Liégeoise and at

[147] See explanations at point 2.1.3.

[148] This is essentially an accounting increase: since 2004, and according to the new valuation rules, the company's strategic stock of spare parts is included in this item.

[149] The figures on investment by Electrabel at the Liège port complex were obtained from the survey.

Shanks Liège-Luxembourg, but increases at Terminal Euro-Combi-Est and at the Association Intercommunale pour le Démergement et l'Epuration des Communes de la Province de Liège.

3.4.3 Investment top 10 at the Liège port complex in 2004

TABLE 46 INVESTMENT TOP 10 AT THE LIÈGE PORT COMPLEX IN 2004
(millions of euros)

Ranking	Name of company	Sector	Investments
1	COCKERILL SAMBRE	Metalworking industry	60.2
2	ELECTRABEL	Energy	10.8
3	PRAYON	Chemicals	7.9
4	CARRIERES ET FOURS A CHAUX DUMONT WAUTIER	Construction	5.8
5	RAFFINERIE TIRLEMONTOISE	Food industry	3.6
6	CIMENTERIES CBR	Construction	3.3
7	HOLCIM (BELGIQUE)	Construction	3.0
8	PREFABRICATIONS ET FERRAILLAGES	Construction	2.9
9	ASSOCIATION INTERCOMMUNALE DE TRAITEMENT DES DECHETS DE LA REGION LIÈGEOISE	Other services	2.2
10	SOCIETE INDUSTRIELLE LIÈGEOISE DES OXYDES	Chemicals	2.1
	Total of top 10		**101.8**

Source: NBB.

Cockerill Sambre held on to first place in this ranking and Holcim (Belgique) and Préfabrications et Ferraillages joined the top 10. Since 2003, Electrabel and Raffinerie Tirlemontoise have moved up three and two places respectively in this top 10, which represents 73.8 p.c. of investment in the port complex in 2004.

3.5 Breakdown of findings by company size[150]

TABLE 47 BREAKDOWN OF THE RESULTS AT THE LIÈGE PORT COMPLEX IN 2004

Number of firms[151]		Direct VA (in millions of euros)		Direct employment (in FTEs)		Direct investment (in millions of euros)	
Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
71	**112**	**1,137.3**	**39.1**	**10,623**	**626**	**131.1**	**6.8**

Source: NBB.

Compared to 2003, the proportion of large companies in the Liège port complex has declined. They represented only 38.8 p.c. of the population, against 39.4 p.c. in the previous year. However, these large companies have a relatively stronger presence than in the Flemish ports, so that, in 2004, they

[150] The definition used here is the one given in Article 15 of the Companies Code (law of 7 May 1999) in force in 2004. Firms are regarded as large if the annual average workforce exceeds 100 persons or if more than one of the following three thresholds is exceeded: annual average workforce 50 units, annual turnover (excluding VAT) 6.25 million euro, balance sheet total 3.125 million euro.

[151] This is the number of firms present in the port zone. Any of these firms may equally be registered in another port. That is why the total number of firms given in tables 5 and 47 exceeds 3,268, or the total number of firms (or VAT numbers) actually considered in the study of the five ports in 2004. In that year, fifty-seven firms were present in two or more ports.

accounted for 96.7 p.c. of the wealth creation in the port zone, 94.4 p.c. of employment and 95.1 p.c. of investment (table 47). These figures are set out in detail, by cluster and by sector, in annex 6.

3.6 Social balance sheet at the Liège port complex[152]

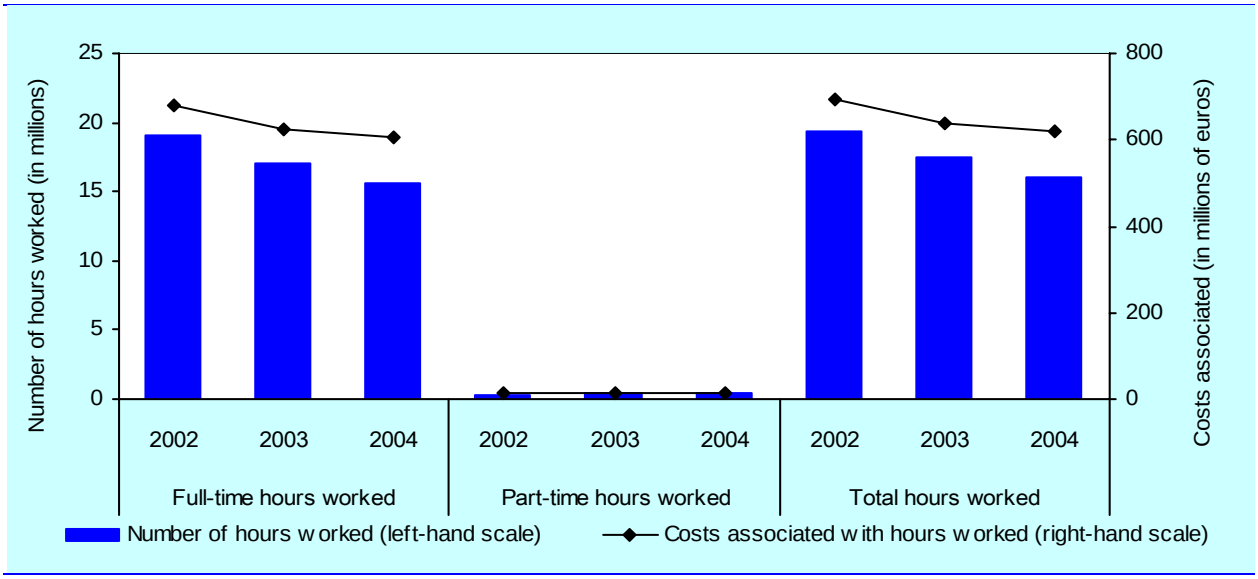
Since its introduction in 1996, the social balance sheet has presented a coherent set of data covering various aspects relating to employment in firms, such as recruitment and the staff structure, the contractual status and standard of education of the employees, staff costs, training policy and reasons for contract termination. The results presented below, relating to direct employment in the Liège port complex, are not exhaustive. They concern a constant sample[153] defined for all five ports considered and covering the period 2002 - 2004. In the case of charts 10 to 14 and table 48, the figures presented and the corresponding analysis relate only to firms which filed their accounts in the full presentation format, as the balance sheet items on which they are based are only shown in that format.

The comments focus on the changes seen in the last three years under review. The 2004 figures are presented in detail in annex 7.

3.6.1 Type of contract and human resources

At the end of the 2004 financial year, the ratio of white-collar to blue-collar workers stood at 64.1 p.c., a decline of 1.8 p.c. against the previous year, while the proportion of blue-collar workers rose.

CHART 9 INTERNAL HUMAN RESOURCES[154]: HOURS WORKED AND ASSOCIATED COSTS



Source: NBB.

The decline in employment in the Liège basin (table 43) was reflected in a very steep fall in the number of full-time hours worked, down 8.7 p.c. at 15.6 million hours. Although marginal, part-time working continued to expand, especially in construction, metalworking and other land transport, with an increase of 12.3 p.c., to 423,000 hours (chart 9). As a result the proportion represented by full-timers showed a

[152] The national data presented here were taken from Heuse P. and Ph. Delhez (2005). The comparisons are useful only as a guide, since only firms filing a social balance sheet relating to a financial year of twleve months ending on 31 December were taken into account in the 2004 Social Balance Sheet. This is a smaller population.

[153] For details on the representativeness of the constant sample, see point 2 of annex 1.

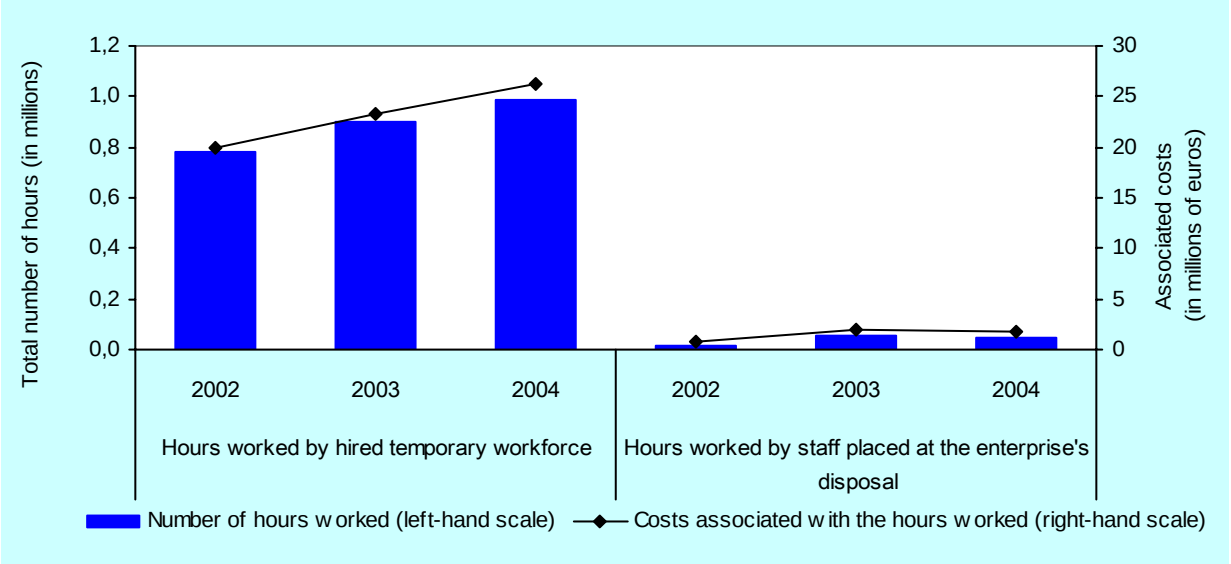
[154] Employees on the staff register of the firms under review.

further fall, from 97.8 in 2003 to 97.4 p.c. in 2004, a situation which is also widespread in the rest of the economy.

The costs corresponding to full-time staff were down by 3.2 p.c. against 2003, falling to 604.2 million euro in 2004. In view of the large reduction in the number of full-time hours worked (cf. supra), hourly labour costs for this category of employees increased by 6.1 p.c. (including the impact of pension costs). For part-timers, the increase was 9 p.c.

Taking all categories combined, the number of hours worked declined by 8.3 p.c. to 16 million, while staff costs were down by 2.7 p.c. The average annual cost per FTE stood at 56,700 euro in 2004, which was 6.1 p.c. more than in 2003. At national level, the figure was 48,355 euro per FTE in 2004, an increase of 2.6 p.c. against the previous year.

CHART 10 **EXTERNAL HUMAN RESOURCES[155]: HOURS WORKED AND ASSOCIATED COSTS**



Source: NBB (full presentation accounts only).

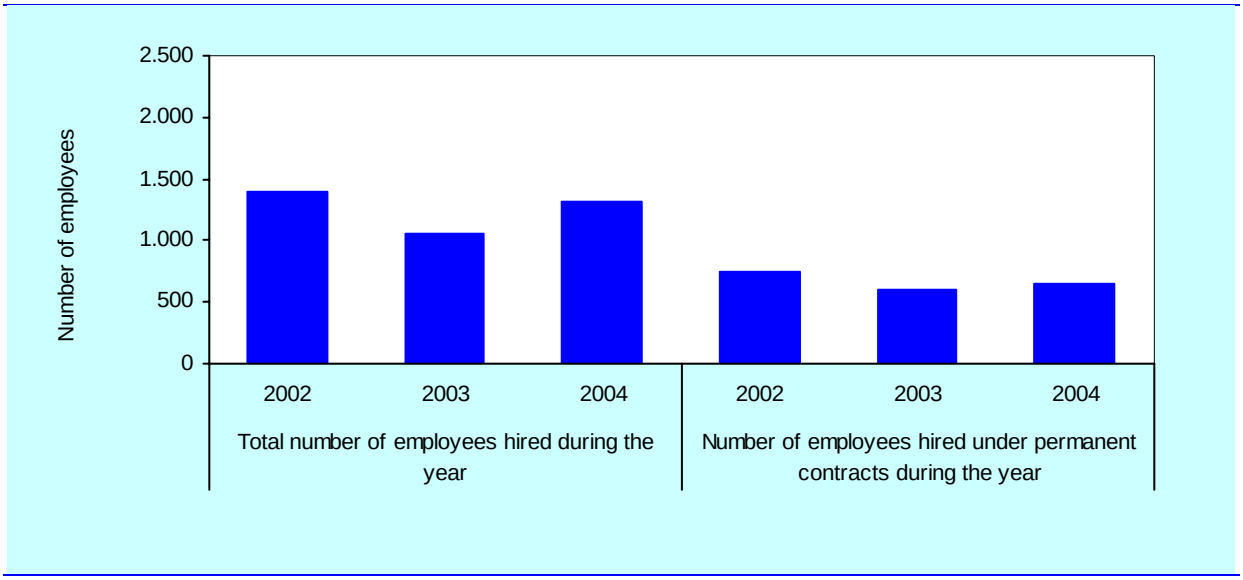
The hours worked by hired temporary staff continued to rise in 2004, exceeding the previous year's figure by 9.5 p.c. (chart 10), e.g. in metalworking and the maritime shipbuilding and repair sector. Conversely there was a 14.5 p.c. fall in the hours worked by staff placed at the disposal of enterprises. The costs associated with these categories were respectively 12.5 p.c. up and 7.3 p.c. down. In both cases, hourly labour costs increased, namely by 2.8 p.c. for hired temporary staff and 8.4 p.c. for staff placed at the disposal of enterprises. In 2004, hired temporary staff represented 95.7 p.c. of the work done by external human resources at the Liège port complex, against 94.6 p.c. a year earlier.

3.6.2 Staff turnover

Charts 11 to 14 concern "flow" variables since they relate to workers hired and leaving during the year. For that reason, the resulting observations need not correspond to the general trend in employment presented in table 43 in the form of a "stock" variable. These charts also concentrate on firms in the constant sample submitting their accounts in the full presentation format.

[155] Hired temporary staff and staff placed at the enterprise's disposable. The latter refers to the workers an employer places at other users' disposal. Those 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".

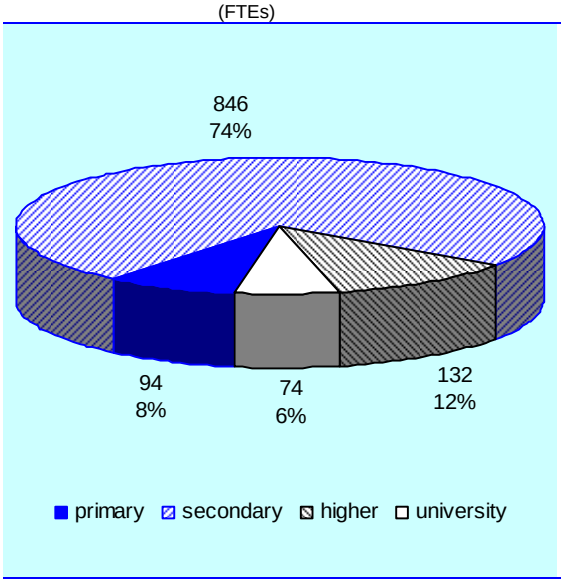
CHART 11 **TOTAL PERSONNEL HIRED AT THE LIÈGE PORT COMPLEX**
(FTEs)



Source: NBB (full presentation accounts only).

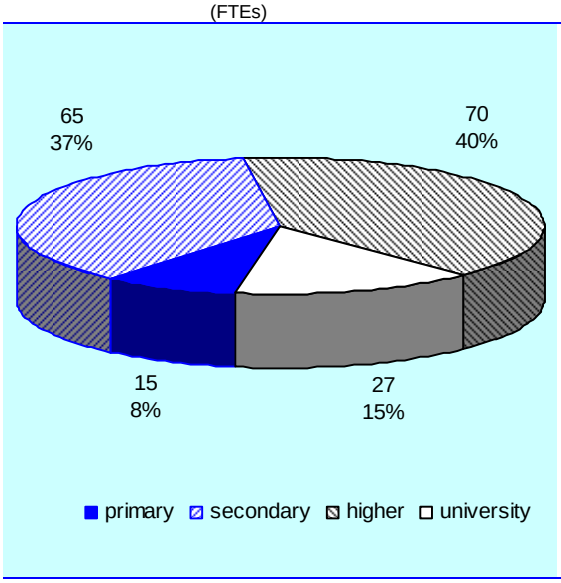
Charts 11 and 14 should be read side by side. Among the firms in the constant sample filing full presentation accounts, recruitment was stepped up in 2004, with an increase of 24.9 p.c. against 2003. In the case of permanent contracts, the increase was just 7.8 p.c. (chart 11). Most of this –fixed term- recruitment took place at Cockerill Sambre, as the company took on 365 FTEs under fixed-term contracts, compared to 20 the year before. Moreover, certain firms where employment recorded a real fall are not included in this part of the sample.

CHART 12 **STANDARD OF EDUCATION OF MALE STAFF HIRED IN 2004**
(FTEs)



Source: NBB (full presentation accounts only).

CHART 13 **STANDARD OF EDUCATION OF FEMALE STAFF HIRED IN 2004**
(FTEs)



Source: NBB (full presentation accounts only).

At the end of the 2004 financial year, male employees represented 90.7 p.c. of the workforce at the port of Liège, the same as in 2003.

The rise in recruitment recorded overall for firms filing full presentation accounts (+24.9 p.c.) can be broken down as follows in the case of male workers taken on: jobs created for holders of certificates of primary, secondary and higher non-university education increased respectively by 28.7, 48.2 -expansion attributable to metalworking- and 7.8 p.c. compared to 2003. But after 2003, a year in which large numbers of graduates were recruited in the energy sector, among others, graduate recruitment was down in 2004 (-17.6 p.c.), particularly in metalworking.

The breakdown of male recruitment in 2004 by standard of education is shown in chart 12.

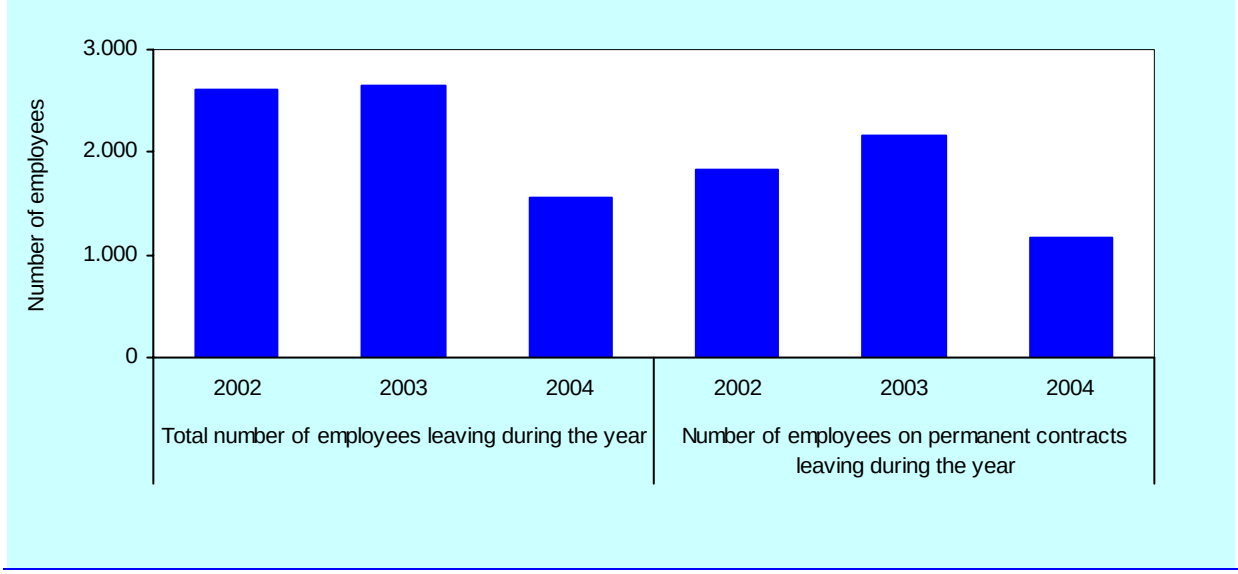
The proportion of women employed in the Liège port complex remained constant at the previous year's level, namely 9.3 p.c.

The increased recruitment mentioned above did not apply to women since, taking all standards of education together, fewer women were taken on: jobs created for holders of certificates of primary, secondary and higher non-university education and university degrees declined respectively by 44.7 -other land transport-, 0.6, 4.3 and 28.9 p.c. –energy– compared to 2003.

The breakdown of female recruitment in 2004 by standard of education is shown in chart 13.

The comments on charts 12 and 13, which only cover recruitment, do not indicate that the breakdown of the number of FTEs by gender has remained the same. That stability is due to the fact that more men than women left employment.

CHART 14 **TOTAL TERMINATED CONTRACTS AT THE LIÈGE PORT COMPLEX**
(FTEs)



Source: NBB (full presentation accounts only).

For the same group of companies (full presentation accounts), the number of contracts terminated declined by 40.9 p.c. overall, and by 46.5 p.c. in the case of fixed term contracts, in relation to 2003 (chart 14). Sectors where this applies include metalworking -Cockerill Sambre saw a decline in the number of permanent contracts and a rise in the number of fixed-term contracts-, construction, energy and other logistic services. The reservations made in the comments on chart 11 also apply here.

