

Economic Impact of State Commercial Seaports on the Irish Economy

A Report for the Irish Ports Association



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Contents

Page

Executive Summary	i
1 Introduction and Background	1
1.1 Background and Terms of Reference	1
1.2 Methodological Approach	2
1.3 Structure of Report	3
1.4 Acknowledgements and Disclaimer	3
2 The Role of Seaports in External Trade	4
2.1 Introduction	4
2.2 Commercial Seaports and Economic Development	4
2.3 External Trade and the Role of Ports in the Irish Economy	9
2.4 Review of Freight Activities of Seaports	22
2.5 Value of External Trade in State Commercial Seaports	35
2.6 Summary of Findings	37
3 Economic Impact of the State Commercial Seaports	40
3.1 Introduction	40
3.2 Activities and Revenues of Port/Harbour Companies	41
3.3 Measuring Direct and Indirect Impacts	42
3.4 Direct Economic Impacts of Seaport Companies	46
3.5 Direct Impacts of Port-supported Maritime and Other Logistics Activities	52
3.6 Indirect, Induced and Overall Economic Impacts	57
3.7 Summary of Findings	74
4 Tourism Activities and Impacts	78
4.1 Introduction	78
4.2 Overview of Developments in Irish Tourism	78
4.3 Description of Tourism Activities Supported by Commercial Seaports	83
4.4 Economic Impacts of Ports-Supported Tourism Activities	87
4.5 Summary of Findings	103

Contents

Page

5	Infrastructural Priorities of Large Exporters	106
5.1	Introduction	106
5.2	Profile of Exporters	106
5.3	Views on the Importance of Investment in Seaports	110
Annex 1	Copy of Data Request Issued to Ports	115
Annex 2	Survey of Leading Exporters - Questionnaire	119

Executive Summary

Introduction and Background

This report is submitted to the Irish Ports Association by Indecon International Economic Consultants. The report concerns a study on the economic impact of State Commercial Seaports on the Irish economy.

The background to this study is that the State Commercial Seaports and the ports' representative body, the Irish Ports Association (IPA), wish to raise the levels of awareness among policymakers in relation to the importance of the commercial seaports and their contribution to economic development, particularly given the looming capacity deficit in port infrastructure. In addition, there is the desire to improve the understanding of the economic contribution of Irish seaports among the population at large.

The study, in line with the terms of reference, involves:

- An analysis of existing and new data on port activity and value-added;
- An analysis of recent trends and structure of trade through each port;
- An analysis of port employment and employment in related and supporting sectors;
- An assessment of tourism and related activities and expenditures, and
- An assessment of indirect and induced economic activity sustained by ports activity.

A total of 11 State Commercial Seaports and related companies/harbours fall within the remit of this study, namely:

1. Port of Cork
2. Drogheda Port Company
3. Dublin Port Company
4. Dun Laoghaire Harbour Company
5. Dundalk Port Company
6. Galway Harbour Company
7. New Ross Port Company
8. Rosslare Port
9. Shannon/Foynes Port Company
10. Port of Waterford Company
11. Wicklow Port Company

The Role of Seaports in External Trade

Given the importance of the commercial seaports in relation to their role in facilitating the movement of goods into and out of the State, the assessment of the economic impact of seaports commenced by presenting a detailed analysis of the role of seaports in external trade. This included:

- ❑ A description and review of previous research on the role of commercial seaports in economic development;
- ❑ A review of the macro-economic developments across the Irish economy, including the role of external trade and the seaports within this context;
- ❑ A detailed review of the nature and extent of freight activities across and within the commercial seaports and, in particular, the State commercial ports under review.
- ❑ The development of estimates for the value of external trade handled by the State Commercial Seaports.

The key findings from our analyses of the above aspects are summarised below.

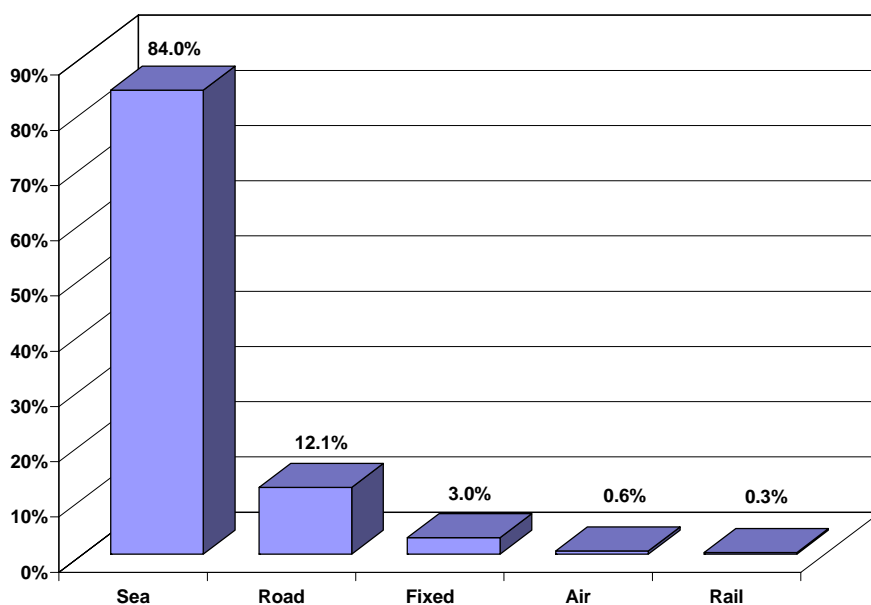
Commercial Seaports and Economic Development

- ❑ According to the United Nations Conference on Trade and Development (UNCTAD), world seaborne trade increased strongly in 2004, reaching 6.76 billion tonnes of loaded goods, representing a growth rate of 4.3% on the previous year. Moreover, since 2000, the tonnage of seaborne traded goods has increased cumulatively by 13%;
- ❑ The significant growth in the volume of seaborne cargo is driven primarily by increases in the liquid bulk and dry bulk cargos;
- ❑ Globally, the efficiency of seaports is being improved by a general change in the perception of their role from one central to the shipping and maritime business to one that is central to the logistics process for firms. The increased usage of Supply Chain Management (SCM) approaches by industry has also led to a market-driven expansion of the footprint of ports as non-maritime activities have entered the port surroundings in order to facilitate the integration of the logistical process. This process is redefining the port hinterland, expanding the role and importance of the port area and increasing the number of port users;
- ❑ With the growth of international trade and seaborne cargo, seaports find themselves in an increasingly competitive marketplace and their ability to efficiently provide seaport services will not only have implications for the port but also for the economy as a whole;
- ❑ With companies' growing reliance on seaborne trade, a country's commercial seaports will play an increasingly important role in the decision of multi-national firms when they are deciding on a location to set up in or whether to remain in their current location.

External Trade and the role of Ports in the Irish Economy

- Ireland is a small open economy that relies strongly on trade with other countries. During the period 1995-2004 the value of the Irish economy's output, as measured by Gross National Product (GNP) at current market prices, expanded from €47 billion to €124 billion, an increase of 164%;
- The importance of trade within the overall context of the Irish economy is evidenced by the fact that, in 2004, Ireland traded almost 56 million tonnes of merchandise with a value of €135.3 billion. Moreover, exports and imports accounted for 67.8% and 41.1% of Gross National Product respectively, while the combined value of total exports and imports totalled some €135 billion;
- In 2004, trade with other countries contributed a net €33.2 billion or 26.7% to the overall GNP or output of the Irish economy, following a peak at the end of the Celtic Tiger period in 2001 when the surplus reached over 35% of GNP;
- Sea-based transport accounted for 84% of the total volume and 58% of the total value of goods traded by the Irish economy in 2004 (See figure below). By contrast, road transport handled 12.1% of the total volume of merchandise trade, with the balance transported by other modes including air, rail, fixed and post. The share of trade carried by road, however, masks the dominant role of the sea in trade across the economy of the island of Ireland, as the majority of road transport trade with Northern Ireland involves the exporting or importing of goods through ports in Northern Ireland.

Share of Merchandise Trade Volumes by Mode of Transport - 2004

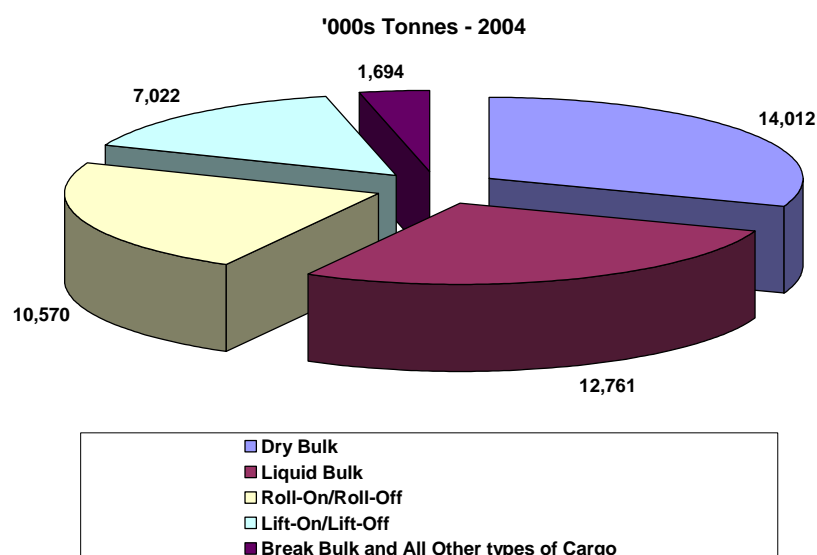


Source: CSO, Indecon analysis

Freight Activities of Commercial Seaports

- Collectively, 98% of the ships that transported goods either to or from Ireland in 2004 did so through one of the 11 State Commercial Seaports. Moreover, these ships accounted for 97% of the volume of goods traded through Irish seaports, which is equivalent to 81% of the total volume of goods traded by the economy in 2004;
- Reflecting the global trends in the shipping industry, the number of container ships trading through Irish commercial seaports increased by 28.9% between 2000 and 2004, with activity handled by Dublin, Cork, Shannon Foynes, Waterford and Drogheda;
- In the period 2000-2004 the total volume or gross tonnage of cargo handled by the eleven State Commercial Seaports increased by 6.4% to 46.1 million tonnes. In absolute terms, the largest volumes are accounted for by dry bulk cargo (over 14 million tonnes in 2004), followed by liquid bulk (12.8 million tonnes), Roll-On/Roll-Off (RoRo) cargo (10.6 million tonnes) and Lift-On/Lift-Off (LoLo) cargo (over 7.3 million tonnes). In terms of relative growth, the fastest growth between 2000 and 2004 was evident in the RoRo category (18.3%), followed by LoLo (12.1%), break bulk and other types (8.7%), and dry bulk (5.8%) (see figure below).

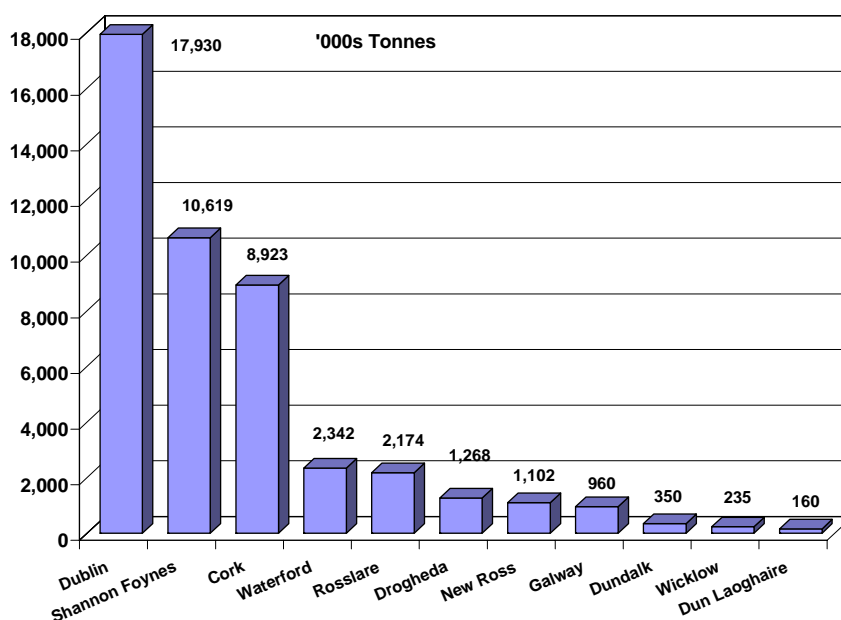
Volume of Goods Handled by State Commercial Seaports ('000 Tonnes) - 2004



Source: Indecon analysis of CSO Ports Statistics

- ❑ At an individual port level, the ports of Dublin, Shannon Foynes and Cork collectively accounted for 81% of the total volume of cargo passing through the State commercial seaports during 2004 (see figure below);
- ❑ Since 2000, the gross tonnage of cargo vessels trading through the State Commercial Seaports has increased 9.5% across all vessels, with container and general purpose vessels showing the strongest growth. In addition, the average gross tonnage of vessels has increased by over 20% across all vessel types between 2000 and 2004. Within this total, the average gross tonnage of both liquid and dry bulk vessels has increased 9.2% and 24.6% respectively;
- ❑ Across the State commercial seaports, a greater proportion of the trade handled by Dublin, Shannon Foynes and Cork ports is comprised of Roll-On/Roll-Off, Dry Bulk and Liquid Bulk cargo, respectively;
- ❑ In relation to RoRo activity handled by the State commercial seaports, in 2004 a total of 653,692 freight vehicles with loaded trailers were handled across the seaports, accounting for 10.2 million tonnes of freight, while 220,687 trade vehicles were handled, carrying 328,000 tonnes;
- ❑ In relation to LoLo activity, in 2004 a total of 730,692 TEUs of loaded units were handled by the State commercial seaports of Dublin, Cork, Shannon Foynes, Waterford and Drogheda and these units carried just over 7 million tonnes of freight.

Volume of Goods Handled by Individual State Commercial Seaports ('000 Tonnes) - 2004



Source: Indecon analysis of CSO Ports Statistics

Value of External Trade handled by State Commercial Seaports

Indecon have developed a range of estimates for the monetary value of trade passing through each of the State commercial seaports. These estimates, which have not previously been developed at individual port level, are based on the following sources/elements:

- Analysis of total annual value (in €) and volume (in tonnes) of trade passing through the Irish economy broken down by the relevant mode of transport;
- Calculation of estimated average € per tonne values for sea trade across all ports, then applied to the volume of goods traded by each of the eleven State Commercial Seaports
- In order to take account of differences in the types and value of freight handled across ports, we have adjusted or weighted the estimates derived above using the turnover/revenues generated by each port.

Indecon's estimates of the value of trade passing through the State Commercial Seaports are presented in the table below on the basis of a series of ranges for each port. We estimate that the value of trade handled by the State commercial seaports totalled €75.7 billion during 2004. Dublin and Cork account for the largest share of the estimated value of trade handled across the 11 State commercial seaports.

**Estimated Value of Trade Handled by State Commercial Seaports - €
Million - 2004¹**

Port	High*	Low*	Mean*
Dublin	46,805	28,083	37,444
Cork	16,311	9,787	13,049
Rosslare	9,631	5,779	7,705
Shannon	7,590	4,554	6,072
Waterford	4,953	2,972	3,962
Galway	2,870	1,722	2,296
Dun Laoghaire	2,585	1,551	2,068
Drogheda	2,522	1,513	2,017
New Ross	1,115	669	892
Dundalk	127	76	102
Wicklow	100	60	80
Total			75,686

Source: CSO, Indecon analysis

* Note: The 'High' and 'Low' estimates presented are based on a range of +/- 25% around the mean estimates shown.

¹ While the estimates presented in the 'mean' column sum to the total estimated value of trade handled across the ports, the 'high' and 'low' estimate columns do not sum to the total figure but are rather designed as maximum and minimum reference values for the ports.

The Economic Impact of State Commercial Seaports

As described above, through facilitating trade, the State Commercial Seaports play a vital role in the functioning and growth of the Irish economy. However, the overall economic impacts arising from the presence and operation of the commercial seaports comprise a number of elements, as follows:

- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of maritime and other logistics activities supported by the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of tourism related activities, including ferry and cruise liner tourism, through the port/harbour companies;
- ❑ The tax and other incomes received by the Exchequer arising from the above activities;
- ❑ The *indirect* impacts arising from the purchase of goods and services by suppliers who are in receipt of expenditures by the above port/harbour companies and supported maritime and other logistics activities, and tourism activities. This in turn generates further economic activity and employment;
- ❑ The *induced* economic impacts arising from the additional consumer spending that takes place on the basis of the incomes generated through the above direct and indirect impacts.

Indecon have developed detailed estimates in relation to the direct, indirect and induced economic impacts arising from the presence and operation of the port/harbour companies and supported maritime and other logistics activities. The key findings from our analyses are summarised below. Our estimates in relation to the impacts of tourism activities facilitated by the commercial seaports are presented separately in the next Section.

Activities and Revenues of Port/Harbour Companies

Before estimating the economic impact of expenditure in the State Commercial Seaports on the Irish economy, it is instructive to briefly describe the revenues generated by the State Commercial Seaports and harbours. Based on the data published in the published annual reports and financial accounts of the port/harbour companies, it is notable that the port/harbour companies generated a total of over €130 million in revenues during 2004. This, of courses, only relates to the direct operations of the ports/harbours and does not reflect the overall economic contribution arising from the activities supported by the commercial seaports, which are described below.

Direct Impacts of Port/Harbour Company Activities

- The *direct* impact of the State Commercial Seaports on the Irish economy is comprised of the following elements:
 - The number of people employed directly to undertake the activities of each of the port/harbour companies;
 - The expenditures of each of the port/harbour companies on wages and salaries and Irish produced goods and services, and
 - The Exchequer contributions arising from the above expenditures in addition to taxes paid on income/profits.

- A summary of the gross *Direct* economic contribution of the 11 State commercial seaports during 2004 in terms of employment and expenditures is shown in the table below.

Breakdown of Gross Direct Economic Contribution of State Commercial Seaports - 2004

Elements of Direct Contribution	Direct Economic Contribution
Employment – FTEs	694 (lower bound estimate)
Expenditures on Wages and Salaries - € Million	38.7
Non-staff Expenditures on Goods and Services - € Million	48.3
Expenditures on Capital Projects - € Million	45.8
Total	132.8

Source: Indecon calculations based on data provided by port/harbour companies

- Based on data submitted to Indecon by the port/harbour companies, the reported number of full-time equivalent people employed by the eleven State Commercial Seaports in 2004 was 694. However, caution should be exercised in the interpretation of this figure, which we believe to be a lower bound estimate as this relates to the number of full-time equivalent employees and is likely to under-report the overall number of employees at each port;
- It should be noted that a number of the ports companies do not employ staff directly to undertake activities in the ports. In particular, stevedoring activity has largely moved outside the direct remit of the port/harbour companies, with stevedoring services now provided primarily by independent firms licensed to operate within the ports;
- In 2004, a total of €38.7 million of expenditure was incurred by the eleven State Commercial Seaports on wages and salaries for their employees involved directly in the activities of the ports/harbours;

- Expenditure by the port companies on goods and services also contributes to the direct economic impact of the seaports to the economy. This includes current/operating expenditures and capital expenditures. In relation to the former, overall the eleven State Commercial Seaports contributed €48.3 million to the economy through current expenditure on goods and services directly attributable to their activities;
- In 2004, a total of €45.8 million was spent by the port companies on capital projects, representing the direct contribution to the economy of these projects;
- Overall, and taking into account the aggregate of expenditures on wages and salaries, ongoing purchases of goods and services and capital projects, the 11 State commercial seaports contributed a total of €132.8 million. This constitutes the gross expenditure impact of the State commercial seaports, but does not take account of indirect and induced impacts, and 'leakages', including through the cost of imported goods and services, which are addressed below.

Indirect, Induced and Overall Impacts of Port/Harbour Company Activities

The indirect and induced impacts arising from the presence and operation of the State commercial seaports are estimated using an input-output framework, which takes account of inter-industry linkages to provide an overall assessment of the economic impact of a particular activity on the Irish the economy as a whole. This approach entails the application to the estimated direct expenditure impacts described above of 'multipliers' derived from Input-Output tables published by the Central Statistics Office.

The overall economic impact of the expenditures of the State Commercial Seaports in 2004 is presented in the table below. This table indicates the aggregate impact of the port companies' expenditures on wages and salaries, the purchase of goods and services and expenditures on capital investment. The analysis is based on 2004 figures supplied by the port/harbour companies.

Breakdown of Gross Economic Impacts Arising from Expenditures of State Commercial Seaports - Aggregate Impacts Across Ports - 2004

	Impact (€ millions) - 2004	Employment (FTES) - 2004
Direct Impacts	132.8	694
Indirect Impacts	70.7	1,166
Induced Impacts	32.6	564
Overall Economic Contribution	236.1	2,425

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

The State Commercial Seaports' overall expenditure in 2004 amounted to €132.8 million and they collectively employed 694 full-time equivalent employees. This expenditure is estimated to generate indirect and induced impacts on the economy totalling €103.3 million in 2004. This, in turn, gives rise to an additional 1,731 full-time equivalent employment positions. Overall, the operating and capital expenditures of the State Commercial Seaports is estimated to contribute a gross €236.1 million to the Irish economy in 2004, with an estimated 2,425 full-time equivalent positions supported by this expenditure.

In terms of the overall economic impact, this figure should be interpreted as the *gross* expenditure and employment impacts on the economy and not as the overall *net* contribution to Gross National Product (GNP), which must take account of leakages from economy occurring through expenditure to imported goods and services. We consider this important issue further below.

Impacts of Maritime and Other Logistics Activities supported by Ports

In addition to the State Commercial Seaports and harbour companies themselves, a range of maritime and other logistics activities are facilitated indirectly through the existence and operation of the ports. These include primarily:

- ❑ Sea and coastal water transport;
- ❑ Cargo handling and stevedoring;
- ❑ Freight transport by road/road haulage;
- ❑ Storage and warehousing.

Direct Impacts of Maritime and Other Logistics Activities

The employment and expenditures sustained by the operation of enterprises in these sectors has been estimated on the basis of a detailed analysis of the Central Statistics Office's Census of Services, which was specially commissioned for this study by Indecon and undertaken by the CSO. The key findings are as follows:

- ❑ There were 4,431 enterprises in operation across the wider maritime and other logistics services industries during 2003;
- ❑ The number of persons engaged (which includes both employees and business proprietors) in aggregate across the activities of freight transport, sea and coastal water transport, cargo handling and storage and warehousing, totaled 20,549 in 2003;
- ❑ A total of €478.2 million in overall personnel costs across these activities was recorded during 2003, while the wages and salaries component of these overall staff costs came to €436.2 million;
- ❑ Firms operating in port-supported maritime and logistics sectors recorded a turnover totalling just under €3 billion, while their purchases of goods & services totalled just over €2 billion during 2003;
- ❑ The gross value-added contribution to the Irish economy of maritime and logistics services activities supported directly by the presence of the commercial seaports totalled €961.4 million during 2003;

- Gross capital acquisitions or expenditures undertaken by firms operating in the freight transport, sea and coastal water transport, cargo handling and storage & warehousing sectors totaled €174.8 million during 2003;
- The overall direct expenditure impacts arising from the operation of maritime and other logistics firms supported by the State commercial seaports amounted to some €2.7 billion in 2003. As in the case of the port/harbour companies, this constitutes the gross expenditure impact. The indirect and induced impacts are addressed separately below.

Indirect, Induced and Overall Impacts of Maritime and Other Logistics Activities

As in the case of the port/harbour companies themselves, the expenditures arising from the operation of firms in the maritime and logistics sectors supported by the presence of the seaports will also result in indirect and induced impacts on the Irish economy. A summary of the overall economic impact of expenditures in these ports-supported sectors is presented in the next table.

Breakdown of Gross Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports - Overall Impacts

	Impact (€ millions) - 2003	Employment (FTES) - 2003*
Direct Impacts	2,688	20,549
Indirect Impacts	1,513	21,755
Induced Impacts	735	11,534
Overall Economic Contribution	4,936	53,838

Source: Indecon analysis based on CSO, Census of Services, 2003, Moloney et al (2000) and CSO, Input-Output tables

* The estimates of employment impacts are based on 1999 input-output ratios adjusted to take account of inflation in average industrial earnings between 1999 and 2003

The key features of the above table are as follows:

- Based on the latest data available for 2003, the overall gross economic impact arising from the direct expenditures (including operating and capital expenditures) of firms operating in the ports-supported maritime and logistics industries is estimated to total approximately €4.9 billion. This comprises indirect impacts of €1.5 billion and induced impacts amounting to €735 million;
- Taking into account the economy-wide indirect and induced impacts arising from these expenditures, we estimate that a total of close to 54,000 full-time equivalent jobs are supported across the economy.

Net economic contribution

It is important to highlight that, in relation to the direct economic impacts arising from the expenditures of State commercial seaport and harbour companies and supported firms in the maritime and logistics industries, the overall impacts on the Irish economy of these expenditures presented in this section do not take into account the fact that these expenditures will have associated imported inputs. However, as imports constitute a leakage from the Irish economy, they do not contribute to the overall Gross Domestic Product or income from Irish produced goods and services.

Indecon are of the strong view that a more credible and prudent interpretation of the *Net*, as opposed to *Gross* economic impacts arising from the presence and operation of the State Commercial Seaports and downstream supported activities, including in the maritime/logistics areas and in the tourism sector, should take account of 'leakage' taking place from the Irish economy by virtue of the fact that these expenditures will include imported goods and services.

Based on research on the Irish economy and for the purposes of our analysis of the overall economic impact of the wider commercial seaports sector and related industries, we believe a more prudent approach is advisable, which takes full account of all leakages through imports and taxation. On this basis, we have assumed in the calculation of the multiplier a value for the Marginal Propensity to Consume of 0.6, while the Marginal Propensity to Import and Marginal Propensity to Tax is assumed at 0.2 and 0.1 respectively. This results in an economy-side multiplier of 1.43 and takes full account of leakages taking place through imports and taxation.

**Estimated Net Economic Impacts Arising from Expenditures of State
Commercial Seaports - Aggregate Impacts Across Ports - 2004**

	Impact (€ millions) - 2004
Direct expenditures of seaport/harbour companies	132.8
<i>Multiplier</i>	1.43
Estimated Net Overall Economic Contribution	190.0
Estimated No. of FTE jobs sustained*	2,032

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on employment multiplier of 10.7 FTEs per €1 million of overall expenditure contribution (derived from Table 3.28)

Applying the lower multiplier to the direct expenditures of the State commercial seaport/harbour companies during 2004 yields an estimate of the net overall economic contribution arising from the direct activities of the port/harbour companies of €190.0 million (see table above). This net expenditure impact is estimated to sustain approximately 2,032 full-time job equivalents.