TABLE 48 **REASONS STATED FOR TERMINATING THE CONTRACT**
(percentages)

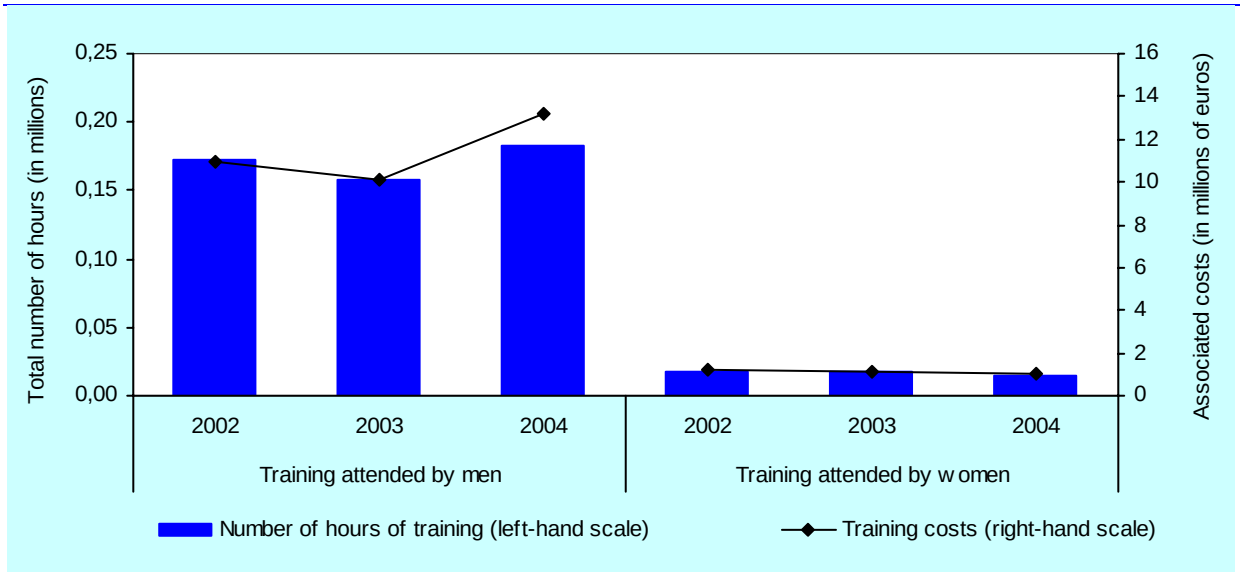
	2002	2003	2004
Retirement	1.7	2.0	3.6
Early retirement	32.9	40.6	19.2
Dismissal	8.7	10.0	10.9
Other reason	56.7	47.5	66.4

Source: NBB (full presentation accounts only).

In 2003, many people had taken early retirement, especially in metalworking and construction. In 2004, the proportion of workers taking early retirement reverted to a level closer to the national average. Conversely, the numbers leaving for other reasons -termination of temporary contracts and spontaneous departure- or taking retirement increased, while the percentage of redundancies remained below the national average.

3.6.3 Training[156]

CHART 15 **HOURS OF TRAINING AND ASSOCIATED COSTS**



Source: NBB.

In 2004, a significantly higher number of men attended training: 54.1 p.c. of male workers, compared to 44.3 p.c. in the previous year. For women, the increase was more modest, from 42.4 to 43.3 p.c.

For male employees, the time spent on training in fact increased by 15.8 p.c. in one year –e.g. in metalworking and the other services– whereas it declined by 15.9 p.c. for their female colleagues –e.g. in energy and construction- (chart 15). On average, owing to the movement in the number of male and female workers attending these programmes, they each spent less time on training: 34.3 instead of 35.6 hours per annum for male workers and 30.5 instead of 36.6 hours for female workers. The situation could therefore be summarised as follows: shorter training courses, but for more (male) staff. Even so, and owing to the decline in the workforce at the port of Liège, the proportion of time reserved for training did increase overall, from 1 to 1.23 p.c., which was above the national average (0.82 p.c. in 2004).

[156] 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.

Expenditure on training was up by 30.1 p.c. for men, but down by 11.4 p.c. for women. Altogether, these costs totalled 2.3 p.c. of the wage bill, against 1.8 p.c. the previous year. This percentage is higher than the figure for the rest of the economy (national average of 1.25 p.c. in 2004).

3.7 Financial situation

3.7.1 Financial ratios

The financial ratios presented here, i.e. the return on equity after taxes, the liquidity in broad sense and the solvency, are defined in point 2 of annex 1.

The examination of the financial ratios concerns a constant sample[157] for the years 2002 to 2004, common to the five ports considered. It covers companies which filed their accounts at the Central Balance Sheet Office in 2002, 2003 and 2004, and whose results satisfy the conditions required for calculating the ratios[158]. Therefore, the companies examined in the financial section of this report differ from those included in the constant sample of the previous report. That explains the differences in the figures between the two publications. For the comparison with the national figures, the same calculation method -called globalisation[159]- is applied both to the ratios for private firms in the Liège port complex and to the ratios for all Belgian non-financial corporations.

Table 49 calls for one initial comment: the three ratios increased, on average, in the Liège port complex in 2004, and are above the national figures.

- Profitability increased by 1.6 point, on average, thanks to good results achieved in cargo handling -Société industrielle de Renory and Magasins Généraux de Liège, in particular-, trade, electronics and metalworking -Cockerill Sambre-, and despite a decline in construction and other logistic services.
- For liquidity, the picture is much the same (+0.06): increases in cargo handling, electronics and metalworking, but a decline in construction.
- The increase in solvency occurred primarily in industry, with a rise in electronics, metalworking and construction. Conversely, in cargo handling this ratio declined.

[157] For details on the representativeness of the constant sample, see point 2 of annex 1.

[158] 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.

[159] Vivet D. (2005) used both the median ration and the globalisation method.

TABLE 49 FINANCIAL RATIOS IN THE LIÈGE PORT COMPLEX FROM 2002 TO 2004

Sectors	Return on equity after taxes (in p.c.)			Liquidity in broad sense			Solvency (in p.c.)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
MARITIME CLUSTER	***5.1***	***3.2***	***12.9***	***1.10***	***0.83***	***1.11***	***28.5***	***29.2***	***27.7***
Shipping agents and forwarders	5.7	8.3	15.4	1.10	1.14	1.09	20.1	18.6	15.7
Cargo handling	7.9	1.0	10.6	0.79	0.42	0.89	35.9	36.1	34.5
Shipping companies	1.0	12.2	18.8	1.71	1.55	1.61	22.1	20.2	20.4
Shipbuilding and repair	-26.0	0.0	36.4	1.46	1.19	1.16	26.6	21.7	22.4
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port authority	n.	n.	n.	n.	n.	n.	n.	n.	n.
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON MARITIME CLUSTER	***4.3***	***6.6***	***8.1***	***1.35***	***1.29***	***1.35***	***48.3***	***47.2***	***49.1***
TRADE	-4.8	2.8	19.9	1.00	1.01	1.09	32.6	37.6	37.4
INDUSTRY	4.2	6.8	8.2	1.35	1.27	1.33	48.5	47.1	49.2
Energy	14.5	24.0	10.7	1.60	1.38	1.51	47.8	44.0	42.8
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	3.4	-3.4	0.3	1.02	0.83	0.79	37.0	34.9	33.2
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	0.9	-54.7	13.4	1.25	1.08	1.22	20.9	14.0	15.9
Metalworking industry	-6.8	-6.8	14.5	1.36	1.60	1.90	49.0	48.3	54.4
Construction	8.7	4.9	-0.9	1.24	0.85	0.53	51.2	53.1	56.2
Food industry	2.5	1.6	-0.1	2.23	2.00	2.90	67.9	60.7	74.5
Other industries	2.7	12.5	17.5	1.13	1.15	1.03	26.9	25.5	24.8
LAND TRANSPORT	-21.5	-8.7	-11.7	0.84	0.79	0.71	28.1	24.9	14.5
Road transport	6.6	-12.0	5.0	1.74	1.23	1.33	36.9	26.2	29.5
Other land transport	-22.3	-8.6	-17.6	0.81	0.76	0.56	27.9	24.8	12.3
OTHER LOGISTIC SERVICES	7.3	5.8	4.2	1.73	1.83	1.86	51.7	52.1	53.3
Other services	7.3	5.8	4.2	1.73	1.83	1.86	51.7	52.1	53.3
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.
Weighted average	**4.3**	**6.6**	**8.2**	**1.34**	**1.29**	**1.35**	**48.2**	**47.1**	**48.9**
Non-financial corporations[160]	**4.1**	**7.6**	**6.9**	**1.17**	**1.22**	**1.24**	**39.9**	**40.6**	**41.5**

Source: NBB.

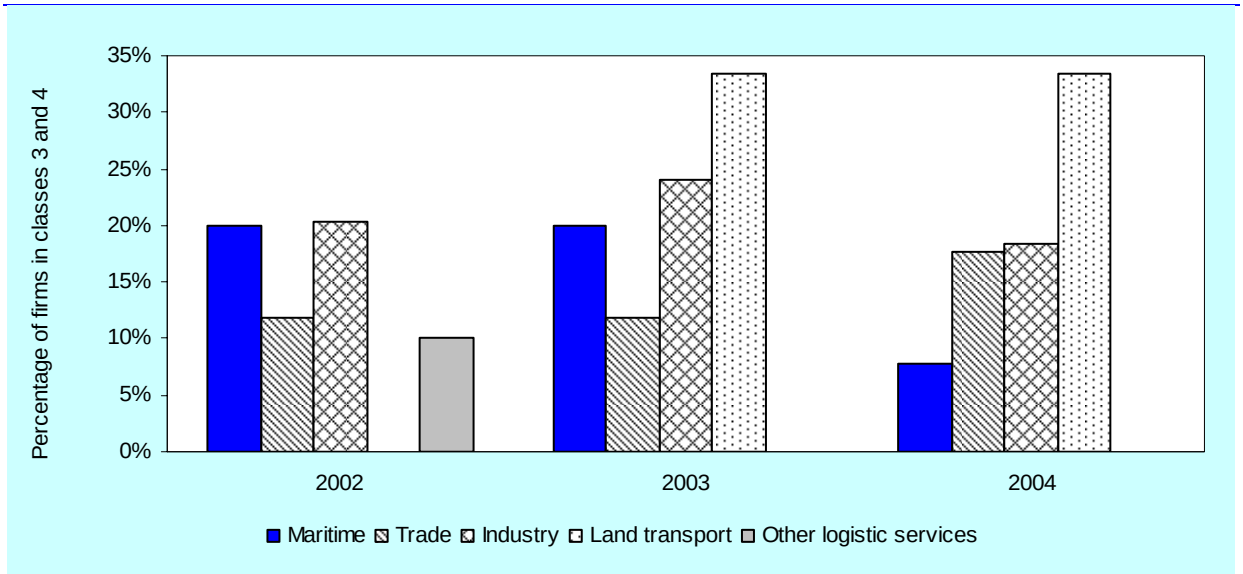
[160] These figures relate to the situation of all Belgian non-financial corporations, large firms and SMEs taken together. They were recalculated in March 2006 by Vivet D. (2005) according to the globalisation method, and therefore differ from those published in the 2003 report.

3.7.2 Financial health assessment[161]

The bankruptcy prediction model applies to firms in the constant sample[162] employing more than five workers. Precisions in point 2 of annex 1.

Chart 16 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 in difficulty (risk classes 3 and 4).

CHART 16 **FINANCIAL RISKS IN THE LIÈGE PORT COMPLEX FROM 2002 TO 2004[163]**
(percentages)



Source: NBB.

In the maritime cluster, the percentage of firms in difficulty declined in 2004 in the port complex, falling from 20 to 7.7 p.c. In industry it was also down, from 24 to 18.4 p.c. The main reductions occurred in electronics and the other industries, while the risk level in metalworking remained at its 2003 level. Conversely, in trade the percentage of firms in classes 3 and 4 increased, from 11.8 to 17.6 p.c., and in land transport the situation remained the same.

Overall, this percentage dropped from 18.9 to 15.2 p.c. in the Liège port complex. This overall decline was attributable to SMEs, of which 23.3 p.c. were in difficulty, compared to 37.5 p.c. in 2003. 11.3 p.c. of large firms faced financial difficulties in 2004, 1.8 p.c. more than in the previous year. The proportion of firms looking vulnerable is structurally higher in SMEs than in large firms. Thus, at national level in 2004, 18.7 p.c. of SMEs were in classes 3 and 4, while the figure for large firms was 14 p.c.

Comparison of the figures obtained for 2003 in this report with those recorded at national level in the same year reveals that, as an initial approximation, the risk profile of metalworking and chemical industries in the Liège basin is above the national average. The opposite is true in the case of construction, other logistic services and trade[164].

[161] The national figures given here were taken from Vivet D. (2005).

[162] The constant sample permits comparisons between one year anad another, but may also have a positive influence on the outcome of this analysis. For details on the representativeness of the constant sample, see point 2 of annex 1.

[163] The number of firms in the constant sample attributed to the Liège port complex is thus lower in land transport and other logistic services: in the case of the former this accounts for the high percentage of firms in difficulty (one in three), and for the latter it explains the zero percentage.

[164] In 2003, the percentages of firms in difficulty recorded in the Liège port complex (present report) and at national level are respectively 18.2 and 15.6 p.c. in metalworking, 16.7 and 15.4 p.c. in the chemical industry, 15 and 16.4 p.c. in construction, 0 and 18.6 p.c. in the other services and 11.8 and 21.7 p.c. in trade.

These trends are also reflected in the percentage of jobs (in FTEs) represented by firms in classes 3 and 4. In 2004, the figure was 2.1 p.c. in the maritime cluster (down by 4.6 points compared to 2003), 21.2 p.c. in trade (+3.9 points), 5.3 p.c. in industry (+1.1 point) and 12.5 p.c. in land transport (-3.6 points).

3.8 Trend in freight traffic at the PAL[165]

TABLE 50 AUTONOMOUS PORT OF LIÈGE
(thousands of tonnes)

	1999	2000	2001	2002	2003	2004	Share in 2004 (in p.c.)
Unloaded	9,694.8	10,299.9	10,225.2	10,849.5	10,671.7	11,121.7	73.2
Loaded	2,876.5	2,838.4	3,250.9	3,568.9	3,499.1	4,068.4	26.8
Total	**12,571.3**	**13,138.3**	**13,476.1**	**14,418.5**	**14,170.8**	**15,190.1**	**100.0**
Difference in p.c. compared to the previous year	+11.9	+4.5	+2.6	+7.0	-1.7	+7.2	

Source: Autonomous Port of Liège.

Table 50 shows the trend in river freight traffic handled by the public ports of Liège. Following the small decline in 2003, the PAL's cargo handling activity revived in 2004, setting a new record[166] by exceeding the 15 million tonne mark for the first time, following a 7.2 p.c. increase. The volume loaded, though of lesser importance at the PAL, recorded an increase of 16.3 p.c. between 2003 and 2004, outstripping the rise in the volume unloaded (+4.2 p.c.).

10,088 vessels used the public infrastructures in 2004 (638 more than in 2003): 4,424 units with a capacity of less than 1,350 tonnes[167] and 5,664 units with a capacity of 1.350 tonnes or more, the average load totalling 1,506 tonnes, an increase of 7 tonnes compared to 2003. Between 1994 and 2004, i.e. over a ten year period, traffic at the PAL grew by 71.8 p.c., representing annual average expansion of 5.6 p.c.

With the addition of the figures for cargo handling in the private infrastructures (6.9 million tonnes), the Liège waterway handled a total of 22.1 million tonnes of river freight in 2004, its best ever performance, putting it firmly in second place among Europe's inland ports after Duisbourg and ahead of Paris, which respectively handled 49.2 and 19.6 million tonnes by waterway in 2004. Of the 45.2 million tonnes[168] of river traffic recorded by Walloon ports as a whole in that year, these 22.1 million tonnes represented 49 p.c.

In the public ports, looking at the various modes of transport, river traffic accounted for 70.4 p.c. of the tonnages in 2004, or 0.2 point more than the previous year. Road and trail transport represented 20.2 and 9.4 p.c. respectively. From 2003 to 2004, the tonnages increased by 7.2 p.c. for river transport (cf. supra), 9 p.c. for road and only 1.9 p.c. for rail.

[165] Sources: Autonomous Port of Liège and "Annuaire 2005 du Port Autonome de Liège", *Lloyd Special Report*. See also table 76 (annex 8) for more details concerning traffic per category of goods at the Autonomous Port of Liège in 2004.

[166] The PAL public infrastructures handled 15,190,067 tonnes of river traffic in 2004, and 21,590,504 tonnes if road and rail traffic are included. This is an all-time record, as traffic showed a significant fall in 2005, down by 6.3 p.c. to 14.2 million tonnes on the public waterway. The adverse effects of the closure of the Seraing blast furnace were already apparent by May 2005. Combined with the weak demand for oil and coal, these reductions were partly offset by an increase in mining and quarrying activity in the Meuse valley.

[167] 1,350 tonnes corresponds to the standard European gauge (class 4, see annex 2 C), this standard being adopted throughout Wallonia's port infrastructures and waterways.

[168] This tonnage is 5.4 p.c. higher than in 2003. It corresponds to traffic of 1.74 billion tkm on the Walloon river network (+3.4 p.c. compared to 2003).

4 SUMMARY

2004 was a very good year for the development of the cargo handling activity of the Flemish maritime ports and the Liège port complex. Benefiting from the accelerating and expanding worldwide trade, the maritime infrastructures, veritable *gateways*, are continuing their efforts to adapt, including via ambitious projects to extend their capacity in containers' storing and handling. The rise in international trade is becoming increasingly apparent from two-digit growth in this type of traffic. The challenge which that presents is accompanied by the globalisation and concentration of the shipping companies and the logistic companies responsible for managing the terminals. The maritime ports in the Hamburg - Le Havre range also have to expect ever fiercer competition there, while the ports directive providing for the sector's liberalisation is still engendering debate. At world level, the trend towards mergers currently seems to be primarily to the advantage of the Asian ports.

In volume terms, the EU depends on the sea for 90 p.c. of its trade with the rest of the world. Belgium's open economy also makes the country very dependent on its maritime ports. In 2004, Belgian trade expanded, as it had done the previous year. This trend is apparent in the four Flemish ports, where the tonnages handled in 2004 were 6.1 p.c. higher than in 2003, taking maritime traffic on its own. The structural growth of container transport has remained the engine of that expansion, growing by 11.8 p.c. in one year, taking all the Flemish ports together. Short sea shipping, or 50 p.c. of maritime traffic, also continued to expand. This is a key mode of transport for the future, for both Belgium and Europe, with almost half of intra-European trade taking place by sea.

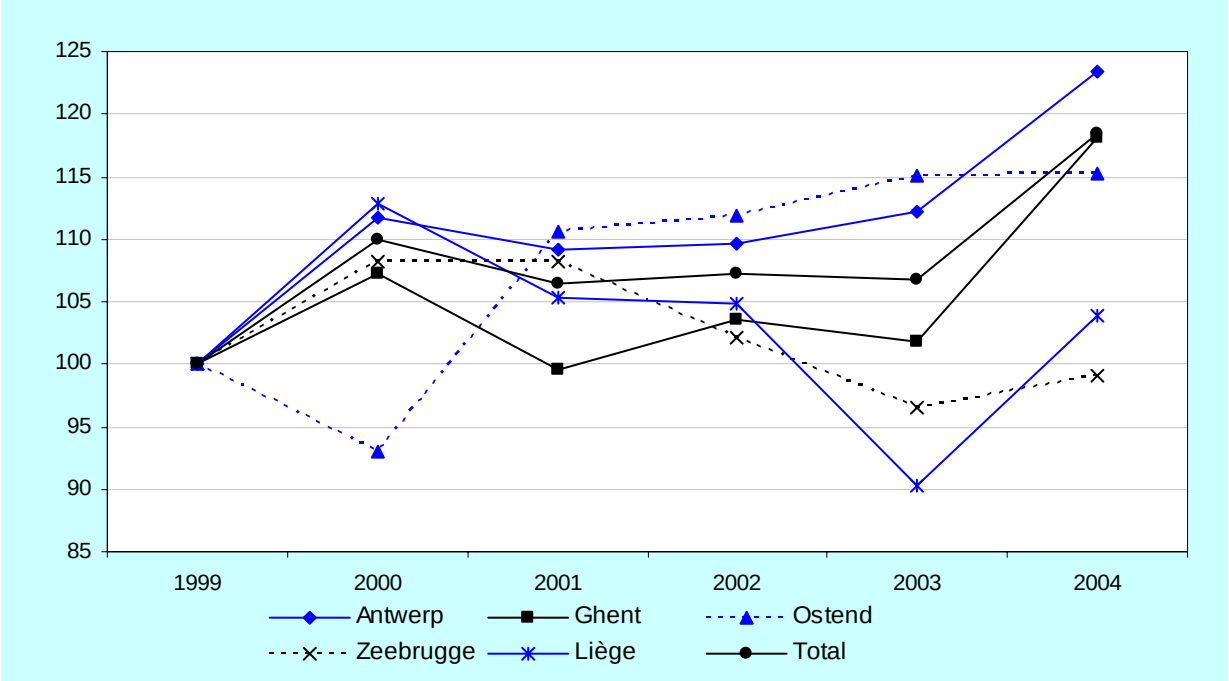
The Autonomous Port of Liège set a new record in 2004, with river traffic 7.2 p.c. up on its 2003 level. The Flemish maritime ports are also active in this mode, which supplements their maritime activity. In 2004, river traffic handled by the four Flemish ports together passed the 100 million tonne mark, with the growth of containerised freight also supporting this trend.

As regards the economic activity conducted in the ports and upstream, the picture is more varied: value added (VA) increased in all the ports, but there were divergent trends in employment, investment and the financial health of the firms included in the study.

In 2004, the direct VA of the four Flemish maritime ports was on average 13.3 p.c. higher than the previous year, at current prices, or +10.7 p.c. at constant prices. This rise is well above the growth recorded in the national economy as a whole. Ghent saw the highest expansion, primarily in its two main industries, metalworking and car manufacturing. Antwerp, which accounts for almost 65 p.c. of the wealth created in these four ports, also recorded a large increase in its contribution to GDP, particularly in the chemical sector. The Antwerp and Ostend shipping companies, and the Zeebrugge shipping agents and forwarders, also participated in this growth. The indirect VA generated by all the activity upstream of the firms in the population, among their suppliers and subcontractors, followed the same trend. The total VA of the Flemish maritime ports, being the sum of direct and indirect VA, was thus close to 25 billion euro in 2004, equivalent to 15.1 p.c. of the GDP of Flanders, and 8.7 p.c. of Belgian GDP. In the Liège port complex, direct VA increased by 17.6 p.c. at current prices between 2003 and 2004, or 14.9 p.c. at constant prices. The most significant increases occurred in energy and metalworking. Indirect VA followed the same trend, so that total VA was once again above 2.2 billion euro, a level corresponding to 3.3 p.c. of Wallonia's GDP and 0.8 p.c. of Belgian GDP.