Our estimate of the net economic impact arising from the direct expenditures of ports-supported maritime and logistics firms is shown in the table below. Based on the application of the more prudent multiplier which takes account of leakages through imports and taxation from the economy, we estimate an overall net economic contribution of €3.84 billion across these industries during 2003. This is estimated to support approximately 42,000 full-time equivalent jobs across the Irish economy.

Breakdown of Net Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports – Overall Impacts - 2003

	Impact (€ millions) - 2003
Direct expenditures of ports-supported maritime and logistics firms	2,688
<i>Multiplier</i>	1.43
Estimated Net Overall Economic Contribution	3,844
Estimated No. of FTE jobs sustained*	41,927

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on employment multiplier of 10.9 FTEs per €1 million of overall expenditure contribution (derived from Table 3.29)

Tourism Activities and Impacts

The role of the commercial seaports in relation to tourism stems from their involvement in two activities, namely:

- Facilitation of passenger/car ferries;
- Facilitation of visiting cruise liners.

Indecon have undertaken a detailed description and measurement of the above tourism related activities and have developed a range of estimates of the economic contribution of such activities. The findings from our analysis are summarised below.

Overview of Developments in Irish Tourism

- The most recently available annual data show that a total of 6.57 million overseas visits took place during 2004, of which the largest proportion (56%) came from Great Britain, followed by other European countries (24.3%), the USA and Canada (14.9%) and other areas (4.8%);
- Some €3.2 billion of revenues were generated from overseas visits to Ireland during 2004;

- During 2004 a total of just under 2 million sea-based inbound and 1.96 million outbound passenger trips took place. Of the overall volumes of sea-based trips made, the vast majority – some 1.84 million inbound and 1.82 million outbound trips – were cross-channel to and from Great Britain. While these passenger trips, in addition to those to and from places other than Great Britain, take place primarily through the use of passenger/car ferries, the figures will also include cruise liner-based passengers visiting Ireland.

Passenger/car ferry activities supported by State commercial seaports

- The State Commercial Seaports play a vital role in relation to passenger/car ferry transport. This was evidenced by the figures presented in relation to the importance of roll on-roll off freight – in which ferry-based transport plays a key role – which accounted for 10.6 million tonnes, or 22.9%, of the total volume of freight handled by the commercial seaports in 2004. However, ferries also play a vital role in transporting passengers and cars. This function has important implications for tourism activity not just in terms of the overall impacts on tourism but also in relation to the geographic distribution of ferry-borne visitors, which, due to a greater proportion travelling with cars, tend to travel more widely throughout the State than visitors arriving by air;
- A total of 456,912 passenger cars, motorcycles and accompanying trailers/caravans arrived across the ports/harbours of Dublin, Dun Laoghaire, Cork and Rosslare, while a total of 13,490 passenger buses were handled by these ports/harbours during 2004;
- A total of some 3.63 million overseas passengers were facilitated by the State commercial ports during 2004. It should be noted that this includes both arriving and departing passengers;
- A total of 113 cruise liners visited Irish ports during 2004, of which 53 visited Dublin, 36 visited Cork, 23 visited Waterford and 1 visited Galway. On average across the ports, cruise liners remained at port for just under 1 day. The overall number of cruise liners visiting these ports has risen from 97 in 2002. This equates to a 16.5% increase in the number of cruise liners arriving at the seaports over the same period;
- It is estimated that cruise liners visiting the ports of Dublin, Cork, Waterford and Galway during 2004 carried a total of some 98,716 passengers.

Economic Impacts of Ports-Supported Tourism Activities

The economic impacts of tourism activities facilitated by the State commercial seaports are comprised of the following elements:

- *Direct* expenditure impacts arising from the expenditures of visitors arriving by ferry and cruise liner;
- The *indirect* impacts arising from the purchase of goods and services by suppliers who are in receipt of expenditures by sea-based visitors to Ireland. This in turn generates further economic activity and employment;

- The *induced* economic impacts arising from the additional consumer spending that takes place on the basis of the incomes generated through the above direct and indirect impacts.

Our estimates of the gross economic expenditure and employment impacts of ferry-based tourism supported by the State commercial seaports are summarised in the following table. Across the ports handling ferry-based traffic we estimate an overall expenditure impact totalling just under €1.8 billion in 2004. This is comprised of direct impacts amounting to €974.8 million, indirect impacts of €565.4 million and induced impacts totalling €253.4 million. We estimate that these additional expenditures support some 16,941 full-time equivalent jobs across the Irish economy.

**Estimated Overall *Gross* Economic Expenditure and Employment Impacts
of Ferry-based Tourism Supported by State Commercial Seaports - 2004**

Port	Expenditure Impacts - 2004				Employment Impacts - No. of FTEs
	Direct Impacts - € Million	Indirect Impacts - € Million	Induced Impacts - € Million	Overall Gross Impacts - € Million	
All Ports	974.8	565.4	253.4	1793.6	16,941

Source: Indecon analysis based on Moloney et al (2000), figures provided by Fáilte Ireland and individual ports

Our estimates of the overall *gross* economic impacts arising from the direct, indirect and induced impacts of expenditures arising from the cruise liner tourism facilitated by the State commercial seaports are indicated in the table overleaf. We estimate an overall gross economic impact deriving from the expenditures of cruise liner-based passengers and crew totalling €46.8 million during 2004. This comprised direct impacts of €25.4 million an indirect and induced impacts of €14.7 million and €6.6 million respectively. We estimate that these overall expenditure contributions to the Irish economy would sustain approximately 442 full-time equivalent jobs across the economy.

Estimated Overall Gross Economic Expenditure and Employment Impacts of Cruise Liner-based Tourism Supported by State Commercial Seaports - 2004

Visitor Category	2004				
	Direct Impacts - € '000	Indirect Impacts - € '000	Induced Impacts - € '000	Overall Gross Impacts - € '000	Employment Impacts - No. of FTEs
Cruise liner passengers	23,455	13,604	6,098	43,157	408
Cruise liner crew members	1,974	1,145	513	3,632	34
Total	25,429	14,749	6,612	46,789	442

Source: Indecon analysis based on figures provided by individual ports and previous research by Moloney (2000)

* The estimated numbers of passengers and crew disembarking is based on Moloney (2000) which indicates an average disembarkation rate among cruise liners visiting Cork of 80%

Net economic contribution

As in the case of the estimates developed in relation to the economic impacts of the State commercial seaports and related maritime and logistics activities, it is important to highlight that, in relation to the direct economic impacts arising from the tourism expenditures supported by the seaports, the overall impacts on the Irish economy of these estimated expenditures presented above do not take into account the fact that these expenditures will have associated imported inputs. Applying a more prudent approach based on a lower multiplier yields the estimates presented in the following table. On this basis we estimate the net overall economic impact of ferry-based tourism supported by the commercial seaports at €1.39 billion in 2004, while this is estimated to support over 13,000 full-time equivalent jobs across the Irish economy.

Estimated Overall Net Economic Impacts Arising from Ferry-based Tourism Supported by State Commercial Seaports - 2004

Port	Net Economic Impacts - 2004			
	Direct Expenditure Contribution - € Million	Multiplier	Estimated Net Overall Economic Contribution - € Million	Estimated Net Overall Employment Impacts - No. of FTEs
Dublin	365.8	1.43	523.1	4,941
Rosslare	295.2	1.43	422.1	3,987
Dun Laoghaire	250.1	1.43	357.6	3,378
Cork	63.2	1.43	90.4	854
Galway	0.4	1.43	0.6	5
All Ports	974.8	1.43	1,394	13,165

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on economy-wide employment multiplier for tourism sector of 9.4 FTEs per €1 million of overall expenditure contribution (derived from Table 4.17)

The corresponding estimates of the *net* overall economic impact of cruise liner tourism supported by the presence and operation of the State commercial seaports are presented in the following table. Based on the more prudent lower multiplier, we estimate that cruise liner-based tourism supported by the seaports generated approximately €36.3 million for the Irish economy during 2004, while this is estimated to support approximately 343 full-time equivalent jobs.

Estimated Overall *Net* Economic Impacts Arising from Cruise Liner-based Tourism Supported by State Commercial Seaports - 2004

Port	Net Economic Impacts - 2004			
	Direct Expenditure Contribution - € Million	Multiplier	Estimated <i>Net</i> Overall Economic Contribution - € Million	Estimated <i>Net</i> Overall Employment Impacts - No. of FTEs
Total – Passengers and Crew	25.4	1.43	36.3	343

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on economy-wide employment multiplier for tourism sector of 9.4 FTEs per €1 million of overall expenditure contribution (derived from Table 4.17)

Overall Economic Impact of State Commercial Seaports

Combining the net economic contributions of the port/harbour companies with that of the port-supported maritime and logistics companies as well as the net economic contribution of tourism activities, one can estimate the overall economic impacts of the State Commercial Seaports. From the table presented overleaf one can see the resulting estimates suggest an aggregate net economic impact arising from the presence and operation of the State Commercial Seaports of €5.5 Billion. This is estimated to support approximately 57,500 FTEs across the Irish economy.

Estimated Aggregate Net Economic Contribution of State Commercial Seaports - € Million		
Impact Component	Estimated Net Overall Economic Contribution - € Million	Estimated Net Overall Employment Impacts - No. of FTEs Supported
Expenditures of Port/Harbour Companies	190.0	2,032
Expenditures of Port-supported Maritime & Other Logistics activities	3,844	41,927
Tourism-related expenditures - <i>of which:</i>		
Car/passenger ferry	1,394	13,165
Cruise liners	36.3	343
Overall Impact	5,464.3	57,467

Source: Indecon estimates

Regional Economic Contribution of Commercial Seaports

It is important to note that the estimates presented above highlight the overall economic contribution of the State commercial seaports across the Irish economy as a whole. At individual port level, the smaller regional seaports play an important role in relation to the wider economic development of the surrounding regions in which they are located. These impacts, which may be underestimated by a simple comparison of impacts across the seaports, include in particular:

- Their role in facilitating the development of regional and local industry which is dependent on close proximity to seaports;
- Their role in supporting ports-supported activities in the maritime and logistics areas within their regions;
- Their role in supporting the development of local and regional tourism.

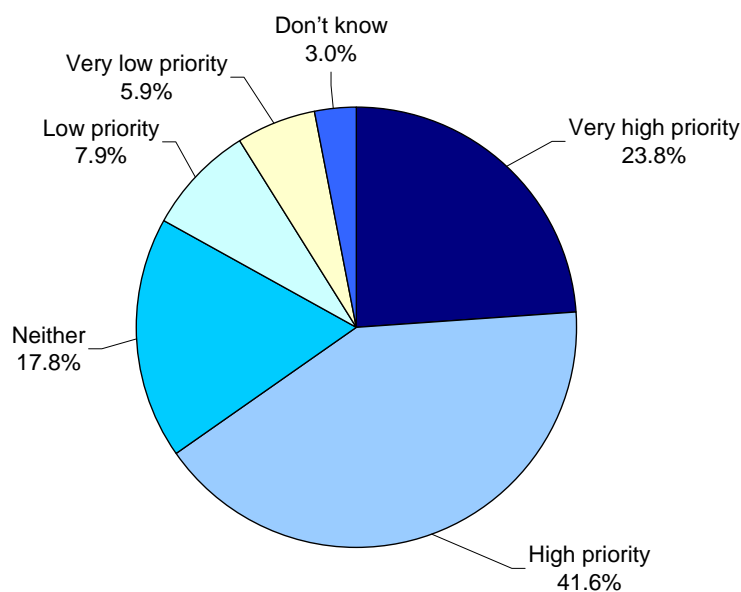
Infrastructural Priorities of Large Exporters

As part of this study, Indecon undertook an extensive interview-based survey of a sample of 100 of the largest high-tech and other manufacturing exporters across Ireland. This objective of this survey was to assist in building a picture of profile of such exporters and their usage of the commercial seaports, in addition to seeking their views on the priority that they believe should be attached to investment in transport infrastructure, including in the State commercial seaports, under the Government's next National Development Plan.

The findings from the survey are summarised below.

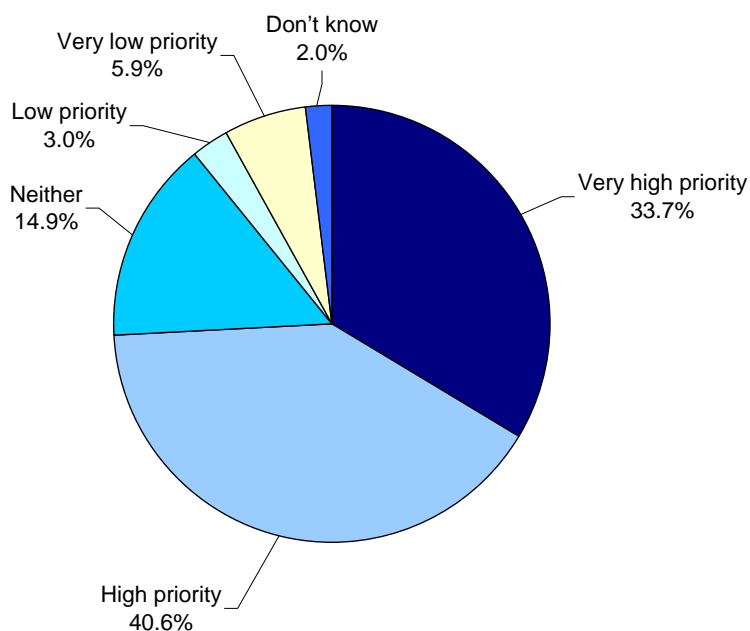
- ❑ According to the results of our survey, the exporters surveyed employ a total of some 463,500 people worldwide;
- ❑ Higher-tech and other manufacturing exporters within our sample of 100 exporters stated that 21,340 people are directly among these firms in Ireland. These figures highlight the importance of these firms to the economy and of trade more generally;
- ❑ On average, the firms surveyed stated that they exported goods to the value of €8.1 million amounting to a total value of exports of €528.2 million across this sample of 100 of the largest high-tech and other manufacturing exporters;
- ❑ Among firms surveyed, 81% of the total value of exports, on average, exited the country through seaports. This shows the crucial importance of seaports to the ability of Irish exporters to reach foreign markets. By contrast, among these companies, a much smaller percentage (19% on average) of the value of total exports exited the country through airports;
- ❑ Among the largest exporters in Ireland, it is notable that two thirds of exporters (66%) believe that a high or a very high priority should be attached to investment in access to seaports under the governments' next National Development Plan (see figure below).

Priority Attached by Leading Exporters to Investment in Access to Commercial Seaports under the National Development Plan



Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

Priority Attached by Leading Exporters to Overall Investment in Commercial Seaports under the National Development Plan



Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

- It is also notable that 75% of the largest exporters surveyed expressed the view that a very high or high priority should be attached to investment generally in the commercial seaports sector under the governments' next National Development Plan (see figure above);
- These views should be viewed in the context of the base of high quality services currently in place at seaports, but the large proportion of exporters prioritising investment in seaports shows the importance attached to the ports.

Priority Attached to Overall Investment under National Development Plan

Sector	Seaports	Railways	Airports
Very high priority	34	17	25
High priority	41	28	40
Neither	15	21	17
Low priority	3	21	9
Very low priority	6	12	9
Don't know	2	2	1
Total	100	100	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

Acknowledgements and Disclaimer

A range of bodies and commercial entities assisted extensively in the completion of this study and we would like to acknowledge the inputs, in particular, of the Irish Ports Association for its invaluable assistance. In addition we would like to thank each of the individual port/harbour companies, including the Port of Cork Company; Dublin Port Company; Dun Laoghaire Harbour Company; Shannon/Foynes Port Company; Rosslare Europort/Iarnród Eireann; Galway Harbour Company; Drogheda Port Company; Dundalk Port Company; New Ross Port Company; Port of Waterford Company; and Wicklow Port Company for their extensive assistance during the course of the assignment and, in particular, for taking the time to complete the detailed data request issued. We would like to acknowledge the assistance of the Central Statistics Office and Fáilte Ireland. The usual disclaimer applies.

1 Introduction and Background

This report is submitted to the Irish Ports Association by Indecon International Economic Consultants. The report concerns a study on the economic impact of State Commercial Seaports on the Irish economy.

1.1 Background and Terms of Reference

The background to this study is that the State Commercial Seaports and the ports' representative body, the Irish Ports Association (IPA), wish to raise the levels of awareness among policymakers in relation to the importance of the commercial seaports and their contribution to economic development, particularly given the looming capacity deficit in port infrastructure. In addition, there is the desire to improve the understanding of the economic contribution of Irish seaports among the population at large.

The study in line with the terms of reference involves:

- An analysis of existing and new data on port activity and value-added;
- An analysis of recent trends and structure of trade through each port;
- An analysis of port employment and employment in related and supporting sectors;
- An assessment of tourism and related activities and expenditures;
- An assessment of indirect and induced economic activity sustained by ports activity.

A total of 11 State Commercial Seaports and related companies fall within the remit of this study, namely:

1. Port of Cork
2. Drogheda Port Company
3. Dublin Port Company
4. Dun Laoghaire Harbour Company
5. Dundalk Port Company
6. Galway Harbour Company
7. New Ross Port Company
8. Rosslare Port
9. Shannon/Foynes Port Company
10. Port of Waterford Company
11. Wicklow Port Company

1.2 Methodological Approach

In describing and estimating the value of impacts deriving from each element indicated, the methodological approach employed to this study entails a number of elements, as follows:

- Review of existing research;
- Collation and analysis of existing official data;
- Issue of detailed Data Request to individual ports;
- Consultations with ports;
- Detailed identification and estimation of value of *Direct* economic impacts, including External Trade estimates;
- Detailed identification and estimation of value of *Indirect* and *Induced* economic impacts;
- Estimation of the direct, indirect and induced impacts arising from the role of the commercial seaports in facilitating ferry-based and cruise liner-based tourism activities;
- Survey of Large Exporters – telephone-based survey of a sample of the 100 largest high tech and other manufacturing exporters across the State describing a range of aspects of the operations of each port/harbour company. A copy of the questionnaire used for this survey is presented in Annex 1.

1.3 Structure of Report

This report is structured as follows: Given the importance of the commercial seaports in relation to their role in facilitating the movement of goods into and out of the State, we begin our review of the economic impact of seaports in Section 2 by presenting a detailed analysis of the role of seaports in external trade, the features and growth in trade handled across the ports and the estimated value of this trade. This is followed in Section 3 with our discussion and estimation of the direct, indirect and induced economic impacts arising from the presence and operation of the State Commercial Seaports and the operation of maritime and other logistics activities supported by the ports. Section 4 focuses on estimating the direct, indirect and induced economic impacts arising from the tourism activities supported by the State Commercial Seaports, namely their role in facilitating ferry-based and cruise liner-based tourism and related expenditures. Finally, in Section 5 we discuss the infrastructural priorities of major exporters, based on our survey research of the largest high-tech and other manufacturing exporters using the commercial seaports.

1.4 Acknowledgements and Disclaimer

A range of bodies and commercial entities assisted extensively in the completion of this study and we would like to acknowledge the inputs, in particular, of the Irish Ports Association for its invaluable assistance. In addition we would like to thank each of the individual port/harbour companies, including the Port of Cork Company; Dublin Port Company; Dun Laoghaire Harbour Company; Shannon/Foynes Port Company; Rosslare Europort/Iarnród Eireann; Galway Harbour Company; Drogheda Port Company; Dundalk Port Company; New Ross Port Company; Port of Waterford Company; and Wicklow Port Company for their extensive assistance during the course of the assignment and, in particular, for taking the time to complete the detailed data request issued. We would like to acknowledge the assistance of the Central Statistics Office and Fáilte Ireland. The usual disclaimer applies.

2 The Role of Seaports in External Trade

2.1 Introduction

Given the importance of the commercial seaports in relation to their role in facilitating the movement of goods into and out of the State, we begin our review of the economic impact of seaports by presenting a detailed analysis of the role of seaports in external trade. We describe and review previous research on the role of commercial seaports in economic development. We then review the macro-economic developments across the Irish economy, including the recent historic developments in relation to economic activity and growth, and the role of external trade and the seaports within this context. This is followed by a detailed review of the nature and extent of freight activities across and within the seaports and, in particular, the State commercial ports under review. Finally, we develop our estimates for the value of external trade handled by the State Commercial Seaports.

2.2 Commercial Seaports and Economic Development

Since the mid 1980s the world has increasingly moved towards being a global marketplace. This process of globalisation through increased international trade has facilitated the growth of both developed and developing economies and commercial seaports have been an integral part of this growth. Infrastructure is a key determinant of location decisions for multinational companies operating in the global market. Commercial seaports play a significant role in this as sea transport represents a preferred, and in some cases is the only suitable means of transport for the majority of traded goods. Sea transport is a relatively inexpensive method of transporting large amounts of cargo internationally. This is of fundamental importance to small open economies such as Ireland.

Recent developments in international seaborne trade can be seen in Table 2.1.

Table 2.1: Development of International Seaborne Trade

Year	Total (all goods)	
	Million tonnes	% Change
2000	5,983	
2001	6,020	0.6%
2002	6,127	1.8%
2003	6,480	5.8%
2004	6,758	4.3%

Source: UNCTAD, 2005; "Review of Maritime Transport, 2005"

The World Bank has identified in excess of 2,000 ports around the world varying substantially in their capacity to handle ships and cargo. According to the United Nations Conference on Trade and Development (UNCTAD), world seaborne trade increased strongly in 2004, reaching 6.76 billion tonnes of loaded goods, representing a growth rate of 4.3%, on the previous year. By comparison, world economic output grew by 4.1% representing the strongest annual growth for a decade. This indicates that the demand for transporting goods by sea is growing and is outstripping the growth in overall output, thus becoming increasingly important to the global economy. Europe accounted for 22.7 per cent of the overall figure of goods traded by sea and was second only to Asia in relation to its share of overall loaded seaborne trade.

The worldwide demand for shipping services is presented in Table 2.2, in terms of tonne-miles. Since 2000 the tonnage of seaborne traded goods has increased cumulatively by 13%.

Table 2.2: Demand for World Seaborne Trade

Year	Tonne-Miles (Billions)	% Change
2000	23,693	
2001	23,891	0.8%
2002	24,172	1.2%
2003	25,844	6.9%
2004	27,635	6.9%

Source: UNCTAD, 2005; "Review of Maritime Transport, 2005"

From this table one can now see more clearly the growth in the underlying worldwide demand for shipping services. Not only are ships now transporting a greater volume of goods year-on-year, they are also transporting these goods over greater distances with the result of extending the number of days these ships are at sea. The last few years have also seen significant investment in shipping with the average age of the world fleet dropping to 12.3 years in 2004.

The significant growth in the volume of seaborne cargo is driven primarily by increases in the liquid bulk and dry bulk cargos. According to the UNCTAD², worldwide shipments of tanker cargoes reached 2.32 billion tonnes in 2004, an increase of 4.2 per cent on the previous year. Approximately 76 per cent of this was made up of crude oil. Over the same period, dry cargo shipments increased by 4.4 per cent, amounting to 4.44 billion tonnes. There has also been substantial growth in the container cargo sector with particular routes reporting double-digit growth in 2004. Overall world container port traffic grew by 9.6 per cent in 2004 reaching 303.1 million Twenty-foot Equivalent Units (TEUs). This was facilitated by the expansion of the container fleet of 7.7 per cent in the year to 19.3 million TEUs. An estimated 14 million TEUs were carried between Europe and Asia, with 4.8 million TEUs being shipped between Europe and the US. Empty container repositioning was a significant feature in these flows.

² UNCTAD, 2005; "Review of Maritime Transport, 2005".

During this period of increased demand for shipping services to transport cargo, seaborne freight costs are declining. World total freight payments as a proportion of total import value fell from 5.5 per cent in 2002, to 5.4 per cent in 2003. In Europe the figure for freight costs as a percentage of the goods import value is considerably higher; this figure was 9.1 per cent in 2003³. Part of this cost saving is due to measures taken by the seaports to improve their efficiency. In a paper by Clark, Dollar and Micco, they found that improving the efficiency of a port from the 25th to the 75th percentile could reduce shipping costs by 12 per cent. Key variables identified in their paper that are seen to impact on a port's efficiency include distance, containerisation of cargo and the general condition of the country's infrastructure⁴.

The efficiency of seaports is being improved by a general change in the perception of their role from one central to the shipping and maritime business to one that is central to the logistics process for firms. As firms continue to integrate and optimise their different functions in an attempt to minimise costs and improve efficiency, they continually turn to models of Supply Chain Management (SCM) that network the logistics process and attempt to integrate the separate stages of the logistics process. This has led to a market driven expansion of the foot-print of ports as non-sea activities have entered the port surroundings in order to facilitate the integration of the logistical process. In a recent UNCTAD paper, it was noted that the current portfolio of port users no longer consists of sea transport operators and their intermediaries, but is being extended to a new type of customer representing landside operators and service providers⁵. This process is redefining the port hinterland, expanding the role and importance of the port area and increasing the number of port users.

³ *Ibid.*

⁴ Clark, Ximena., David Dollar & Alejandro Micco, 2002; "Maritime Transport Costs and Port Efficiency", World Bank Policy Research Working Paper No.2781, Development Research Group, Macroeconomics and Growth.

⁵ UNCTAD, 2004; "Assessment of a seaport land interface: an analytical framework", Report by the UNCTAD Secretariat.