Chart 17 shows the comparative changes in the direct VA of each port at 2000 prices, for the period 1999 - 2004:

CHART 17 **CHANGE IN DIRECT VA**
(2000 prices; index 1999 = 100)

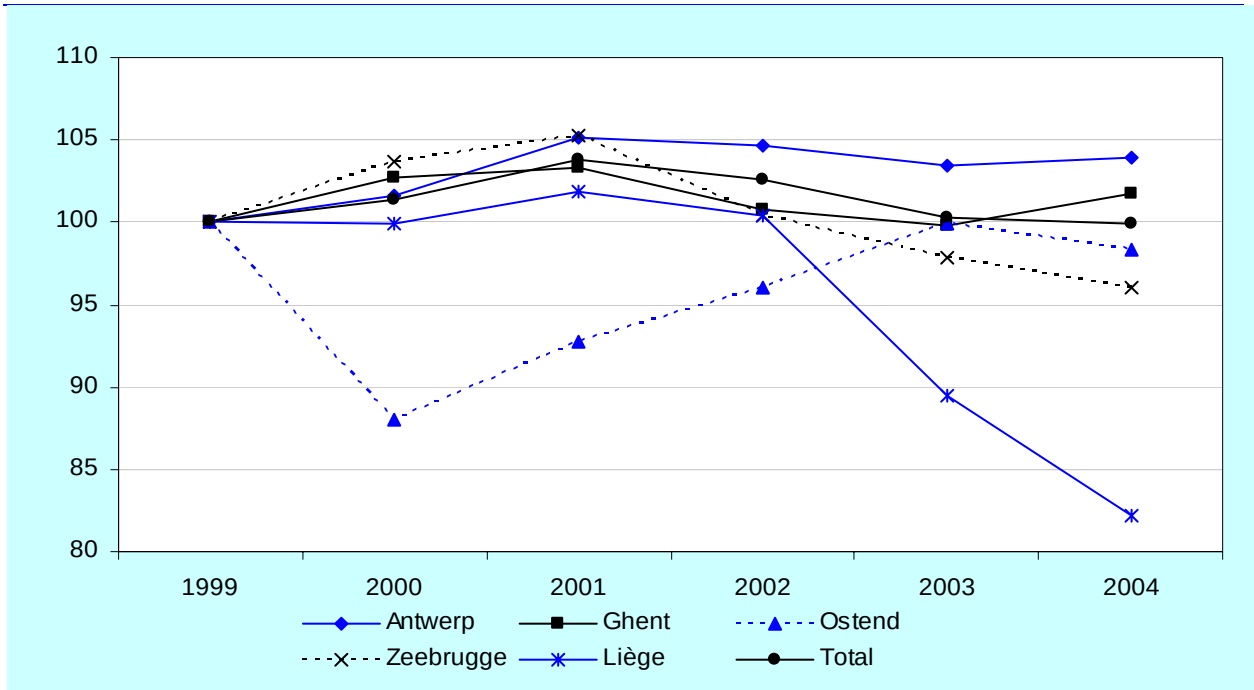


Source: NBB.

Direct employment grew by 0.6 p.c. in the Flemish maritime ports in 2004, which corresponds with Belgian domestic employment growth. The strongest expansion was recorded at the port of Ghent, mainly on account of recruitment in car manufacturing. A small increase was seen in Antwerp, which employs over 58 p.c. of workers in the four ports. Job losses in industry at Ostend and in the maritime cluster at Zeebrugge explain the decline in the workforce employed by those two ports in that same year. Part-time working increased once again, as did the use of hired temporary staff. Recruitment in the Flemish maritime ports focused mainly on graduates, especially in heavy industry and other logistic services, while less time was devoted to training. Total employment, which also includes indirect employment, i.e. the staff of suppliers and subcontractors of the firms considered, exceeded 242,000 FTEs in 2004. These four ports thus represented 11.3 p.c. of domestic employment in Flanders, and 6.5 p.c. of Belgian domestic employment. Direct employment at the Liège port complex continued the decline which had begun in 2002, with a fall of 8.1 p.c. between 2003 and 2004. The largest decline was recorded in metalworking, a sector in the midst of restructuring, though construction was also affected. The same remark concerning the expansion of part-time working and the use of hired temporary staff applies to the Liège basin. The working conditions of female workers was not as good as in 2003, with a decline in recruitment and less time devoted to their training. Indirect employment, though more stable, also contracted in Liège in 2004. As a result, total employment in the port complex dropped below 27,000 FTEs, a level equivalent to 2.7 p.c. of Wallonia's domestic employment and 0.7 p.c. of Belgian domestic employment.

Chart 18 shows the comparative changes in direct employment for each port, for the period 1999 - 2004:

CHART 18 **CHANGE IN DIRECT EMPLOYMENT**
(FTEs; index 1999 = 100)



Source: NBB.

2004 brought a substantial fall in investment in the Flemish ports, with an average decline of 7.1 p.c. at constant prices, compared to the previous year. Notable reductions occurred in metalworking and car manufacturing in Ghent, in the Ostend chemical industry and in electronics at Zeebrugge. Only the port of Antwerp, where 77.5 p.c. of the money invested in the four ports in 2004 was concentrated, resisted this trend, with increases recorded by the energy, oil and shipping company sectors. Taking all the Flemish maritime ports together, investment totalled just over 2.6 billion euro in 2004. After two years of decline, investment in the Liège port complex increased by 15.2 p.c. at current prices between 2003 and 2004, or 14.3 p.c. at constant prices, mainly in metalworking and energy, bringing the total close to 138 million euro.

In 2004, there was a marked increase in return on equity after taxes at the ports of Antwerp and Ghent, boosting the average profitability of firms based in the Flemish ports above the national average. Conversely, average net working capital became negative in Antwerp, thus depressing the average liquidity in broad sense of the Flemish ports below 1 in 2004, in contrast to the national average, where firms saw an increase in their ability to meet their short-term commitments. On average, there was also a decline in solvency, attributable to Antwerp and Zeebrugge. The average solvency of the Antwerp firms was below the national level in 2004, whereas it exceeded that figure in the other three ports. However, the percentage of firms facing financial difficulties declined in the Flemish ports, in the case of both large companies and SMEs. The three ratios increased on average in the Liège port complex in 2004, rising above the figures recorded at national level. The percentage of firms facing financial difficulties also diminished there in that year, as SMEs in Liège made considerable improvements to their financial situation.

Overall, these observations do not permit any final conclusion, but they do indicate one thing: the growth of traffic does not necessarily lead to a corresponding increase in value added, and that is not always synonymous with job creation. If there is an objective which is sustainable in economic and social terms, it is the growth of activity and the maintenance of employment. The current considerable advance of containerised freight provides the Belgian ports with a definite opportunity for expansion, but it also raises the question of their development objectives. While the view of the ports as mere places of transit belongs to the past, the growth of container traffic could be to the detriment of the handling of conventional general cargo, which is liable to reduce the ratio of value added produced per tonne of cargo handled. The developments currently taking place in the sector at global level –increased

competition, privatisation and vertical integration of port logistic services, etc.– are heading towards ever greater technical and financial concentration of these platforms and a standardisation which mainly benefits containers, introduced 50 years ago. That expansion also poses a range of technical problems, such as maritime accessibility, overcrowding of the terminals, road congestion and some delay in the improvements to river access. However, this seems to be central to the strategy adopted by the majority of the ports to withstand global competition. Thus, Antwerp aims to become the first port of call for vessels from Asia, with the entry into service of the Deurganckdok and the forthcoming deepening of the Scheldt, with a view to competing with the second largest European port in terms of container traffic, namely Hamburg. Zeebrugge has the same aim in regard to container traffic from Europe and the rest of the world. This port also shares, with Ghent, plans for extending ro-ro activity, which recently made a major come-back at the port of Ostend. In the Liège port complex, the completion of the trimodal platform *Liège TriLogiPort* is awaited with some optimism in the context of the basin's restructuring. That is essential following the closure of the Cockerill-Sambre blast furnaces, which is already having a marked impact on tonnages. The environment in which Belgian port activity is conducted may also prompt the various ports in question to consider alliances. That applies to Antwerp and Liège which, with the benefit of their complementarity and the link offered by the Albert canal for large tonnages, have reached an agreement heralding an era of cooperation. Antwerp views this as an answer to the congestion in the terminals and on the road network, while Liège considers that it offers substantial development prospects. At the same time, all the competent authorities seem to be fully aware of the need to promote multimodal transport, and especially inland navigation, in particular by encouraging a modal shift in favour of river traffic, even if the financial resources are still insufficient.

To sum up, the strategy for the future which the port authorities and their regional governments have designed for the ports is based on three main points: better access to the facilities for larger vessels, both from the sea and from inland; expanded capacity, particularly for handling container traffic; and development of high value added activities, such as logistic services, in all the ports. The aim is to secure their future as veritable logistic platforms which are mutually interdependent. Together, these multiple challenges imply maintaining, or even strengthening, the competitive position of the Belgian ports on the international scene, ensuring growth and employment.

LIST OF ABBREVIATIONS

BNRC	Belgian National Railway Company
ERDF	European Regional Development Fund
ESA 95	European system of national and regional accounts
EU	European Union
FTE	Full-time equivalent
GDP	Gross Domestic Product
ha	hectare
IOT	*Input-Output Table*
km	kilometre
MET	Walloon Ministry of Equipment and Transport
n.	not available
NACE	Belgian version of the Classification of Economic Activities in the European Community
NBB	National Bank of Belgium
NAI	National Accounts Institute
NSI	National Statistical Institute, now FPS Economy – Directorate General of Statistics and Economic Information
nv	Naamloze vennootschap (in Dutch for public limited liability company)
OECD	Organisation for Economic Cooperation and Development
p.c.	per cent
p.m.	pro memoria
R&D	Research and Development
sa	Société anonyme (in French for public limited liability company)
SME	Small or medium-sized enterprise
SSS	Short Sea Shipping
SUT	Supply and Use Table
TEU	Twenty-foot equivalent unit
tkm	tonne – kilometre
VA	Value added
VAT	Value Added Tax

ANNEX 1: METHODOLOGICAL NOTE

This annex briefly reiterates the methodological note contained in annex 1 to the 2002 reports.[169]

The population of companies was formed by the geographical and functional selection method. It is divided into two clusters[170] : the maritime cluster and the non-maritime cluster. The latter contains the segments trade, industry, land transport and other logistic services.

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 the financial health of the various sectors.

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

1 Selection of the population

Numerous studies on the economic impact of port activities focus on the concept of the cluster, which groups together the branches of activity which have economic links with the port in question.

Two clusters are considered for the purpose of selecting the population:

- The maritime cluster comprises the branches of activity specific to the ports themselves and those whose existence is essential to them (shipping companies, shipping agents and forwarders, cargo handling, storage, shipbuilding and repair, port construction, dredging, fishing, maritime and pilotage services, locks, etc.): there is a direct economic link between these branches and the port concerned.
- The non-maritime cluster comprises four segments that have no immediate economic link with port activity but which have close interdependence with it, by virtue of their geographical proximity and frequent use of the infrastructures. These are:
    - the *trade* segment which covers the chain of wholesalers and retailers linked to the ports (suppliers, trades connected with the other maritime and non-maritime sectors, import-export, warehouses, etc.);
    - the *industry* segment comprising energy, oil, chemicals, car manufacturing, electronics, metalworking, construction, food and the other industries;
    - the *land transport* segment which comprises the various modes of transporting goods overland (road, and rail, plus pipelines);
    - 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, maintenance services, etc.).

The approach adopted for the geographical selection[171] of firms depends on whether they belong to one or other of these clusters.

The companies in the maritime cluster define the port activity and have a direct economic link with the port. In contrast, the activities of companies in the non-maritime cluster may have only an *indirect* economic link with the port, a link which needs to be supplemented by their geographical presence in the port.

Some of the branches adopted for the study are presented in table 51 according to their NACE-Bel classification, in line with the ESA 95[172] approach. Where a distinction between branches is called for, it is possible to go as far as

[169] Lagneaux F. (2004), *Economic importance of the Flemish maritime ports: Report 2002*, NBB, Working Paper No. 56 (Document series) and *Importance économique du Port Autonome de Liège: Rapport 2002*, NBB, Working Paper No. 64 (Document series). These reports are available on-line: see www.nbb.be.

[170] 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.

[171] The port zones concerned are indicated in annex 2.

precision level 5 (NACE-Bel 5-digit codes). The definition of the SUT[173] codes (NACE-Bel 3-digit codes), permitting simplification of this classification, is of particular importance for the estimation of the indirect effects, since the algorithm used for those calculations is based on the supply and use tables and the input-output tables, the data from which are specifically allocated per 3-digit SUT branch.

The plan followed for the sectoral presentation of the results thus corresponds to the branch breakdown adopted in the national accounts, and the detailed figures are presented per sector in order to permit cross analysis of the study results, e.g. by making certain comparisons between the ports. However, certain branches do not occur in all the ports. This applies, for instance, to car manufacturing, which does not exist at the port of Ostend or in the Liège port complex.

Table 51 presents, per cluster, some of the branches which qualify for inclusion in the study of the ports, arranged by sectors (see column 5). The branches marked with an asterisk are the ones 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.

For the reader's convenience, it was agreed that the results of the port authorities (cf. point 1.2.3) within the maritime cluster would be presented on a separate line, under the heading "port authority", thus separating them from the "cargo handling" sector (NACE-Bel 63.220, "Other supporting water transport activities") to which the majority belong according to the NACE-Bel classification in the national accounts. These enterprises are in fact in charge of developing and improving the port installations. Their responsibilities thus extend well beyond simply managing the terminals, while the "cargo handling" activity is increasingly left to private companies.

TABLE 51 CLUSTERS AND SECTORS

Clusters	NACE-Bel	Geographical zone	Description of eligible branches of activity[174]	Sectors
Maritime	05.01	national territory	Fishing	Fishing
	15.201	narrow	Processing and preserving of fish – production of fresh fish products	Fishing
	15.202	narrow	Processing and preserving of fish – production of deep frozen fish products	Fishing
	35.11	national territory	Building and repairing of ships	Shipbuilding and repair
	45.241	narrow	Dredging	Port construction and dredging
	45.242	narrow	Other construction of water projects	Port construction and dredging
	51.9	narrow	Other wholesale	Port trade
	61.1	national territory	Sea and coastal water transport	Shipping companies
	61.2	national territory	Inland water transport	Shipping companies
	63.111	national territory	Cargo handling in seaports	Cargo handling
	63.112	narrow	Other cargo handling	Cargo handling
	63.121	narrow	Storage and warehousing in cold-storage buildings	Cargo handling
	63.122	narrow	Other storage and warehousing	Cargo handling
	63.220	national territory	Other supporting water transport activities	Cargo handling
	(63.220[175])	narrow	(Other supporting water transport activities)	Port authority
	63.401	broad	Forwarding offices	Shipping agents and forwarders
	63.402	broad	Chartering	Shipping agents and forwarders
	63.403	national territory	Shipping agencies	Shipping agents and forwarders
	63.404	narrow	Customs agencies	Shipping agents and forwarders
	63.405	narrow	Transport mediation	Shipping agents and forwarders

[172] See also Eurostat (1995), "European System of National and Regional Accounts", European Community. The NACE-Bel classification for Belgium was revised in 2003 (Rev. 1.1). Annex 3 gives the full list of NACE-Bel branches used in the study.

[173] Supply and Use Table, necessary for constructing the input-output table (IOT).

[174] See the National Accounts Institute's NACE-BEL classification. The branches here are the ones eligible for the study. The full list of branches actually represented by firms in the population is given in annex 3, mentioning the ports concerned for each NACE-Bel 5-digit branch.

[175] The national accounts classify the port authorities in branch 63.220 "Other supporting water transport activities".

Clusters	NACE-Bel	Geographical zone	Description of eligible branches of activity[174]	Sectors
	63.406	narrow	Other activities of freight transport agencies	Shipping agents and forwarders
	71.22	national territory	Renting of water transport equipment	Shipping companies
	75.22	narrow	Defence activities (Navy)	Public sector
Non maritime				
Trade	50	narrow	Sale, maintenance and repair of motor vehicles and motor cycles; retail sale of automotive fuel	Trade
	51 *	narrow	Wholesale trade and commission trade, except of motor vehicles and motor cycles	Trade
	52	narrow	Retail trade, except of motor vehicles and motor cycles	Trade
Industry	14	narrow	Other mining and quarrying	Other industries
	15 *	narrow	Manufacture of food products and beverages	Food industry
	17	narrow	Manufacture of textiles	Other industries
	20	narrow	Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	Other industries
	21	narrow	Manufacture of pulp, paper and paper products	Other industries
	22	narrow	Publishing, printing and reproduction of recorded media	Other industries
	23	narrow	Manufacture of coke, refined petroleum products and nuclear fuel	Oil industry
	24	narrow	Manufacture of chemicals and chemical products	Chemicals
	25	narrow	Manufacture of rubber and plastic products	Chemicals
	26	narrow	Manufacture of other non-metallic mineral products	Construction
	27	narrow	Manufacture of basic metals	Metalworking industry
	28	narrow	Manufacture of fabricated metal products, except machinery and equipment	Metalworking industry
	29	narrow	Manufacture of machinery and equipment n.e.c.	Metalworking industry
	31 to 33	narrow	Manufacture of electrical, optical and electronic equipment	Electronics
	34	narrow	Manufacture of motor vehicles, trailers and semi-trailers	Car manufacturing
	35 *	narrow	Manufacture of other transport equipment	Other industries
	37	narrow	Recycling	Other industries
	40	narrow	Electricity, gas, steam and hot water supply	Energy
	45 *	narrow	Construction	Construction
Land transport	60.1	narrow	Transport via railways	Other land transport
	60.242	narrow	Freight transport by road	Road transport
	60.3	narrow	Transport via pipelines	Other land transport
Other logistic services	63.21	narrow	Other supporting land transport activities	Other services
	66	narrow	Insurance and pension funding, except compulsory social security	Other services
	67	narrow	Activities auxiliary to financial intermediation	Other services
	70	narrow	Real estate activities	Other services
	71 *	narrow	Renting of machinery and equipment without operator and of personal and household goods	Other services
	74	narrow	Other business activities	Other services
	75 *	narrow	Public administration and defence; compulsory social security	Public sector
	90	narrow	Sewage and refuse disposal, sanitation and similar activities	Other services

Source: NBB.

A standard rule applies to the selection of enterprises in the population: there are two different approaches, depending on whether or not the company's activity forms part of the maritime cluster.

For companies in the non-maritime cluster, which make up the bulk of the population[176], geographical location within the port zone is the deciding factor. All the companies located in the port zone in the narrow sense are included in the population, provided they belong to a branch of interest to the study. The definition of the port zone in the

[176] In 2004, non-maritime firms represented 57.1 p.c. of the population studied (total of five ports), 79.4 p.c. of VA and 72.9 p.c. of employment. In Ghent and Liège, which are decidedly industrial ports, the proportion of non-maritime firms totalled 94.2 and 98 p.c. of the respective populations.

narrow sense may be found in annex 2, and the exhaustive list of NACE-Bel branches included in the study is given in annex 3.

Companies in the maritime cluster demonstrate a direct operational link with port activity but are not necessarily situated in the port zone. Depending on the definition of their activity, a geographical approach based on the narrow or broad sense has been adopted in the selection of the companies for this cluster (see column 3 in table 51):

- the port zone in the narrow sense corresponds to the definition of the port zones given in annex 2 and based on the full postal codes and streets concerned;
- the port zone in the broad sense refers to the NSI geographical coding system[177], in which the codes cover a larger area than the postal codes;
- the firms in certain maritime branches may be selected from anywhere in the country, since their definition is sufficient in itself to link them to the port activity. These are branches directly connected with the activity of the seaports. Their results are therefore allocated among the ports, using the formula for the allocation of VA per branch[178]. Some of these activities are allocated to the inland ports, depending on the case. This applies to the port authorities and companies such as Magasins Généraux de Liège, Meuse et Sambre and Somef, in the specific instance of the Liège port complex.

For companies established in more than one location, the so-called “multi-district enterprises”, such as Electrabel, with at least one place of business and/or their head office outside the port zone, the NAI data can be used to identify their places of business within the port zone 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 zone in the narrow sense, is used where that information is available. Recourse to the survey, though marginal since the adoption of the methodology (Report 2002), is necessary for any firm for which individual data are not available from the Central Balance Sheet Office or the national accounts[179].

Once the selection has been completed, an overall check is carried out. This takes account of other sources of information, such as contacts within the port authorities, Lloyd’s Register, etc.

2 Direct effects

The study focuses first on analysing the actual activities of firms in the population, or their direct effects. This edition contains the 2004 figures, with an update of the data collected over the period as a whole[180].

The calculations essentially concern the following economic indicators, relating to the activities of all the firms in the population and based on examination of a series of items[181] in the balance sheet and profit and loss account:

- Value added (or VA) at current prices: corresponds to the value that the enterprise adds to its inputs during the year, via the production process, i.e. the sum of staff costs (items 62 and 617 in the annual accounts), depreciation and downward value adjustments (items 630 and 631/4), provisions for liabilities and charges (item 635/7), certain operating expenses and the operating result -operating profit (item 70/64 marked +) or loss (item 64/70 marked -)-, less operating subsidies (item 740). A firm’s VA, summed up by item 9800, gives an indication of its contribution to the wealth –the GDP– of the country or region, etc.;
- Salaried employment: the paid personnel working in the firms in the population considered. The change in the average size of the workforce during the year is calculated in full-time equivalents –FTEs- (item 9087);

[177] National Statistical Institute, now the FPS Economy – Directorate General of Statistics and Economic Information.