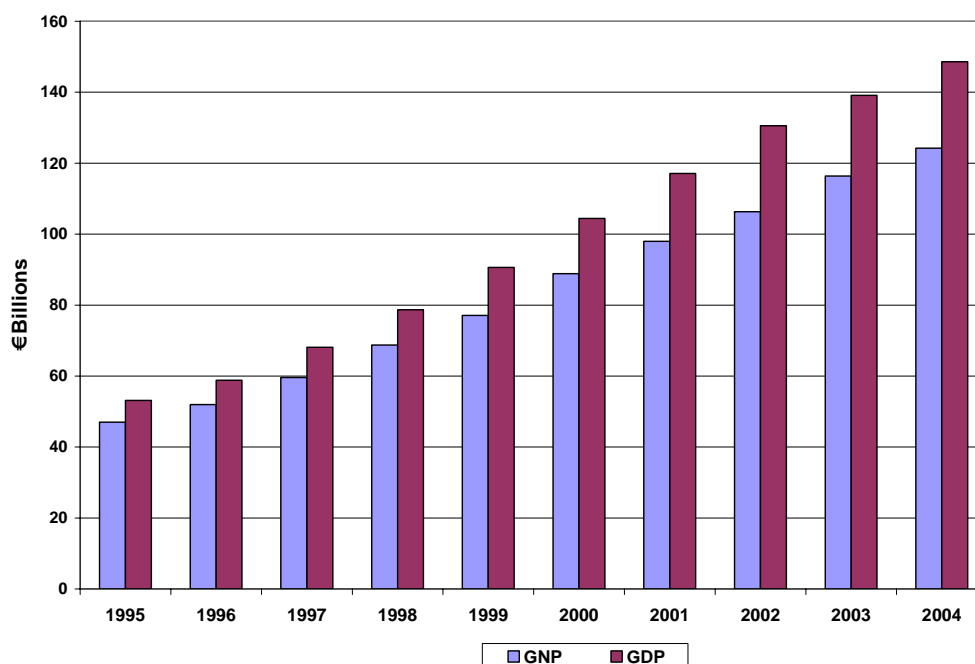
With the growth of international trade and seaborne cargo, seaports find themselves in an increasingly competitive marketplace and their ability to efficiently provide seaport services will not only have implications for the port but also for the economy as a whole. With companies' growing reliance on seaborne trade, a country's commercial seaports will play an increasingly important role in the decision of multinational firms when they are deciding on a location to set up in or whether to remain in their current location.

2.3 External Trade and the Role of Ports in the Irish Economy

2.3.1 Recent economic developments

Ireland is a small open economy that relies strongly on trade with other countries to support its strong and continued economic growth and low unemployment. From the mid 1990s up to 2001, the Irish economy underwent an unprecedented level of growth. During this period Ireland out-performed all other developed economies and became a model of growth for small developing economies. The openness of the Irish economy, the degree to which it trades with other countries, played a substantial role in this growth and ultimately brought about the end of this period of phenomenal growth as the global economy entered a down-turn in 2001. Since 2001 the Irish economy has continued to grow at a strong but more moderate rate and it is expected to continue to do so over the medium term.

The increase in the level of output in the Irish economy over the last ten years can be seen in Figure 2.1.

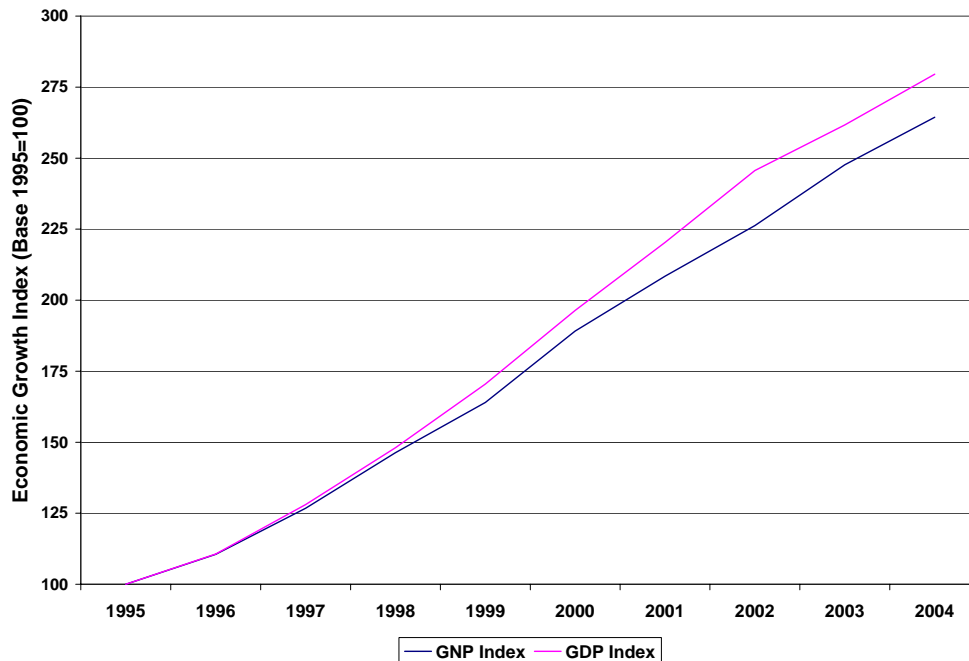
Figure 2.1: Irish GDP & GNP at Current Market Prices - 1995-2004

Source: CSO, Indecon analysis

Over these ten years the value of the economy's output, as measured by Gross National Product (GNP) at current market prices, has grown from €47 billion to €124 billion, an increase of 164%. If one removes the effect of changes in the price level of the economy's outputs, thus leaving only the increases in output that measures real growth of the economy, it represents an increase of 78% over the ten years.

Figure 2.2 presents an index of economic growth in the Irish economy over this same period. This figure highlights the phenomenal growth in the Irish economy over the last ten years.

Figure 2.2: Index of Economic Growth - 1995-2004

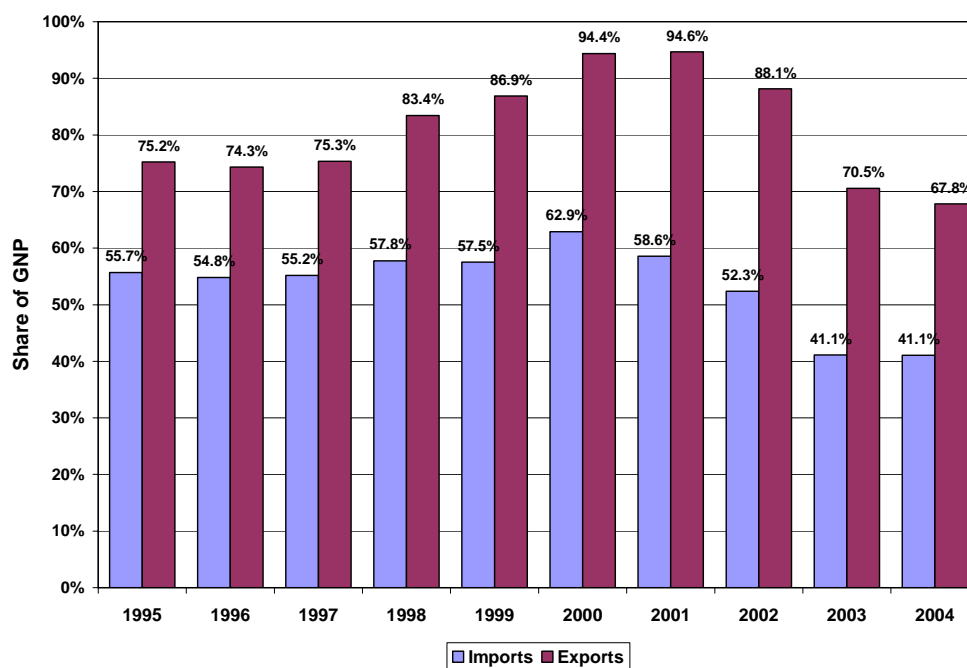


Source: CSO, Indecon analysis

The growth in the Irish economy as measured by Gross Domestic Product (GDP) has been significantly stronger than that measured by GNP over this period. This is a phenomenon particular to the Irish economy and is largely the result of transfer pricing by foreign multinational companies, a practice that leads to an overstatement of the output of the Irish economy. Although the figure for GDP is often quoted in relation to economic growth, GNP represents a more accurate measure of economic growth in the Irish economy and therefore shall be the measure used for the remainder of this report.

The relative openness of the Irish economy can be assessed from the information in Figure 2.3. This graph shows the relative value of imports and exports to the overall economic output of the economy.

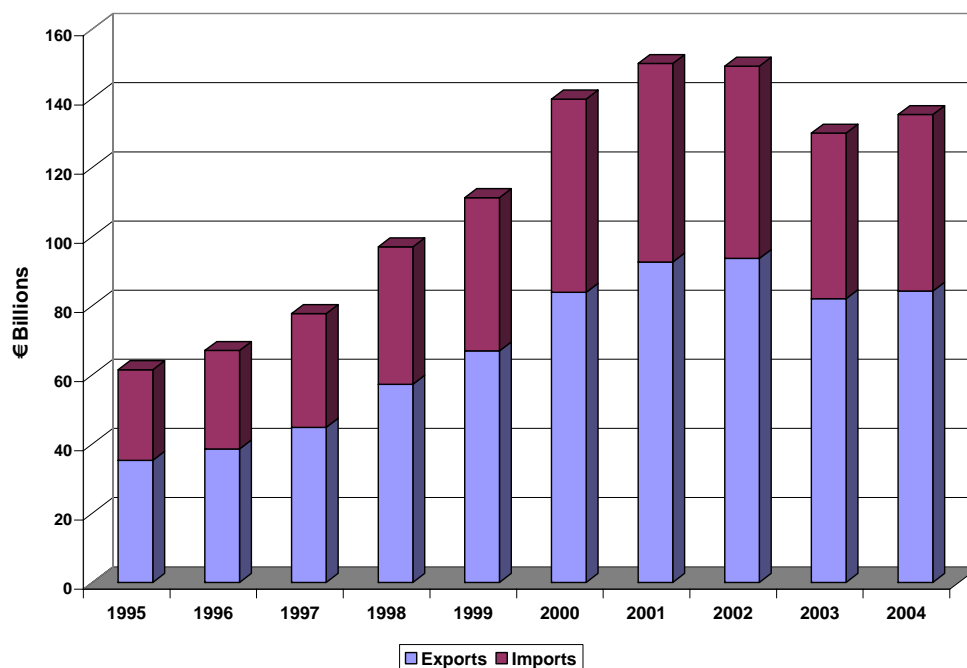
Figure 2.3: Export & Imports Share of GNP - 1995-2004



Source: CSO, Indecon analysis

From this graph one can immediately see both the openness of the economy and the importance of trade to the economy. The value of imports and exports being traded by Ireland can be seen in Figure 2.4.

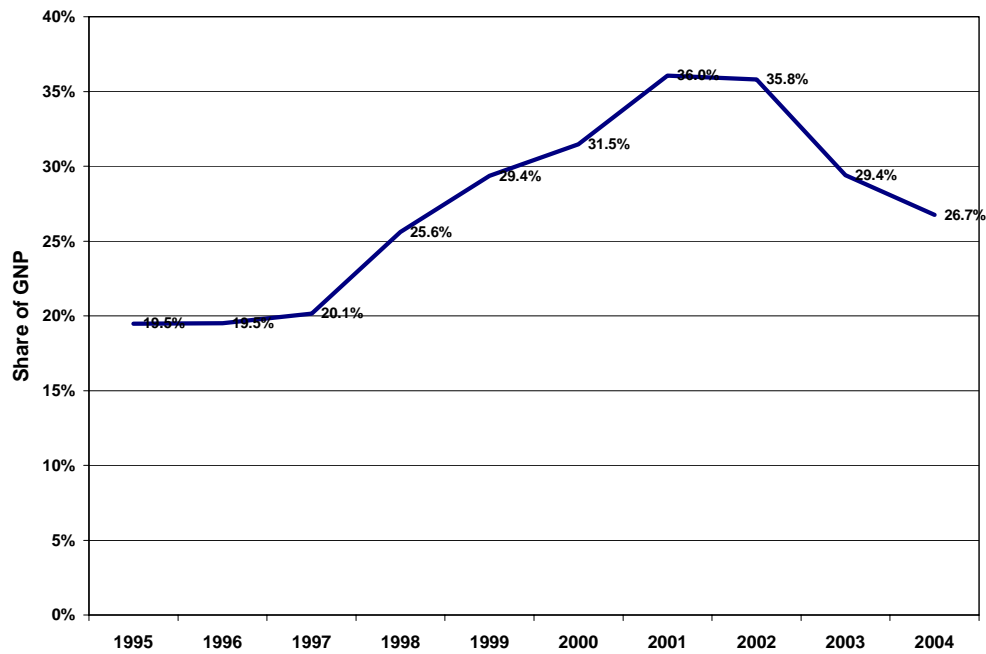
Figure 2.4: Value of Imports & Exports - 1995-2004



Source: CSO, Indecon analysis

The disparity between the value of imports to exports is also evident, indicating a positive contribution of trade to the overall output of the economy. This difference is referred to as the Trade Surplus and it directly represents the contribution of trade to the overall output of the economy. This can be seen in Figure 2.5.

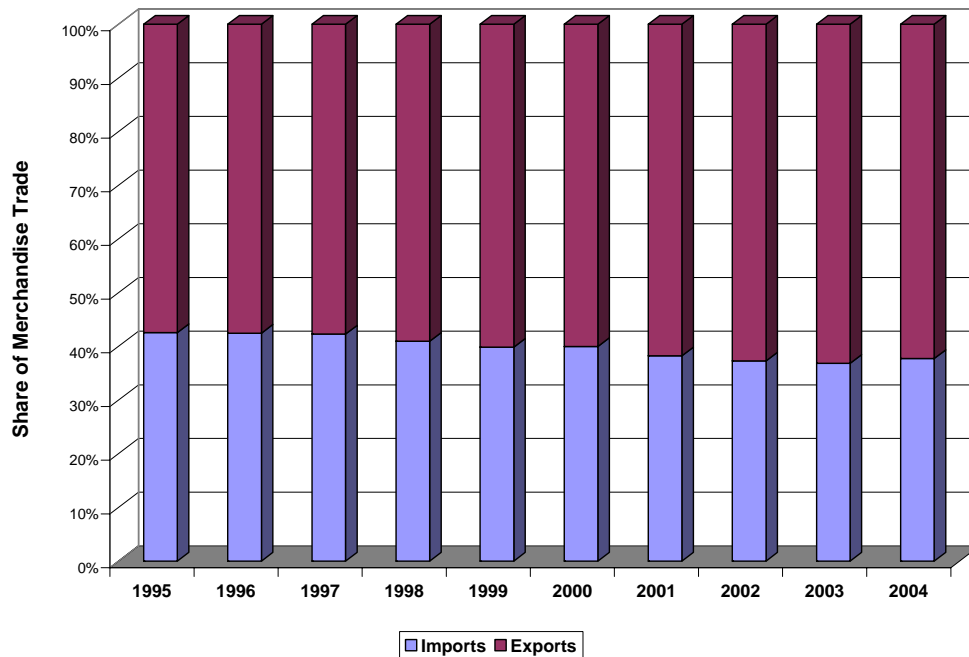
Figure 2.5: Trade Surplus Share of GNP, 1995-2004



Source: CSO, Indecon analysis

According to the figures depicted in the above graph, in 2004 trade with other countries contributed a net 26.7% to the overall output of the Irish economy and can be seen as a very important driver of growth in the economy. At the end of the Celtic Tiger period in 2001, the contribution of trade to the overall economic output of the economy was in excess of 35%. Although the contribution of trade to the overall economic performance of the economy has been falling in recent years, the trade surplus has been increasing in absolute or value terms. This can be seen in Figure 2.6, as exports' share of the value of merchandise trade has increased in almost every year since 1995.

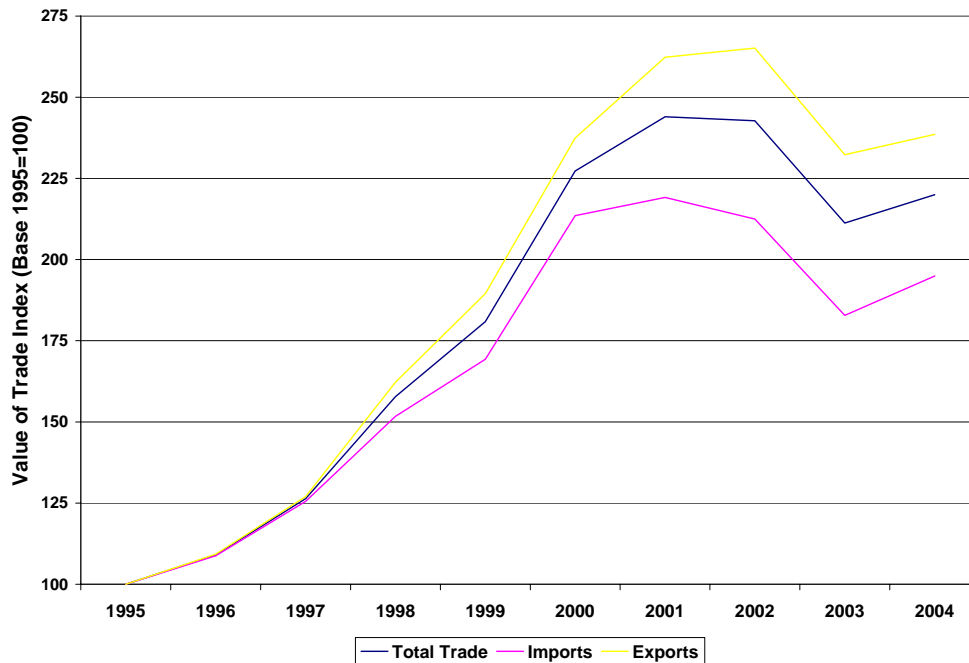
Figure 2.6: Imports' & Exports' Share of Trade - 1995-2004



Source: CSO, Indecon analysis

The growth in the value of merchandise trade in Ireland outpaced general economic growth for the period from the mid-1990s and while the global downturn during 2001/02 led to a decline in trade, activity has since recovered strongly (see Figure 2.7).

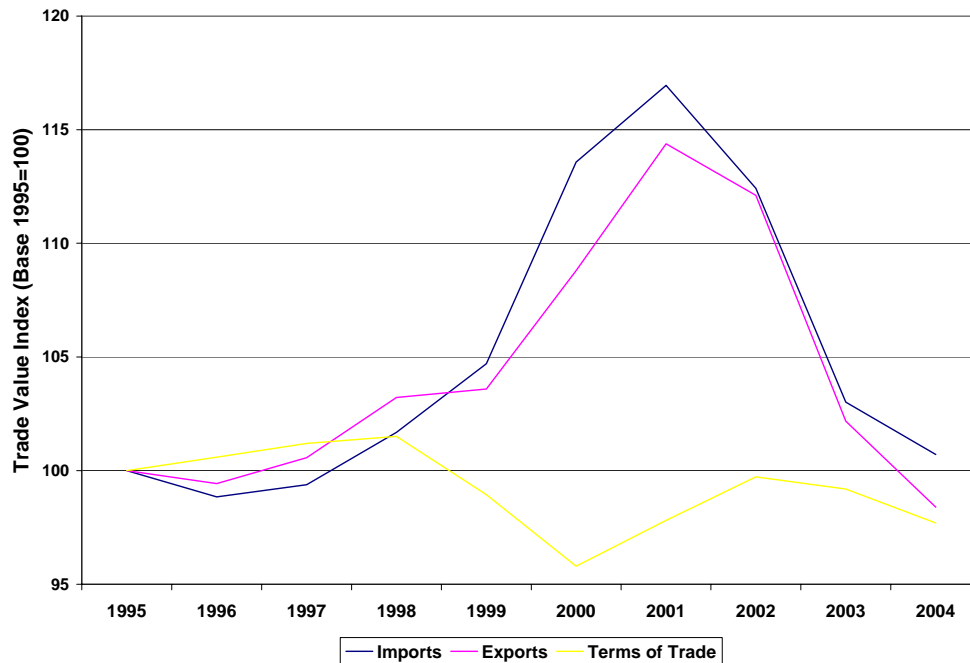
Figure 2.7: Value of Trade Index - 1995-2004



Source: CSO, Indecon analysis

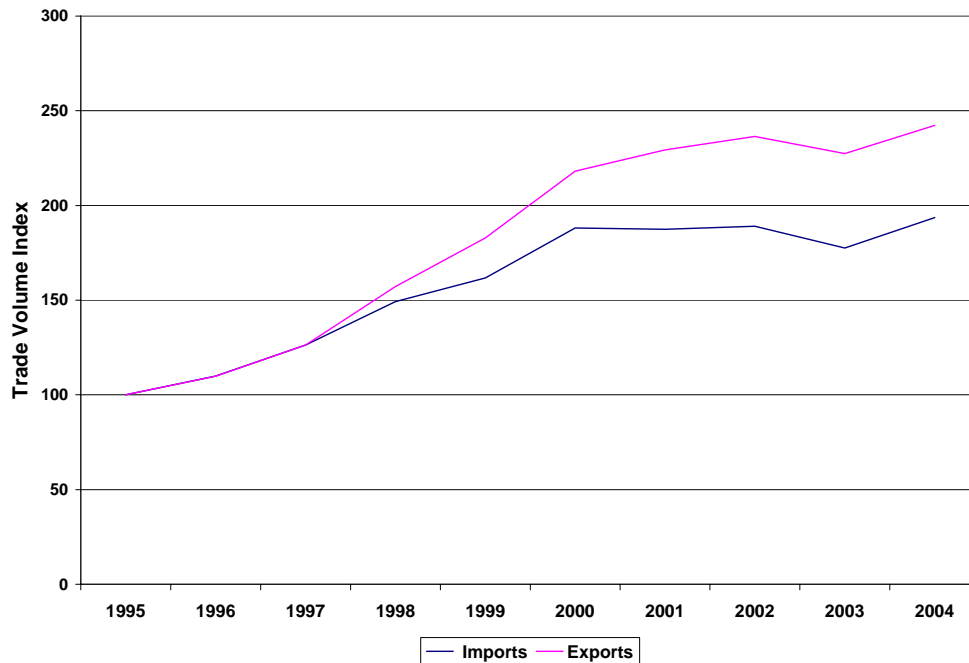
In line with the earlier analysis concerning the increasing share of exports in the overall value of trade, growth in the *value* of exports can be seen to have been substantially stronger than the growth in the *volume* of exports. This may be due to either an increase in the volume of goods traded, an increase in the price of those goods or most likely, a combination both. Figure 2.8 presents the relative growth in the price of internationally traded goods in the economy. This indicates that it is not the average price of exported goods that has been driving up the overall value of exports, as the cumulative increase in the average price of exported goods has been less than that for imports since the mid-1990s.

Figure 2.8: Price Index of Merchandise Trade - 1995-2004



Source: CSO, Indecon analysis

The Terms of Trade Index represents the ratio of the export price index to the import price index. Since 1999 this ratio has been consistently below the 1995 reference base of 100. The implication of this deterioration in the terms of trade is that the growth in the relative price of our imports has been stronger over this period. If one now looks at the relative growth in the volume of internationally traded goods in the economy, presented in Figure 2.9, it is clear that it is the growth in the volume of traded goods and exports in particular that is driving the increase in the value to the economy.

Figure 2.9: Volume Index of Merchandise Trade - 1995-2004

Source: CSO, Indecon analysis

Over the 10-year period analysed in the figure above, the volume of exports has grown by 239%. This represents an annual growth averaging 9.7% over this period. The growth in the volume of imports has been slightly more moderate at 195%, which equates to an annual growth rate of 7.4%.

The Irish economy is a small very open economy that is heavily dependent on trade. The strong increase in the volume of goods traded internationally, particularly exports, has contributed significantly to the growth of the Irish economy with the trade surplus contributing almost 27% to the Ireland's GNP in 2004. Table 2.3 summarises the growth in the value of key economic variables in the economy over the period 1995-2004.

Table 2.3: Summary of Selected Growth Rates in Ireland - 1995-2004

	1995-2000	2001	2002	2003	2004
Trade Growth	16.4%	7.4%	-0.5%	-13.0%	4.1%
Export Growth	17.3%	10.5%	1.1%	-12.4%	2.7%
Import Growth	15.2%	2.6%	-3.1%	-14.0%	6.6%
GNP Growth	12.7%	10.2%	8.6%	9.5%	6.8%

Source: CSO, Indecon analysis

Composition of Trade by Mode of Transport

Given that Ireland is an island economy, it is not surprising that trade by sea accounts for the majority of the country's international trade when measured both in terms of value and volume. Trade with Northern Ireland gives rise to a small but significant degree of trade by road and rail with the other significant modes being air and fixed installations⁶. In 2004, Ireland traded almost 56 million tonnes of merchandise with a value of €135.3 billion.

Table 2.4 presents the volume share of trade by the different modes of transport.

⁶ Fixed transport installations are used for the continuous transport of commodities using fixed infrastructure such as pipelines and power cables.

Table 2.4: Mode of Transport's Share of Traded Merchandise Volume, 1996-2004⁷

	1996-2000 ⁸	2001	2002	2003	2004
Sea	79.4%	82.9%	83.8%	83.7%	84.0%
Rail	0.3%	0.2%	0.5%	0.1%	0.3%
Road	17.1%	10.3%	10.2%	11.9%	12.1%
Air	0.6%	0.7%	0.7%	0.6%	0.6%
Post	0.1%	0.0%	0.0%	0.0%	0.0%
Fixed	2.6%	6.0%	4.8%	3.7%	3.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CSO, *Indecon analysis*

The sea accounted for 84% of the total volume of goods traded by the Irish economy in 2004. Noticeably, road transport handled 12.1% of the total volume of merchandise trade in 2004, all of which originated in Northern Ireland. The road transport share masks the importance of the sea to the economy of the island of Ireland, as the majority of road transport trade with Northern Ireland involves the importing of goods that entered the island through ports in Northern Ireland. The Port of Belfast accounts for 25 per cent of the total volume of seaborne trade handled over all ports on the island, receiving in excess of 9,000 vessels each year⁹. The ports in Northern Ireland therefore can be seen as substantial competitors to the State Commercial Seaports. In recent years the sea's volume share of traded merchandise has been increasing moderately accounting for a greater share of a growing level of trade.

The sea also accounts for the majority of the value of goods traded internationally by the Irish economy, as can be seen in Table 2.5.

⁷ The Unknown category reported in the Official Statistics was distributed in accordance with the underlying mode of transport distribution, as agreed with the CSO. Waterway and Self-propelled transport modes are also excluded from the list as they did not record a volume share in excess of 0.01% in any of the years.

⁸ This is a weighted average of volume shares in the relevant years.

⁹ Port of Belfast; <http://www.belfast-harbour.co.uk/about-us.htm>, December 2005.

Table 2.5: Mode of Transport's Share of Value of Traded Merchandise, 1996-2004¹⁰

	1996-2000 ¹¹	2001	2002	2003	2004
Sea	52.1%	49.4%	53.5%	57.1%	58.0%
Air	29.8%	33.4%	33.5%	29.4%	28.3%
Road	17.5%	15.6%	11.2%	11.0%	12.1%
Rail	0.2%	0.3%	0.7%	1.6%	0.9%
Fixed	0.2%	1.2%	1.0%	0.7%	0.6%
Post	0.3%	0.0%	0.1%	0.1%	0.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CSO, Indecon analysis

Contribution of commercial seaports to trade surplus

In 2004, the State commercial seaports handled 47.7 million tonnes of internationally traded merchandise, with an estimated value of €78.4 billion. If one assumes that the ratio of imports to exports that gave rise to the trade surplus in 2004 of €33.2 billion similarly applies to the composition of trade in Irish seaports, then one can conclude that Irish seaports contributed €9.64 billion to the Irish economy in 2004, which represents 7.8% of GNP.

¹⁰ The Unknown category reported in the Official Statistics was distributed in accordance with the underlying mode of transport distribution. Waterway and Self-propelled transport modes are also excluded from the list as they did not record a value share in excess of 0.01% in any of the years.

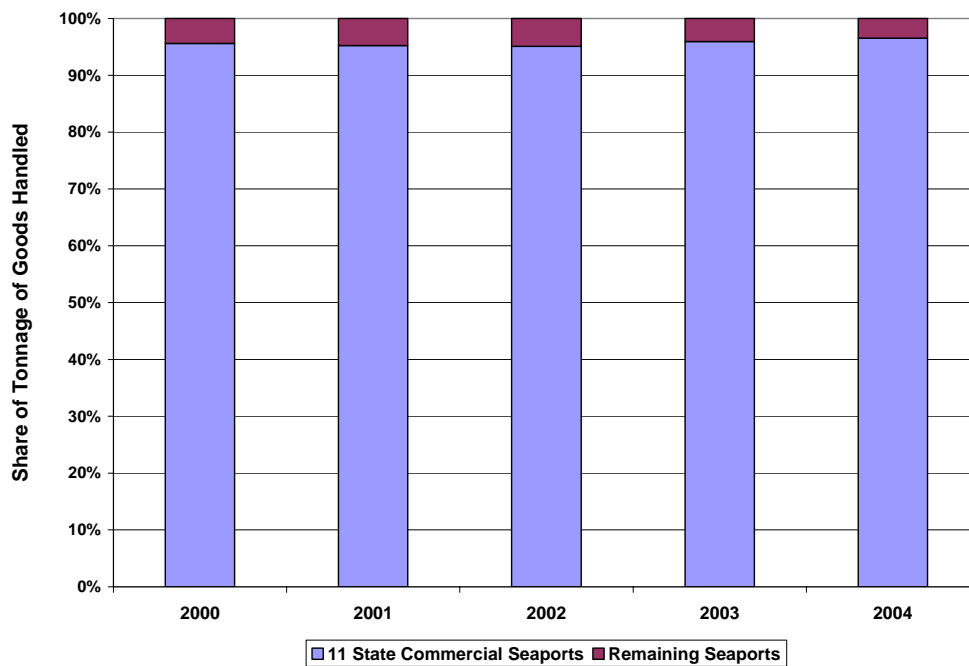
¹¹ This is a weighted average of volume shares in the relevant years.

2.4 Review of Freight Activities of Seaports

2.4.1 Introduction

It is clear from the information presented in the previous section that seaports account for the majority of Ireland's international trade both in terms of value and volume of the goods traded. In 2004, Irish seaports accounted for 84% of the volume of goods traded internationally by the Irish economy. The relative importance of the eleven State Commercial Seaports forming the basis for our study can be understood from Figure 2.10.

Figure 2.10: The 11 State Commercial Seaport's Share of Sea Trade Volumes



Source: CSO, Indecon analysis

Collectively, 98% of the ships that transported goods either to or from Ireland in 2004 did so through one of the 11 State Commercial Seaports¹². These ships accounted for 97% of the volume of goods traded through Irish seaports, which is equivalent to 81% of the total volume of goods traded by the economy in 2004. The 11 State Commercial Seaports are therefore of vital importance to the Irish economy. Not only do they account for a large majority of the volume of trade done by the economy, they also provide the only means by which some of this trade currently takes place. Table 2.6 presents the share of volume traded by cargo type, of the 11 State Commercial Seaports.

Table 2.6: The State Commercial Seaport's Share of Sea Trade Volumes, by Cargo Type

	2000	2001	2002	2003	2004
All Types of Cargo	95.6%	95.2%	95.1%	96.0%	96.5%
Roll-On/Roll-Off	99.9%	100%	100%	100%	100%
Lift-On/Lift-Off	100%	100%	100%	100%	100%
Liquid Bulk	94.9%	94.9%	96.9%	96.9%	95.8%
Dry Bulk	91.5%	91.6%	89.7%	91.8%	94.5%
Break Bulk and All Other Types of Cargo	97.8%	87.4%	83.5%	86.0%	85.4%

Source: CSO, *Indecon analysis*

In 2004, collectively the 11 State Commercial Seaports accounted for 100% of all Roll-On/Roll-Off and Lift-On/Lift-Off volumes. The Roll-On/Roll-Off volumes were accounted for by only four of the eleven ports (Dublin, Rosslare, Cork and Dun Laoghaire), while five of the eleven ports accounted for the 100% of Lift-On/Lift-Off volumes (Dublin, Waterford, Cork, Drogheda and Shannon Foynes).

¹² CSO, 2005; "External Trade Statistics", <http://www.cso.ie/px/pxeirestat/database/eirestat/Trade/Trade.asp>

Given the relative importance of the 11 State Commercial Seaports to the overall volume of international sea trade undertaken by the Irish economy, the remainder of this section shall focus exclusively on these eleven ports wherein we summarise the volume of trade that passes through these ports.

2.4.2 Volume of Trade in the State Commercial Seaports

The 11 State Commercial Seaports handle the majority of trade that passes through Irish seaports. In 2004 they accounted for 98% of cargo ships transporting goods to or from Ireland and 97% of the volume of goods traded. Since 2000, the percentage of ships trading with Ireland through one of the State Commercial Seaports has remained relatively stable, increasing from 96% to 98% over the period. In this section we shall briefly examine some recent trends in the number and size of vessels trading through the State Commercial Seaports.

Analysis of the Vessels Trading with the State Commercial Seaports

Table 2.7 presents figures on the number of cargo vessels trading with the State Commercial Seaports in 2004. It is clear from the table that the majority of ships passing through the ports are those classed as general trading vessels.

Table 2.7: Number of Cargo Vessels Trading through the State Commercial Seaports

	2004	Share of Total (%)
All Types of Vessels	15,612	100%
Liquid Bulk	1,910	12%
Dry Bulk	1,119	7%
Container	2,480	16%
Specialised	349	2%
General	9,754	62%

Source: CSO, Indecon analysis

In keeping with the global trends in the shipping industry, the number of container ships trading through Irish commercial seaports has increased by 28.9% since 2000¹³. Also, as is evident in Table 2.8, the gross tonnage of ships trading with Irish State Commercial Seaports has been increasing in recent years.

Table 2.8: Gross Tonnage of Cargo Vessels Trading through the State Commercial Seaports ('000 Tonnes)

	2000	2001	2002	2003	2004	Growth 2000-2004	CAGR
All Types of Vessels	190,927	206,050	211,229	212,816	209,061	9.5%	2.3%
Liquid Bulk	9,421	9,734	9,284	9,005	9,045	-4.0%	-1.0%
Dry Bulk	9,332	9,201	8,163	8,227	7,785	-16.6%	-4.5%
Container	8,087	7,624	7,861	9,091	9,409	16.3%	3.8%
Specialised	12,275	8,893	8,412	7,306	8,028	-34.6%	-10.6%
General	151,811	170,601	177,511	179,186	174,792	15.1%	3.5%

Source: CSO, Indecon analysis

Since 2000, the gross tonnage of cargo vessels trading through the State Commercial Seaports has increased by 9.5% across all vessels with general purpose vessels and container vessels exhibiting strong growth with the former contributing most significantly to the overall growth figure. Changes to the average gross tonnage of these vessels, presented in Table 2.9, combines the information contained in the two previous tables. The figures indicate that the average gross tonnage of vessels trading with the eleven State Commercial Seaports has increased by over 20% across all vessel types between 2000 and 2004.

¹³ Dublin, Waterford, Cork, Drogheda and Shannon Foynes account for 100% of container traffic over this period.

Table 2.9: Average Gross Tonnage of Cargo Vessels Trading through the State Commercial Seaports

	2000	2001	2002	2003	2004	Growth 2000-2004	CAGR
All Types of Vessels	11,141	12,578	13,129	12,903	13,391	20.2%	4.6%
Liquid Bulk	4,335	4,592	4,635	4,836	4,736	9.2%	2.2%
Dry Bulk	5,581	6,053	7,414	6,839	6,957	24.6%	5.5%
Container	4,203	4,075	3,059	3,471	3,794	-9.7%	-2.6%
Specialised	27,097	27,363	23,563	21,680	23,003	-15.1%	-4.1%
General	15,208	17,451	17,649	17,111	17,920	17.8%	4.1%

Source: CSO, Indecon analysis

As with the previous table, it is predominantly the growth in the average gross tonnage of general trading vessels that is driving the overall increase. The average gross tonnage of both Liquid and Dry Bulk vessels have increased 9.2% and 24.6% respectively. Specialised ships have suffered from the opposite trend with a decline in the average gross tonnage of these ships trading through the State Commercial Seaports of 4.1%. The average gross tonnage of Container vessels has declined by 9.7%. This is due to very strong growth in the number of container vessels. The growth in the number of these vessels outstripped growth in the overall gross tonnage of this type of vessel, which also reported positive growth over the period, thus leading to the negative figure reported in this table.

From this analysis it is clear that in general the gross tonnage of the ships trading through the State Commercial Seaports is increasing with the result that the overall gross tonnage of vessels trading with the State Commercial Seaports is increasing year-on-year. This has led to the trend presented in Table 2.6, whereby these ships have increased their share of the volume of goods traded through Irish seaports over this period. To uncover the extent to which the vessels described in this section are transporting greater volumes of cargo into and out of the commercial seaports under examination, we will turn our attention to assess the volume of cargo being handled by the eleven State Commercial Seaports.

Volume of Cargo Handled by the State Commercial Seaports

The eleven State Commercial Seaports handled 97% of the total volume of goods traded through Irish seaports in 2004. In the case of Roll-On/Roll-Off and Lift-On/Lift-Off trade, they handled 100% as has previously been presented in Table 2.6. The overall volume activity of the eleven State Commercial Seaports can be seen in Table 2.10.

Table 2.10: Volume of Goods Handled by State Commercial Seaports ('000 Tonnes)

	2000	2001	2002	2003	2004	Growth 2000-2004	CAGR
All Types of Cargo	43,286	43,606	42,716	44,296	46,063	6.4%	1.6%
Roll-On/Roll-Off	8,938	9,254	9,449	9,857	10,570	18.3%	4.2%
Lift-On/Lift-Off	6,262	5,731	5,919	6,573	7,022	12.1%	2.9%
Liquid Bulk	13,290	13,521	12,744	12,567	12,761	-4.0%	-1.0%
Dry Bulk	13,238	13,589	13,248	13,798	14,012	5.8%	1.4%
Break Bulk and All Other types of Cargo	1,558	1,513	1,354	1,499	1,694	8.7%	2.1%

Source: CSO, Indecon analysis

In the period 2000-2004 the total volume of cargo handled by the eleven State Commercial Seaports increased by 6.4% indicating that the increasing gross tonnage of ships trading with these ports over this period was utilised to facilitate increased levels of trade. By breaking down this overall trend to assess the performance of the different types of cargo being handled by the eleven State Commercial Seaports, the strong growth performance of Lift-On/Lift-Off and particularly Roll-On/Roll-Off cargo over this period is particularly notable. In 2004, a total of 730,692 TEUs of loaded units were handled by the State commercial seaports of Dublin, Cork, Shannon Foynes, Waterford and Drogheda and these units carried just over 7 million tonnes of freight. The Ro-Ro and Lo-Lo cargo types represent the driving force for the growth in the goods handled by the eleven State Commercial Seaports over this period.

Liquid bulk and dry bulk cargos represent the largest volumes of trade handled in the eleven ports; however the growth in the volume of dry bulk has been relatively moderate at an annual rate of 1.4%, whereas the volume of liquid bulk cargo has declined by 4% over the period 2000-2004. Break bulk and other cargo has grown at an annual rate of 2.1% since 2000. This represents strong growth but from a small initial base. This type of cargo represents a small share of the overall volume of cargo handled both by the eleven seaports and nationally over all seaports. Evidence of this can be found in Table 2.11 which presents the relative volume shares of the volume of trade handled by the different cargo types over the eleven State Commercial Seaports.

Table 2.11: Relative Volume Share by Cargo Type in State Commercial Seaports

	2000	2001	2002	2003	2004	Difference 2000-2004
Roll-On/Roll-Off	20.6%	21.2%	22.1%	22.3%	22.9%	+2.3%
Lift-On/Lift-Off	14.5%	13.1%	13.9%	14.8%	15.2%	+0.8%
Liquid Bulk	30.7%	31.0%	29.8%	28.4%	27.7%	-3.0%
Dry Bulk	30.6%	31.2%	31.0%	31.1%	30.4%	-0.2%
Break Bulk and All Other types of Cargo	3.6%	3.5%	3.2%	3.4%	3.7%	+0.1%
All Types of Cargo	100.0%	100.0%	100.0%	100.0%	100.0%	

Source: CSO, Indecon analysis

Unsurprisingly, Dry Bulk and Liquid Bulk cargos possess the largest volume shares of trade handled by the State Commercial Seaports. This is due to the type of cargo transported by this means and the relative ease with which large quantities can be loaded and unloaded from ships designed to carry cargo of this type¹⁴. Unlike the Bulk cargo sectors, Roll-On/Roll-Off cargo and Lift-On/Lift-Off cargo have improved on their relative positions since 2000 further highlighting the growth in their overall volumes over this period. Table 2.12 presents more detailed information on the recent trends in Roll-On/Roll-Off cargo flows into and out of the State Commercial Seaports.

Table 2.12: Roll-On/Roll-Off Activity in State Commercial Seaports¹⁵

		2000	2001	2002	2003	2004
Freight Vehicles Handled with Loaded Trailers	Number	553,737	583,405	595,640	617,665	653,692
	Tonnes ('000)	8,411	8,911	9,056	9,543	10,213
Trade Vehicles Handled	Number	345,184	247,928	246,814	188,136	220,687
	Tonnes ('000)	435	319	320	254	328

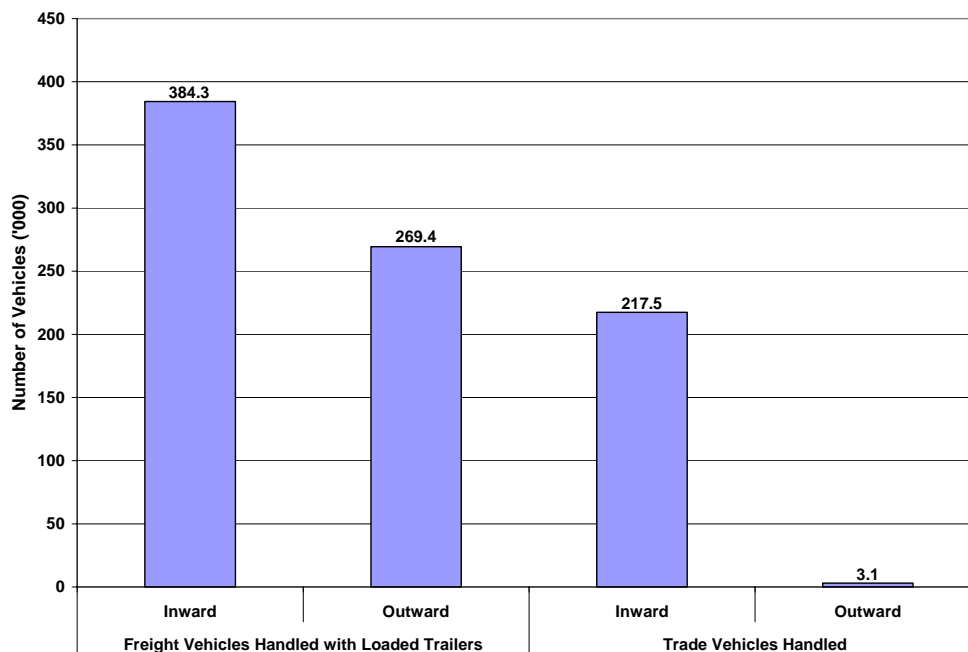
Source: CSO, Indecon analysis

¹⁴ Dry and Liquid bulk cargoes are generally uniform in composition and are loaded directly into the cargo space without any intermediate form of containment. Examples of Dry Bulk Cargo include Coal, Iron Ore, Grain, Cement, and Chemicals. Examples of Liquid Bulk include Oil, Liquefied Natural Gas and Chemicals.

¹⁵ Only four of the eleven State Commercial Seaports had Roll-On/Roll-Off cargo activity during this period, they were Dublin, Rosslare, Cork and Dun Laoghaire. These four ports also accounted for 100% of the Roll-On/Roll-Off cargo activity for all Irish seaports during this period.

Figure 2.11 provides a breakdown of the flows of this trade into and out of the State Commercial Seaports. There are significantly more Trade Vehicles and Loaded Freight Trailers entering the country than there are leaving. In 2004, 98.6% of trade vehicles handled by Irish seaports were entering Ireland, representing 98.8% of the volume of trade transported by that means. Similarly for freight vehicles handled with loaded trailers, 58.9% of these were inbound, representing 58.1% of the volume of trade transported by this means. These proportions have been very stable since the beginning of the decade and the proximity of the number to tonnage values of the trade indicate that there is no significant difference between the average weight of the vehicles entering or leaving the country through the State Commercial Seaports.

Figure 2.11: Breakdown of Direction of Roll-On/Roll-Off Cargo in State Commercial Seaports, 2004



Source: CSO, Indecon analysis

Lift-On/Lift-Off freight has also performed strongly in recent years and has increased its relative market share in terms of the volume of goods traded by Lift-On/Lift-Off means. Table 2.13 presents the number and volume of trade transported by container both into and out of Irish seaports.

Table 2.13: Maritime Container Cargo Flows in State Commercial Seaports¹⁶

		2000	2001	2002	2003	2004
Loaded Units ¹⁷ (Number)	All Directions	592,415	586,525	624,215	683,686	730,692
	Inward	356,591	364,673	389,617	423,708	459,513
	Outward	235,824	221,852	234,597	259,978	271,179
Loaded Units (‘000 Tonnes)	All Directions	6,262	5,731	5,919	6,574	7,022
	Inward	3,344	3,485	3,566	3,956	4,291
	Outward	2,917	2,246	2,353	2,617	2,732

Source: CSO, Indecon analysis

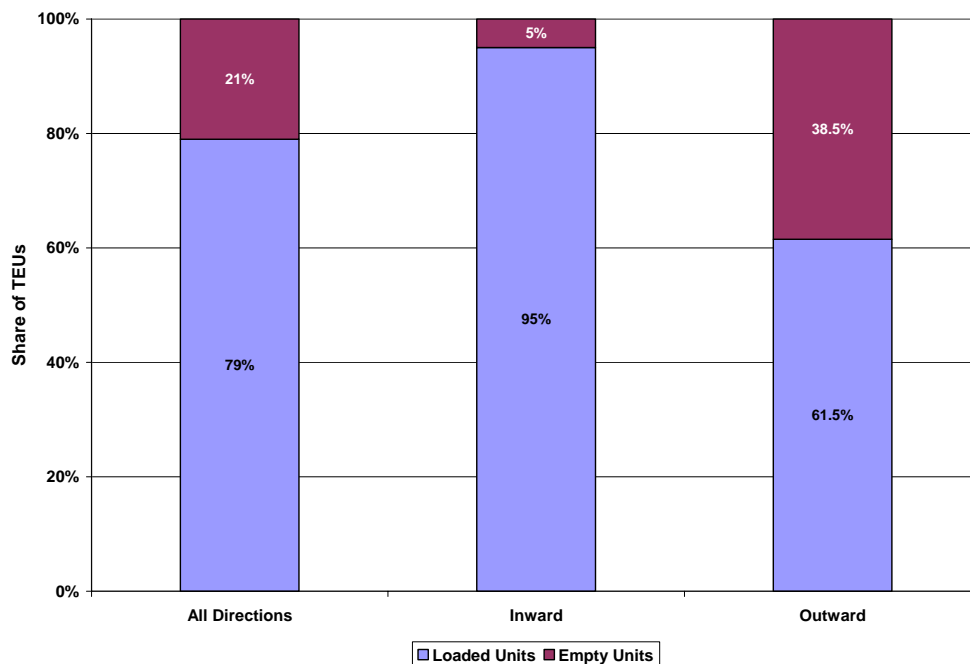
As with Roll-On/Roll-Off freight, Lift-On/Lift-Off freight is dominated by inbound traffic. In 2004, 63% of the number of loaded containers (as measured by TEUs) handled by the State Commercial Seaports entered the country, representing 61% of the volume of goods traded by this means. These proportions have varied minimally since 2001, with the only significant variation occurring in relation to the relative volume shares in 2000 due to the temporary increase in the volume of goods exported in containers. The relative share of the number of TEUs in 2000 remained unchanged.

¹⁶ Only five of the eleven State Commercial Seaports had Lift-On/Lift-Off cargo flows during this period, they were Dublin, Cork, Waterford, Drogheda and Shannon Foynes. These five ports also accounted for 100% of the Roll-On/Roll-Off cargo activity for all Irish seaports during this period.

¹⁷ These are measured in Twenty-foot Equivalent Units (TEUs)

Figure 2.12 presents the relative share of loaded containers in relation to the total number of containers handled by the State Commercial Seaports in 2004. Ninety-five percent of the containers imported into Ireland through seaports in 2004 were loaded as opposed to only 61.5% of those outbound from Irish seaports. This reflects the fact that Ireland imports a greater volume of trade in containers than it exports, importing more loaded containers than it exports in order to do so. Therefore, there are a substantial number of containers entering Irish seaports that are destined to be empty leaving the country otherwise Ireland would have an ever increasing number of containers to store. Given the greater proportion of containers entering Irish seaports, it has a considerably larger impact on the share of outbound containers that are empty.

Figure 2.12: Relative Share of Loaded Containers in 2004



Source: CSO, Indecon analysis

Having analysed the collective volume of trade handled by the eleven State Commercial Seaports in this section, an amount that accounted for 97% of the total volume of trade handled by Irish seaports in 2004, we will now assess the volume of trade handled by each of the eleven State commercial ports during this year.

Volume of Cargo Handled by State Commercial Seaports

Table 2.14 presents the total volume of cargo handled by each of the State Commercial Seaports in 2004. It is noticeable from the table that there are only three ports that handled goods across the full portfolio of cargo types, Dublin Cork and Waterford. Dublin port handles the largest volume of both Roll-On/Roll-Off and Lift-On/Lift-Off cargo, while Cork port handles the largest share of Liquid Bulk cargo and Shannon Foynes that of Dry Bulk cargo. Rosslare and Dun Laoghaire ports specialises in Roll-On/Roll-Off cargo, with Rosslare accounting for over 20 per cent of the countries' seaports total Roll-On/Roll-Off cargo traffic of 10.57 million tonnes. Collectively, the three largest State Commercial Seaports of Dublin, Shannon Foynes and Cork account for 81% of the total volume of cargo passing through the ports.

Table 2.14: Volume of Cargo Handled by the State Commercial Seaports, in 2004 ('000 Tonnes)

Port	Roll-On/ Roll-Off	Lift-On/ Lift-Off	Liquid Bulk	Dry Bulk	Break Bulk and All Other types of Cargo	Total
Dublin	8,055	4,123	3,907	1,610	235	17,930
Shannon Foynes	0	3	1,612	8,725	278	10,619
Cork	177	1,194	5,679	1,543	329	8,923
Waterford	4	1,326	149	757	106	2,342
Rosslare	2,174	0	0	0	0	2,174
Drogheda	0	376	125	397	370	1,268
New Ross	0	0	373	693	35	1,102
Galway	0	0	890	19	51	960
Dundalk	0	0	26	262	62	350
Wicklow	0	0	0	6	228	235
Dun Laoghaire	160	0	0	0	0	160
Total	10,570	7,022	12,761	14,012	1,694	46,063

Source: CSO, Indecon analysis

Table 2.15 below presents the above figures in terms of the relative shares of cargo handled by each port across the different cargo types.

Table 2.15: State Commercial Seaport's Share of the Volume of Cargo Types Handled, in 2004

Port	Roll-On/ Roll-Off	Lift-On/ Lift-Off	Liquid Bulk	Dry Bulk	Break Bulk and All Other types of Cargo	Total
Dublin	76.2%	58.7%	30.6%	11.5%	13.9%	38.9%
Shannon Foynes	0.0%	0.0%	12.6%	62.3%	16.4%	23.1%
Cork	1.7%	17.0%	44.5%	11.0%	19.4%	19.4%
Waterford	0.0%	18.9%	1.2%	5.4%	6.3%	5.1%
Rosslare	20.6%	0.0%	0.0%	0.0%	0.0%	4.7%
Drogheda	0.0%	5.4%	1.0%	2.8%	21.8%	2.8%
New Ross	0.0%	0.0%	2.9%	4.9%	2.1%	2.4%
Galway	0.0%	0.0%	7.0%	0.1%	3.0%	2.1%
Dundalk	0.0%	0.0%	0.2%	1.9%	3.7%	0.8%
Wicklow	0.0%	0.0%	0.0%	0.0%	13.5%	0.5%
Dun Laoghaire	1.5%	0.0%	0.0%	0.0%	0.0%	0.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CSO, Indecon analysis

From this table one can see the different relative importance of the different ports to the overall volume of cargo handled by the State Commercial Seaports. Dublin, Shannon Foynes and Cork ports collectively account for 81 per cent of the total volume of cargo handled. However, the make-up of this and their relative volume shares of the different cargo types show each of these ports handle more Roll-On/ Roll-Off, Dry Bulk and Liquid Bulk cargo, respectively, than any of the other ports. The limited number of ports engaged in Roll-On/Roll-Off and Lift-On/Lift-Off cargo activity, due to the facilities in the ports, is once again evident from this table.

2.5 Value of External Trade in State Commercial Seaports

Unlike data on the volume of trade passing through Irish seaports, the CSO does not report information on the value of this cargo. It is however important to consider the economic value of the State Commercial Seaports in relation to the overall external trade of the Irish economy. Our methodological approach to addressing this key aspect of the overall economic contribution of the commercial seaports is described below.

Using CSO data provided to Indecon, we analysed the total annual value (€) and volume (tonnes) of trade passing through the Irish economy broken down by the relevant mode of transport¹⁸. This data was reconciled with the national accounts data¹⁹ and an estimated value of sea trade per tonne across all ports was calculated. This value was then applied to the volume of goods traded by each of the eleven State Commercial Seaports to yield a series of estimates for the value of trade passing through each of the State Commercial Seaports.