[178] This formula is used to allocate all the data relating to maritime enterprises based outside the port zones. For each year and for each branch, this formula is calculated on the basis of the ratio between the direct VA generated in a given port and the VA generated in all the maritime ports. The line "Outside the ports" included in the tables in points 2.1.1, 2.1.2 and 2.1.3 collates these data, which are then allocated respectively in the tables showing VA, employment and investment in sections 2.2 to 2.5 on the line entitled "Allocation (p.m.)".

[179] For the public enterprises, the large enterprises playing a decisive role in the port activities – such as BNRC and Electrabel - and port authorities not filing accounts at the Central Balance Sheet Office, the data are collected from surveys. These concern the number of FTEs, staff costs and investments taking place during the year. The VA of these enterprises is then calculated, in the case of public enterprises, on the basis of their staff costs. An adjustment percentage is then applied to that figure, based on the ratio between the VA of the public sector and the wages of employees of that sector. Source: NAI.

[180] When the 2004 figures were extracted in March 2006, it was possible to update the figures for the previous years. The main adjustments applied to 2003, as the proportion of firms actually having filed their 2003 annual accounts was then close to 100 p.c.

[181] See also table 52 in this annex.

- Investment in fixed assets at current prices corresponds to acquisitions during the year, including produced fixed assets (item 8169). In certain cases (financial year not corresponding to the calendar year, mergers, acquisitions, etc.), adjusted figures are used, in accordance with the national accounts method which uses VAT item 83.

For information, the change in VA and investment is stated at **constant prices** for total VA and investment. Two different deflators are used for this purpose. In 2004, they stood respectively at 107.8 p.c. at 2000 prices and 102.3 p.c. at 2003 prices for VA. In the case of investment, they were respectively 102 p.c. at 2000 prices and 100.8 p.c. at 2003 prices[182].

Next, the study presents for the years 2002 to 2004 some of the latest social and financial developments in the ports studied. These two aspects of the analysis are considered in two sections, the first concerning the Flemish maritime ports and the second the Liège port complex. Both relate to a *constant sample,* comprising all the companies which filed their accounts in 2002, 2003 and 2004, and meet certain quality conditions for the items concerned[183].

Representativeness of the constant samples:

- For all the five ports studied, the constant sample for the social balance sheet comprises 1,830 firms, or 56 p.c. of the total population considered in 2004, which numbers 3,268. Out of this constant sample, 802 firms, or 43.8 p.c., filed their accounts in the full presentation format. In terms of the number of FTEs, the constant sample for the social balance sheet represents 90.7 p.c. of the workforce in the five ports studied[184], while firms filing their accounts in the full presentation format represent 83.3 p.c.
- The constant sample used for examining the financial ratios of all five ports comprises 2,271 firms, or 69.5 p.c. of the total population. In terms of the number of FTEs, it represents 82.4 p.c. of the workforce of the five ports studied.

- Analysis of forty or so items in the social balance sheet reveals the following three dimensions relating to the trend in human resources during the year: the type of contract, staff turnover, and training.

- The financial ratios are analysed for each individual port. They are presented in a single table, per cluster and per sector, using the same layout as for the tables showing VA, employment and investment and adopting the approach based on the average of the globalised data. This approach is also used to compare these financial results with those for all non-financial corporations, referred to for information[185]. This analysis is supplemented by a section on the financial health of firms in the maritime and non maritime clusters. A bankruptcy prediction model developed by the Bank[186] is used for that purpose. As with the analysis of the social balance sheet, this point is presented in two sections: one relating to all the Flemish maritime ports and the other covering the Liège port complex.

  The following three ratios are analysed:
  - The return on equity after taxes 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 taxes and the capital and reserves: item 70/67 (or 67/70 if negative) / item 10/15.
  - 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): [items 3 + 40/41 + 50/53 + 54/58 + 490/1] / [items 42/48 + 492/3]. If the liquidity ratio in broad sense is more than 1, the net working capital is positive.

[182] The reference used to calculate VA at constant prices is the deflator of gross VA (B1g, or GDP net of taxes and production subsidies). To calculate investment at constant prices, we use the deflator of gross fixed capital formation by enterprises. In both cases, these are national data for Belgium (source: NAI). See also www.belgostat.be.

[183] Example: for the purpose of calculating the return on equity, the capital has to be strictly positive and all the data must correspond to a 12-month financial year.

[184] The total direct employment of the five ports came to 116,738 FTEs.

[185] Vivet D. (2005) uses both the median ratio and the globalisation method. Here, only the globalisation method is used, since the sample is small in size, consisting of sectors dominated by a few enterprises. Caution is essential in analysing these results, in view of the volatility of the figures.

[186] See also Vivet D. (2005).

- 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: item 10/15 / item 10/49.

The bankruptcy prediction model applies to companies in the constant sample employing more than five workers. This sample is therefore smaller than the one used for analysing the financial ratios: for the five ports, it comprised 1,103 enterprises in 2004, or 33.8 p.c. of the population in the constant sample defined for the ratio analysis. But in terms of the workers concerned, it covers 85.4 p.c. of the workforce of the five ports considered. This model, developed by the National 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. There is a legal criterion for defining 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 model 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 3 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 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[187].

All the economic data mentioned above were compiled from the accounts which the firms filed with the Central Balance Sheet Office. The full list of the various items is given at the end of annex 1, in table 52. But in most cases these accounts only concern the balance sheet and profit and loss account of the enterprise as a whole, and not its various establishments. That is why the employment of the multi-district enterprises (cf. supra) is allocated among the latter according to the data supplied by the NAI for each enterprise. This information, relating to employment at the places of business located in the port zone (reference: NSI code), offers the only way of separating these branches. It was therefore agreed that their VA and investment would be calculated in the same way, using the formula for allocating employment per branch. The figures in the social balance sheet and the financial ratios are allocated according to the same system. The NAI data needed for that purpose were updated for the year 2003. That is one of the reasons for the changes to the figures presented in this study for certain large companies in 2003.

The figures for the VA, employment and investment of public enterprises or administrations (Regions, customs administration, fire service, etc.), for which no accounts are available at the Central Balance Sheet Office were obtained via surveys (cf. supra). The public sector is not presented in the chapter on the Liège port complex. The main reason is the absence of data on the staff of the MET and other public bodies. In contrast to PAL staff, these employees are generally assigned ad hoc to port construction or maintenance, which makes it difficult to quantify their contribution. The totals indicated for investment by the Flemish Region do not include the costs relating to the port decree, nor those corresponding to compulsory purchase or the work on improvements to access from the sea[188].

[187] For more information, see Vivet D. (2005).

[188] This explains why the investment figures used in this study are lower than those presented in Vlaamse Havencommissie (2005).

3 Indirect effects

The NAI data[189] permit estimation of the indirect effects of all port activities on the Belgian economy. The firms in the population generate indirect VA and employment upstream, via the activities of their subcontractors. For each year, the calculations are based on three types of data:

- the share represented by the population considered in each SUT branch (NACE-Bel 3-digit headings) at national level;
- the national figures for VA and employment;
- the links between branches deduced from the SUTs (1999, 2000, 2001 and 2002) and/or indicated by the IOTs for 1995 and 2000. Once again, these are national data.

Once these estimates have been produced for each SUT branch, the total of indirect VA and employment is readily obtainable for all the ports considered[190], and that total then has to be allocated per sector and per port. For each year, this allocation goes by the importance of each port in these SUTs (from the point of view of VA and direct employment). 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 of the indirect effects. This total, for VA and employment, is given as a guide for each year, and also takes account of indirect employment generated by the self-employed. The overall economic impact of the port activity can then be estimated by adding the direct and indirect effects together. These cumulative effects at the level of a particular branch provide an estimate of the economic implications of a possible relocation. This was the method used, for example, to estimate the potential overall short-term impact of the termination of Arcelor's hot-phase activities in the Liège basin between now and 2009.

This study looks at the year-on-year changes in port activity. However, since the figures permitting calculation of the indirect effects are not available for all years, it was agreed that the outcome would only be presented for all sectors together in the body of the report. Annex 5 gives a more detailed presentation by sector for 1999, 2000, 2001 and 2002, years for which the supply and use tables (SUT) have been published by the national accounts. The methodology for these calculations was explained in detail in Working Paper No.67[191]. This research reveals that, under certain conditions, the technical coefficients method and the degrees of dependency method produce similar results. Besides, it cannot be 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 more accurate. As a precaution, a combined approach was adopted: the indirect effects are therefore estimated on the basis of the average between the results obtained from the SUT and those from the IOT, according to the technical coefficients approach and the degrees of dependency method (average of four figures). The margin of error is small, but – as these are estimates – great care must be taken in interpreting these figures. The values obtained by this combined approach are higher, on average, than those obtained by using the 2000 IOT on its own. In order to draw the reader's attention, throughout the report, to the caution necessary in interpreting the figures, the estimates are stated in italics for all years except for the year 2000, for which all the information -SUT and IOT- is available. The algorithm and assumptions underlying all these calculations were developed in annex 1 to the Report 2002.

The figures for the indirect effects were revised for the whole period (in view of the adjustments to the figures for the direct effects), and in particular for the years 2001 to 2004, following the updating of the 2001 and 2002 SUTs by the national accounts[192]. The data used to estimate indirect employment were initially expressed in terms of the number of persons in work, as was the result of these calculations. Direct employment, however, is expressed in terms of full-time equivalents (FTEs) based on the data collected. For consistency, and to permit certain comparisons, the figures for indirect employment are converted to FTEs by applying an equivalence factor which corresponds to 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 2004, this equivalence factor updated at the end of March 2006 for

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189 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 corresponding to the NACE-Bel 3-digit headings, to be described in summary form. For the estimation of the indirect effects, the latest figures published by the NAI (SUT for 1999, 2000, and the updated SUTs for 2001 and 2002) and by the Federal Planning Bureau (IOTs for 1995 and 2000) are used for each year. Annex 5 presents these results in detail by sector for the years 1999, 2000, 2001 and 2002.

190 Two separate calculations are carried out, one for the Flemish maritime ports, the other for the Liège port complex.

191 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).

192 Details in the national accounts.

the 2004 Social Balance Sheet,[193] was 0.8972. Taking account of the various arrangements for part-time working, a Belgian employee therefore works on average the equivalent of 89.72 p.c. of a full-time worker's hours.

[193] Heuse P. and Ph. Delhez (2005).

TABLE 52 ITEMS CONSIDERED

Item	Source	Definition	Use in the study
10/15	CB	Capital and reserves	RA
10/49	CB	Total liabilities	RA
1001	CB	Employees on the personnel register during the financial year: average number of employees (full-time)	BS
1002	CB	Employees on the personnel register during the financial year: average number of employees (part-time)	BS
1003	CB	Employees on the personnel register during the financial year: average number of employees (total)	BS
1011	CB	Employees on the personnel register during the financial year: number of hours actually worked (full-time)	BS
1012	CB	Employees on the personnel register during the financial year: number of hours actually worked (part-time)	BS
1013	CB	Employees on the personnel register during the financial year: number of hours actually worked (total)	BS
1021	CB	Employees on the personnel register during the financial year: personnel costs (full-time)	BS
1022	CB	Employees on the personnel register during the financial year: personnel costs (part-time)	BS
1023	CB	Employees on the personnel register during the financial year: personnel costs (total)	BS
1051	CB	Employees on the personnel register on the closing date: average number of employees (full-time)	BS
1052	CB	Employees on the personnel register on the closing date: average number of employees (part-time)	BS
1053	CB	Employees on the personnel register on the closing date: average number of employees (total)	BS
1201	CB	Employees on the personnel register on the closing date: men (full-time)	BS
1202	CB	Employees on the personnel register on the closing date: men (part-time)	BS
1203	CB	Employees on the personnel register on the closing date: men (total)	BS
1211	CB	Employees on the personnel register on the closing date: women (full-time)	BS
1212	CB	Employees on the personnel register on the closing date: women (part-time)	BS
1213	CB	Employees on the personnel register on the closing date: women (total)	BS
1323	CB	Employees on the personnel register on the closing date: blue-collar workers (total)	BS
1343	CB	Employees on the personnel register on the closing date: white-collar workers (total)	BS
1501	CB	Hired temporary staff and persons placed at the enterprise's disposal: average number of persons employed (temporary staff)	BS
1502	CB	Hired temporary staff and persons placed at the enterprise's disposal: average number of persons employed (persons placed at the enterprise's disposal)	BS
1511	CB	Hired temporary staff and persons placed at the enterprise's disposal: number of hours actually worked (temporary staff)	BS
1512	CB	Hired temporary staff and persons placed at the enterprise's disposal: number of hours actually worked (persons placed at the enterprise's disposal)	BS
1521	CB	Hired temporary staff and persons placed at the enterprise's disposal: costs for the enterprise (temporary staff)	BS
1522	CB	Hired temporary staff and persons placed at the enterprise's disposal: costs for the enterprise (persons placed at the enterprise's disposal)	BS
2053	CB	Number of employees entered in the personnel register during the year (total)	BS
2103	CB	Number of employees entered in the personnel register during the year: contracts for an indefinite period (total)	BS
2203	CB	Number of employees entered in the personnel register during the year: men: primary education (total)	BS
2213	CB	Number of employees entered in the personnel register during the year: men: secondary education (total)	BS
2223	CB	Number of employees entered in the personnel register during the year: men: higher non-university education (total)	BS
2233	CB	Number of employees entered in the personnel register during the year: men: university education (total)	BS
2303	CB	Number of employees entered in the personnel register during the year: women: primary education (total)	BS
2313	CB	Number of employees entered in the personnel register during the year: women: secondary education (total)	BS
2323	CB	Number of employees entered in the personnel register during the year: women: higher non-university education (total)	BS
2333	CB	Number of employees entered in the personnel register during the year: women: university education (total)	BS
3	CB	Stocks and contracts in progress	RA
3053	CB	Number of employees whose contract termination date was entered on payroll during the financial year (total)	BS
3103	CB	Number of employees whose contract termination date was entered on payroll during the financial year: contract for an indefinite period (total)	BS
3403	CB	Number of employees whose contract termination date was entered on payroll during the financial year: retirement (total)	BS
3413	CB	Number of employees whose contract termination date was entered on payroll during the financial year: early retirement (total)	BS
3423	CB	Number of employees whose contract termination date was entered on payroll during the financial year: dismissal (total)	BS
3433	CB	Number of employees whose contract termination date was entered on payroll during the financial year: other reason (total)	BS
40/41	CB	Amounts receivable within one year	RA
42/48	CB	Amounts payable within one year	RA
490/1	CB	Deferred charges and accrued income (assets)	RA

Item	Source	Definition	Use in the study
492/3	CB	Deferred charges and accrued income (liabilities)	RA
50/53	CB	Investments	RA
54/58	CB	Cash at bank and in hand	RA
5801	CB	Total of initiatives of employees training at the expense of the employer: number of employees involved: men	BS
5802	CB	Total of initiatives of employees training at the expense of the employer: number of hours of training attended: men	BS
5803	CB	Total of initiatives of employees training at the expense of the employer: costs for the enterprise: men	BS
5811	CB	Total of initiatives of employees training at the expense of the employer: number of employees involved: women	BS
5812	CB	Total of initiatives of employees training at the expense of the employer: number of hours of training attended: women	BS
5813	CB	Total of initiatives of employees training at the expense of the employer: costs for the enterprise: women	BS
617	CB	Hired temporary staff and persons placed at the enterprise's disposal: costs to the enterprise	VA
62	CB	Remuneration, social security and pensions	VA
630	CB	Depreciation of and other amounts written off formation expenses, intangible and tangible fixed assets	VA
631/4	CB	Amounts written off stocks, contracts in progress and trade debtors	VA
635/7	CB	Provisions for liabilities and charges	VA
64/70	CB	Operating loss	VA
640/8	CB	Other operating charges	VA
649	CB	Operating charges carried to assets as restructuring costs	VA
67/70	CB	Loss for the period	RA
70/64	CB	Operating profit	VA
70/67	CB	Profit for the period	RA
740	CB	Operating subsidies and compensatory amounts received from public authorities	VA
8169	CB	Acquisitions, including produced fixed assets	INV
9087	CB	Employees recorded in the personnel register: average number of employees calculated in full-time equivalents	EMP
9097	CB	Hired temporary staff and persons placed at the enterprise's disposal: average number calculated in full-time equivalents	EMP
9800	CB	Value added	VA
83	CN	Investment amounts stated in VAT returns	INV

Key:

CB	Central Balance Sheet Office
CN	National accounts
VA	Value added
EMP	Employment
INV	Investment
RA	Ratios
BS	Social balance sheet

Source: NBB.

ANNEX 2: PORT AREAS AND BELGIAN RIVER NETWORK

ANNEX 2 A : FLEMISH PORT AREAS

These port areas have been established by the Royal Decree (R.D.) 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 the appendix to this R.D., issued on 4 March 1993 in the Belgian Law Gazette.

Ports' maps

Each port area has been defined in accordance with the R.D. of 1993 and precisely takes into account the municipalities and the streets which constitute it[194].

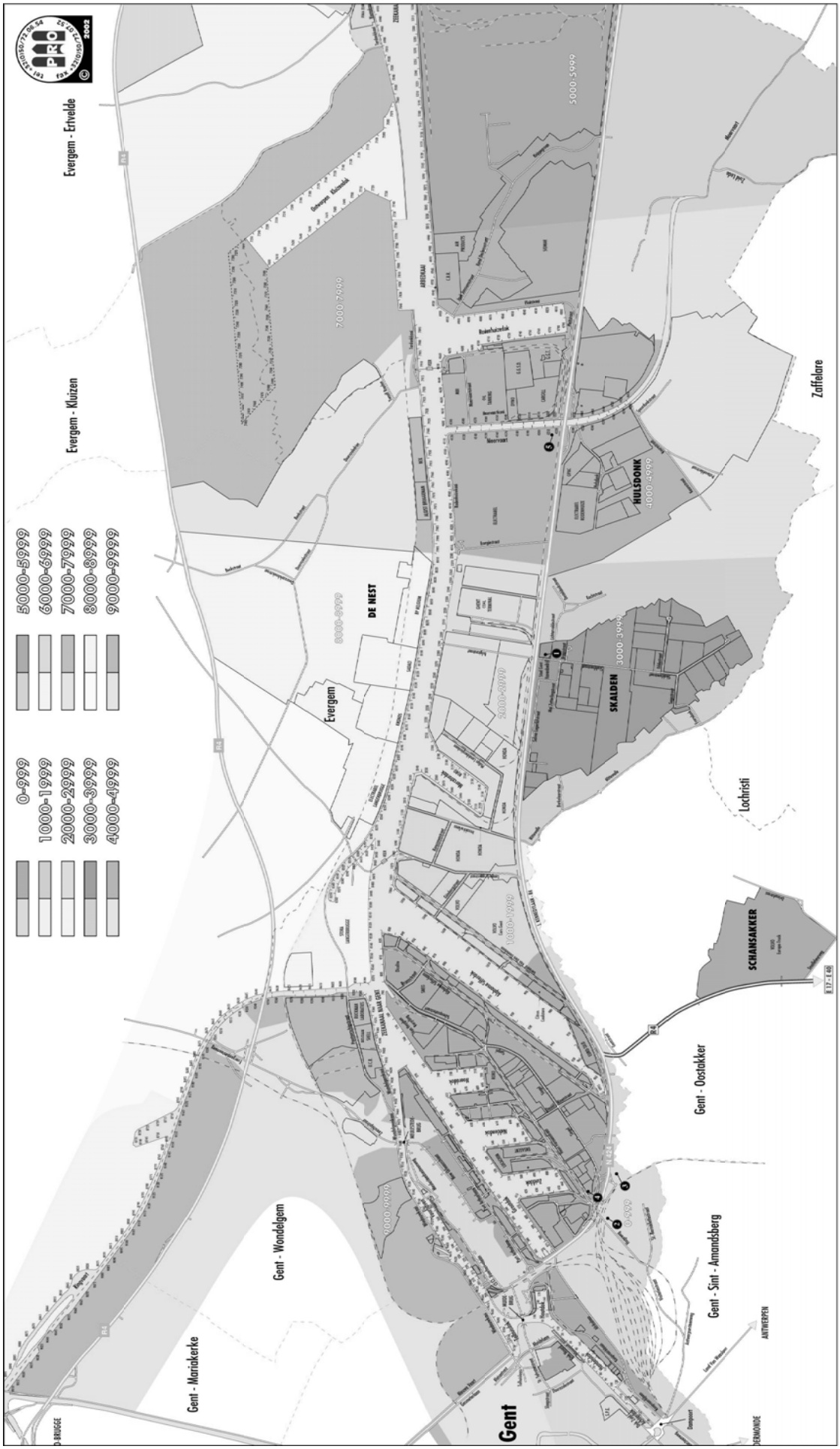
Port of Antwerp: Detailed map and further information on www.portofantwerp.be
Port of Ghent: Detailed map and further information on www.havengent.be
Port of Ostend: Detailed map and further information on www.portofoostende.be
Port of Zeebrugge: Detailed map and further information on www.zeebruggeport.be

[194] See *in extenso* definitions presented in the report 2003.

Port of Antwerp

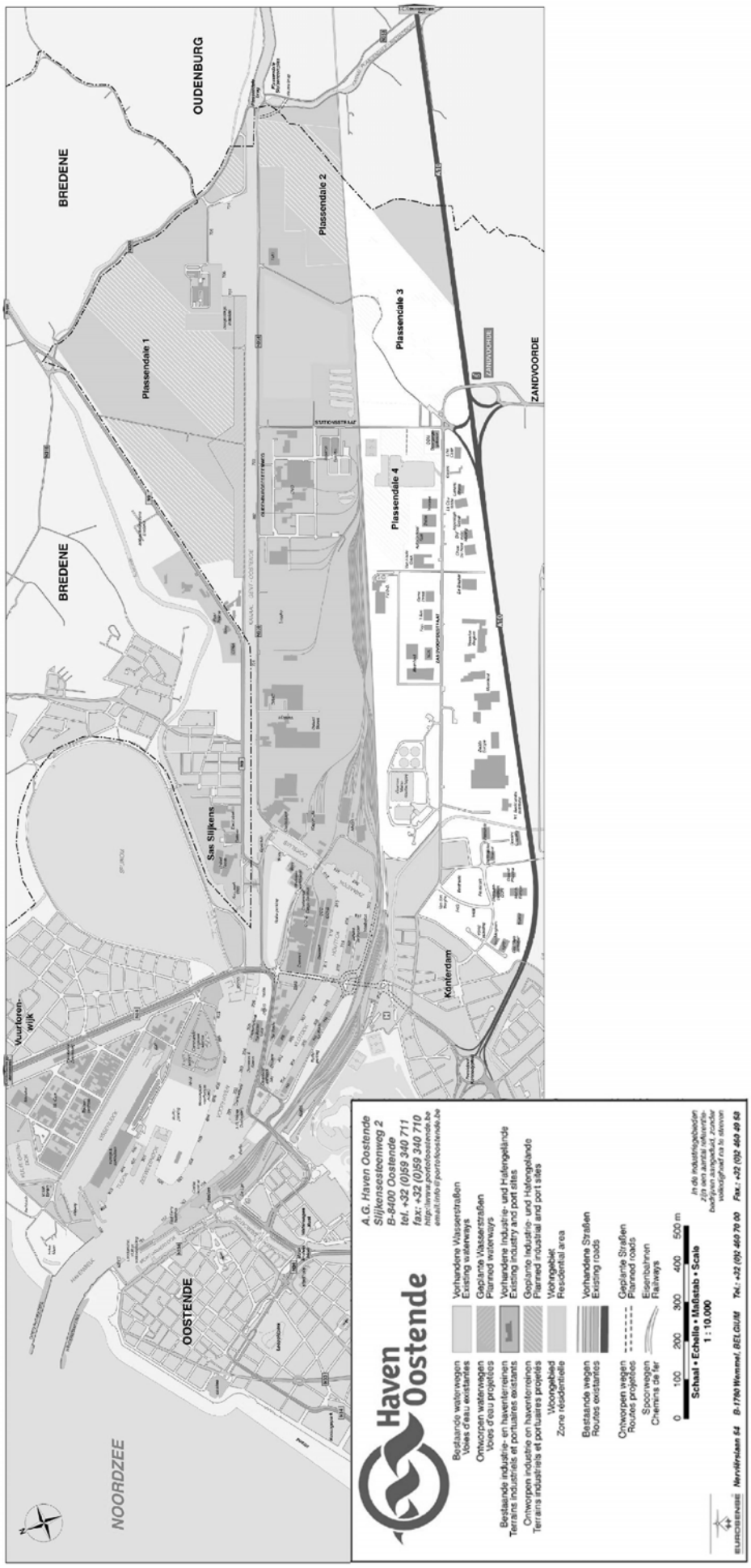
Source: Havenbedrijf Antwerpen.

Port of Ghent



Source: Havenbedrijf Gent GAB.

Port of Ostend



Source: AG Haven Oostende.

Port of Zeebrugge

PLAN VAN DE HAVEN

01 Pas van het Zand
02 Wielingendok
03 Albert II-dok
04 Brittanniadok
05 Pierre Vandammesluis
06 Verbindingsdok
07 Noordelijk Insteekdok
08 Zuidelijk Kanaaldok
09 Visartsluis
10 Boudewijnkanaal
11 Ontworpen Noorderkanaal
12 Prins Albertdok
13 Prins Filipsdok
14 Oud-Ferrydok
15 Leopoldkanaal (Afleidingskanaal)
16 Schipdonkkanaal (Afleidingskanaal)

21 Westdam
22 Oostdam
23 L.N.G.-dam
24 Leopold II-dam
25 Marinebasis

ROLL-ON/ROLL-OFF BEHANDELING

30 Toyota Terminal
31 C.T.O. - Hessenatie Terminal
32 Sea-Ro Terminal (Wielingendok-StoraEnso)
33 P&O Ferries Terminal
34 Superfast Terminal
35 Sea-Ro Terminal (Zweedse Kaai)
36 Sea-Ro Terminal (Hermeskaai - Brittanniaterminal - Minervaplein)
37 Sea-Ro Terminal (Canadaterminal)
38 CdmZ
39 Wallenius Wilhelmsen Terminal
40 Sea-Ro Terminal
41 C.T.O. Terminal
42 C.T.O. Terminal
43 Roro terminal
44 Ontworpen roro terminals

CONTAINERBEHANDELING

45 Container Terminal Albert II-dok Zuid
46 Ocean Container Terminal Hessenatie Zeebrugge
47 Ontworpen container terminal

STUKGOEDBEHANDELING

51 Polyvalente terminal C.T.O.
52 Fruitterminal B.N.F.W. (Sea-Invest)
53 Flanders Cold Center (Sea-Invest)
54 Tropicana

BULKBEHANDELING

61 L.N.G.- terminal (Fluxys)
62 Tameco
63 Nieuwpoortse Handelsmaatschappij (zand en grint terminal)
64 Alzagri (zand en grint terminal)
65 Seaport Shipping & Trading
66 Minne Port Services
67 Hanson (zand en grint terminal)
68 Nieuwpoortse Handelsmaatschappij

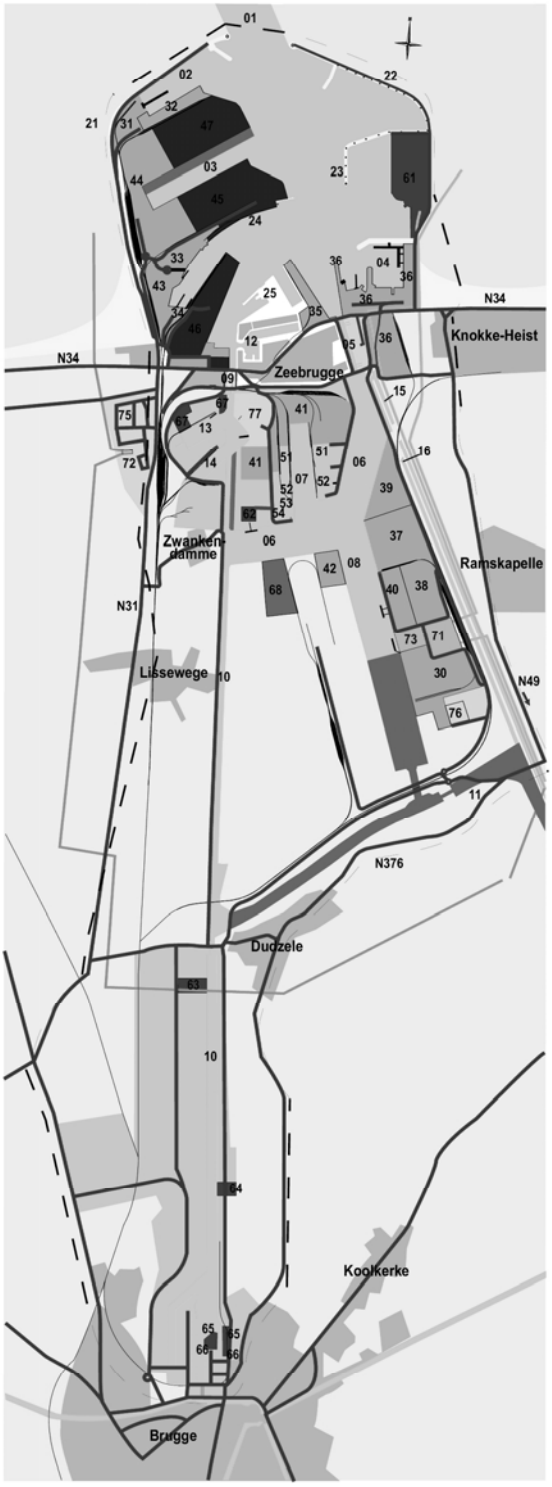
DISTRIBUTIE (gas)

71 Zeepipe-terminal (Statoil)
72 Interconnector-terminal (Interconnector Baczee)
73 Piekbesnoeiingsinstallatie (Fluxys)

DISTRIBUTIE (andere)

75 Transportzone Zeebrugge (T.Z.Z.)
76 Bridgestone - Firestone
77 European Fish Centre (E.F.C.) (Zeebrugse Visveiling ZV)

Geplande havenzone
Bestaande waterwegen of dokken
Waterwegen en dokken in uitvoering of gepland
Woonzones
Wegenis
Spoorwegen
Aardgaspijpleiding
Wind turbines
Radartoren
Gebouwen
Steigers
Afbakening havengebied



Source: Maatschappij van de Brugse Zeevaartinrichtingen.

ANNEX 2 B : LIÈGE PORT AREA[195]

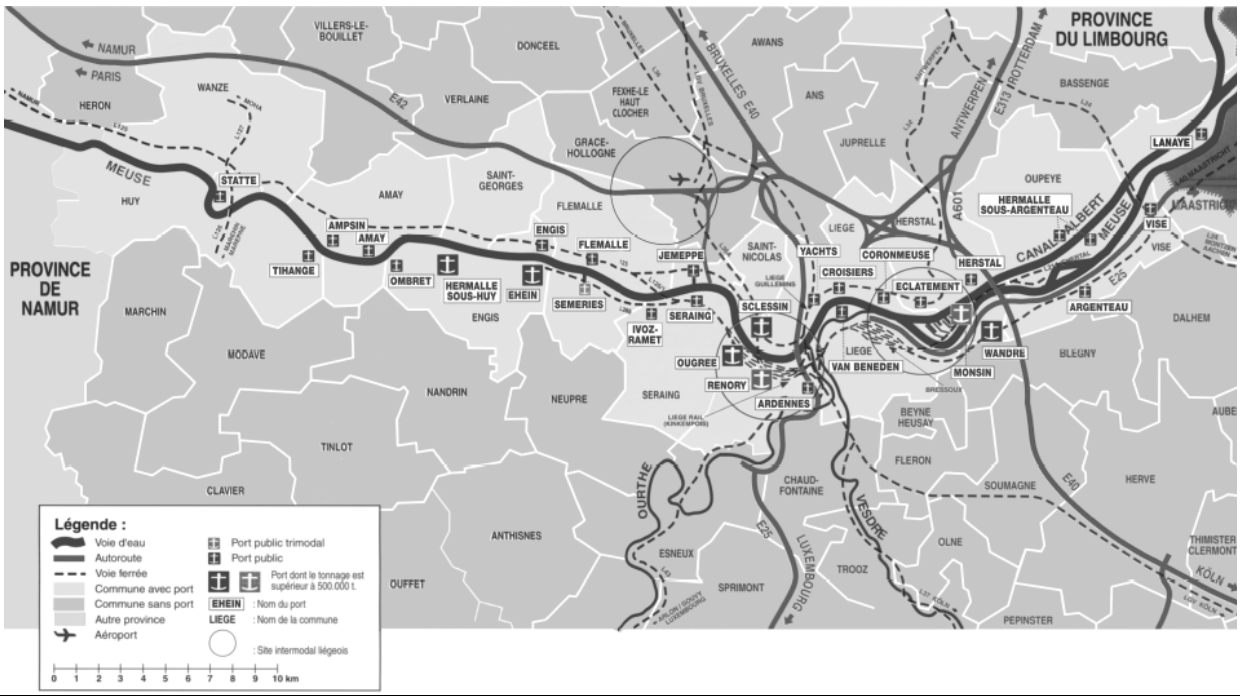
This zone borders the Meuse from Huy to Visé and the Albert Canal from Liège to Lanaye.

The port zone comprises, from west to east, the twenty-nine public ports which make up the PAL: Statte, Tihange, Ampsin, Amay, Ombret, Hermalle-sous-Huy, Engis, Ehein, Semeries, Flémalle, Ivoz-Ramet, Seraing, Jemeppe, Ougrée, Sclessin, Renory, Ardennes, Yacht Haven, Croisiers-Cheravoie, Van Beneden, Coronmeuse, Eclatement, Île Monsin, Wandre oil port, Herstal, Argenteau, Hermalle-sous-Argenteau, Visé and Lanaye. This was the situation in June 2004, when the management of the Hermalle-sous-Argenteau trimodal platform was assigned to the PAL. Before that date, the public ports managed by the PAL extended over a total of 262 ha and comprised 22 km of quays beside the Meuse and the Albert Canal. The total now is 359 ha and 26 km of quays.

In addition to these public infrastructures, located in the twelve municipalities shown on the map below (between Statte and Lanaye, about 50 km apart), there are a number of private quays: Bouygues Béton Amay, Carmeuse, CBR, Cockerill Mécanique Prestations, Cockerill Sambre, CTB, Dumont Wautier, Electrabel, la Gravière d'Amay, Holcim, Imerys Belgique, the Portier group (Gravibéton, Prefer, Eucotrans, Terminal E.C.E.), Prayon and Tirlemontoise Refinery.

Altogether, these make up the Liège port complex. Thus, about a hundred streets were selected, in whole or in part (even numbers, odd numbers, etc.), to define the port zone.

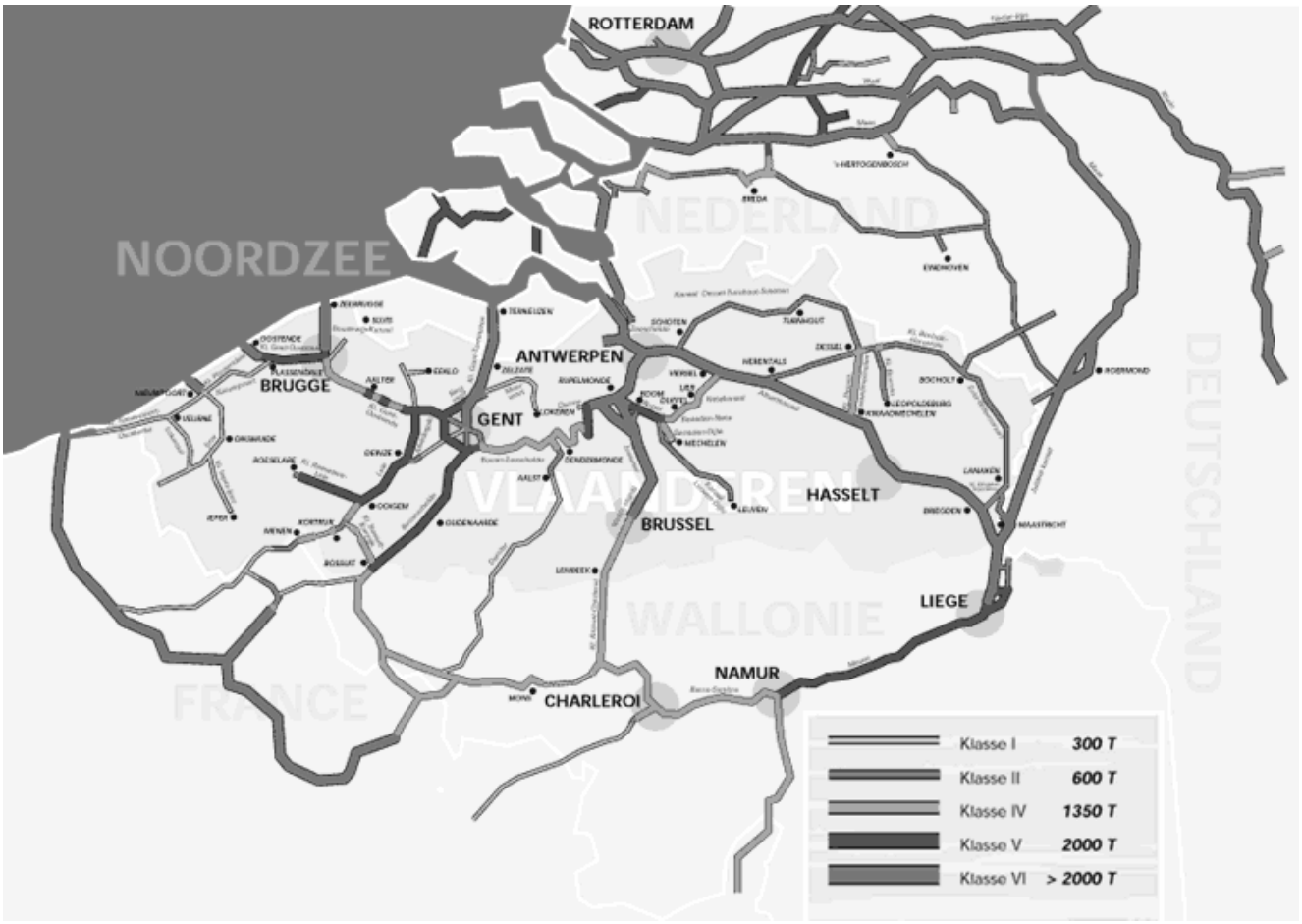
Port of Liège



Source: Autonomous Port of Liège.

[195] Detailed plan and information at www.liege.port-autonome.be.

ANNEX 2 C : BELGIAN RIVER NETWORK



Source: Promotie Binnenvaart Vlaanderen.

ANNEX 3: LIST OF NACE-BEL BRANCHES[196]

TABLE 53 **LIST OF NACE-BEL BRANCHES (NACE-BEL CODES)**

Suttak	NACE-BEL	Cluster	Sector	AN	GN	OO	ZB	LG	Definition
05A1	05010	MA	VI	*		*	*		Fishing
14A1	14211	IN	AI	*					Quarrying of sand pits
14A1	14212	IN	AI					*	Quarrying of gravel
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	15830	IN	VO					*	Manufacture of sugar
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
15K1	15980	IN	VO				*		Production of mineral waters and soft drinks
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	24152	IN	CH					*	Manufacture of nitrogen compounds related to 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.

[196] The nomenclature in this list is in accordance with the NACE-Bel revision having taken place in 2003 (Rev. 1.1).

TABLE 53 (CONTINUED) **LIST OF NACE-BEL BRANCHES (NACE-BEL CODES)**

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
26A1	26110	IN	CS		*		*		Manufacture of flat glass
26A1	26120	IN	CS		*		*		Shaping and processing of flat glass
26A1	26403	IN	CS					*	Manufacture of other construction products, in baked clay
26C1	26510	IN	CS		*			*	Manufacture of cement
26C1	26520	IN	CS					*	Manufacture of lime
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	26640	IN	CS					*	Manufacture of mortars
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	27310	IN	ME					*	Cold drawing
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	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	29430	IN	ME				*		Manufacture of other machine tools n.e.c.
29C1	29510	IN	ME					*	Manufacture of machinery for metallurgy
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
31A1	31623	IN	MP					*	Manufacture of other electrical equipment n.e.c.
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

TABLE 53 (CONTINUED) **LIST OF NACE-BEL BRANCHES (NACE-BEL CODES)**

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	40110	IN	EN	*	*	*	*	*	Production of electricity
40A1	40130	IN	EN					*	Distribution and trade of electricity
40A1	40220	IN	EN				*		Distribution and trade 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
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
50A1	50302	CO	CO				*		Retail sale 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

TABLE 53 (CONTINUED) LIST OF NACE-BEL BRANCHES (NACE-BEL CODES)

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	51810	CO	CO	*	*		*		Wholesale of machine tools
51A1	51820	CO	CO	*	*	*			Wholesale of mining, construction and civil engineering machinery
51A1	51840	CO	CO	*	*	*	*		Wholesale of computers, computer peripheral equipment and software
51A1	51871	CO	CO	*	*	*	*	*	Wholesale of electric and electronic equipment
51A1	51872	CO	CO	*	*	*	*	*	Wholesale trade in transport equipment, except motor vehicles, motorcycles and bicycles, in instruments and appliances for measuring and navigating, and other various machinery and equipment for use in industry, n.e.c.
51A1	51873	CO	CO					*	Wholesale of other machinery for use in trade and services n.e.c.
51A1	51900	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.
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 seaports
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

TABLE 53 (CONTINUED) **LIST OF NACE-BEL BRANCHES (NACE-BEL CODES)**

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	72220	LO	AD	*	*	*	*		Other 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
74C1	74401	LO	AD					*	Advertising agencies
74E1	74502	LO	AD	*	*	*	*		Temporary employees agencies and providers of temporary personnel
74F1	74601	LO	AD	*	*		*		Security activities
74F1	74700	LO	AD	*	*	*	*	*	Industrial cleaning
74F1	74820	LO	AD	*	*		*		Packaging activities
74F1	74855	LO	AD	*					Other administrative activities n.e.c.
74F1	74879	LO	AD	*	*	*	*	*	Other business activities n.e.c.
75A3	75116	LO	PU					*	Intercommunal companies with general aim
75B3	75220	MA	PU	*	*	*	*		Defence activities
90A1	90010	LO	AD	*	*			*	Collection and treatment of sewage
90A1	90021	LO	AD	*	*	*	*	*	Collection and processing of agricultural, industrial and household refuse
91A1	91110	LO	AD	*	*	*	*		Activities of business and employers organisations
91A1	91120	LO	AD			*			Activities of professional 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 asterisks denote the presence of the activity branches in the ports for at least one year over the period 1999 - 2004. For instance the NACE-Bel branch 40.110 is or was present in the five ports, at the same time or at least one year in each of these ports between 1999 and 2004, while the branch 51.391 was only present in Zeebrugge.