However, in order to take account of differences in the types and value of freight handled across ports, we have adjusted or weighted the estimates derived above using the turnover/revenues generated by each port. This is based on the application of turnover figures excluding tonnage dues, with the exception of Dundalk, which, due to unavailability of detailed turnover data, is based on the application of revenues from tonnage dues.

Our estimates for the value of trade passing through the State Commercial Seaports developed using the above approach are presented in Table 2.16. We estimate that the value of trade handled by the State commercial seaports totalled €75.7 billion during 2004. Dublin and Cork account for the largest share of the estimated value of trade handled across the 11 State commercial seaports.

¹⁸ See Table 2.4 and Table 2.5.

¹⁹ We were notified by the CSO of minor data issues relating to this data and through discussions with them an agreed approach was adopted in order to alleviate possible discrepancies in the data.

Table 2.16: Estimated Value of Trade Handled by State Commercial Seaports - € Million - 2004²⁰

Port	2004		
	High*	Low*	Mean*
Dublin	46,805	28,083	37,444
Cork	16,311	9,787	13,049
Rosslare	9,631	5,779	7,705
Shannon	7,590	4,554	6,072
Waterford	4,953	2,972	3,962
Galway	2,870	1,722	2,296
Dun Laoghaire	2,585	1,551	2,068
Drogheda	2,522	1,513	2,017
New Ross	1,115	669	892
Dundalk	127	76	102
Wicklow	100	60	80
Total			75,686

Source: CSO, *Indecon analysis*

* Note: The 'High' and 'Low' estimates presented are based on a range of +/- 25% around the mean estimates shown.

The State Commercial Seaports play a central role in the facilitation of external trade and thus impact significantly on the overall economic output, growth and employment in the economy. The estimated €75.7 billion of trade handled by the seaports in 2004 supports employment not only in the ports but in relation to exports, all the way through the manufacturing process. This employment in turn results in an increased final demand for goods and services in the economy, which has a subsequent knock-on/indirect impact on the demand for intermediate goods and employment in the relevant sectors.

²⁰ While the estimates presented in the 'mean' column sum to the total estimated value of trade handled across the ports, the 'high' and 'low' estimate columns do not sum to the total figure but are rather designed as maximum and minimum reference values for the ports.

It is also notable that Bacon and Walsh (1996)²¹ estimated that 19 per cent of the Irish labour force was directly supported by exports and that this figure was increased to 39 per cent if the indirect impacts, such as those discussed above, are considered. If one assumes that these figures are still relevant today, this would suggest that approximately 382,800 jobs are directly supported by exports with a further 403,000 jobs linked to exports through direct and indirect effects²².

2.6 Summary of Findings

In this section we presented a detailed analysis of the role of seaports in external trade, the features and growth in trade handled across the ports, and the estimated value of this trade. The key findings from our analyses of the above aspects are summarised below.

Commercial Seaports and Economic Development

- According to the United Nations Conference on Trade and Development (UNCTAD), world seaborne trade increased strongly in 2004, reaching 6.76 billion tonnes of loaded goods, representing a growth rate of 4.3%, on the previous year. Moreover, since 2000, the tonnage of seaborne traded goods has increased cumulatively by 13%;
- The significant growth in the volume of seaborne cargo is driven primarily by increases in the liquid bulk and dry bulk cargoes;
- Globally, the efficiency of seaports is being improved by a general change in the perception of their role from one central to the shipping and maritime business to one that is central to the logistics process for firms. The increased usage of Supply Chain Management (SCM) approaches by industry has also led to a market driven expansion of the foot-print of ports as non-maritime activities have entered the port surroundings in order to facilitate the integration of the logistical process. This process is redefining the port hinterland, expanding the role and importance of the port area and increasing the number of port users;

²¹ Bacon, P. & B. Walsh, 1996; "Exports and Employment – "The Irish Experience" 1985-1995", An Bord Tráchtála.

²² According to the CSO the Labour Force in the period March-May 2005 was 2,014, 800. <http://www.cso.ie/statistics/earnings.htm>

- ❑ With the growth of international trade and seaborne cargo, seaports find themselves in an increasingly competitive marketplace and their ability to efficiently provide seaport services will not only have implications for the port but also for the economy as a whole;
- ❑ With companies' growing reliance on seaborne trade, a country's commercial seaports will play an increasingly important role in the decision of multi-national firms when they are deciding on a location to set up in or whether to remain in their current location.

External Trade and the role of Ports in the Irish Economy

- ❑ Ireland is a small open economy that relies strongly on trade with other countries. During the period 1995-2004 the value of the Irish economy's output, as measured by Gross National Product (GNP) at current market prices, expanded from €47 billion to €124 billion, an increase of 164%;
- ❑ The importance of trade within the overall context of the Irish economy is evidenced by the fact that, in 2004, Ireland traded almost 56 million tonnes of merchandise with a value of €135.3 billion. Moreover, exports and imports accounted for 67.8% and 41.1% of Gross National Product respectively, while the combined value of total exports and imports totalled some €135 billion;
- ❑ In 2004, trade with other countries contributed a net €33.2 billion or 26.7% to the overall GNP or output of the Irish economy, following a peak at the end of the Celtic Tiger period in 2001 when the surplus reached over 35% of GNP;
- ❑ Sea-based transport accounted for 84% of the total volume and 58% of the total value of goods traded by the Irish economy in 2004. By contrast, road transport handled 12.1% of the total volume of merchandise trade, with the balance transported by other modes including air, rail, fixed and post. The share of trade carried by road, however, masks the dominant role of the sea in trade across the economy of the island of Ireland, as the majority of road transport trade with Northern Ireland involves the importing of goods that entered the island through ports in Northern Ireland.

Freight Activities of Commercial Seaports

- ❑ Collectively, 98% of the ships that transported goods either to or from Ireland in 2004 did so through one of the 11 State Commercial Seaports. Moreover, these ships accounted for 97% of the volume of goods traded through Irish seaports, which is equivalent to 81% of the total volume of goods traded by the Irish economy during 2004;

- ❑ Reflecting the global trends in the shipping industry, the number of container ships trading through Irish commercial seaports increased by 28.9% between 2000 and 2004, with activity handled by Dublin, Cork, Shannon Foynes, Waterford and Drogheda;
- ❑ In the period 2000-2004 the total volume or gross tonnage of cargo handled by the eleven State Commercial Seaports increased by 6.4% to 46.1 million tonnes. In absolute terms, the largest volumes are accounted for by dry bulk cargo (over 14 million tonnes in 2004), followed by liquid bulk (12.8 million tonnes), Roll-On/Roll-Off (RoRo) cargo (10.6 million tonnes) and Lift-On/Lift-Off (LoLo) cargo (over 7 million tonnes). In terms of relative growth, the fastest growth between 2000 and 2004 was evident in the RoRo category (18.3%), followed by LoLo (12.1%), break bulk and other types (8.7%), and dry bulk (5.8%);
- ❑ At an individual port level, the ports of Dublin, Shannon Foynes and Cork together accounted for 81% of the total volume of cargo passing through the State commercial seaports during 2004;
- ❑ Since 2000, the gross tonnage of cargo vessels trading through the State Commercial Seaports has increased 9.5% across all vessels, with container and general purpose vessels showing the strongest growth. In addition, the average gross tonnage of vessels has increased by over 20% across all vessel types between 2000 and 2004. Within this total, the average gross tonnage of both liquid and dry bulk vessels has increased 9.2% and 24.6% respectively;
- ❑ Across the State commercial seaports, a greater proportion of the trade handled by Dublin, Shannon Foynes and Cork ports is comprised of Roll-On/Roll-Off, Dry Bulk and Liquid Bulk cargo, respectively;
- ❑ In relation to RoRo activity handled by the State commercial seaports, in 2004, a total of 653,692 freight vehicles with loaded trailers were handled across the seaports, accounting for 10.2 million tonnes of freight, while 220,687 trade vehicles were handled, carrying 328,000 tonnes;
- ❑ In relation to LoLo activity, in 2004, a total of 730,692 TEUs of loaded units were handled by the State commercial seaports of Dublin, Cork, Shannon Foynes, Waterford and Drogheda and these units carried just over 7 million tonnes of freight.

Value of External Trade handled by State Commercial Seaports

- ❑ Indecon estimates that the value of trade handled by the State commercial seaports totalled €75.7 billion during 2004. Dublin and Cork account for the largest share of the estimated value of trade handled across the 11 State commercial seaports.

3 Economic Impact of the State Commercial Seaports

3.1 Introduction

Through facilitating trade, the State Commercial Seaports are vitally important to the Irish economy. However, the overall economic impacts arising from the presence and operation of the seaports are comprised of the following elements:

- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of maritime and other logistics activities supported by the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of tourism related activities, including ferry and cruise liner tourism, through the port/harbour companies;
- ❑ The tax and other incomes received by the Exchequer arising from the above activities;
- ❑ The *indirect* impacts arising from the purchase of goods and services by suppliers who are in receipt of expenditures by the above port/harbour companies and supported maritime and other logistics activities, and tourism activities. This in turn generates further economic activity and employment;
- ❑ The *induced* economic impacts arising from the additional consumer spending that takes place on the basis of the incomes generated through the above direct and indirect impacts.

In this section we estimate the direct, indirect and induced economic impacts arising from the presence and operation of the port/harbour companies and supported maritime and other logistics activities. The analysis of tourism sector impacts is presented separately in Section 1.

3.2 Activities and Revenues of Port/Harbour Companies

Before estimating the economic impact of expenditure in the State Commercial Seaports on the Irish economy, we commence this section by briefly describing the revenues generated by the State Commercial Seaports and harbours based on the data published in the published annual reports and financial accounts of the port/harbour companies.

Total Port Revenues

Data on the total revenues or turnover for each port are reported in Table 3.1. Dublin is the highest revenue-earning port, as would be expected, followed by Cork. It is notable that the port/harbour companies generated a total of some €130.3 million in revenues during 2004. This, of courses, only relates to the direct operations of the ports/harbours and does not reflect the overall economic contribution arising from the activities supported by the commercial seaports as described in the introduction to this section.

Table 3.1: Total Revenues of Commercial Seaports – 2004

Port	Total Revenues/Turnover - € millions
Dublin	59.3
Cork	20.8
Dun Laoghaire	10.4
Rosslare	10.3
Waterford	10.1
Shannon	10.6
Galway	3.4
Drogheda	3.3
New Ross	1.5
Wicklow	0.4
Dundalk	0.2
Total	130.3

Source: Published annual reports and financial accounts of individual port/harbour companies

3.3 Measuring Direct and Indirect Impacts

In this sub-section we describe the approach applied to the estimation of the direct and indirect/induced economic impacts of the State Commercial Seaports. We also discuss a number of methodological issues pertinent to the use and interpretation of 'multipliers' in the estimation of induced impacts.

3.3.1 Approach to measuring direct impacts

The *direct* impact of the State Commercial Seaports on the Irish economy is comprised of the following elements:

- ❑ The number of people employed directly to undertake the activities of each of the port/harbour companies;
- ❑ The expenditures of each of the port/harbour companies on wages and salaries and Irish-produced goods and services; and
- ❑ The Exchequer contributions arising from the above expenditures in addition to taxes paid on income/profits.

In addition to the State Commercial Seaports and harbour companies themselves, a range of maritime and other logistics activities are facilitated indirectly through the existence and operation of the ports. These include primarily:

- ❑ Sea and coastal water transport;
- ❑ Cargo handling and stevedoring;
- ❑ Freight transport by road/road haulage;
- ❑ Storage and warehousing.

Our approach to measuring the direct impacts of the seaports was based on two primary sources of data/information, as follows:

- (i) A detailed and confidential data request issued to each of the State commercial port companies and harbours. As noted previously, a copy of the questionnaire for this data request is presented in Annex 1, and
- (ii) Published annual reports and financial accounts of respective port companies.

In relation to the port/harbour companies, the above data sources have permitted the identification of the following critical expenditure items at the level of each port/harbour:

- ❑ Details of employment by staff type and numbers of full-time equivalent staff;
- ❑ Annual expenditures on staff costs – current wages and salaries;
- ❑ Annual non-staff operating costs/expenditures on goods and services;
- ❑ Annual capital expenditures.

In relation to service-based logistics activities facilitated by the operation of the ports and harbours, these activities are provided by numerous companies/operators throughout the State and, as in the case of the port/harbour companies, they will have associated employment and expenditures. The employment and expenditures sustained by the operation of these enterprises has been estimated on the basis of a detailed analysis of the Central Statistics Office's Census of Services, which was specially commissioned for this study by Indecon and undertaken by the CSO. The latest Census refers to activities in operation during 2003. We profile the direct impacts of port-supported maritime and other logistics activities later in this section.

3.3.2 Measuring indirect and induced impacts

The direct impacts arising from the presence and operation of the port/harbour companies and from the maritime and other logistics activities facilitated by the ports/harbours represents the *minimum* value attributable to the activity of the ports/harbours and does not take account of additional expenditure brought about by the initial spending. This will be subsequently captured by the *indirect* and *induced* effects, which are estimated in the next sub-section. Before estimating these impacts, however, it is important to consider a number of methodological issues, which are discussed below.

The standard approach to estimating the indirect and induced impacts arising from an economic activity is based on the application of a multiplier or multipliers derived from national income input-output tables. Such tables are produced in Ireland by the Central Statistics Office (CSO). The input-output framework takes account of second and subsequent round impacts arising from the operation of inter-industry expenditure linkages, thus providing for a 'multiplier effect' or the economy-wide impact of such expenditures.

The 'multiplier effect' relates to the impact of indirect and second and subsequent round impacts arising out of the direct expenditure incurred on Irish good and services. The multiplier is concerned with how national income changes as a result of a change in an injection in a given area of the economy.

The size of any multiplier impacts is determined by the extent of 'leakages' from an economy. These include imports and taxation. The multiplier can be measured by the formula indicated below:

$$1/[(1-MPC)+MPM+MPT],$$

where MPC is the marginal propensity to consume, MPM is the marginal propensity to import and MPT is the marginal propensity to tax.

In applying multipliers, however, it is important to highlight that there are significant dangers attached to the misinterpretation of multiplier analyses within the context of the contribution of a specific sector or activity to the overall economy. This has been highlighted in numerous previous economic reports. For example, in an analysis produced by an academic economist, it was pointed out that:

"It is commonplace that every sector contributes heavily to the economy - much more than its initial value added; that every sector is responsible for much greater employment than its own direct employment; that every sector is making a contribution to public revenue greater than the direct expenditure on the sector by the State, and so on. It is for these reasons that economic impact studies must be treated with caution. The fundamental weaknesses in these studies derive from the assumption that in the absence of the sector, those involved in the activity would be doing nothing. This is implausible. Economic impact studies also suffer from the attempts to estimate the net budgetary effects of public expenditure in the area.... State expenditure can be justified in relation to market failure. The issue is the extent of market failure and the degree to which it should be corrected; it is not a valid argument to determine State expenditure in terms of the net budgetary implications. If this were the case it would be sufficient to find that sector with the greatest net budgetary impact and concentrate Government expenditure in that area. Economic impact studies are concerned with estimating the linkages on the production side between a sector and other sectors in the economy. All sectors exhibit these linkages to one degree or another."²³

²³ See *The Economics of the Arts in Ireland*, Durkan, J., 1994

Thus, it is important to realise that when interpreting the estimated overall impacts that one does not falsely conclude that these effects would completely disappear in the absence of the ports and the impact on the economy would be to lose economic activity and employment equivalent to the overall economic impact. It is likely that many of the benefits accruing under the indirect and induced impacts would remain in the economy as dynamic market forces push expenditure and employment into other sectors of the economy. Nonetheless, it is useful in understanding the linkages between the State Commercial Seaports and other sectors in the Irish economy to consider the extent, if any, of indirect and induced, or multiplier, effects.

In relation to the second and subsequent round, or induced, impacts arising from the expenditures of the commercial seaports and supported activities, it is important to also note that these impacts will eventually reduce to zero through the successive impact of imports and taxation 'leakages' described above.

3.4 Direct Economic Impacts of Seaport Companies

In this sub-section we describe the direct economic impacts arising from the presence and operation of the State commercial port/harbour companies.

Expenditure on Wages and Salaries

The direct economic impact of the port companies' activities is made up of staff and non-staff contributions. The staff related contribution is made up of both the number of people employed directly to undertake port activities and the port companies expenditure on the salaries and wages of these workers. Table 3.2 presents the number of full-time equivalent employees reported by the port companies.

Table 3.2: Number of Full-Time Equivalent Persons Employed by the Port/Harbour Companies

Port	Total
Dublin	254
Cork	129
Rosslare	92
Waterford	52
Dun Laoghaire	49
Shannon-Foynes	54
Drogheda*	26
Galway	15
New Ross	11.5
Dundalk	9
Wicklow	2.5
Total	694

Source: Indecon data requests to ports

Note: * Drogheda Port Company does not employ all the port's stevedoring employees directly but licenses private stevedoring companies to operate in the port who in turn directly employ 114 people

The reported number of full-time equivalent persons employed by the eleven State Commercial Seaports in 2004 was 694. However, some caution should be exercised in relation to some of these figures. It is important to point out that this table presents the number of full-time equivalent employees and therefore is likely to under-report the overall number of employees at each port as a number of part-time employees may be represented as just one worker in the table above. This measure allows for ease of comparison with other industries but for the reason outlined earlier the figure of 694 employees should be regarded as a lower bound on the actual number of people employed by the port companies. It is also noticeable that a number of the ports companies do not employ staff directly to undertake a number of the activities in the port. For example, Dublin Port Company does not employ stevedores but instead allows private stevedoring companies to operate in the port. In addition, Drogheda Port Company does not employ all the port's stevedoring employees directly but licenses private stevedoring companies to operate in the port who in turn directly employ 114 people.

Table 3.3 presents the overall expenditure on wages and salaries by the port companies in 2004.

Table 3.3: Port Companies' Expenditure on Wages and Salaries (€ millions)

Port	2004
Dublin	16.5
Cork	7.4
Rosslare	4.4
Dun Laoghaire	3.1
Shannon	2.7
Waterford	1.7
Galway	1.0
Drogheda	0.9
New Ross	0.6
Dundalk	0.4
Wicklow	0.1
Total	38.7

Source: Indecon data requests and financial accounts of ports

In 2004 a total of €38.7 million was spent by the eleven State Commercial Seaports on wages and salaries for their employees involved directly in the activities of the port. As we have already noted, not all of the activities directly attributable to the port are undertaken by the port companies and thus this expenditure figure does not represent the full direct impact of the port's expenditure on wages and salaries. Neither does this figure account for the subsequent spending in the economy by the workers and the increased economic activity this brings about.

On the basis of the responses to our survey of the port companies, an estimated €38.7 million and 694 full-time equivalent jobs represent the direct employment-related impact of the eleven State commercial seaport companies to the Irish economy in 2004.

Non-Staff Operating Expenditure

Expenditure by the port companies on goods and services also contributes to the direct economic impact of the seaports to the economy. Table 3.4 presents the port's expenditure on non-staff operating expenses.

**Table 3.4: Port Companies' Expenditure on Non-Staff Operating Expenses
(€ millions)**

Port	2004
Dublin	22.7
Cork	6.7
Shannon	6.3
Waterford	4.5
Dun Laoghaire	3.5
Rosslare	2.1
Drogheda	1.1
New Ross	0.6
Dundalk	0.6
Galway	0.2
Wicklow	0.1
Total	48.3

Source: Indecon data requests and financial accounts of ports

Overall, the eleven State Commercial Seaports contributed €48.3 million to the economy through expenditure on goods and services directly attributable to their port activities. Dublin port accounted for 47% of this figure with total expenditure on non-staff operating costs in 2004 of €22.7 million. Dun Laoghaire appears to rank highly in this table. However, approximately 40% of its operating costs go towards the maintenance of public facilities in the harbour area that otherwise would have to be funded by the local authority or the state. The non-staff operating expenses of the other seaport companies in 2004 appear to depend largely on the size of the port and the volume of activity passing through the port.

The total of these staff and non-staff operating expenses for the seaport companies in 2004 are presented in Table 3.5.

Table 3.5: Port Companies' Total Operating Expenditure (€ millions)

Port	2004
Dublin	39.2
Cork	14.0
Shannon	8.9
Dun Laoghaire	6.6
Rosslare	6.5
Waterford	6.2
Drogheda	2.0
New Ross	1.2
Galway	1.2
Dundalk	0.9
Wicklow	0.3
Total	87.0

Source: Indecon data requests and financial accounts of ports

As one would expect from the two previous tables, Dublin Port Company accounts for a 45 per cent of the €87 million spent by the port companies on operating expenses in 2004. This figure, along with the 694 full-time equivalent jobs, represents 65 per cent of the direct economic contribution of the State Commercial Seaports to the Irish economy. The capital investment undertaken by the port companies in 2004 also represent a direct contribution to the economy. As with the port companies' operating expenditure, the capital investment will have both direct and indirect impacts on the economy, in this section we limit ourselves to just the direct impact of the investment.

Capital Expenditure

Table 3.6 presents figures on the level of capital expenditure by each of the port companies in 2004. Unlike the operating expenditures discussed earlier, capital investment can vary substantially from year to year depending on the port companies' investment decisions and requirements at the ports. In both 2003 and 2002 Dublin Port Company reported the most significant capital expenditure figures of the year at €4.4 million and €25 million respectively. The disparity in the levels of investment highlight the previous point but this is to be expected given the nature of large capital projects.

In 2004 a total of €45.8 million was spent by the port companies on capital projects, representing the direct contribution to the economy of these projects.

Table 3.6: Port Companies' Capital Expenditure (€ millions)

Port	2004
Cork	19.0
Dublin	15.8
Shannon	5.4
Dun Laoghaire	1.6
Galway	1.0
Waterford	1.0
Rosslare	0.8
Drogheda	0.6
Dundalk	0.5
New Ross	0.0
Wicklow	Nil
Total	45.8

Source: Indecon data requests and financial accounts of ports

Total Expenditure Contribution

The direct contribution of the seaport companies operating in the State Commercial Seaports for 2004 can now be fully calculated as the sum of the companies' expenditure on staff, non-staff operating expenses and capital investments, as well as the number of people employed directly involved in port activities. The expenditure figures are reported in Table 3.7.

Table 3.7: Port Companies' Total Annual Expenditure (€ millions)

Port	2004
Dublin	55.0
Cork	33.0
Shannon	14.4
Dun Laoghaire	8.2
Rosslare	7.3
Waterford	7.2
Drogheda	2.5
Galway	2.2
Dundalk	1.4
New Ross	1.2
Wicklow	0.3
Total	132.8

Source: Indecon data requests and financial accounts of ports

The total direct contribution of the seaport companies to the Irish economy in 2004 was €132.8 million and the employment of 694 full-time equivalent employees. These figures for expenditure and employment in the port companies relate only to the activities undertaken directly by the port and do not consider the wider implication of this expenditure. In order to do so we shall now utilise an input-output model in order to estimate the full economic impact of the port companies' expenditure in 2004.

3.4.1 Exchequer Impacts

The activities of the State Commercial Seaports will generate Exchequer contributions through a range of taxation payments. While a detailed estimation of the value of such contributions is beyond the scope of this study due to the unavailability of data on these aspects within these sectors, Exchequer impacts will include the following contributions:

- PAYE/income tax payments on wages and salaries;
- PRSI payments on wages and salaries;
- Corporation tax payments; and
- VAT and Excise duty payments.

3.5 Direct Impacts of Port-supported Maritime and Other Logistics Activities

As described in the introduction, a range of maritime and other logistics activities are facilitated indirectly through the existence and operation of the ports. These include primarily:

- Sea and coastal water transport;
- Cargo handling and stevedoring;
- Freight transport by road/road haulage;
- Storage and warehousing.

The employment and expenditures sustained by the operation of these enterprises has been estimated on the basis of a detailed analysis of the Central Statistics Office's Census of Services, which was specially commissioned for this study by Indecon and undertaken by the CSO. We describe the activities of port-supported maritime and other logistics activities below, which relate to the following NACE sectoral activity classifications:

- (i) Section I, 60.24 - Freight transport by road;
- (ii) Section 1, 61.10 - Sea and coastal water transport;
- (iii) Section I, 63.11 - Cargo handling; and
- (iv) Section I, 63.12 - Storage and warehousing.

Table 3.8 below describes the numbers of persons engaged and the numbers of employees, including full-time and part-time employees, in maritime and other logistics activities supported by the presence and operation of the commercial seaports. The number of persons engaged (which includes both employees and business proprietors) in aggregate across the activities of freight transport, sea and coastal water transport, cargo handling and storage and warehousing totalled 20,549 in 2003, of which the number of employees came to 16,348. Of the number of employees, 14,618 were full-time while 1,731 were employed on a part-time basis by enterprises engaged in these activities.

Table 3.8: Maritime and Other Logistics Activities Supported by Port Companies - Number of Persons Engaged and Number of Employees - 2003

	Port-related Activities*
Number of Persons Engaged	20,549
Total Number of Employees	16,348
<i>Of which:</i>	
Full-time Employees	14,618
Part-time Employees	1,731

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

Details in relation to the wages and salaries of staff employed within the maritime and logistics activities supported by the commercial seaports are shown in the next table. A total of €478.2 million in overall personnel costs across these activities was recorded during 2003, while the wages and salaries component of these overall staff costs came to €436.2 million.

Table 3.9: Maritime and Other Logistics Activities Supported by Port Companies - Personnel Costs and Wages & Salaries - 2003

	Port-related Activities*
Personnel Costs (€000)	478,197
Wages and Salaries (€000)	436,174

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

Table 3.10 describes the number of enterprises operating in those sectors related to maritime and other logistics activities supported by the commercial seaports and their associated turnover, purchases of goods and services and gross value added during 2003.

Table 3.10: Maritime and Other Logistics Activities Supported by Port Companies - Number of Enterprises, Turnover, Purchases of Goods & Services and Gross Value Added - 2003

	Port-related Activities*
Total Number of Enterprises	4,431
Turnover excl. VAT (€000)	2,996,845
Total Purchases excl. VAT (€000)	2,034,868
Opening Stock excl. VAT (€000)	10,127
Closing Stock excl. VAT (€000)	9,526
Gross Value Added (€000)	961,376

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

It is notable that there were 4,431 enterprises in operation across the wider maritime and other logistics sector during 2003. These operations recorded a turnover totalling just under €3 billion, while their purchases of goods and services totalled just over €2 billion. The gross value-added contribution to the Irish economy of these activities supported directly by the presence of the commercial seaports, which equates with the difference between turnover and total purchases adjusted for the change in enterprises' stock position during the year, totalled €961.4 million.

If one aggregates the operating expenditures on staff costs with the expenditures on the purchase of goods and services, this yields a figure for total operating expenditures across firms in the supported sectors, which is presented in the table overleaf.

Table 3.11: Maritime and Other Logistics Activities Supported by Port Companies - Total Current/Operating Expenditures - 2003

	Port-related Activities*
Total Personnel Costs (€000)	478,197
Total Purchases of Goods & Services (excl. VAT) (€000)	2,034,868
Total Operating/Current Expenditures (€000)	2,513,065

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

According to the figures above, operating expenditures totalled €2.51 billion across the maritime and other logistics activities-based firms supported by the presence and operation of the commercial seaports.

Further evidence of the contribution of these port-related activities is provided by the figures presented in the next table in relation to capital expenditures undertaken during 2003. These figures indicate that total gross capital acquisitions or expenditures came to €174.8 million during 2003, while net capital expenditures after taking account of capital asset disposals totalled just under €128 million.

Table 3.12: Maritime and Other Logistics Activities Supported by Port Companies - Capital Expenditures and Disposals - 2003

	Port-related Activities*
Capital Acquisitions excl. VAT (€000)	174,845
Capital Disposals excl. VAT (€000)	46,872
Net Capital Expenditure (€000)	127,973

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

An indication of the overall direct expenditure impacts arising from the operation of maritime and other logistics firms supported by the seaports is provided by the figures in the next table, which indicate that firms in these sectors contributed a total of some €2.7 billion in expenditures during 2003.

Table 3.13: Maritime and Other Logistics Activities Supported by Port Companies – Total Direct Expenditure Impacts - 2003

	Port-related Activities*
Operating expenditures (excl. VAT) (€000)	2,513,065
Capital expenditures (excl. VAT) (€000)	174,845
Total Expenditures (excl. VAT) (€000)	2,687,910

Source: Special data run of CSO, Census of Services 2003 provided to Indecon by CSO

*NACE Sectors 6024, 6110, 6311, 6312

3.5.1 Exchequer Impacts

As in the case of the State Commercial Seaports, in addition to the direct impacts arising from the operating and capital expenditures incurred by firms in the above port-supported sectors, these activities will also generate Exchequer contributions via a range of tax payments, including PAYE/income tax payments on wages and salaries, PRSI payments on wages and salaries, corporation tax payments and VAT and Excise duty payments.

3.6 Indirect, Induced and Overall Economic Impacts

We now consider the indirect, induced and implied overall economic impacts arising from the direct impacts of the State Commercial Seaports and the maritime and other logistics activities supported by the ports. We begin by considering the indirect and induced impacts of the seaport/harbour companies.

3.6.1 Commercial seaport/harbour companies

Indecon's survey of the State Commercial Seaports provided information in the direct expenditures of the seaport companies, described previously, that allows us to use the input-output model in order to estimate the knock-on effects of this direct expenditure in the economy as a whole. The expenditures of the seaport companies on goods and services required those in receipt of the expenditure to undertake the further purchase of goods and services in order to provide the goods and services to the port. Therefore the impact of the port companies' expenditure captures the absolute minimum of economic activity generated by the expenditure. The indirect impacts generated from the expenditure on goods and services by those in receipt of expenditure by the port companies, as well as the induced impacts accruing from the additional consumer expenditure generated by this increase in economic activity, are key to assessing the overall economic impact of the State Commercial Seaports to the Irish economy. In order to estimate the indirect and induced impacts, we adopt an input-output model that takes account of inter-industry linkages to provide an overall assessment of the economic impact of the State Commercial Seaports on Irish the economy. Given that our data relates to 2004, we have deflated the data where necessary in order to reliably implement the input-output model. The input-output model is a widely used approach to estimating the overall economic impact of particular sectors to the economy. The estimates of the indirect and induced effects are based on the input-output tables published by the CSO, and draw on previous research in this area by Moloney and Sjostrom (2000)²⁴.

²⁴ Moloney, Richard & William Sjostrom, 2000; "The Economic Value of Port of Cork to Ireland in 1999: An Input-Output Study".

The multipliers applied in our analysis are presented in the table below in respect of both operating and capital expenditures and related employment multipliers.

Table 3.14: Multipliers Applied in Estimation of Indirect and Induced Economic Impacts

Type of Contribution	Expenditure Multiplier	Employment Multiplier - No. of FTEs per €1 million of Expenditure - 2004 values*
Operating/Current Expenditures		
Direct	1.00	-
Indirect	0.57	13.1
Induced	0.28	14.5
Overall	1.85	
Capital Expenditures		
Direct	1.00	-
Indirect	0.46	24.5
Induced	0.18	25.6
Overall	1.64	

Source: Moloney et al (2000) and CSO, Input-Output tables

Notes: * Employment multipliers are based on 1999 multipliers reflatd to take account of inflation in average industrial earnings (all industries) between 1999 and 2004. Earnings inflation totalled 34% in total over the 1999-2004 period

As the CSO Input-Output tables are based on 1999 values, the employment multipliers specified have been adjusted to take account of inflation in average industrial earnings during the period 1999-2004, as €1 million of expenditure in 2004 will, due to inflation, result in a lower impact on employment than an equivalent €1 million in expenditure in 1999.

Impacts arising from current operating expenditures

In this section we concentrate on the current operating, staff and non-staff expenditures of the port companies and estimate the indirect and induced economic impacts brought about as a result of this expenditure. We estimate this separately for each of the ports and then include the direct contribution of the port companies' expenditure to the indirect and induced impacts to get the overall economic impact accruing to the economy from the expenditure of each of the port companies.

From the information contained in Table 3.2 and Table 3.5, the direct contribution of expenditures by Dublin Port Company are included in Table 3.15. Using the Input-Output model and applying the relevant multipliers to the direct expenditures, we are able to determine the overall economic contribution of current operating expenditure by Dublin Port Company to the Irish economy, in terms of its overall expenditure and employment contribution.

Table 3.15: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - Dublin Port Company - 2004

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	39.2	254
Indirect Impacts	22.3	293
Induced Impacts	11.0	159
Overall Economic Contribution	72.5	707

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

In 2004, the activities of the Dublin Port Company that sustained 254 full-time equivalent employees (FTEs) and incurred operating expenses of €39.2 million, generated downstream expenditure of €22.3 million with a further €11 million spent by consumers as a result of the incomes accruing from these direct and indirect activities. We estimate the overall gross impact of the Dublin Port Company's current operating expenditures on the economy at €72.5 million, supporting 707 full-time equivalent jobs.

From Table 3.16 one can see the overall contribution of the Port of Cork to the economy. Taking into account the direct, indirect and induced impacts, we estimate the gross economic impact of Port of Cork's current expenditures at €25.9 million, supporting 291 full-time equivalent employees.

Table 3.16: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - Port of Cork

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	14.0	129
Indirect Impacts	8.0	105
Induced Impacts	3.9	57
Overall Economic Contribution	25.9	291

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

In the case of Shannon/Foynes Port Company, we estimate that the current expenditures of the company generated an overall gross economic impact of €16.5 million during 2004 and an estimated employment level 157 FTEs, as can be seen from Table 3.17.

Table 3.17: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - Shannon/Foynes Port Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	8.9	54
Indirect Impacts	5.1	66
Induced Impacts	2.5	36
Overall Economic Contribution	16.5	157

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

A breakdown of the overall gross economic contribution of Dun Laoghaire Harbour Company's current operating expenditures is shown in Table 3.18. Our estimates indicate an overall gross current expenditure contribution of €12.2 million, supporting a total of 125 FTEs during 2004.

Table 3.18: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Dun Laoghaire Harbour Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	6.6	49
Indirect Impacts	3.8	49
Induced Impacts	1.8	27
Overall Economic Contribution	12.2	125

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

The overall economic contribution of the current operating expenditures of Rosslare Port can be seen in Table 3.19. The figures indicate an overall current expenditure impact of €12 million, supporting an estimated 167 FTEs during 2004.

Table 3.19: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Rosslare Europort

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	6.5	92
Indirect Impacts	3.7	49
Induced Impacts	1.8	26
Overall Economic Contribution	12.0	167

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

In the case of the Port of Waterford Company's current/operating expenditures, our estimates of the overall economic impact of these expenditures are described in Table 3.20. We estimate an indirect expenditure impact of €3.6 million and induced impacts of €1.7 million, bringing the overall gross expenditure impact to €11.5 million in 2004. We estimate that this overall current expenditure supported some 124 full-time equivalent jobs.

Table 3.20: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Port of Waterford Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	6.2	52
Indirect Impacts	3.6	47
Induced Impacts	1.7	25
Overall Economic Contribution	11.5	124

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

The analysis for Drogheda Port Company is shown in Table 3.21. The port's operating expenditures during 2004 are estimated to have generated an overall gross expenditure impact of €3.7 million, comprising indirect impacts totalling €1.1 million and induced impacts amounting to €0.6 million. However, the indirect and induced impacts of the port company's expenditure are estimated to support an additional 23 FTEs, bringing the total number of FTEs supported by the port to 49 during 2004.

Table 3.21: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Drogheda Port Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	2.0	26
Indirect Impacts	1.1	15
Induced Impacts	0.6	8
Overall Economic Contribution	3.7	49

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

The estimates for New Ross Port Company are presented in Table 3.22 below and indicate an overall gross operating expenditure impact of €2.2 million, comprising direct impacts of €1.2 million, indirect impacts of €0.7 million and induced impacts of €0.3 million. These operating expenditure impacts are estimated to support a total of approximately 25 full-time equivalent jobs.

Table 3.22: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - New Ross Port Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	1.2	11.5
Indirect Impacts	0.7	9
Induced Impacts	0.3	5
Overall Economic Contribution	2.2	25

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

In the case of the current expenditures of Galway Harbour Company, our estimates of the expenditure impacts shown in Table 3.23 suggest an overall gross economic impact of €2.2 million during 2004, supporting 29 FTEs.

Table 3.23: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - Galway Harbour Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	1.2	15
Indirect Impacts	0.7	9
Induced Impacts	0.3	5
Overall Economic Contribution	2.2	29

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

The estimated overall economic impact of the current operating expenditures of Dundalk Port Company during 2004 can be seen in Table 3.24. Including the indirect and induced expenditure impacts, the overall gross economic impact is estimated to amount to €1.7 million, supporting an estimated 19 FTEs.

Table 3.24: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Dundalk Port Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	0.9	9
Indirect Impacts	0.5	7
Induced Impacts	0.3	4
Overall Economic Contribution	1.7	19

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

A breakdown of the estimated economic impacts arising from the current/operating expenditures of the Wicklow Port Company during 2004 is shown in the next table. We estimate that Wicklow Port generated an overall gross economic impact from current expenditures totalling €0.3 million, which is estimate to support approximately 5.5 FTEs.

Table 3.25: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports – Wicklow Port Company

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	0.2	2.5
Indirect Impacts	0.1	2
Induced Impacts	0.0	1
Overall Economic Contribution	0.3	5.5

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

A breakdown of the aggregate gross economic contribution arising from the current/operating expenditures of the 11 State commercial seaports is presented in the next table. We estimate that the aggregate operating expenditures of the State commercial seaports, which include expenditures on wages and salaries and on the purchase of goods and services, resulted in an overall gross economic impact of €161 million during 2004, comprising direct impacts amounting to €87 million and indirect and induced impacts totalling €49.6 million and €24.4 million respectively. The ports/harbour companies directly employed an estimated 694 full-time equivalent staff. However, after taking into account the indirect and induced expenditure impacts arising from the operating expenditures, we estimate that the overall number of FTEs supported amounts to 1,697 jobs across the Irish economy.

Table 3.26: Breakdown of Economic Impacts Arising from Current Operating Expenditures of State Commercial Seaports - Aggregate Impacts Across Ports

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	87.0	694
Indirect Impacts	49.6	650
Induced Impacts	24.4	353
Overall Economic Contribution	161.0	1,697

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

Capital Expenditure

The figures presented above relate to the direct, indirect and induced economic impacts stemming from the operating or current expenditures taking place across the State commercial seaports. The overall economic impacts of the operation of the port companies will also include the impacts arising from capital expenditures. However, capital expenditures differ from current expenditures in that the former tend to be considerably more volatile on an annual basis. In addition, unlike the ports' operating expenditure which included labour costs and therefore was directly supporting a level of direct employment in the port companies, capital investment does not involve the direct hiring of workers. All of the employment impacts therefore arise from the indirect and induced impacts of the capital investment as those in receipt of the port companies' expenditure hire labour to undertake the capital project. Further induced impacts are also likely as the income of the indirect labour is used to purchase further goods and services. Given the variation in the port companies' annual capital expenditures, we do not report a port-by-port company breakdown of the overall impacts of the ports' capital expenditures. The impact of this type of expenditure is transitory and thus does not have as significant an impact on the economy as the ports' annual operating expenditures. Our estimates based on capital expenditures occurring during 2004 are presented in the next table.

Table 3.27: Breakdown of Economic Impacts Arising from Capital Expenditures of State Commercial Seaports – Aggregate Impacts Across Ports

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	45.8	-
Indirect Impacts	21.1	516
Induced Impacts	8.2	211
Overall Economic Contribution	75.1	727

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

We estimate that the combined capital expenditure of the 11 State commercial seaports amounting to some €45.8 million during 2004 generated indirect expenditure of €21.1 million and induced spending of €8.2 million. These additional expenditures are in turn estimated to support approximately 727 full-time equivalent jobs.

3.6.2 Overall indirect and induced economic impacts

An indication of the aggregate estimated gross economic impact arising from the current and capital expenditures of the State commercial seaports is presented in Table 3.28, based on figures for 2004.

Table 3.28: Breakdown of Economic Impacts Arising from Overall Expenditures of State Commercial Seaports – Aggregate Impacts Across Ports

	Impact (€ millions) - 2004	Employment (FTEs) - 2004
Direct Impacts	132.8	695
Indirect Impacts	70.7	1,166
Induced Impacts	32.6	564
Overall Economic Contribution	236.1	2,425

Source: Indecon analysis based on confidential data request to port/harbour companies, published financial accounts of port/harbour companies, Moloney et al (2000) and CSO, Input-Output tables

As described earlier in this section, the State Commercial Seaports' overall expenditure, taking into account both current/operating and capital items, amounted to €132.8 million during 2004, while the seaports collectively employed an estimated 694 full-time equivalent employees. Based on our analysis, we estimate that this expenditure generated indirect and induced impacts on the economy amounting to €70.7 million and €32.6 million respectively, bringing the overall gross economic impact of all expenditures to €236.1 million during 2004. We further estimate that this expenditure supported a total of some 2,425 full-time equivalent jobs across the Irish economy.

In terms of the overall economic impact, these figures should be interpreted as the gross expenditure and employment impacts on the economy and not as the overall contribution to Gross National Product (GNP), which, as noted previously, must take account of leakages from the Irish economy resulting from expenditures on imported goods and services and taxation.

3.6.3 Maritime and other logistics activities

A breakdown of the overall economic impacts, including direct, indirect and induced/multiplier impacts, arising from the current expenditures undertaken by maritime and other logistics-based firms supported by the presence of the State Commercial Seaports is presented in the table below. These figures utilise the current expenditure multipliers presented in Table 3.14 above. We estimate that the initial direct current expenditures evident in these firms generated an additional indirect impact of €1.43 billion during 2003, while induced impacts added a further €704 million, bringing the overall gross economic impact from current expenditures in port-supported maritime and logistics sectors to €4.6 billion. The overall employment supported across the Irish economy through these additional expenditure impacts is estimated to amount to a total of 50,930 full-time equivalent jobs.

Table 3.29: Breakdown of Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports - Current Expenditure Impacts

	Impact (€ millions) - 2003	Employment (FTEs) - 2003*
Direct Impacts	2,513	20,549
Indirect Impacts	1,432	19,692
Induced Impacts	704	10,689
Overall Economic Contribution	4,649	50,930

Source: Indecon analysis based on CSO, Census of Services, 2003, Moloney et al (2000) and CSO, Input-Output tables

* The estimates of employment impacts are based on 1999 input-output ratios adjusted to take account of inflation in average industrial earnings between 1999 and 2003

The direct, indirect and induced impacts arising from the capital expenditures undertaken by firms operating in the port-supported maritime and logistics industries are shown in the next table. Our estimates suggest an overall gross expenditure contribution, taking account of direct, indirect and induced impacts, of €286.7 million arising from capital expenditures. These additional impacts are estimated to support a total of 2,907 full-time equivalent jobs across the economy.

Table 3.30: Breakdown of Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports - Capital Expenditure Impacts

	Impact (€ millions) - 2003	Employment (FTEs) - 2003*
Direct Impacts	174.8	-
Indirect Impacts	80.4	2,063
Induced Impacts	31.5	844
Overall Economic Contribution	286.7	2,907

Source: Indecon analysis based on CSO, Census of Services, 2003, Moloney et al (2000) and CSO, Input-Output tables

* The estimates employment impacts are based on 1999 input-output ratios adjusted to take account of inflation in average industrial earnings between 1999 and 2003

The table below aggregates the figures in relation to the overall economic impacts arising from the current and capital expenditures undertaken in port-supported maritime and logistics industries to arrive at a set of estimates for the impacts of total expenditures and related employment. Overall, our estimates suggest that across the ports-supported maritime and other logistics industries, the overall gross economic contribution amounted to some €4.9 billion across the Irish economy, while this expenditure is estimated to support close to 54,000 full-time equivalent jobs.

Table 3.31: Breakdown of Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports - Overall Impacts

	Impact (€ millions) - 2003	Employment (FTEs) - 2003*
Direct Impacts	2,688	20,549
Indirect Impacts	1,513	21,755
Induced Impacts	735	11,534
Overall Economic Contribution	4,936	53,838

Source: Indecon analysis based on CSO, Census of Services, 2003, Moloney et al (2000) and CSO, Input-Output tables

* The estimates employment impacts are based on 1999 input-output ratios adjusted to take account of inflation in average industrial earnings between 1999 and 2003

Our aggregate estimates suggest an overall expenditure contribution from these activities taking into account indirect and induced/multiplier effects totalling €4.9 billion in 2003, while this expenditure is estimated to support a total of 53,838 full-time equivalent jobs.

3.6.4 Gross expenditures versus net economic contribution

It is important to highlight that, in relation to the direct economic impacts arising from the expenditures of State commercial seaport and harbour companies and supported firms in the maritime and logistics industries, the overall impacts on the Irish economy of these expenditures presented in this section do not take into account the fact that these expenditures will have associated imported inputs. As imports constitute a leakage from the Irish economy, they do not contribute to the overall Gross Domestic Product or income from Irish produced goods and services.

Indecon are of the strong view that a more credible and prudent interpretation of the *Net*, as opposed to *Gross*, economic impacts arising from the presence and operation of the State Commercial Seaports and downstream supported activities, including in the maritime/logistics areas and in the tourism sector (described in the next section), should take account of the 'leakage' taking place from the Irish economy by virtue of the fact that these expenditures will include imported goods and services.

Based on research on the Irish economy and for the purposes of our analysis of the overall economic impact of the wider commercial seaports sector and related industries, we believe a more prudent approach is advisable, which takes full account of all leakages through imports and taxation. On this basis, we have assumed in the calculation of the multiplier a value for the Marginal Propensity to Consume of 0.6, while the Marginal Propensity to Import and Marginal Propensity to Tax is assumed at 0.2 and 0.1 respectively. This results in an economy-side multiplier of 1.43 and takes full account of leakages taking place through imports and taxation.

Table 3.32: Estimated Net Economic Impacts Arising from Expenditures of State Commercial Seaports - Aggregate Impacts Across Ports - 2004

	Impact (€ millions) - 2004
Direct expenditures of seaport/harbour companies	132.8
<i>Multiplier</i>	1.43
Estimated Net Overall Economic Contribution	189.9
Estimated No. of FTE jobs sustained*	2,032

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on employment multiplier of 10.7 FTEs per €1 million of overall expenditure contribution (derived from Table 3.28)

Applying the lower multiplier to the direct expenditures of the State commercial seaport/harbour companies during 2004 yields an estimate of the net overall economic contribution arising from the direct activities of the port/harbour companies of €189.9 million (see table above). This net expenditure impact is estimated to sustain approximately 2,032 full-time job equivalents.

Our estimate of the net economic impact arising from the direct expenditures of ports-supported maritime and logistics firms is shown in the table below. Based on the application of the more prudent multiplier which takes account of leakages through imports and taxation from the economy, we estimate an overall net economic contribution of €3.84 billion across these industries during 2003. This is estimated to support approximately 42,000 full-time equivalent jobs across the Irish economy.

Table 3.33: Breakdown of Net Economic Impacts Arising from Maritime and Other Logistics Activities Supported by State Commercial Seaports - Overall Impacts - 2003

	Impact (€ millions) - 2003
Direct expenditures of ports-supported maritime and logistics firms	2,688
<i>Multiplier</i>	1.43
Estimated Net Overall Economic Contribution	3,844

Estimated No. of FTE jobs sustained*	41,927
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Source: Indecon analysis

* Overall number of FTEs sustained estimated based on employment multiplier of 10.9 FTEs per €1 million of overall expenditure contribution (derived from Table 3.29)

3.7 Summary of Findings

In this section we have developed a range of estimates for the overall economic impacts arising from the presence and operation of the State commercial seaports and the operation of maritime and other logistics industries supported by the presence of the seaports.

Through facilitating trade, the State Commercial Seaports are vitally important to the Irish economy. However, the overall economic impacts arising from the presence and operation of the seaports comprise a number of elements, as follows:

- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of maritime and other logistics activities supported by the port/harbour companies;
- ❑ The *direct* impacts arising from the employment and expenditures sustained through the operation of tourism related activities, including ferry and cruise liner tourism, through the port/harbour companies;
- ❑ The tax and other incomes received by the Exchequer arising from the above activities;
- ❑ The *indirect* impacts arising from the purchase of goods and services by suppliers who are in receipt of expenditures by the above port/harbour companies and supported maritime and other logistics activities, and tourism activities. This in turn generates further economic activity and employment;
- ❑ The *induced* economic impacts arising from the additional consumer spending that takes place on the basis of the incomes generated through the above direct and indirect impacts.

Indecon have developed detailed estimates in relation to the direct, indirect and induced economic impacts arising from the presence and operation of the port/harbour companies and supported maritime and other logistics activities. The key findings from our analyses are summarised below.

Direct Impacts of Port/Harbour Company Activities

- ❑ Based on data submitted to Indecon by the port/harbour companies, the reported number of full-time equivalent people employed by the eleven State Commercial Seaports in 2004 was 694. However, caution should be exercised in the interpretation of this figure, which we believe to be a lower bound estimate as this relates to the number of full-time equivalent employees and is likely to under-report the overall number of employees at each port;
- ❑ It should be noted that a number of the ports companies do not employ staff directly to undertake activities in the ports. In particular, stevedoring activity has largely moved outside the direct remit of the port/harbour companies, with stevedoring services now provided primarily by independent firms licensed to operate within the ports;
- ❑ In 2004, a total of €38.7 million of expenditure was incurred by the eleven State Commercial Seaports on wages and salaries for their employees involved directly in the activities of the ports/harbours;
- ❑ Expenditure by the port companies on goods and services also contributes to the direct economic impact of the seaports to the economy. This includes current/operating expenditures and capital expenditures. In relation to the former, overall the eleven State Commercial Seaports contributed €48.3 million to the economy through current expenditure on goods and services directly attributable to their activities;
- ❑ In 2004 a total of €45.8 million was spent by the port companies on capital projects, representing the direct contribution to the economy of these projects;
- ❑ Overall and taking into account the aggregate of expenditures on wages and salaries, ongoing purchases of goods and services and capital projects, the 11 State commercial seaports contributed a total of €132.8 million. This constitutes the gross expenditure impact of the State commercial seaports, but does not take account of indirect and induced impacts, and 'leakages', including through the cost of imported goods and services, which are addressed below.

Indirect, Induced and Overall Impacts of Port/Harbour Company Activities

The indirect and induced impacts arising from the presence and operation of the State commercial seaports are estimated using an input-output framework, which takes account of inter-industry linkages to provide an overall assessment of the economic impact of a particular activity on the Irish the economy as a whole.

The State Commercial Seaports' overall expenditure in 2004 amounted to €132.8 million and they collectively employed 694 full-time equivalent employees. This expenditure is estimated to generate indirect and induced impacts on the economy totalling €103.3 million in 2004. Overall, the operating and capital expenditures of the State Commercial Seaports is estimated to contribute a gross €236.1 million to the Irish economy in 2004, with an estimated 2,425 full-time equivalent positions supported by this expenditure.

Impacts of Maritime and Other Logistics Activities supported by Ports

In addition to the State Commercial Seaports and harbour companies themselves, a range of maritime and other logistics activities are facilitated indirectly through the existence and operation of the ports. These include primarily:

- ❑ Sea and coastal water transport;
- ❑ Cargo handling and stevedoring;
- ❑ Freight transport by road/road haulage;
- ❑ Storage and warehousing.

The key findings from our analysis of ports-supported maritime and other logistics activities are as follows:

- ❑ There were 4,431 enterprises in operation across the wider maritime and other logistics sector during 2003.
- ❑ The number of persons engaged (which includes both employees and business proprietors) in aggregate across the activities of freight transport, sea and coastal water transport, cargo handling and storage and warehousing totalled 20,549 in 2003;
- ❑ A total of €478.2 million in overall personnel costs across these activities was recorded during 2003, while the wages and salaries component of these overall staff costs came to €436.2 million;
- ❑ Firms operating in these port-supported maritime and logistics sectors recorded a turnover totalling just under €3 billion, while their purchases of goods and services totalled just over €2 billion during 2003;
- ❑ The gross value-added contribution to the Irish economy of these activities supported directly by the presence of the commercial seaports, which equates with the difference between turnover and total purchases adjusted for the change in enterprises' stock position during the year, totalled €961.4 million;
- ❑ Gross capital acquisitions or expenditures undertaken by firms operating in the freight transport, sea and coastal water transport, cargo handling and storage and warehousing sectors totaled €174.8 million during 2003;

- The overall direct expenditure impacts arising from the operation of maritime and other logistics firms supported by the State commercial seaports amounted to some €2.7 billion in 2003. As in the case of the port/harbour companies, this constitutes the gross expenditure impact. The indirect and induced impacts are addressed separately below.
- As in the case of the port/harbour companies themselves, the expenditures arising from the operation of firms in the maritime and logistics sectors supported by the presence of the seaports will also result in indirect and induced impacts on the Irish economy. Based on the latest data available for 2003, the overall gross economic impact arising from the direct expenditures (including operating and capital expenditures) of firms operating in the ports-supported maritime and logistics industries is estimated to total approximately €4.9 billion. This comprises indirect impacts of €1.5 billion and induced impacts amounting to €735 million.
- Taking into account the economy-wide indirect and induced impacts arising from these expenditures, we estimate that a total of close to 54,000 full-time equivalent jobs are supported across the economy.