Legend:

Key	Port
AN	Port of Antwerp
GN	Port of Ghent
OO	Port of Ostend
ZB	Port of Zeebrugge
LG	Liège port complex

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
		HB	Port authority
		PU	Public sector
CO	Trade	CO	Trade
IN	Industry	EN	Energy
		PE	Oil industry
		CH	Chemicals
		AU	Car manufacturing
		MP	Electronics
		ME	Metalworking industry
		CS	Construction
		VO	Food industry
		AI	Other industries
TP	Land transport	WE	Road transport
		TP	Other land transport
LO	Other logistic services	AD	Other services
		PU	Public sector

ANNEX 4: LIST OF PUBLIC ADMINISTRATIONS

TABLE 54 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
AN-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	Port of Antwerp
GN	Port of Ghent
OO	Port of Ostend
ZB	Port of Zeebrugge
LG	Liège port complex

ANNEX 5: BREAKDOWN OF INDIRECT EFFECTS BY SECTOR

This detailed breakdown is given only for the years for which supply and use tables' data have been updated in the national accounts: 1999, 2000, 2001 and 2002.

1. PORT OF ANTWERP

1.1. VALUE ADDED

TABLE 55 INDIRECT VALUE ADDED IN THE PORT OF ANTWERP
(millions of euros - current prices)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***2,354.6***	**2,541.5**	***2,762.3***	***2,577.2***
Shipping agents and forwarders	*586.5*	598.3	*601.3*	*560.1*
Cargo handling	*928.8*	954.7	*1,061.6*	*990.4*
Shipping companies	*532.9*	647.9	*729.3*	*646.5*
Shipbuilding and repair	*23.5*	18.2	*20.8*	*24.5*
Port construction and dredging	*68.3*	98.1	*109.8*	*128.1*
Fishing	*0.9*	0.5	*0.5*	*0.5*
Port trade	*4.0*	8.1	*6.8*	*8.0*
Port authority	*209.8*	215.5	*232.2*	*219.0*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***3,689.2***	**4,299.7**	***4,390.7***	***4,626.6***
TRADE	*348.1*	612.1	*561.3*	*652.2*
INDUSTRY	*2,927.7*	3,229.1	*3,292.4*	*3,427.4*
Energy	*45.8*	53.0	*69.4*	*65.5*
Oil industry	*671.3*	731.9	*664.4*	*719.7*
Chemicals	*1,023.7*	1,482.9	*1,441.8*	*1,466.2*
Car manufacturing	*922.7*	628.5	*719.6*	*760.8*
Electronics	*5.4*	8.8	*12.6*	*11.8*
Metalworking industry	*62.6*	70.6	*90.1*	*93.5*
Construction	*123.5*	127.5	*161.7*	*170.9*
Food industry	*54.4*	104.2	*110.0*	*114.3*
Other industries	*18.2*	21.7	*22.8*	*24.8*
LAND TRANSPORT	*83.8*	67.8	*71.8*	*75.2*
Road transport	*66.7*	51.6	*50.4*	*52.9*
Other land transport	*17.1*	16.2	*21.4*	*22.3*
OTHER LOGISTIC SERVICES	*329.7*	390.7	*465.2*	*471.8*
Other services	*329.7*	390.7	*465.2*	*471.8*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT VALUE ADDED	***6,043.9***	**6,841.2**	***7,153.0***	***7,203.8***

Source: NBB.

TABLE 56 INDIRECT EMPLOYMENT IN THE PORT OF ANTWERP
(FTEs)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***34,074***	**35,820**	***37,286***	***33,674***
Shipping agents and forwarders	*8,330*	8,589	*8,170*	*7,468*
Cargo handling	*15,417*	15,371	*15,731*	*14,264*
Shipping companies	*6,760*	8,244	*9,768*	*8,533*
Shipbuilding and repair	*499*	461	*528*	*535*
Port construction and dredging	*555*	608	*781*	*830*
Fishing	*11*	9	*8*	*7*
Port trade	*90*	176	*162*	*185*
Port authority	*2,411*	2,363	*2,137*	*1,853*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***47,890***	**55,731**	***59,199***	***55,930***
TRADE	*2,178*	2,982	*3,137*	*3,089*
INDUSTRY	*39,679*	46,005	*47,521*	*44,839*
Energy	*1,145*	998	*1,416*	*1,497*
Oil industry	*7,892*	10,167	*9,918*	*8,874*
Chemicals	*10,787*	16,981	*16,232*	*15,935*
Car manufacturing	*15,409*	12,044	*13,070*	*11,691*
Electronics	*92*	151	*167*	*127*
Metalworking industry	*1,154*	1,350	*1,657*	*1,624*
Construction	*1,683*	1,616	*2,046*	*2,172*
Food industry	*1,252*	2,418	*2,714*	*2,600*
Other industries	*266*	280	*302*	*320*
LAND TRANSPORT	*1,448*	1,198	*1,285*	*1,131*
Road transport	*1,190*	814	*745*	*762*
Other land transport	*258*	384	*540*	*369*
OTHER LOGISTIC SERVICES	*4,585*	5,545	*7,256*	*6,870*
Other services	*4,585*	5,545	*7,256*	*6,870*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT EMPLOYMENT	***81,964***	**91,551**	***96,485***	***89,604***

Source: NBB.

2. PORT OF GHENT

2.1. VALUE ADDED

TABLE 57 **INDIRECT VALUE ADDED IN THE PORT OF GHENT**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***242.0***	**207.5**	***221.3***	***255.5***
Shipping agents and forwarders	*39.3*	44.4	*56.5*	*60.5*
Cargo handling	*142.1*	129.0	*120.9*	*131.1*
Shipping companies	*37.0*	10.0	*16.2*	*35.2*
Shipbuilding and repair	*3.0*	2.7	*3.4*	*4.2*
Port construction and dredging	*0.0*	0.0	*2.5*	*1.1*
Fishing	*1.2*	1.2	*0.8*	*1.8*
Port trade	*0.3*	1.5	*1.0*	*1.9*
Port authority	*19.1*	18.8	*20.0*	*19.6*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***2,425.1***	**2,538.3**	***2,719.9***	***2,823.9***
TRADE	*355.0*	471.2	*504.2*	*506.7*
INDUSTRY	*1,974.9*	1,888.9	*2,055.3*	*2,152.1*
Energy	*37.8*	47.0	*59.1*	*56.6*
Oil industry	*0.0*	2.8	*4.5*	*5.3*
Chemicals	*104.2*	130.7	*132.2*	*123.6*
Car manufacturing	*909.1*	683.4	*834.3*	*823.9*
Electronics	*48.6*	66.1	*43.5*	*40.0*
Metalworking industry	*579.3*	637.8	*588.2*	*736.4*
Construction	*138.7*	155.6	*196.1*	*161.9*
Food industry	*91.5*	103.5	*115.6*	*132.5*
Other industries	*65.6*	62.0	*81.8*	*72.0*
LAND TRANSPORT	*29.3*	31.0	*31.2*	*30.3*
Road transport	*25.0*	27.4	*26.1*	*24.7*
Other land transport	*4.3*	3.6	*5.1*	*5.6*
OTHER LOGISTIC SERVICES	*65.9*	147.2	*129.2*	*134.7*
Other services	*65.9*	147.2	*129.2*	*134.7*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT VALUE ADDED	***2,667.2***	**2,745.9**	***2,941.1***	***3,079.4***

Source: NBB.

TABLE 58 INDIRECT EMPLOYMENT IN THE PORT OF GHENT
(FTEs

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***2,889***	**2,530**	***2,603***	***2,532***
Shipping agents and forwarders	*622*	628	*669*	*657*
Cargo handling	*1,418*	1,407	*1,286*	*1,149*
Shipping companies	*555*	206	*307*	*413*
Shipbuilding and repair	*65*	60	*85*	*81*
Port construction and dredging	*0*	0	*32*	*12*
Fishing	*23*	14	*12*	*11*
Port trade	*9*	17	*21*	*40*
Port authority	*196*	198	*192*	*168*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***32,232***	**33,294**	***34,969***	***34,025***
TRADE	*2,620*	2,879	*3,233*	*3,261*
INDUSTRY	*27,988*	27,909	*29,341*	*28,289*
Energy	*944*	885	*1,055*	*1,200*
Oil industry	*0*	256	*225*	*159*
Chemicals	*1,614*	2,243	*2,273*	*2,160*
Car manufacturing	*14,011*	10,443	*12,422*	*11,413*
Electronics	*671*	1,282	*1,013*	*872*
Metalworking industry	*6,201*	8,096	*7,486*	*7,901*
Construction	*2,129*	2,019	*1,984*	*1,964*
Food industry	*1,613*	1,837	*1,922*	*1,615*
Other industries	*806*	850	*961*	*1,005*
LAND TRANSPORT	*405*	375	*397*	*375*
Road transport	*341*	315	*313*	*292*
Other land transport	*63*	60	*85*	*83*
OTHER LOGISTIC SERVICES	*1,220*	2,130	*1,998*	*2,099*
Other services	*1,220*	2,130	*1,998*	*2,099*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT EMPLOYMENT	***35,121***	**35,824**	***37,572***	***36,557***

Source: NBB.

3. PORT OF OSTEND

3.1. VALUE ADDED

TABLE 59 INDIRECT VALUE ADDED IN THE PORT OF OSTEND
(millions of euros - current prices)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***125.3***	**58.0**	***52.7***	***-27.7***
Shipping agents and forwarders	*5.7*	7.2	*3.3*	*5.0*
Cargo handling	*3.8*	3.8	*5.1*	*5.7*
Shipping companies	*32.6*	0.0	*-11.1*	*-94.4*
Shipbuilding and repair	*4.7*	3.9	*0.0*	*4.6*
Port construction and dredging	*42.8*	19.2	*27.0*	*35.6*
Fishing	*32.8*	20.4	*24.5*	*11.8*
Port trade	*0.0*	0.1	*0.1*	*0.2*
Port authority	*2.9*	3.4	*3.7*	*3.8*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***238.1***	**246.4**	***222.2***	***229.9***
TRADE	*20.1*	24.5	*22.3*	*19.9*
INDUSTRY	*102.9*	91.3	*126.3*	*124.0*
Energy	*0.3*	0.3	*0.3*	*0.2*
Oil industry	*0.0*	0.0	*0.0*	*0.0*
Chemicals	*15.8*	15.8	*15.3*	*23.8*
Car manufacturing	*0.0*	0.0	*0.0*	*0.0*
Electronics	*0.0*	0.5	*0.7*	*0.7*
Metalworking industry	*67.2*	60.5	*85.6*	*78.5*
Construction	*12.0*	8.9	*10.4*	*9.1*
Food industry	*3.9*	1.8	*5.7*	*8.2*
Other industries	*3.7*	3.4	*8.4*	*3.6*
LAND TRANSPORT	*10.0*	8.0	*11.9*	*12.6*
Road transport	*9.8*	7.8	*11.6*	*11.5*
Other land transport	*0.2*	0.1	*0.3*	*1.1*
OTHER LOGISTIC SERVICES	*105.1*	122.6	*61.6*	*73.4*
Other services	*105.1*	122.6	*61.6*	*73.4*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT VALUE ADDED	***363.4***	**304.4**	***274.9***	***202.2***

Source: NBB.

TABLE 60 INDIRECT EMPLOYMENT IN THE PORT OF OSTEND
(FTEs)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***4,666***	**902**	***1,003***	***1,105***
Shipping agents and forwarders	*104*	104	*35*	*63*
Cargo handling	*92*	112	*91*	*100*
Shipping companies	*3,376*	0	*230*	*306*
Shipbuilding and repair	*91*	85	*0*	*97*
Port construction and dredging	*293*	167	*218*	*282*
Fishing	*679*	395	*392*	*222*
Port trade	*0*	1	*2*	*2*
Port authority	*31*	38	*36*	*32*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***3,133***	**3,271**	***3,507***	***3,713***
TRADE	*363*	495	*490*	*421*
INDUSTRY	*1,399*	1,473	*1,643*	*1,584*
Energy	*6*	5	*5*	*4*
Oil industry	*0*	0	*0*	*0*
Chemicals	*382*	456	*344*	*474*
Car manufacturing	*0*	0	*0*	*0*
Electronics	*0*	9	*8*	*8*
Metalworking industry	*615*	724	*815*	*775*
Construction	*211*	164	*187*	*159*
Food industry	*97*	43	*108*	*119*
Other industries	*88*	72	*175*	*44*
LAND TRANSPORT	*132*	97	*176*	*165*
Road transport	*130*	91	*137*	*130*
Other land transport	*2*	7	*40*	*34*
OTHER LOGISTIC SERVICES	*1,239*	1,206	*1,198*	*1,543*
Other services	*1,239*	1,206	*1,198*	*1,543*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT EMPLOYMENT	***7,799***	**4,172**	***4,510***	***4,818***

Source: NBB.

4. PORT OF ZEEBRUGGE

4.1. VALUE ADDED

TABLE 61 **INDIRECT VALUE ADDED IN THE PORT OF ZEEBRUGGE**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***294.9***	**219.7**	***245.3***	***339.7***
Shipping agents and forwarders	*33.0*	37.0	*35.1*	*34.0*
Cargo handling	*76.6*	99.8	*111.6*	*104.1*
Shipping companies	*106.9*	1.6	*12.4*	*115.9*
Shipbuilding and repair	*6.0*	7.0	*7.6*	*8.0*
Port construction and dredging	*25.1*	32.7	*33.1*	*30.1*
Fishing	*26.9*	18.8	*21.6*	*22.7*
Port trade	*0.1*	0.3	*0.1*	*0.2*
Port authority	*20.2*	22.5	*23.9*	*24.8*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***288.9***	**331.5**	***363.2***	***319.6***
TRADE	*57.3*	68.1	*70.4*	*59.9*
INDUSTRY	*161.4*	194.6	*212.2*	*178.7*
Energy	*21.3*	26.1	*27.2*	*27.1*
Oil industry	*0.0*	0.0	*0.0*	*0.0*
Chemicals	*19.4*	16.5	*15.9*	*15.7*
Car manufacturing	*0.2*	0.1	*5.6*	*0.0*
Electronics	*26.9*	46.5	*49.4*	*43.5*
Metalworking industry	*12.5*	12.5	*13.4*	*13.2*
Construction	*46.7*	66.4	*72.4*	*49.6*
Food industry	*25.0*	16.7	*17.4*	*17.8*
Other industries	*9.4*	9.9	*10.8*	*11.9*
LAND TRANSPORT	*41.3*	33.3	*43.0*	*42.6*
Road transport	*36.2*	25.8	*29.1*	*30.7*
Other land transport	*5.0*	7.5	*13.9*	*11.8*
OTHER LOGISTIC SERVICES	*28.9*	35.5	*37.7*	*38.4*
Other services	*28.9*	35.5	*37.7*	*38.4*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT VALUE ADDED	***583.7***	**551.2**	***608.5***	***659.3***

Source: NBB.

TABLE 62 INDIRECT EMPLOYMENT IN THE PORT OF ZEEBRUGGE
(FTEs)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***3,929***	**4,742**	***4,476***	***4,314***
Shipping agents and forwarders	*452*	403	*410*	*398*
Cargo handling	*1,640*	1,862	*1,735*	*1,564*
Shipping companies	*768*	1,348	*1,213*	*1,289*
Shipbuilding and repair	*153*	164	*192*	*164*
Port construction and dredging	*248*	320	*315*	*314*
Fishing	*448*	415	*394*	*399*
Port trade	*2*	12	*8*	*6*
Port authority	*219*	217	*207*	*179*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***5,176***	**5,555**	***6,207***	***5,768***
TRADE	*1,092*	1,217	*1,303*	*1,345*
INDUSTRY	*2,855*	3,002	*3,348*	*2,916*
Energy	*387*	384	*421*	*494*
Oil industry	*0*	0	*0*	*0*
Chemicals	*302*	251	*251*	*234*
Car manufacturing	*4*	2	*127*	*1*
Electronics	*533*	755	*815*	*651*
Metalworking industry	*201*	232	*236*	*215*
Construction	*580*	697	*802*	*608*
Food industry	*643*	497	*523*	*513*
Other industries	*206*	184	*171*	*201*
LAND TRANSPORT	*665*	480	*729*	*612*
Road transport	*575*	373	*426*	*437*
Other land transport	*90*	107	*304*	*175*
OTHER LOGISTIC SERVICES	*564*	856	*827*	*896*
Other services	*564*	856	*827*	*896*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT EMPLOYMENT	***9,105***	**10,298**	***10,683***	***10,082***

Source: NBB.

5. LIÈGE PORT COMPLEX

5.1. VALUE ADDED

TABLE 63 **INDIRECT VALUE ADDED IN THE LIÈGE PORT COMPLEX**
(millions of euros - current prices)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***40.1***	**48.0**	***46.0***	***45.9***
Shipping agents and forwarders	*13.1*	17.4	*11.2*	*9.6*
Cargo handling	*19.7*	24.2	*23.1*	*23.3*
Shipping companies	*0.1*	1.4	*6.4*	*7.5*
Shipbuilding and repair	*0.6*	0.5	*0.5*	*1.0*
Port construction and dredging	*2.7*	0.7	*0.8*	*0.7*
Fishing	*0.0*	0.0	*0.0*	*0.0*
Port trade	*0.0*	0.0	*0.0*	*0.0*
Port authority	*3.8*	3.8	*3.9*	*3.9*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***914.7***	**1,040.2**	***1,091.5***	***1,091.1***
TRADE	*50.5*	75.6	*67.5*	*67.1*
INDUSTRY	*780.1*	878.6	*923.1*	*920.5*
Energy	*60.1*	66.9	*94.5*	*78.5*
Oil industry	*0.0*	0.0	*0.0*	*0.0*
Chemicals	*42.4*	75.6	*85.5*	*91.2*
Car manufacturing	*0.0*	0.0	*0.0*	*0.0*
Electronics	*3.3*	5.3	*6.2*	*4.4*
Metalworking industry	*477.1*	546.7	*554.5*	*545.3*
Construction	*138.9*	131.6	*125.0*	*137.0*
Food industry	*46.5*	39.9	*40.7*	*47.6*
Other industries	*11.8*	12.5	*16.9*	*16.5*
LAND TRANSPORT	*2.8*	2.5	*2.4*	*5.5*
Road transport	*2.3*	2.1	*1.9*	*5.1*
Other land transport	*0.4*	0.4	*0.4*	*0.4*
OTHER LOGISTIC SERVICES	*81.4*	83.5	*98.5*	*98.0*
Other services	*81.4*	83.5	*98.5*	*98.0*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT VALUE ADDED	***954.8***	**1,088.1**	***1,137.4***	***1,137.1***

Source: NBB.

TABLE 46 INDIRECT EMPLOYMENT IN THE LIÈGE PORT COMPLEX
(FTEs)

Sectors	1999	2000	2001	2002
MARITIME CLUSTER	***820***	**986**	***901***	***861***
Shipping agents and forwarders	*285*	313	*183*	*149*
Cargo handling	*396*	442	*429*	*384*
Shipping companies	*0*	93	*156*	*192*
Shipbuilding and repair	*12*	12	*13*	*26*
Port construction and dredging	*24*	19	*22*	*20*
Fishing	*0*	0	*0*	*0*
Port trade	*0*	0	*0*	*0*
Port authority	*103*	108	*98*	*90*
Public sector	*n.*	n.	*n.*	*n.*
NON-MARITIME CLUSTER	***13,889***	**16,775**	***16,453***	***17,368***
TRADE	*582*	730	*618*	*622*
INDUSTRY	*12,436*	15,063	*14,800*	*15,651*
Energy	*1,495*	1,274	*1,605*	*1,596*
Oil industry	*0*	0	*0*	*0*
Chemicals	*965*	1,551	*1,543*	*1,555*
Car manufacturing	*0*	0	*0*	*0*
Electronics	*82*	109	*109*	*96*
Metalworking industry	*7,528*	9,739	*8,977*	*9,840*
Construction	*1,781*	1,826	*1,875*	*1,905*
Food industry	*394*	374	*376*	*338*
Other industries	*192*	190	*315*	*320*
LAND TRANSPORT	*43*	37	*35*	*71*
Road transport	*36*	30	*28*	*65*
Other land transport	*7*	7	*7*	*6*
OTHER LOGISTIC SERVICES	*827*	945	*1,000*	*1,023*
Other services	*827*	945	*1,000*	*1,023*
Public sector	*n.*	n.	*n.*	*n.*
INDIRECT EMPLOYMENT	***14,708***	**17,761**	***17,354***	***18,229***

Source: NBB.

ANNEX 6: BREAKDOWN OF FINDINGS BY COMPANY SIZE IN 2004[197]

TABLE 65 BREAKDOWN OF FINDINGS AT THE PORT OF ANTWERP IN 2004

Sectors	Number of companies		Direct VA (in millions of euros)		Direct employment (in FTEs)		Direct investment (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***169***	***605***	***2,002.8***	***240.4***	***19,615***	***3,149***	***891.6***	***29.1***
Shipping agents and forwarders	94	331	394.7	155.3	4,252	2,054	149.2	6.4
Cargo handling	44	96	909.9	51.8	12,081	657	153.6	7.5
Shipping companies	20	117	382.3	14.8	437	147	485.9	10.7
Shipbuilding and repair	3	25	13.2	8.2	243	134	1.2	1.2
Port construction and dredging	5	1	124.8	1.4	943	21	13.4	0.1
Fishing	0	3	0.0	0.3	0	7	0.0	0.1
Port trade	2	32	3.2	8.6	40	129	0.2	3.2
Port authority	1	0	174.6	0.0	1,619	0	88.2	0.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***189***	***617***	***5,853.5***	***197.5***	***35,835***	***2,959***	***994.6***	***127.2***
TRADE	54	197	805.9	50.9	2,085	743	43.9	8.1
INDUSTRY	70.0	98.0	4,447.5	34.5	25,694	875	811.4	55.0
Energy	1	1	178.2	-0.1	858	0	11.8	49.3
Oil industry	5	3	1,284.1	0.6	3,210	0	173.1	0.0
Chemicals	30	7	2,263.3	-11.2	10,762	24	492.2	0.2
Car manufacturing	5	9	472.8	8.4	6,751	197	98.7	0.5
Electronics	2	4	9.2	1.3	104	23	0.1	0.1
Metalworking industry	9	18	87.9	10.3	1,724	169	4.6	0.7
Construction	12	40	84.7	19.4	1,292	349	14.0	3.4
Food industry	3	0	40.1	0.0	776	0	11.5	0.0
Other industries	3	16	27.2	5.8	216	113	5.5	0.8
LAND TRANSPORT	18	54	163.6	47.2	2,816	682	25.8	11.3
Road transport	15	46	43.7	40.0	710	583	4.9	10.4
Other land transport	3	8	119.9	7.2	2,106	99	20.9	0.8
OTHER LOGISTIC SERVICES	47	268	436.5	64.8	5,240	660	113.5	52.8
Other services	46	268	341.1	64.8	3,178	660	35.0	52.8
Public sector	1	0	95.4	0.0	2,062	0	78.5	0.0
TOTAL DIRECT EFFECTS	**358**	**1,222**	**7,856.3**	**437.9**	**55,450**	**6,108**	**1,886.2**	**156.3**

Source: NBB.

[197] For each port this is the number of companies present in the port area. One company might be listed in several ports. This is why the total number of companies mentioned at the tables 5 and 47 outnumbers the actual total number of companies (or VAT numbers) registered for the study on the five ports in 2004, i.e. 3,268 entities. In 2004, 57 companies were established in at least two ports.

TABLE 66 BREAKDOWN OF FINDINGS AT THE PORT OF GHENT IN 2004

Sectors	Number of companies		Direct VA (in millions of euros)		Direct employment (in FTEs)		Direct investment (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***26***	***100***	***151.0***	***40.3***	***1,268***	***541***	***33.2***	***11.6***
Shipping agents and forwarders	10	25	30.0	9.9	360	135	4.2	2.8
Cargo handling	13	28	97.1	17.1	711	249	9.4	2.6
Shipping companies	1	32	1.6	6.9	24	66	0.0	0.5
Shipbuilding and repair	0	9	0.0	3.3	0	56	0.0	4.9
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	0	1	0.0	1.0	0	8	0.0	0.6
Port trade	1	5	4.0	2.0	23	27	0.1	0.3
Port authority	1	0	18.3	0.0	150	0	19.6	0.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***127***	***340***	***3,071.8***	***134.2***	***24,612***	***1,892***	***286.6***	***24.9***
TRADE	33	115	671.9	44.8	2,113	613	30.3	5.9
INDUSTRY	71	88	2,250.7	47.3	20,387	819	226.4	7.4
Energy	2	0	149.2	0.0	633	0	7.2	0.0
Oil industry	1	0	7.8	0.0	63	0	1.1	0.0
Chemicals	18	6	223.3	4.5	1,796	35	24.1	0.4
Car manufacturing	8	2	635.9	4.5	8,025	64	61.2	0.5
Electronics	4	1	46.0	0.0	899	0	4.6	0.0
Metalworking industry	13	19	953.6	8.5	6,368	157	88.7	1.0
Construction	11	41	74.8	22.2	1,136	445	5.7	1.8
Food industry	7	7	58.0	1.9	472	12	9.2	1.1
Other industries	7	12	102.0	5.7	996	106	24.6	2.6
LAND TRANSPORT	7	20	49.3	17.0	750	251	6.6	6.4
Road transport	5	18	23.6	14.5	249	203	4.3	6.3
Other land transport	2	2	25.8	2.5	501	48	2.2	0.1
OTHER LOGISTIC SERVICES	16	117	99.9	25.0	1,362	208	23.3	5.1
Other services	15	117	88.2	25.0	1,094	208	10.5	5.1
Public sector	1	0	11.7	0.0	268	0	12.8	0.0
TOTAL DIRECT EFFECTS	**153**	**440**	**3,222.8**	**174.4**	**25,881**	**2,433**	**319.8**	**36.5**

Source: NBB.

TABLE 67 BREAKDOWN OF FINDINGS AT THE PORT OF OSTEND IN 2004

Sectors	Number of companies		Direct VA (in millions of euros)		Direct employment (in FTEs		Direct investment (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***10***	***59***	***60.9***	***19.4***	***777***	***312***	***11.5***	***2.6***
Shipping agents and forwarders	1	9	0.2	2.8	3	46	0.0	0.5
Cargo handling	1	9	1.5	5.5	29	98	0.0	0.0
Shipping companies	1	2	3.3	0.0	18	1	0.1	0.0
Shipbuilding and repair	1	11	0.7	4.6	6	73	0.0	0.3
Port construction and dredging	2	0	35.5	0.0	307	0	3.8	0.0
Fishing	2	27	3.3	6.2	105	92	1.3	1.7
Port trade	0	1	0.0	0.2	0	3	0.0	0.1
Port authority	1	0	4.8	0.0	41	0	6.3	0.0
Public sector	1	0	11.4	0.0	269	0	0.0	0.0
NON-MARITIME CLUSTER	***22***	***162***	***217.4***	***49.0***	***2,483***	***713***	***33.6***	***12.7***
TRADE	3	59	10.2	11.9	97	223	2.8	2.4
INDUSTRY	10	30	148.9	12.6	1,542	209	17.1	2.6
Energy	1	1	0.2	0.2	1	0	0.0	0.1
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	3	1	33.6	0.2	400	3	5.7	0.0
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	0	1	0.0	0.7	0	12	0.0	0.0
Metalworking industry	1	6	101.2	1.7	959	29	8.3	0.9
Construction	1	14	0.4	5.9	4	106	0.1	0.5
Food industry	1	1	9.2	0.5	67	12	2.6	0.1
Other industries	3	6	4.4	3.4	111	48	0.5	1.0
LAND TRANSPORT	4	11	14.1	10.2	155	174	1.8	1.2
Road transport	2	9	8.5	10.1	65	172	1.4	1.0
Other land transport	2	2	5.6	0.1	91	1	0.4	0.1
OTHER LOGISTIC SERVICES	5	62	44.2	14.3	689	108	11.8	6.5
Other services	4	62	23.3	14.3	177	108	5.2	6.5
Public sector	1	0	20.9	0.0	512	0	6.7	0.0
TOTAL DIRECT EFFECTS	**32**	**221**	**278.3**	**68.4**	**3,261**	**1,025**	**45.1**	**15.3**

Source: NBB.

TABLE 68 BREAKDOWN OF FINDINGS AT THE PORT OF ZEEBRUGGE IN 2004

Sectors	Number of companies		Direct VA (in millions of euros)		Direct employment (in FTEs)		Direct investment (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***23***	***84***	***231.1***	***37.8***	***3,469***	***503***	***37.4***	***6.7***
Shipping agents and forwarders	8	25	25.8	12.2	251	143	11.8	2.9
Cargo handling	7	16	79.7	7.9	1,176	121	8.5	1.2
Shipping companies	1	9	7.1	4.2	40	46	2.6	0.7
Shipbuilding and repair	1	6	3.4	2.7	62	47	0.1	0.2
Port construction and dredging	3	1	21.6	1.0	229	14	2.0	0.6
Fishing	1	23	2.0	9.4	74	124	0.6	1.1
Port trade	0	4	0.0	0.5	0	8	0.0	0.1
Port authority	1	0	21.3	0.0	150	0	11.7	0.0
Public sector	1	0	70.2	0.0	1,486	0	0.0	0.0
NON-MARITIME CLUSTER	***57***	***237***	***357.0***	***79.4***	***4,423***	***1,317***	***82.3***	***14.3***
TRADE	17	94	41.2	23.5	521	407	3.3	4.0
INDUSTRY	22	57	218.9	27.6	2,252	475	31.8	5.0
Energy	2	0	32.1	0.0	127	0	3.2	0.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	3	3	26.0	1.1	258	25	2.2	0.5
Car manufacturing	0	1	0.0	0.1	0	2	0.0	0.0
Electronics	3	4	84.8	2.4	856	50	10.0	0.3
Metalworking industry	3	11	8.7	6.1	136	126	2.9	0.2
Construction	6	23	33.4	9.5	415	128	4.4	1.8
Food industry	3	7	23.3	4.3	236	99	7.7	0.6
Other industries	2	8	10.6	4.1	224	47	1.3	1.5
LAND TRANSPORT	10	22	50.5	17.8	830	312	11.0	3.4
Road transport	8	19	31.3	16.0	492	274	9.3	3.0
Other land transport	2	3	19.2	1.8	338	38	1.7	0.4
OTHER LOGISTIC SERVICES	8	64	46.4	10.4	821	122	36.2	1.8
Other services	7	64	29.5	10.4	520	122	22.2	1.8
Public sector	1	0	16.9	0.0	301	0	14.0	0.0
TOTAL DIRECT EFFECTS	**80**	**321**	**588.1**	**117.3**	**7,892**	**1,819**	**119.7**	**21.0**

Source: NBB.

TABLE 69 BREAKDOWN OF FINDINGS AT THE LIÈGE PORT COMPLEX IN 2004

Sectors	Number of companies		Direct VA (in millions of euros)		Direct employment (in FTEs		Direct investment (in millions of euros)	
	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs	Large companies	SMEs
MARITIME CLUSTER	***10***	***12***	***17.0***	***6.2***	***238***	***90***	***4.6***	***0.8***
Shipping agents and forwarders	4	3	3.8	1.6	45	23	1.5	0.1
Cargo handling	4	2	9.7	2.1	131	11	3.1	0.2
Shipping companies	1	4	3.1	-0.1	50	0	0.0	0.3
Shipbuilding and repair	1	2	0.5	0.9	11	20	0.0	0.1
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	n.	n.	n.	n.	n.	n.	n.	n.
Port authority	0	1	0.0	1.8	0	36	0.0	0.1
Public sector	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***61***	***100***	***1,120.3***	***32.9***	***10,385***	***536***	***126.5***	***6.0***
TRADE	12	32	91.4	6.4	490	122	2.9	0.7
INDUSTRY	37	38	981.8	23.0	9,361	363	114.4	2.9
Energy	3	0	241.0	0.0	1,066	0	11.2	0.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	6	5	98.0	0.8	1,006	12	13.7	0.3
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	2	0	5.1	0.0	74	0	0.2	0.0
Metalworking industry	9	4	455.2	4.9	5,689	38	65.0	0.3
Construction	13	17	145.1	10.4	1,273	199	19.3	1.2
Food industry	1	1	30.4	0.9	142	18	3.6	0.1
Other industries	3	11	6.9	5.9	113	97	1.5	1.1
LAND TRANSPORT	2	5	7.4	0.8	126	15	2.1	0.4
Road transport	1	4	5.2	0.8	87	15	0.6	0.4
Other land transport	1	1	2.3	0.0	39	0	1.5	0.0
OTHER LOGISTIC SERVICES	10	25	39.6	2.8	407	37	7.2	2.1
Other services	10	25	39.6	2.8	407	37	7.2	2.1
Public sector	n.	n.	n.	n.	n.	n.	n.	n.
TOTAL DIRECT EFFECTS	**71**	**112**	**1,137.3**	**39.1**	**10,623**	**626**	**131.1**	**6.8**

Source: NBB.

ANNEX 7: DETAILED SOCIAL BALANCE SHEET IN 2004

TABLE 70 SOCIAL BALANCE SHEET OF THE FLEMISH MARITIME PORTS: 2004

Sectors	AVERAGE NUMBER OF EMPLOYEES														
	Number			Hours actually worked (1)			Personnel costs (2)			Hired temporary staff			At the enterprise's disposal		
	full-time	part-time	total (in FTEs)	full-time	part-time	total	full-time	part-time	total	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	***25,883***	***1,915***	***27,203***	***40.3***	***2.3***	***42.6***	***1,397.9***	***76.8***	***1,474.7***	***1335***	***2.49***	***57.7***	***7,181***	***12.04***	***456.3***
Shipping agents and forwarders	6,727	948	7,371	11.4	1.1	12.5	350.1	33.4	383.5	432	0.82	17.6	706	1.18	41.5
Cargo handling	13,847	644	14,317	19.5	0.8	20.3	750.1	32.3	782.4	787	1.46	35.3	5,956	9.94	390.2
Shipping companies	669	74	718	1.1	0.1	1.2	54.4	3.9	58.2	7	0.01	0.3	212	0.35	13.2
Shipbuilding and repair	748	65	785	1.1	0.1	1.2	30.8	1.5	32.4	54	0.10	2.3	0	0.00	0.0
Port construction and dredging	1,468	58	1,508	2.8	0.1	2.9	85.8	2.1	87.9	9	0.02	0.4	0	0.00	0.0
Fishing	594	40	617	0.9	0.0	0.9	27.4	0.8	28.2	32	0.06	1.2	0	0.00	0.0
Port trade	208	31	227	0.3	0.0	0.4	10.3	0.7	11.0	6	0.01	0.3	0	0.00	0.0
Port authority	1,623	55	1,660	3.1	0.1	3.2	89.1	2.0	91.1	8	0.01	0.3	307	0.57	11.5
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***63,018***	***6,093***	***67,143***	***99.7***	***6.7***	***106.4***	***3,959.3***	***240.3***	***4,199.7***	***3,283***	***6.23***	***155.8***	***348***	***0.57***	***21.8***
TRADE	5,674	921	6,258	9.3	0.9	10.2	305.2	26.4	331.6	453	0.86	18.3	73	0.12	5.1
INDUSTRY	47,139	3,608	49,648	73.8	4.1	77.8	3,136.4	167.0	3,303.4	2,503	4.76	124.6	75	0.12	5.1
Energy	1,550	83	1,619	2.1	0.1	2.2	142.5	5.5	148.1	18	0.03	0.7	0	0.00	0.0
Oil industry	3,069	274	3,273	5.3	0.4	5.6	398.2	21.4	419.6	45	0.09	2.6	1	0.00	0.2
Chemicals	11,437	934	12,092	17.3	1.1	18.4	884.1	56.2	940.3	190	0.33	10.9	3	0.00	0.3
Car manufacturing	14,056	1,126	14,819	23.1	1.3	24.4	747.8	42.0	789.7	1,525	2.93	77.2	0	0.00	0.0
Electronics	990	123	1,085	1.5	0.1	1.6	57.7	3.7	61.4	88	0.15	3.8	0	0.00	0.0
Metalworking industry	9,206	497	9,548	14.2	0.5	14.7	580.4	21.3	601.8	265	0.52	13.2	48	0.07	3.3
Construction	3,662	189	3,794	5.5	0.2	5.7	169.7	6.2	175.9	66	0.13	3.4	2	0.00	0.1
Food industry	1,513	250	1,674	2.4	0.2	2.6	73.0	6.6	79.6	209	0.40	8.5	12	0.02	0.5
Other industries	1,654	131	1,745	2.5	0.1	2.6	82.9	4.1	87.0	96	0.18	4.3	10	0.02	0.7
LAND TRANSPORT	5,490	506	5,867	8.7	0.6	9.4	249.4	16.5	265.9	145	0.28	5.9	94	0.16	4.7
Road transport	2,576	118	2,648	4.6	0.1	4.7	115.0	3.2	118.2	113	0.22	4.7	93	0.16	4.7
Other land transport	2,914	388	3,219	4.2	0.5	4.7	134.4	13.3	147.7	32	0.06	1.2	1	0.00	0.0
OTHER LOGISTIC SERVICES	4,715	1,057	5,370	7.9	1.1	8.9	268.3	30.5	298.8	183	0.32	7.0	106	0.18	6.9
Other services	4,715	1,057	5,370	7.9	1.1	8.9	268.3	30.5	298.8	183	0.32	7.0	106	0.18	6.9
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**88,901**	**8,007**	**94,347**	**140.0**	**8.9**	**148.9**	**5,357.2**	**317.2**	**5,674.4**	**4,618**	**8.72**	**213.5**	**7,530**	**12.62**	**478.1**

Source: NBB.

TABLE 70 (CONTINUED) SOCIAL BALANCE SHEET OF THE FLEMISH MARITIME PORTS: 2004

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)	White-collar	Blue-collar	Number	hours (1)	costs (2)
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1343	1323	5801	5802	5803
MARITIME CLUSTER	***26,023***	***1,944***	***27,375***	***21,689***	***702***	***22,170***	***4,335***	***1,242***	***5,205***	***10,847***	***15,844***	***4,648***	***0.17***	***6.9***
Shipping agents and forwarders	6,689	964	7,354	4,099	179	4,213	2,590	785	3,142	6,327	853	863	0.02	0.7
Cargo handling	14,299	668	14,784	13,129	400	13,423	1,170	267	1,361	2,573	12,066	1,595	0.08	3.8
Shipping companies	614	60	655	473	15	481	141	45	174	450	186	102	0.00	0.1
Shipbuilding and repair	759	66	799	730	47	759	30	19	40	140	649	64	0.00	0.1
Port construction and dredging	1,385	60	1,427	1,306	23	1,323	79	37	104	482	933	998	0.04	1.6
Fishing	444	40	468	394	9	398	50	31	70	36	429	3	0.00	0.0
Port trade	213	28	230	155	6	158	58	22	72	130	90	8	0.00	0.0
Port authority	1,619	58	1,658	1,402	23	1,415	217	35	242	709	639	1,016	0.02	0.6
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***62,224***	***6,089***	***66,448***	***54,469***	***2,908***	***56,530***	***7,755***	***3,181***	***9,918***	***24,821***	***38,992***	***36,050***	***1.59***	***96.0***
TRADE	5,736	930	6,323	4,383	293	4,556	1,353	637	1,767	3,615	2,572	1,484	0.04	1.8
INDUSTRY	46,378	3,573	48,912	41,608	2,005	43,057	4,771	1,568	5,856	15,705	30,989	30,019	1.41	88.0
Energy	1,530	82	1,592	1,271	22	1,288	259	60	305	1,213	84	890	0.04	4.1
Oil industry	3,064	273	3,269	2,607	154	2,723	457	119	546	2,728	499	2,350	0.16	9.9
Chemicals	10,780	918	11,409	9,863	541	10,231	917	377	1,178	5,544	5,063	8,895	0.38	24.1
Car manufacturing	13,988	1,130	14,802	12,540	792	13,129	1,448	338	1,673	1,558	12,426	10,541	0.41	32.9
Electronics	913	116	1,003	736	30	758	178	86	244	296	699	150	0.01	0.6
Metalworking industry	9,352	489	9,704	8,645	260	8,839	708	229	865	2,635	6,979	4,687	0.34	14.1
Construction	3,612	188	3,742	3,430	94	3,497	182	94	245	852	2,798	1,012	0.02	0.8
Food industry	1,496	239	1,654	1,143	67	1,188	353	172	465	438	1,173	675	0.02	0.5
Other industries	1,642	138	1,738	1,373	45	1,404	269	93	334	442	1,270	819	0.03	1.0
LAND TRANSPORT	5,402	539	5,816	4,868	363	5,153	534	176	663	1,931	3,795	2,926	0.10	4.6
Road transport	2,584	114	2,660	2,337	42	2,363	247	72	297	593	2,011	406	0.01	0.2
Other land transport	2,818	425	3,156	2,531	321	2,790	287	104	366	1,339	1,784	2,519	0.09	4.4
OTHER LOGISTIC SERVICES	4,708	1,046	5,397	3,611	246	3,765	1,098	799	1,633	3,570	1,636	1,621	0.04	1.7
Other services	4,708	1,046	5,397	3,611	246	3,765	1,098	799	1,633	3,570	1,636	1,621	0.04	1.7
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**88,247**	**8,032**	**93,823**	**76,158**	**3,610**	**78,700**	**12,090**	**4,423**	**15,123**	**35,668**	**54,837**	**40,698**	**1.75**	**102.9**

Source: NBB.

TABLE 70 (CONTINUED) SOCIAL BALANCE SHEET OF THE FLEMISH MARITIME PORTS: 2004

Sectors	TRAINING					ENTERED									RESIGNED	
		Women		Number	Indefinite period	Men				Women				Number	Indefinite period
	Number	hours (1)	costs (2)	(in FTEs)		primary	secondary	higher	university	primary	secondary	higher	university	(in FTEs)	
	5811	5812	5813	2053	2103	2203	2213	2223	2233	2303	2313	2323	2333	3053	3103
MARITIME CLUSTER	***1,210***	***0.04***	***1.4***	***8,080***	***5,509***	***648***	***3,592***	***552***	***254***	***82***	***884***	***244***	***80***	***7,305***	***4,264***
Shipping agents and forwarders	588	0.01	0.5	2,005	1,276	106	492	224	80	49	430	153	49	1,858	1,153
Cargo handling	283	0.01	0.5	4,299	3,659	453	2,890	184	75	24	405	62	18	3,527	2,400
Shipping companies	42	0.00	0.0	294	89	15	57	8	11	1	14	8	5	330	112
Shipbuilding and repair	2	0.00	0.0	139	26	0	34	2	0	0	2	4	0	134	28
Port construction and dredging	71	0.00	0.1	373	350	55	83	130	76	0	9	8	4	496	474
Fishing	21	0.00	0.0	793	11	1	0	1	1	7	1	0	0	818	19
Port trade	6	0.00	0.0	90	19	1	7	1	2	0	5	4	0	77	13
Port authority	197	0.01	0.2	86	79	17	29	2	9	2	18	5	4	65	65
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***5,041***	***0.17***	***10.6***	***14,023***	***7,216***	***1,939***	***4,550***	***1,042***	***625***	***459***	***1,062***	***562***	***225***	***12,741***	***6,722***
TRADE	641	0.01	0.5	2,728	973	96	505	150	71	65	237	102	26	2,572	817
INDUSTRY	3,831	0.14	9.3	8,135	4,633	1,533	3,326	598	450	295	682	276	155	7,233	4,442
Energy	177	0.01	0.6	157	50	0	18	25	42	0	17	40	15	253	162
Oil industry	275	0.01	0.8	519	435	1	107	87	177	0	18	73	55	422	373
Chemicals	926	0.03	2.0	1,158	545	90	545	158	76	26	158	60	30	1,276	745
Car manufacturing	1,450	0.05	4.4	2,762	1,640	903	1,106	72	74	209	181	34	25	1,796	1,003
Electronics	52	0.00	0.1	170	134	15	83	14	5	11	18	6	2	332	298
Metalworking industry	512	0.03	0.7	1,580	1,097	245	854	181	47	8	101	33	18	1,316	1,015
Construction	72	0.00	0.1	1,008	447	226	332	39	15	0	24	12	4	1,113	598
Food industry	154	0.00	0.3	440	160	16	153	10	10	29	139	14	1	381	102
Other industries	213	0.01	0.4	340	124	37	127	11	5	11	25	4	4	345	147
LAND TRANSPORT	171	0.01	0.4	1,170	713	274	313	39	6	9	30	74	2	1,194	783
Road transport	58	0.00	0.0	934	597	267	292	19	2	7	26	11	1	839	535
Other land transport	113	0.01	0.3	236	115	6	21	20	5	2	4	63	0	355	247
OTHER LOGISTIC SERVICES	398	0.01	0.4	1,991	897	36	406	255	98	90	113	109	43	1,741	680
Other services	398	0.01	0.4	1,991	897	36	406	255	98	90	113	109	43	1,741	680
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**6,251**	**0.21**	**12.1**	**22,103**	**12,725**	**2,587**	**8,142**	**1,595**	**879**	**541**	**1,946**	**806**	**306**	**20,046**	**10,986**

Source: NBB.