Gross expenditures versus net economic contribution

Indecon are of the strong view that a more credible and prudent interpretation of the *Net*, as opposed to *Gross*, economic impacts arising from the presence and operation of the State Commercial Seaports and downstream supported activities, including in the maritime/logistics areas and in the tourism sector, should take account of the 'leakage' taking place from the Irish economy by virtue of the fact that these expenditures will include imported goods and services.

Based on research on the Irish economy and for the purposes of our analysis of the overall economic impact of the wider commercial seaports sector and related industries, we believe a more prudent approach is advisable, which takes full account of all leakages through imports and taxation. On this basis, we have assumed in the calculation of the multiplier a value for the Marginal Propensity to Consume of 0.6, while the Marginal Propensity to Import and Marginal Propensity to Tax is assumed at 0.2 and 0.1 respectively. This results in an economy-side multiplier of 1.43 and takes full account of leakages taking place through imports and taxation.

Applying the lower multiplier to the direct expenditures of the State commercial seaport/harbour companies during 2004 yields an estimate of the net overall economic contribution arising from the direct activities of the port/harbour companies, of €189.9 million.

Based on the application of the more prudent multiplier which takes account of leakages through imports and taxation from the economy, we estimate an overall net economic contribution arising from the expenditures of ports-supported maritime and logistics firms of €3.84 billion.

4 Tourism Activities and Impacts

4.1 Introduction

This section focuses on estimating the economic impacts arising from tourism activities supported by the State Commercial Seaports. The role of the commercial seaports in relation to tourism stems from their involvement in two activities, namely:

- Facilitation of passenger/car ferries;
- Facilitation of visiting cruise liners.

In this section we measure the nature of the above tourism related activities and develop a range of estimates of the economic contribution of such activities.

4.2 Overview of Developments in Irish Tourism

Before describing and estimating the economic impacts arising from the tourism activities supported by the State Commercial Seaports, it is instructive to set the context by presenting a brief overview of developments in tourism generally in Ireland, including in relation to sea-based tourism.

The table overleaf describes the recent developments in relation to the overseas tourism market, as measured by the annual number of visits to Ireland by overseas residents by origin over the period 2000-2004. The most recently available annual data show that a total of 6.57 million overseas visits took place during 2004, of which the largest proportion (56%) came from Great Britain, followed by other European countries (24.3%), the USA and Canada (14.9%) and other areas (4.8%).

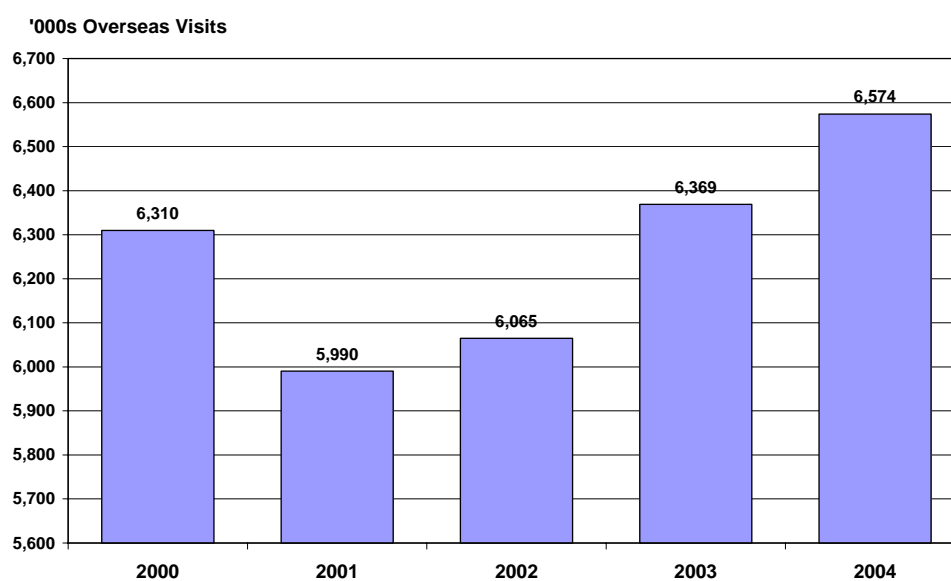
Table 4.1: Overseas Visits to Ireland - Estimated Number of Overseas Visits - 2000-2004 - '000s

Visits to Ireland	2000	2001	2002	2003	2004	2004 - %
Great Britain	3,559	3,462	3,579	3,719	3,681	56.0
Other Europe	1,453	1,357	1,392	1,497	1,600	24.3
USA and Canada	1,043	912	849	904	977	14.9
Other Areas	256	260	245	249	317	4.8
Total Overseas Visits	6,310	5,990	6,065	6,369	6,574	100

Source: CSO

The figure below provides a pictorial representation of the overall annual number of overseas visits to Ireland over the period 2000-2004. Overall, the number of overseas visits to Ireland has recovered strongly since 2002, after suffering a substantial contraction in 2001 arising primarily from the impacts of the September 11 events and the Foot and Mouth crisis.

Figure 4.1: Recent Developments in Tourism - Numbers of Overseas Visits to Republic of Ireland - 2000-2004



Source: CSO

While the above figures identify the overall number of overseas visits to Ireland, it is important to distinguish the nature of visits in terms of the primary reasons cited by visitors for coming to Ireland. The table overleaf presents the overseas visitor numbers in terms of the primary reasons for visitors' journeys to Ireland, annually over the period 2000-2004. It is notable that the largest proportion - over 3.4 million visits or 51.9% - of visits are for the purpose of holiday/leisure/recreation. This is followed by visits to friends and relatives (27.5% of visits), business activities (14.1%) and other reasons not cited (6.5%). The primary purpose of travel characteristics have important implications for the consideration of the nature of economic impacts arising from visitors arriving in Ireland by sea, which we consider in further detail later in this section.

Table 4.2: Overseas Visits to Ireland - Reason for Journey of Overseas Visits to Ireland - 2000-2004 - '000s

	2000	2001	2002	2003	2004	2004 - %
Business	1,074	975	906	854	926	14.1
Holiday/Leisure/ Recreation	3,346	3,177	3,242	3,334	3,413	51.9
Visit to Friends/Relatives	1,564	1,566	1,603	1,736	1,807	27.5
Other	328	273	314	445	429	6.5
Total Overseas Visits	6,310	5,990	6,065	6,369	6,574	100

Source: CSO

What is the extent of revenues generated from overseas visits to Ireland? The table below indicates the estimated overall annual level of expenditure arising from overseas visits to Ireland over the period 2000-2004. The figures indicate that some €3.2 billion of revenues were generated from overseas visits to Ireland in 2004.

Table 4.3: Overseas Visits to Ireland - Estimated Expenditure from Overseas Visits - 2000-2004 - € Million

Estimated Expenditure	2000	2001	2002	2003	2004
			€ million		
Overseas visits*	2,617	2,893	3,045	3,198	3,204

Source: CSO

* Excluding cross-border visits

4.2.1 Sea-based tourism activity

An initial indication of the importance of the commercial seaports in relation to tourism can be seen from the figures presented in the following table concerning the movement of passengers to and from the Irish Republic by sea. It is notable that during 2004 a total of just under 2 million inbound and 1.96 million outbound sea-based passenger trips took place. Of the overall volumes of sea-based trips made, the vast majority – some 1.84 million inbound and 1.82 million outbound trips – were cross-channel to and from Great Britain. While these passenger trips, in addition to those to and from places other than Great Britain, take place primarily through the use of passenger/car ferries, the figures will also include cruise liner-based passengers visiting Ireland.

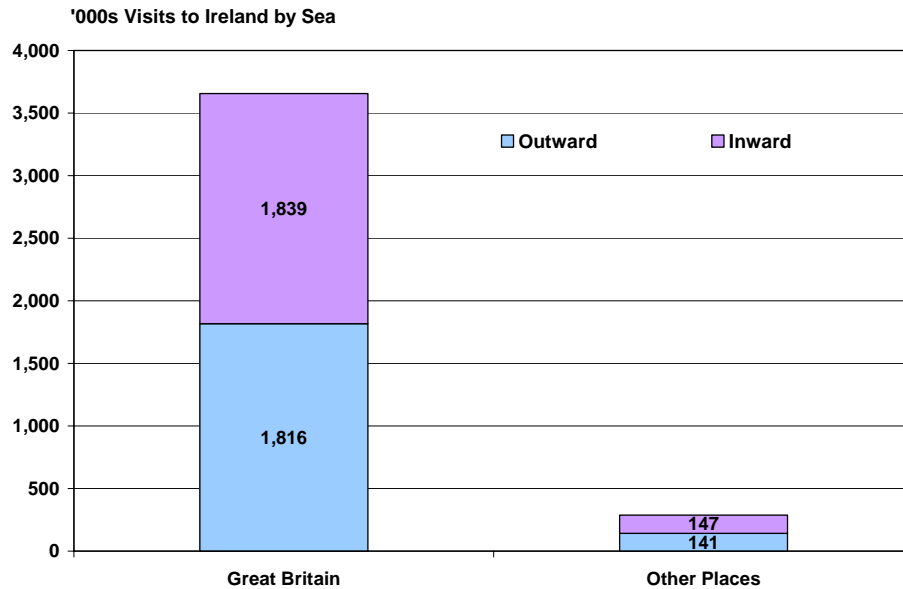
Table 4.4: Direct Passenger Movement by Sea from and to Republic of Ireland - 2004

Period	Great Britain		Other Places		Total	
	Outward 000's	Inward 000's	Outward 000's	Inward 000's	Outward 000's	Inward 000's
2004	1,816	1,839	141	147	1,957	1,986

Source: CSO

A graphical representation of the volume of passenger movements by sea to and from Ireland in 2004 is presented in the figure overleaf. This highlights the importance of sea-based travel and tourism to Ireland, particularly from British origins.

Figure 4.2: Recent Developments in Tourism – Direct Passenger Movement by Sea from and to Republic of Ireland - 2004



Source: CSO

4.3 Description of Tourism Activities Supported by Commercial Seaports

We now examine in detail the nature of tourism activity supported by the State Commercial Seaports. We firstly describe the extent of passenger/car ferry-based activity and follow this with a description of cruise liner tourism.

4.3.1 Passenger/car ferry activity

The State Commercial Seaports play a vital role in relation to passenger/car ferry transport. This was evidenced by the figures presented in Section 2, in relation to the importance of roll on-roll off freight – of which ferry-based transport plays a key role – which accounted for 10.6 million tonnes, or 22.9%, of the total volume of freight handled by the commercial seaports in 2004. In addition to the freight handling role, however, ferries also play a vital role in transporting passengers and cars. This function has important implications for tourism activity not just in terms of the overall impacts on tourism but also in relation to the geographic distribution of ferry-borne visitors, which, due to a greater proportion travelling with cars, tend to travel more widely throughout the State than visitors arriving by air.

A description of the numbers of inbound passenger cars, buses and other non-trade related vehicles handled by the main commercial seaports is presented in the table below. According to the figures, a total of 456,912 passenger cars, motorcycles and accompanying trailers/caravans arrived across the ports/harbours of Dublin, Dun Laoghaire, Cork and Rosslare, while a total of 13,490 passenger buses were handled by these ports/harbours during 2004.

Table 4.5: Numbers of Inbound Passenger Cars, Buses and Other Non-Trade Vehicles Handled by State Commercial Seaports - 2004

	2004 - No. Inbound				
	Dublin	Dun Laoghaire	Cork	Rosslare	Total
Passenger cars, motorcycles and accompanying trailers/caravans	179,760	98,151	30,744	148,257	456,912
Passenger buses	7,847	2,570	559	2,514	13,490

Source: CSO, Port Statistics

The overall numbers of passengers handled by the State Commercial Seaports of Dublin, Dun Laoghaire, Rosslare, Cork and Galway during 2004, based on data provided by the ports, are described in the following table. The figures indicate that a total of some 3.63 million passengers were facilitated by these ports during 2004. It should be noted that this includes both arriving and departing passengers.

Table 4.6: Tourism Activities Supported by State Commercial Seaports - No. Ferry Passengers by State Commercial Seaport - 2004

Port	No. of Ferry Passengers*
Dublin	1,363,000
Rosslare	1,100,000
Dun Laoghaire	932,000
Cork	235,290
Galway	1,425
Total	3,631,715

Source: Indecon data request to ports and financial accounts of individual ports

* Figures are provisional and subject to verification with individual ports

4.3.2 Cruise liner activity

The growing importance of cruise liner tourism to the Irish economy has been highlighted in a number of previous research studies.²⁵

A description of the recent developments in relation to the numbers of cruise liners visiting the commercial seaports is presented in the table below, based on data provided by the ports to the consultancy team. The figures indicate that a total of 113 cruise liners visited Irish ports during 2004, of which 53 visited Dublin, 36 visited Cork, 23 visited Waterford and 1 visited Galway. The overall number of cruise liners visiting these ports has risen from 97 in 2002. This equates to a 16.5% increase in the number of cruise liners arriving at the seaports over the same period.

²⁵ See, for example, Moloney (2004), *The Economic Value of the Port of Cork Cruise Liner Business to the Irish Economy in 2004*; Moloney (2003), *A Study of the Economic Impact of the Port of Cork's Cruise Traffic*, Centre for Policy Studies, University College Cork.; and Moloney and O'Sullivan (2004), *The Economic Contribution of the Cruise Sector to the Island of Ireland*, commissioned by Cruise Ireland.

Table 4.7: Tourism Impacts - No. of Cruise Liners Visiting Ports

Port	No. of Cruise Liners		
	2002	2003	2004
Dublin	50	52	53
Cork	26	31	36
Galway	3	1	1
Waterford	18	15	23
Total	97	99	113

Source: Indecon data request to ports

The following table indicates the numbers of passengers on board cruise liners visiting the State Commercial Seaports annually over the period 2002-2004. It is estimated that cruise liners visiting the ports of Dublin, Cork, Waterford and Galway during 2004 carried a total of some 98,716 passengers.

Table 4.8: Tourism Impacts - No. of Cruise Liner Passengers Visiting Ports

Port	No. of Passengers		
	2002	2003	2004
Dublin	46,000	52,500	46,500
Cork	19,800	22,973	33,522
Waterford*	14,603	12,169	18,659
Galway	426	70	35
Total	80,829	87,712	98,716

Source: Indecon data request to ports

* Figures for Waterford are estimated

Furthermore, the fact that the growth in the number of passengers on visiting liners, at 22.1% during this period, was greater than the increase in the number of cruise liners visiting the ports (16.5%) is evidence of the expanded capacity of the major ports to handle larger size vessels.

Of importance is the estimation of the expenditure and economic impacts of the cruise lining activity handled by the commercial seaports is the length of stay of cruise vessels. The figures provided by individual ports in relation to length of stay are presented in the table below and indicate that, on average across the ports of Dublin, Cork and Galway, cruise liners remained at port for just under 1 day.

Table 4.9: Tourism Impacts - No. of Cruise Liners Using Ports and Number of Passengers

Port	Average Length of Stay of Liners - Days		
	2002	2003	2004
Dublin	0.8	0.7	0.6
Cork	1.0	1.0	1.0
Galway	1.0	1.0	1.0
Average	0.9	0.9	0.9

Source: Indecon data request to ports

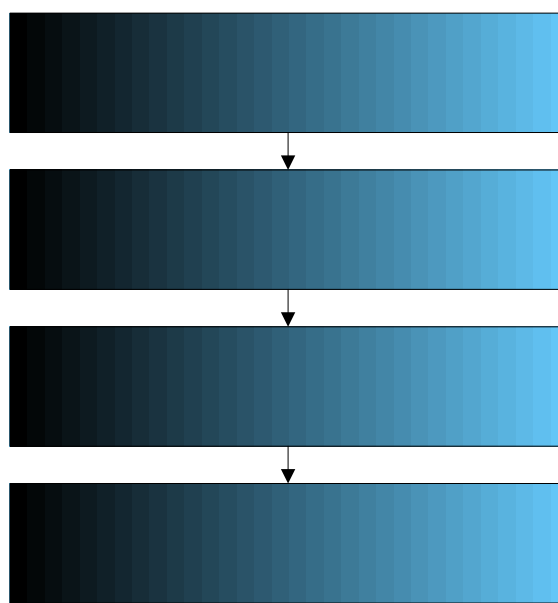
4.4 Economic Impacts of Ports-Supported Tourism Activities

We now turn to developing our estimates for the economic contribution of the State Commercial Seaports to tourism. As noted, the role of the commercial ports in relation to tourism activity relates to both the car/passenger ferry and cruise liner sectors.

4.4.1 Direct economic impacts of ferry-based tourism

Our methodological approach to estimating the *direct* economic contribution arising from the role of the ports in the ferry sector is summarised in the figure below. The direct impacts arise from the aggregate of the expenditures of ferry-based passengers on the local economy, which are derived on the basis of the numbers of inbound ferry-based visitors, their average per capita expenditures and the average length of stay of such visitors.

Figure 4.3: Estimation of Direct Economic Contribution of Ferry-based Tourism



Source: Indecon

Expenditure patterns among ferry-based visitors

In the following table we present an analysis of typical spending patterns among overseas visitors arriving by ferry to Ireland in 2004. According to the figures, which have been supplied to the consultancy team by Fáilte Ireland, an average expenditure per ferry-based visit of €536.80 was recorded in 2004. The average length of stay of ferry-based visitors, measured in terms of overnight stays, was 9.12 nights. Multiplying the average expenditure per visit by the average length of stay implies an average expenditure per day of €58.85 for ferry-based visitors to Ireland in 2004.

Table 4.10: Spending Patterns Among Overseas Visitors Arriving by Ferry to Ireland

Visitor Category	2004		
	Average Expenditure per Capita per Visit - € (A)	Average Length of Stay - Overnights (B)	Average Expenditure per Day - € (A)/(B)
Overseas visitors arriving by ferry	536.80	9.12 nights	58.85

Source: Indecon analysis based on figures provided by Fáilte Ireland

Our estimates of the direct economic impacts arising from the expenditures of ferry-based passengers using the State Commercial Seaports are presented in the following table. Applying the methodology described above yields an estimate for the aggregate level of expenditure of ferry-based passengers across all ports in 2004 of €974.8 million. On a port-by-port basis, our estimates indicate a direct expenditure impact on the Irish economy varying between €0.4 million in the case of Galway Harbour and €365.8 million in relation to Dublin Port.

It is important to highlight that these estimates represent the gross direct impacts of ferry-based visitors stemming from their expenditures. To the extent that such expenditures will include spending on imported goods and services, the net economic impacts on Gross Domestic Product will be lower.

Table 4.11: Estimated Direct Expenditure Impacts of Ferry-based Tourism Supported by State Commercial Seaports - 2004

Port	2004		
	Estimated No. of Inbound Ferry-based Passengers (A)*	Average Expenditure per Capita per Visit - € (B)	Total Expenditure - € Million (A)*(B)
Dublin	681,500	536.80	365.8
Rosslare	550,000	536.80	295.2
Dun Laoghaire	466,000	536.80	250.1
Cork	117,645	536.80	63.2
Galway	713	536.80	0.4
All Ports	1,815,858	536.8	974.8

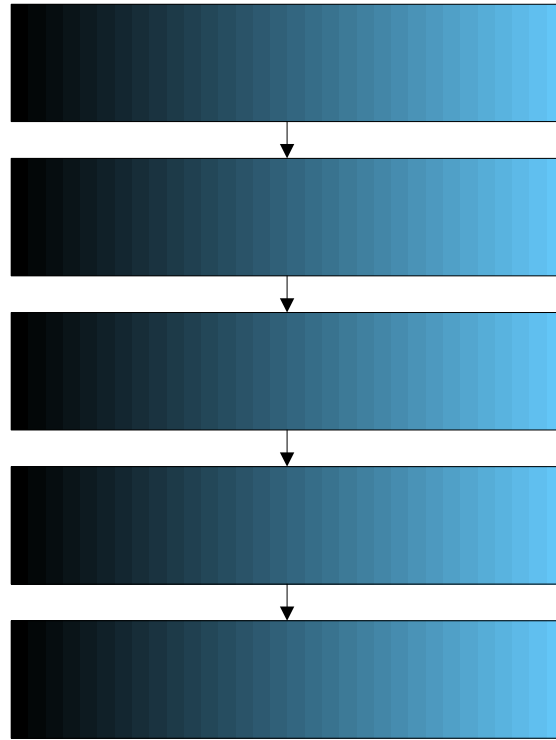
Source: Indecon analysis based on figures provided by Fáilte Ireland

* Note: The figures shown above in relation to inbound passenger numbers are estimated from data provided by the ports on the basis of the assumption that total inbound passenger numbers equal total passenger numbers/2.

4.4.2 Direct economic impacts of cruise liner-based tourism

Our methodological approach to estimating the *direct* economic contribution arising from the role of the ports in cruise liner tourism is summarised in the figure below. In the case of cruise liners, the direct impacts arise from the aggregate of the expenditures of both passengers and crew disembarking from the ships when they visit each port. This requires information and assumptions in relation to the number of passengers and crew, the typical spending patterns among both passengers and crew, the proportion of passengers and crew disembarking from the cruise liners while at port, and the average length of stay at port. We discuss these aspects further below.

**Figure 4.4: Estimation of Direct Economic Contribution of Cruise Liner-
based Tourism**



Source: Indecon

In relation to the numbers of passengers and crew on board cruise liners using the State Commercial Seaports, while data has been provided to the team on the numbers of passengers, figures were not available on crew numbers. To address the issue of crew numbers, we have assumed that the ratio of crew to passengers remains stable at the levels indicated by previous research on cruise tourism at the Port of Cork. The table below sets out the numbers of cruise liner passengers and crew members based on figures provided by Port of Cork and Moloney (2004)²⁶. These figures indicate that the numbers of passengers rose from 16,125 in 2001 to 33,522 in 2004, while the number of crew members increased from 8,869 to 16,109 over this period. On average over the period, a ratio of crew to passengers of 0.51 was implied by these figures.

Table 4.12: Number of Passengers and Crew Members on Board Cruise Liners Visiting Port of Cork - 2001-2004

Year	No. of Passengers	No. of Crew Members	Ratio of Crew to Passengers
2001	16,125	8,869	0.55
2002	19,800	10,197	0.52
2003	22,973	11,520	0.50
2004	33,522	16,109	0.48
<i>Average annual</i>	<i>23,105</i>	<i>11,674</i>	<i>0.51</i>

Source: Port of Cork re passenger numbers and Moloney (2004) in relation to crew members

²⁶ Moloney, R (2004), Op.Cit.

Applying the estimated ratio of crew to passengers derived above to the passenger numbers across the State Commercial Seaports hosting cruise liners for data was available to the consultancy team yields a range of estimates for the crew numbers on board visiting ships during 2004. These estimates are presented in the following table and indicate an estimated total crew membership on board liners visiting Dublin, Cork, Waterford and Galway of 50,345 during 2004.

Table 4.13: Tourism Impacts - Estimated Number of Crew Members on Board Cruise Liners Visiting State Commercial Seaports - 2004

Port	No. of Passengers	Estimated Ratio of Crew to Passengers	Estimated No. of Crew Members
	2004		
Dublin	46,500	0.51	23,715
Cork	33,522	0.51	17,096
Waterford	18,659	0.51	9,516
Galway	35	0.51	18
Total	98,716	0.51	50,345

Source: Indecon estimates based on figures supplied by individual ports and Moloney (2000)

Expenditure patterns among cruise liner visitors

In the following table we present an analysis of typical spending patterns among cruise liner-based visitors and crew in 2004. Estimates of average spend among cruise liner-based passengers and crew have been drawn from previous research undertaken by Moloney (2000)²⁷ reflatd to 2004 values using the consumer price index. The estimates for per capita spend for cruise liner passengers and crew by port are presented in the following table and indicate an average spend per capita among cruise passengers of €297 and among crew members of €49. An important feature of cruise liner tourism which should be highlighted is that while cruise passengers typically only spend on average 1 day visiting the State, their average spend during this period is considerably higher than the average daily expenditure of ferry-based visitors.

²⁷ Moloney, R. and William Sjostrum. *The Economic Value of the Port of Cork to Ireland in 1999: An Input-Output Study*. Paper developed from study commissioned by Port of Cork Company. University College Cork, June 2000.

Table 4.14: Spending Patterns Among Cruise Liner Passengers and Crew Visiting State Commercial Seaports - 2004

Visitor Category	2004
	Estimated Average Expenditure per Capita per Visit - €
Cruise liner passengers	
Dublin	297*
Cork	297*
Waterford	297*
Galway	297*
Cruise liner crew members	
Dublin	49**
Cork	49**
Waterford	49**
Galway	49**

Source: Indecon analysis based on figures provided by individual ports and previous research by Moloney (2000)

* Moloney (2000) estimated per capita spend for passengers - €283 - reflatd to 2004 values using consumer price index.

** Moloney (2000) estimated per capita spend for crew members - €47 - reflatd to 2004 values using consumer price index.

Based on the approach described above, our estimates in relation to the direct gross expenditure contribution of cruise liner-based passengers and crew visiting the State commercial seaports are presented in Table 4.15. We estimate an overall gross expenditure impact, assuming an average disembarkation rate of 80% among cruise liner passengers and crew visiting Irish ports, totalling €25.4 million during 2004.

Table 4.15: Estimated Direct Expenditure Impacts of Cruise Liner-based Tourism Supported by State Commercial Seaports - 2004

Visitor Category	2004		
	Estimated Average Expenditure per Capita per Visit - € (A)	Estimated No. of Passengers and Crew Disembarking (B)*	Estimated Direct Expenditure Impact - € '000 (A)*(B)
Cruise liner passengers			
Dublin	297	37,200	11,048
Cork	297	26,818	7,965
Waterford	297	14,927	4,433
Galway	297	28	8.3
Total	297	78,973	23,455
Cruise liner crew members			
Dublin	49	18,972	929.6
Cork	49	13,677	670.2
Waterford	49	7,613	373.0
Galway	49	14	0.7
Total	49	40,276	1,974
Total - Passengers and Crew	-	119,249	25,429

Source: Indecon analysis based on figures provided by individual ports and previous research by Moloney (2000)

* The estimated numbers of passengers and crew disembarking is based on Moloney (2000) which indicates an average disembarkation rate among cruise liners visiting Cork of 80%

4.4.3 Indirect, Induced and Overall Economic Impacts of Ferry-based tourism

The above estimates presented so far in this section represent the direct expenditure contribution of ferry-based and cruise liner-based tourism supported by the operation of the State commercial seaports. However, these estimates do not take account of the economy-wide additional expenditures arising from the indirect and induced impacts of this direct expenditure.