(1) The time actually worked in terms of millions of hours. (2) The personnel costs and costs in terms of millions of euros.

TABLE 71 SOCIAL BALANCE SHEET OF THE LIÈGE PORT COMPLEX: 2004

Source: NBB.

Sectors	AVERAGE NUMBER OF EMPLOYEES														
	Number			Hours actually worked (1)			Personnel costs (2)			Hired temporary staff			At the enterprise's disposal		
	full-time	part-time	total (in FTEs)	full-time	part-time	total	full-time	part-time	total	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	***266***	***16***	***278***	***0.4***	***0.0***	***0.5***	***11.3***	***0.5***	***11.9***	***43***	***0.08***	***1.8***	***1***	***0.00***	***0.0***
Shipping agents and forwarders	51	5	54	0.1	0.0	0.1	2.4	0.2	2.6	1	0.00	0.0	1	0.00	0.0
Cargo handling	137	7	143	0.2	0.0	0.2	5.7	0.2	5.9	14	0.03	0.6	0	0.00	0.0
Shipping companies	49	2	50	0.1	0.0	0.1	2.2	0.1	2.2	15	0.03	0.6	0	0.00	0.0
Shipbuilding and repair	30	2	31	0.0	0.0	0.0	1.1	0.1	1.1	13	0.02	0.6	0	0.00	0.0
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port authority	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***10,381***	***396***	***10,659***	***15.1***	***0.4***	***15.5***	***592.9***	***15.6***	***608.5***	***522***	***0.91***	***24.4***	***26***	***0.04***	***1.8***
TRADE	526	54	563	0.8	0.1	0.9	27.4	1.4	28.8	31	0.06	1.2	0	0.00	0.0
INDUSTRY	9,301	310	9,520	13.4	0.3	13.7	538.5	13.3	551.8	429	0.73	20.7	26	0.04	1.8
Energy	1,025	51	1,066	1.4	0.1	1.4	95.7	3.4	99.1	21	0.04	0.9	0	0.00	0.0
Oil industry	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Chemicals	987	51	1,018	1.6	0.1	1.6	60.8	1.8	62.5	98	0.19	5.3	0	0.00	0.0
Car manufacturing	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Electronics	68	7	74	0.1	0.0	0.1	3.3	0.1	3.5	6	0.01	0.3	0	0.00	0.0
Metalworking industry	5,572	99	5,641	7.9	0.1	8.0	295.5	3.8	299.3	243	0.39	11.5	26	0.04	1.8
Construction	1,311	82	1,370	1.9	0.1	2.0	66.4	3.0	69.4	50	0.10	2.3	0	0.00	0.0
Food industry	158	3	160	0.2	0.0	0.3	9.0	0.8	9.7	5	0.01	0.2	0	0.00	0.0
Other industries	181	18	193	0.3	0.0	0.3	7.8	0.4	8.2	5	0.01	0.2	0	0.00	0.0
LAND TRANSPORT	136	7	141	0.3	0.0	0.3	6.2	0.2	6.4	0	0.00	0.0	0	0.00	0.0
Road transport	101	2	102	0.2	0.0	0.2	4.6	0.0	4.6	0	0.00	0.0	0	0.00	0.0
Other land transport	35	5	39	0.0	0.0	0.1	1.7	0.2	1.8	0	0.00	0.0	0	0.00	0.0
OTHER LOGISTIC SERVICES	418	25	434	0.7	0.0	0.7	20.7	0.8	21.5	63	0.11	2.5	0	0.00	0.0
Other services	418	25	434	0.7	0.0	0.7	20.7	0.8	21.5	63	0.11	2.5	0	0.00	0.0
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**10,648**	**412**	**10,936**	**15.6**	**0.4**	**16.0**	**604.2**	**16.2**	**620.4**	**566**	**0.99**	**26.3**	**27**	**0.04**	**1.8**

TABLE 71 (CONTINUED) SOCIAL BALANCE SHEET OF THE LIÈGE PORT COMPLEX: 2004

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)	White-collar	Blue-collar	Number	hours (1)	costs (2)
	1051	1052	1053	1201	1202	1203	1211	1212	1213	1343	1323	5801	5802	5803
MARITIME CLUSTER	***270***	***20***	***284***	***240***	***9***	***246***	***29***	***11***	***37***	***98***	***181***	***26***	***0.00***	***0.0***
Shipping agents and forwarders	53	6	57	37	2	38	16	4	18	53	3	1	0.00	0.0
Cargo handling	136	8	142	128	6	132	9	2	10	23	118	0	0.00	0.0
Shipping companies	51	4	54	48	0	48	3	4	6	15	37	24	0.00	0.0
Shipbuilding and repair	30	2	31	28	1	28	2	1	3	7	23	0	0.00	0.0
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port authority	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***10,262***	***403***	***10,546***	***9,428***	***190***	***9,558***	***834***	***214***	***988***	***3,966***	***6,149***	***5,314***	***0.18***	***13.2***
TRADE	473	54	509	389	17	399	83	37	110	265	205	25	0.00	0.1
INDUSTRY	9,232	301	9,444	8,550	136	8,643	682	165	801	3,456	5,604	5,145	0.18	12.9
Energy	1,020	50	1,058	853	14	864	167	36	194	725	142	580	0.03	2.7
Oil industry	145	3	147	131	0	131	14	3	16	52	85	79	0.00	0.2
Chemicals	1,030	50	1,065	915	25	933	114	24	132	413	640	566	0.01	0.4
Car manufacturing	9,232	301	9,444	8,550	136	8,643	682	165	801	3,456	5,604	5,145	0.18	12.9
Electronics	64	6	67	49	4	51	15	2	16	29	38	30	0.00	0.0
Metalworking industry	5,491	94	5,556	5,218	47	5,249	274	47	307	1,818	3,646	3,425	0.13	8.9
Construction	1,306	82	1,364	1,224	38	1,249	83	43	115	369	923	438	0.01	0.5
Food industry	145	3	147	131	0	131	14	3	16	52	85	79	0.00	0.2
Other industries	175	17	187	160	8	165	15	9	21	50	130	26	0.00	0.0
LAND TRANSPORT	134	8	140	125	6	130	9	2	10	31	109	35	0.00	0.1
Road transport	100	3	102	93	2	95	7	1	8	16	86	0	0.00	0.0
Other land transport	34	5	38	32	4	35	2	1	3	15	23	35	0.00	0.1
OTHER LOGISTIC SERVICES	424	40	453	364	31	386	60	9	67	214	232	108	0.01	0.2
Other services	424	40	453	364	31	386	60	9	67	214	232	108	0.01	0.2
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**10,532**	**423**	**10,829**	**9,668**	**198**	**9,804**	**863**	**224**	**1,025**	**4,064**	**6,330**	**5,339**	**0.18**	**13.2**

Source: NBB.

TABLE 71 (CONTINUED) SOCIAL BALANCE SHEET OF THE LIÈGE PORT COMPLEX: 2004

Sectors	TRAINING					ENTERED									RESIGNED	
		Women		Number	Indefinite period	Men				Women				Number	Indefinite period
	Number	hours (1)	costs (2)	(in FTEs)		primary	secondary	higher	university	primary	secondary	higher	university	(in FTEs)	
	5811	5812	5813	2053	2103	2203	2213	2223	2233	2303	2313	2323	2333	3053	3103
MARITIME CLUSTER	***3***	***0.00***	***0.0***	***77***	***42***	***5***	***32***	***3***	***1***	***0***	***5***	***2***	***0***	***63***	***35***
Shipping agents and forwarders	1	0.00	0.0	15	14	0	7	1	0	0	5	2	0	10	8
Cargo handling	0	0.00	0.0	20	13	0	16	0	0	0	0	0	0	28	20
Shipping companies	2	0.00	0.0	15	15	5	8	1	1	0	0	0	0	6	6
Shipbuilding and repair	0	0.00	0.0	28	0	0	1	0	0	0	0	0	0	20	1
Port construction and dredging	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Fishing	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port trade	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Port authority	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
NON-MARITIME CLUSTER	***468***	***0.01***	***1.0***	***1,398***	***608***	***89***	***814***	***130***	***73***	***15***	***60***	***68***	***26***	***1,657***	***1,126***
TRADE	6	0.00	0.0	87	40	2	44	5	2	0	8	4	2	150	99
INDUSTRY	442	0.01	0.9	1,159	475	67	676	116	69	11	42	61	23	1,383	934
Energy	105	0.00	0.3	116	51	0	18	20	28	0	11	29	10	161	107
Oil industry	12	0.00	0.0	58	3	9	18	6	2	9	9	5	1	58	4
Chemicals	67	0.00	0.1	97	30	4	27	16	4	2	2	7	5	120	39
Car manufacturing	442	0.01	0.9	1,159	475	67	676	116	69	11	42	61	23	1,383	934
Electronics	10	0.00	0.0	9	4	0	6	0	1	0	0	3	0	22	19
Metalworking industry	199	0.01	0.4	697	306	49	525	56	29	0	14	12	4	814	657
Construction	48	0.00	0.1	149	75	4	71	18	7	0	4	5	4	160	86
Food industry	12	0.00	0.0	58	3	9	18	6	2	9	9	5	1	58	4
Other industries	0	0.00	0.0	33	6	1	11	1	0	0	1	0	0	49	21
LAND TRANSPORT	1	0.00	0.0	48	38	0	40	0	0	0	0	0	0	45	32
Road transport	0	0.00	0.0	48	38	0	40	0	0	0	0	0	0	42	29
Other land transport	1	0.00	0.0	0	0	0	0	0	0	0	0	0	0	3	3
OTHER LOGISTIC SERVICES	18	0.00	0.0	104	55	19	54	8	2	4	9	2	1	79	61
Other services	18	0.00	0.0	104	55	19	54	8	2	4	9	2	1	79	61
Public sector	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.	n.
Total	**471**	**0.01**	**1.0**	**1,476**	**650**	**94**	**846**	**132**	**74**	**15**	**65**	**70**	**27**	**1,720**	**1,160**

Source: NBB.

(1) The time actually worked in terms of millions of hours. (2) The personnel costs and costs in terms of millions of euros.

ANNEX 8: GOODS TRAFFIC IN THE PORTS IN 2004

TABLE 72 MARITIME TRAFFIC AT THE PORT OF ANTWERP

Commodity	Unloaded	Loaded	Total	Relative share
	(in thousands of tonnes)			(in p.c.)
General cargo	37,975	51,754	89,729	58.9
Iron and steel products	3,380	6,459	9,838	6.5
Non-ferrous metals	399	19	418	0.3
Fertilizers/chemicals	55	188	243	0.2
Wood	449	122	570	0.4
Paper and cellulose	2,768	353	3,121	2.0
Fruit	1,532	12	1,544	1.0
Granite	380	150	529	0.3
Rolling material	767	1,757	2,524	1.7
Flour	0	447	447	0.3
Sugar	6	388	395	0.3
Containers	27,838	40,442	68,280	44.8
Other general cargo	401	1,419	1,820	1.2
Bulk cargo	45,134	17,463	62,597	41.1
Crude oil	6,447	103	6,550	4.3
Petroleum products	13,340	8,271	21,611	14.2
Chemicals	4,115	2,677	6,792	4.5
Ores	6,177	567	6,745	4.4
Coal	9,556	149	9,705	6.4
Cereals	489	515	1,004	0.7
Fertilizers	1,997	3,141	5,138	3.4
Sand and gravel	888	404	1,292	0.8
Other bulk cargo	2,125	1,635	3,760	2.5
TOTAL	**83,109**	**69,217**	**152,327**	**100,0**

Source: Havenbedrijf Antwerpen.

TABLE 73 MARITIME TRAFFIC AT THE PORT OF GHENT

Commodity	Unloaded	Loaded	Total	Relative share
		(in thousands of tonnes)		(in p.c.)
Agricultural products	842	124	966	3.9
Foodstuffs and cattle feed	2,914	418	3,332	13.3
Solid mineral fuels	4,328	145	4,472	17.9
Petroleum and petroleum products	2,584	304	2,889	11.6
Ores and metal residues	6,224	699	6,922	27.7
Products from the metal industry	450	1,178	1,628	6.5
Crude minerals and building materials	1,075	230	1,304	5.2
Fertilizers	692	142	833	3.3
Chemicals	426	167	593	2.4
Other cargo	1,129	888	2,018	8.1
TOTAL	**20,663**	**4,294**	**24,957**	**100,0**

Source: Havenbedrijf Gent GAB.

TABLE 74 MARITIME TRAFFIC AT THE PORT OF OSTEND

Commodity	Unloaded	Loaded	Total	Relative share
	(in thousands of tonnes)			(in p.c.)
Conventional general cargo and bulk	**1,537**	**0.3**	**1,537**	**20.4**
Ferrochrome	39	0	39	0.5
Gasoil	47	0	47	0.6
Sand and gravel	1,291	0	1,291	17.1
Wood	10	0	10	0.1
Magnesium oxide	8	0	8	0.1
Microsilica	8	0	8	0.1
Orthoxylene	2	0	2	0.0
Sepiolite	82	0	82	1.1
Silo machinery Jetfoil	0	0.3	0.3	0.0
Coal	28	0	28	0.4
Glass	22	0	22	0.3
Containers	**51**	**29**	**79**	**1.1**
Roll-on / Roll-off	**2,173**	**3,755**	**5,928**	**78.6**
TOTAL	**3,761**	**3,784**	**7,545**	**100.0**

Source: AG Haven Oostende.

TABLE 75 MARITIME TRAFFIC AT THE PORT OF ZEEBRUGGE

Commodity	Unloaded	Loaded	Total	Relative share
	(in thousands of tonnes)			(in p.c.)
Agricultural products	390	6	396	1.2
Foodstuffs and cattle feed	229	41	271	0.9
Solid mineral fuels	64	0	64	0.2
Petroleum and petroleum products	2,590	54	2,643	8.3
Ores and iron pyrite	6	0	6	0.0
Iron, steel and non-ferrous metals	0	1	1	0.0
Crude minerals and building materials	1,460	12	1,472	4.6
Chemicals	220	50	271	0.9
Other cargo	11,206	15,467	26,672	83.9
TOTAL	**16,165**	**15,631**	**31,796**	**100.0**

Source: Maatschappij van de Brugse Zeevaartinrichtingen.

TABLE 76 RIVER TRAFFIC AT THE AUTONOMOUS PORT OF LIÈGE

Commodity	Unloaded	Loaded	Total	Relative share
	(in thousands of tonnes)			(in p.c.)
Agricultural products	48.7	114.7	163.4	1.1
Foodstuffs and cattle feed	47.3	0	47.3	0.3
Solid fuels	1,814.4	573.5	2,387.9	15.7
Petroleum products	3,114.7	1.2	3,115.9	20.5
Ores	3,309.5	26.1	3,335.6	22.0
Products from the metal industry	677.8	456.9	1,134.6	7.5
Building materials	1,949.9	2,822.4	4,772.2	31.4
Natural and artificial fertilizers	67.8	0.8	68.6	0.5
Chemicals	51.4	0.4	51.8	0.3
General cargo	40.3	72.4	112.8	0.7
TOTAL	**11,122**	**4,068**	**15,190**	**100.0**

Source: Autonomous Port of Liège.

BIBLIOGRAPHY

Antwerp Port Authority (2005), *Annual Report 2004*, Antwerp

Blauwens G., P. De Baere, E. Van de Voorde (2002), *Transport Economics*, De Boeck nv Antwerp

Charlier J., FNRS et UCL (2003), "Table Ronde: La Voie d'eau a-t-elle encore un avenir?", Louvain-la-Neuve

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), Brussels

De Lloyd nv (2004 et 2005), "Annual directories 2004 - 2005 and 2005 - 2006 of the ports of Antwerp, Ghent, Ostend and Zeebrugge", Antwerp

Europa (2006), *The website of the European Union* (http://europa.eu), European Community

European Commission (2004), *Energy and Transport: Report 2000 - 2004*, European Community

European Commission (1997), *Green paper: "Maritime ports and infrastructures"*, European Community

European Commission (2001), *White paper: "European transport policy for 2010: time to decide "*, European Community

European Conference of Ministers of Transport - CEMT (2001), *Assessing the Benefits of Transport*, OECD Paris

European Conference of Ministers of Transport - CEMT (2003), *Fifty years of Transport Policy: 1953 - 2003*, OECD Paris

European Sea Ports Organisation (2005), *Annual Report 2004*, Brussels

Eurostat (1995), *European System of National and Regional Accounts: ESA 95*, European Community

Ghent Port Company (2004), *Ghent Port Handbook 2004 - 2006*, Ghent

Heuse P., Ph. Delhez (2005), "The Social Balance Sheet 2004", NBB, *Economic Review, 2005/4*, Brussels

Huybrechts M., H. Meersman, E. Van de Voorde, etc. (2002), *Port Competitiveness*, Antwerp

Lagneaux F. (2005), *Economic Importance of the Flemish Maritime Ports: Report 2003*, NBB, Working Paper No.69 (Document series), Brussels

Lagneaux F. (2005), *Importance économique du Port Autonome de Liège: rapport 2003*, NBB, Working Paper No.75 (Document series), Brussels

Liège 2020 (2004), *La Province de Liège à l'horizon 2020: Choisir son avenir ou le subir*, Liège

Merckx J-P. et D. Neyts, Vlaamse Havencommissie (2005), *Jaaroverzicht Vlaamse havens 2004*, SERV Brussels

Misschaert M. et B. Vannieuwenhuyse, Vlaamse Instituut voor de Logistiek (2006), *Achterlandverbindingen: Multimodale schakel tussen verladers en de Vlaamse havens,* Antwerp

National Accounts Institute (2006), *Regional Accounts 1995 - 2004*, Brussels

National Accounts Institute (2003), *Input-Output Tables of Belgium from 1995 and updated data*, NAI Brussels

NBB (2006), *Report 2005 - Part 1: Economic and financial developments*, Brussels

NBB (2005), *Report 2004 - Part 1: Economic and financial developments*, Brussels

NBB, General Statistics department (2005), *Statistical bulletin 2005/4*, Brussels

NBB, General Statistics department, "Belgostat On-line", Brussels

NBB, Central Balance Sheet Office, Annual accounts filed with the Central Balance Sheet Office, from 1999 to 2004, Brussels

Observatoire bruxellois du marché du travail et des qualifications, ORBEm (2006), *Poids socio-économique des entreprises implantées sur le site du Port de Bruxelles: enquête 2005*, Brussels

OECD (1999), *Boosting Innovation: The Cluster Approach*, Paris

Office de Promotion des Voies Navigables -OPVN- (2005), *Étude du potentiel de transport fluvial de conteneurs le long de la dorsale wallonne*, MET - Région wallonne, Namur

Pr. Peeters Ch., G. Facon, Ir. P. Vandendriessche - Policy Research Corporation NV - (1995), *De Haven als Economisch Motor van de Regio*, Garant Leuven

Pr. Peeters Ch., Ir. A. Lefever, Drs. A. Soete, Ir. P. Vandendriessche, Dr. H. Webers. - Policy Research Corporation NV - (1997), *De Nederlandse Maritieme Cluster*, Delft University Press

Port Authority Zeebrugge (issues of 2004), "Port of Zeebrugge News", Zeebrugge

Port Authority Zeebrugge (2005), *Annual Report 2004*, Zeebrugge

Port of Antwerp (issues of 2004), "Antwerp PortNews", Antwerp

Port of Ostend (2005), *Jaarverslag 2004*, Ostend

Promotie Binnenvaart Vlaanderen (2004 - 2005), Issues of 2004 and 2005, Hasselt

Promotie Binnenvaart Vlaanderen (2005), *Jaarverslag 2004*, Hasselt

The Lloyd, articles between 2004 and 2006, Antwerp

The Lloyd (2005), *Lloyd Special Report - Annuaire 2005 du Port Autonome de Liège*, Antwerp

The Lloyd (2005), *Lloyd Special Report - Port of Antwerp*, Antwerp

The Lloyd (2004), *Lloyd Special Report - Zeebrugge*, Antwerp

The Lloyd (2005), *Lloyd Special Report - Port of Ghent*, Antwerp

United Nations Conference on Trade and Development (2005), *Review of Maritime Transport 2005*, UNCTAD, New York and Geneva

Vivet D. (2005), "Trend in the financial structure and results of firms in 2004", NBB, *Economic Review, 2005/4*, Brussels

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