Previous research in this area undertaken by Moloney *et al* (2000) developed a series of Input-Output model-based expenditure and employment multipliers designed to estimate the indirect, induced and overall economic impacts of expenditures in the tourism sector. These multipliers are presented in the table below and may be applied to ferry-based and cruise liner-based tourism.

Table 4.16: Multipliers Applied in Estimation of Indirect and Induced Economics Impacts from Tourism Activities Supported by Operation of State Commercial Seaports

Type of Contribution	Expenditure Multiplier	Employment Multiplier - No. of FTE's per €1 Million of Tourism Expenditure - 2004*
Direct	1.00	-
Indirect	0.58	21.0
Induced	0.26	19.9
Overall	1.84	

Source: Moloney *et al* (2000) and CSO, *Input-Output tables*

Note: * Employment multipliers are based on 1999 multipliers reflatd to take account of inflation in average industrial earnings (all industries) between 1999 and 2004. Earnings inflation totalled 34% in total over the 1999-2004 period

Table 4.17 applies the above multipliers to the direct expenditure impacts from ferry-based tourism supported by the State commercial seaports presented in Table 4.11 to derive the indirect, induced and overall gross economic expenditure and associated employment impacts.

Table 4.17: Estimated Overall Gross Economic Expenditure and Employment Impacts of Ferry-based Tourism Supported by State Commercial Seaports - 2004

Port	Expenditure Impacts - 2004				Employment Impacts - No. of FTEs
	Direct Impacts - € Million	Indirect Impacts - € Million	Induced Impacts - € Million	Overall Gross Impacts - € Million	
Dublin	365.8	212.2	95.1	673.1	6,357
Rosslare	295.2	171.2	76.8	543.2	5,130
Dun Laoghaire	250.1	145.1	65.0	460.2	4,346
Cork	63.2	36.7	16.4	116.3	1,098
Galway	0.4	0.2	0.1	0.7	7
All Ports	974.8	565.4	253.4	1793.6	16,941

Source: Indecon analysis based on Moloney et al (2000), figures provided by Fáilte Ireland and individual ports

Across the ports handling ferry-based traffic we estimate an overall expenditure impact totalling just under €1.8 billion based on 2004 figures. This is comprised of direct impacts amounting to €974.8 million, indirect impacts of €565.4 million and induced impacts totalling €253.4 million. Based on the application of adjusted employment multipliers, we estimate that these additional expenditures support some 16,941 full-time equivalent jobs.

4.4.4 Indirect, Induced and Overall Economic Impacts of Cruise Liner-based Tourism

Our estimates of the overall gross economic impacts arising from the direct, indirect and induced impacts of expenditures arising from the cruise liner tourism facilitated by the State commercial seaports are indicated in Table 4.18 below. Based on the application of the multipliers shown in Table 4.16, we estimate an overall gross economic impact deriving from the expenditures of cruise liner-based passengers and crew totalling €46.8 million during 2004. This comprised direct impacts of €25.4 million an indirect and induced impacts of €14.7 million and €6.6 million respectively. We estimate that these overall expenditure contributions to the Irish economy would sustain approximately 442 full-time equivalent jobs across the economy.

Table 4.18 Estimated Overall Gross Economic Expenditure and Employment Impacts of Cruise Liner-based Tourism Supported by State Commercial Seaports - 2004

Visitor Category	2004				
	Direct Impacts - € '000	Indirect Impacts - € '000	Induced Impacts - € '000	Overall Gross Impacts - € '000	Employment Impacts - No. of FTEs
Cruise liner passengers					
Dublin	11,048	6,408	2,872	20,328	192
Cork	7,965	4,620	2,071	14,656	138
Waterford	4,433	2,571	1,153	8,157	77
Galway	8.3	4.8	2.2	15.3	0.1
Sub-Total	23,455	13,604	6,098	43,157	408
Cruise liner crew members					
Dublin	929.6	539	242	1,710	16
Cork	670.2	389	174	1,233	12
Waterford	373	216	97	686	6.5
Galway	0.7	0.4	0.2	1.3	0.01
Sub-Total	1,974	1,145	513	3,632	34
Total – Passengers and Crew	25,429	14,749	6,612	46,789	442

Source: Indecon analysis based on figures provided by individual ports and previous research by Moloney (2000)

* The estimated numbers of passengers and crew disembarking is based on Moloney (2000) which indicates an average disembarkation rate among cruise liners visiting Cork of 80%

4.4.5 Net economic contribution of tourism activities

As in the case of the estimates developed in relation to the economic impacts of the State commercial seaports and related maritime and logistics activities, it is important to highlight that, in relation to the direct economic impacts arising from the tourism expenditures supported by the seaports, the overall impacts on the Irish economy of these estimated expenditures presented above do not take into account the fact that these expenditures will have associated imported inputs. As imports constitute a leakage from the Irish economy, they do not contribute to the overall Gross Domestic Product or income from Irish produced goods and services.

Indecon are again of the strong view that a more credible and prudent interpretation of the *Net*, as opposed to *Gross* economic impacts arising from the tourism activities supported by the presence and operation of the State Commercial Seaports should take account of the 'leakage' taking place from the Irish economy by virtue of the fact that these expenditures will include imported goods and services.

Based on research on the Irish economy and for the purposes of our analysis of the overall economic impact of the wider commercial seaports sector and related industries, we believe a more prudent approach is advisable, which takes full account of all leakages through imports and taxation. On this basis, we have assumed in the calculation of the multiplier a value for the Marginal Propensity to Consume of 0.6, while the Marginal Propensity to Import and Marginal Propensity to Tax is assumed at 0.2 and 0.1 respectively. This results in an economy-side multiplier of 1.43 and takes full account of leakages taking place through imports and taxation.

Applying this more prudent approach to the gross direct expenditure contributions of ferry-based tourism activities supported by the State commercial seaports yields the estimates presented in Table 4.19. On this basis we estimate the net overall economic impact of ferry-based tourism supported by the commercial seaports at €1.39 billion in 2004, while this is estimated to support over 13,000 full-time equivalent jobs across the Irish economy.

Table 4.19: Estimated Overall *Net* Economic Impacts Arising from Ferry-based Tourism Supported by State Commercial Seaports - 2004

Port	Net Economic Impacts - 2004			
	Direct Expenditure Contribution - € Million	Multiplier	Estimated <i>Net</i> Overall Economic Contribution - € Million	Estimated <i>Net</i> Overall Employment Impacts - No. of FTEs
Dublin	365.8	1.43	523.1	4,941
Rosslare	295.2	1.43	422.1	3,987
Dun Laoghaire	250.1	1.43	357.6	3,378
Cork	63.2	1.43	90.4	854
Galway	0.4	1.43	0.6	5
All Ports	974.7	1.43	1,394	13,165

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on economy-wide employment multiplier for tourism sector of 9.4 FTEs per €1 million of overall expenditure contribution (derived from Table 4.17)

The corresponding estimates of the *net* overall economic impact of cruise liner tourism supported by the presence and operation of the State commercial seaports are presented in Table 4.20.

Table 4.20: Estimated Overall *Net* Economic Impacts Arising from Cruise Liner-based Tourism Supported by State Commercial Seaports - 2004

Port	Net Economic Impacts - 2004			
	Direct Expenditure Contribution - € Million	<i>Multiplier</i>	Estimated <i>Net</i> Overall Economic Contribution - € Million	Estimated <i>Net</i> Overall Employment Impacts - No. of FTEs
Total - Passengers and Crew	25.4	1.43	36.3	343

Source: Indecon analysis

* Overall number of FTEs sustained estimated based on economy-wide employment multiplier for tourism sector of 9.4 FTEs per €1 million of overall expenditure contribution (derived from Table 4.17)

Based on the more prudent lower multiplier, we estimate that cruise liner-based tourism supported by the seaports generated approximately €36.3 million for the Irish economy during 2004, while this is estimated to support approximately 343 full-time equivalent jobs.

4.5 Summary of Findings

The role of the commercial seaports in relation to tourism stems from their involvement in two activities, namely:

- ❑ Facilitation of passenger/car ferries;
- ❑ Facilitation of visiting cruise liners.

In this section we presented a detailed description and measurement of the above tourism related activities and developed a range of estimates of the economic contribution of such activities. The findings from our analysis are summarised below.

Overview of Developments in Irish Tourism

- ❑ The most recently available annual data show that a total of 6.57 million overseas visits took place during 2004, of which the largest proportion (56%) came from Great Britain, followed by other European countries (24.3%), the USA and Canada (14.9%) and other areas (4.8%);
- ❑ Some €3.2 billion of revenues were generated from overseas visits to Ireland during 2004;
- ❑ During 2004, a total of just under 2 million inbound and 1.96 million outbound sea-based passenger trips took place. Of the overall volumes of sea-based trips made, the vast majority – some 1.84 million inbound and 1.82 million outbound trips – were cross-channel to and from Great Britain. While these passenger trips, in addition to those to and from places other than Great Britain, take place primarily through the use of passenger/car ferries, the figures will also include cruise liner-based passengers visiting Ireland.

Passenger/car ferry activities supported by State commercial seaports

- ❑ The State Commercial Seaports play a vital role in relation to passenger/car ferry transport. This was evidenced by the figures presented in relation to the importance of roll on-roll off freight – of which ferry-based transport plays a key role – which accounted for 10.6 million tonnes, or 22.9%, of the total volume of freight handled by the commercial seaports in 2004. However, ferries also play a vital role in transporting passengers and cars. This function has important implications for tourism activity not just in terms of the overall impacts on tourism but also in relation to the geographic distribution of ferry-borne visitors, which, due to a greater proportion travelling with cars, tend to travel more widely throughout the State than visitors arriving by air;
- ❑ A total of 456,912 passenger cars, motorcycles and accompanying trailers/caravans arrived across the ports/harbours of Dublin, Dun Laoghaire, Cork and Rosslare, while a total of 13,490 passenger buses were handled by these ports/harbours during 2004;
- ❑ A total of some 3.63 million overseas passengers were facilitated by the State commercial ports during 2004. It should be noted that this includes both arriving and departing passengers;
- ❑ A total of 113 cruise liners visited Irish ports during 2004, of which 53 visited Dublin, 36 visited Cork, 23 visited Waterford and 1 visited Galway. On average across the ports, cruise liners remained at port for just under 1 day. The overall number of cruise liners visiting these ports has risen from 97 in 2002. This compares with a 16.5% increase in the number of cruise liners arriving at the seaports over the same period;
- ❑ It is estimated that cruise liners visiting the ports of Dublin, Cork, Waterford and Galway during 2004 carried a total of some 98,716 passengers.

Economic Impacts of Ports-Supported Tourism Activities

The economic impacts of tourism activities facilitated by the State commercial seaports are comprised of the following elements:

- ❑ *Direct* expenditure impacts arising from the expenditures of visitors arriving by ferry and cruise liner;
- ❑ The *indirect* impacts arising from the purchase of goods and services by suppliers who are in receipt of expenditures by sea-based visitors to Ireland. This in turn generates further economic activity and employment;
- ❑ The *induced* economic impacts arising from the additional consumer spending that takes place on the basis of the incomes generated through the above direct and indirect impacts.

Across the ports handling ferry-based traffic we estimate an overall expenditure impact totalling just under €1.8 billion in 2004. This is comprised of direct impacts amounting to €974.8 million, indirect impacts of €565.4 million and induced impacts totalling €253.4 million. We estimate that these additional expenditures support some 16,941 full-time equivalent jobs across the Irish economy.

We estimate an overall gross economic impact deriving from the expenditures of cruise liner-based passengers and crew totalling €46.8 million during 2004. This comprised direct impacts of €25.4 million an indirect and induced impacts of €14.7 million and €6.6 million respectively. We estimate that these overall expenditure contributions to the Irish economy would sustain approximately 442 full-time equivalent jobs across the economy.

Gross expenditures versus net economic contribution

As in the case of the estimates developed in relation to the economic impacts of the State commercial seaports and related maritime and logistics activities, Indecon are of the strong view that a more credible and prudent interpretation of the *Net*, as opposed to *Gross* economic impacts arising from the tourism activities supported by the presence and operation of the State Commercial Seaports should take account of the 'leakage' taking place from the Irish economy by virtue of the fact that these expenditures will include imported goods and services.

On the basis of applying this more prudent approach to the gross direct expenditure contributions of ferry-based tourism activities supported by the State commercial seaports, we estimate the net overall economic impact of ferry-based tourism supported by the commercial seaports at €1.39 billion in 2004, while this is estimated to support over 13,000 full-time equivalent jobs across the Irish economy.

Correspondingly, based on the more prudent lower multiplier, we estimate that cruise liner-based tourism supported by the seaports generated approximately €36.3 million for the Irish economy during 2004, while this is estimated to support approximately 343 full-time equivalent jobs.

5 Infrastructural Priorities of Large Exporters

5.1 Introduction

In the following pages, we present the results of Indecon's survey of leading Irish high-tech and other manufacturing exporters. The objective of this survey was to assist in building a picture of profile of such exporters and their usage of the commercial seaports, in addition to seeking their views on the priority that they believe should be attached to investment in transport infrastructure, including in the State commercial seaports under the Government's next National Development Plan. The survey was conducted by Lansdowne Market Research on behalf of Indecon.

5.2 Profile of Exporters

The table below (Table 5.1) shows the industrial profile of the survey respondents. The results show that half of the respondents operate in the manufacturing sector. The next three biggest sectors, by way of representation in our sample, are food (14%), engineering (11%) and electronics (7%).

Table 5.1: Primary Activity of Exporters Surveyed

Sector	Percentage
Manufacturing	50
Electronics	7
Engineering	11
Food Sector	14
Sector Not Stated	17
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

Value of Total Exports

Table 5.2 below presents data on the total value of goods exported by respondents to the survey. The responses suggest that, on average, the firms surveyed exported goods to the value of €8.1 million amounting to a total value of exports of €528.2 million. The large standard deviation shows that this average varies significantly over respondents with the largest respondent indicating exports valued at €120 million. This is the total value of exports for each company, however, and in order to estimate the value of the exports that passed through the seaports, we will need to take account of the pattern of the usage of sea transport against the alternative export channels, such as air transport.

Table 5.2: Value of Exports

Statistics	€ million
Total	528.2
Mean	8.1
Median	1.5
Max	120.0
Standard Deviation	20.1

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

Proportion of Exports via Seaports

Based on the responses to the Indecon survey, Table 5.3 indicates the pattern of usage of sea transport by exporters. According to our survey, 81% of the total value of exports, on average, exited the country through seaports. This average statistic shows the crucial importance of seaports to the ability of Irish exporters to reach foreign markets. Furthermore, the median statistic tells us that at least half of exporters surveyed export 95% of their export goods through the seaports.

Table 5.3: Percentage of Exports Exported via Seaports

Statistics	%
Mean	81
Median	95
Max	100
Standard Deviation	31

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

By way of an interesting comparison, Table 5.4 shows the level of usage of air transports by the surveyed exporters. The results show that a much smaller percentage (19% on average), as compared with the seaports (81%), of the value of total exports exited the country through airports.

Table 5.4: Percentage of Exports Exported via Airports

Statistics	%
Mean	19
Median	5
Min	0
Max	100
Standard Deviation	32

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

5.2.1 Employment among exporting firms

Another direct impact of the activity at seaports relates to employment. As seen above, seaports facilitate trade by the exporters surveyed. Many of the exporters surveyed are multinational enterprises (MNEs) and would not locate in Ireland if suitable sea transport facilities were present. These MNEs are very large employers, both within Ireland and worldwide.

According to the results of our survey, presented in Table 5.5, the exporters surveyed employ 463,500 people worldwide, with one large exporter employing over a quarter of a million workers.

Table 5.5: Number of Employees Worldwide

Statistics	Employees
Total	463,500
Mean	4,778
Median	40
Maximum reported	260,000
Standard Deviation	27,041

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

Table 5.6 presents information on the number of persons employed in Ireland by these exporting firms.

Table 5.6: Number of Employees in Ireland

Statistics	Employees
Total	21,340
Mean	213
Median	40
Standard Deviation	690

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

According to the figures, 21,340 people are directly employed among the sample of 100 exporting firms surveyed in Ireland, while the average number of employees is 213. These figures highlight the importance of these firms to the economy and of trade more generally. Given the reliance of these firms on seaborne trade, the State Commercial Seaports play a key role in retaining the large MNEs, attracting new MNEs and providing a platform for indigenous companies to grow into the global market. The performance of the State Commercial Seaports thus has wider implications for the economy as a whole in terms of economic growth, employment and the standard of living in the economy.

5.3 Views on the Importance of Investment in Seaports

Top exporters from Ireland were questioned as to the importance which they attached to investment in various infrastructure areas in Ireland under the Government's next National Development Plan. The views of the exporters are discussed in the following pages.

Firstly, looking at the importance attached to investment in access to commercial seaports, Table 5.7 summarises the views expressed by the respondents. Notably, two thirds of exporters (66%) believe that investment in access to seaports should be a high or very high priority under the Government's next National Development Plan.

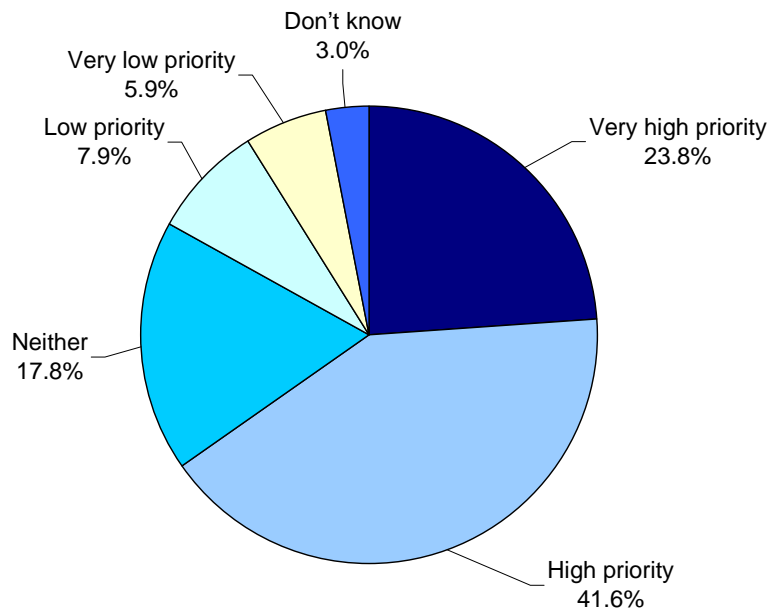
Table 5.7: Priority Attached by Leading Exporters to Investment in Access to Commercial Seaports under the National Development Plan

Sector	Percentage
Very high priority	24
High priority	42
Neither	18
Low priority	8
Very low priority	6
Don't know	3
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

The responses of exporters surveyed in relation to the priority of investment in access to seaports are summarised in Figure 5.1.

Figure 5.1: Priority Attached by Leading Exporters to Investment in Access to Commercial Seaports under the National Development Plan



Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

Table 5.8 presents the views of exporters surveyed on the importance which they believe should be attached to investment overall in the State commercial seaports under the Government's next National Development Plan. It is notable that three quarters (75%) of respondents believe that a high or very high priority should be attached to investment in the State commercial seaports under the Government's next National Development Plan.

These views should be viewed in the context of the base of high quality services currently in place at seaports, but the large proportion of exporters prioritising investment in seaports shows the importance attached to the ports.

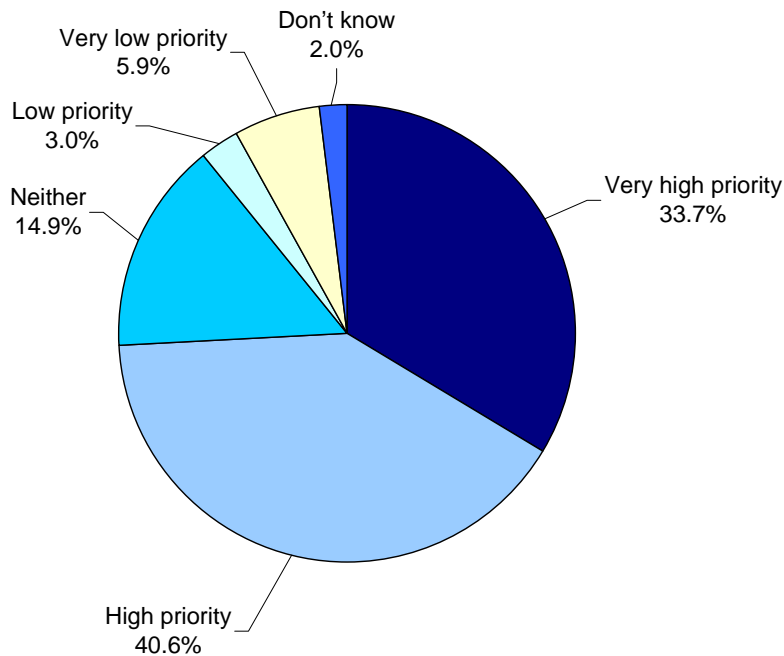
Table 5.8: Priority Attached to Overall Investment in Commercial Seaports

Sector	Percentage
Very high priority	34
High priority	41
Neither	15
Low priority	3
Very low priority	6
Don't know	2
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

The responses of exporters surveyed in relation to the priority of investment in seaports are summarised in Figure 5.2.

Figure 5.2: Views of Leading Exports on Priority Attached to Overall Investment in State Commercial Seaports under the Government's next National Development Plan



Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters

It is useful to compare the views for seaports to the views of respondents in relation to investment in the alternative forms of transport, some of which are substitutes, whilst others are complements.

Just under half of exporters surveyed (45%) believe that investment in the railways is a high or very high priority (Table 5.9). A third of respondents believe that investment in railways should not be a priority under the Government's next National Development Plan.

Table 5.9: Priority Attached to Investment in Railways under the Government's next National Development Plan

Sector	Percentage
Very high priority	17
High priority	28
Neither	21
Low priority	21
Very low priority	12
Don't know	2
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

Investment in airports is an area where 65% of leading exporting firms believe that a high or very high priority should be attached under the Government's next National Development Plan, as shown in Table 5.10.

Table 5.10: Priority Attached to Investment in Airports under the Government's next National Development Plan

Sector	Percentage
Very high priority	25
High priority	40
Neither	17
Low priority	9
Very low priority	9
Don't know	1
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

A significant majority (92%) of exporters believe that investment in the road network should be a very high or a high priority, as shown in Table 5.11.

Table 5.11: Priority Attached to Investment in Roads under the Government's next National Development Plan

Sector	Percentage
Very high priority	50
High priority	42
Neither	6
Low priority	1
Very low priority	1
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

A slightly smaller, but still significant majority (81%) believe investment in the energy infrastructure to be a priority (Table 5.12).

Table 5.12: Priority Attached to Investment in Energy Infrastructure under the Government's next National Development Plan

Sector	Percentage
Very high priority	31
High priority	50
Neither	13
Low priority	5
Very low priority	1
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

A similar proportion of exporters surveyed (78%) believed investment in telecoms infrastructure to be a priority area under the Government's next National Development Plan, as shown in Table 5.13.

Table 5.13: Priority Attached to Investment in Telecom Infrastructure under the Government's next National Development Plan

Sector	Percentage
Very high priority	28
High priority	50
Neither	14
Low priority	7
Very low priority	1
Total	100

Source: Indecon survey of sample of 100 largest high-tech and other manufacturing exporters:

Annex 1 Copy of Data Request Issued to Ports

CONFIDENTIAL DATA REQUEST TO STATE COMMERCIAL PORTS

We would be very grateful if you could complete this Confidential Data Request and return to William H. Batt, Divisional Director, Indecon International Economic Consultants, 4 Fitzwilliam Place, Dublin 2, or by fax to +353-1-6777417, by close of business on Tuesday, 1st November. This survey will be treated as Strictly Confidential and the responses to all completed questionnaires received will be aggregated for the purposes of this study. If you have any queries in relation to this data request, please contact William H. Batt. Thank you for your assistance with this important study for the Irish Ports Association.

Port Operations

1. Please identify the Modes of Shipping currently handled by the Port. Please tick ✓ below.

Lift-on, Lift-off Roll-on, Roll-off Dry Bulk Liquid Bulk Break Bulk Passenger/Car Ferry Cruise Liner

Other – please state _____

2. Please specify below the volume of shipping and associated freight handled by the Port over the last three years.

Freight Shipping Mode	No. of Ships Handled			Total Tonnage of Freight Handled by Mode – '000 Tonnes		
	2002	2003	2004	2002	2003	2004
Roll-on, roll-off						
Lift-on, lift-off						
Dry bulk						
Liquid bulk						
Break bulk						
Other – please state						

Passenger Ferry and Cruise Liner Tourism Activities

3. Please specify below the volume of shipping, passenger and car traffic using the Port over the last three years.

Vessel Type	No. of Vessels Handled			No. of Foot Passengers			No. of Passengers with Car			No. of Trade Cars		
	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
Passenger/Car ferry												
Cruise Liner/Ship												

4. In relation to Cruise Liners visiting the Port, please state the average numbers of days vessels are docked at the Port during a visit when passengers are free to leave the vessel.

Ship Type	Average No. of Days at Port per Vessel		
	2002	2003	2004
Cruise Liner/Ship			

5. Please indicate below the estimated average daily expenditures of passengers disembarking at the Port. Where externally researched estimates have been developed, please provide details/copies of this research separately.

Ship Type	Estimated Average Daily Expenditure per Passenger - € - 2004
Passenger/Car ferry	
Cruise Liner/Ship	

Employment at Port

6. Please indicate the number of Full-Time Equivalent staff employed directly by the Port in each of the last 3 years

Staff Type	No. of Full-Time Equivalent Persons Employed		
	2002	2003	2004
Operations staff (excluding stevedores)			
Stevedores			
Administrative staff			
Other staff			
Total Staff			

Revenues from Activities/Services

7. Please indicate below the Port's total annual revenues/turnover over the last three years from Tonnage Dues.

Details	Total Revenues/Turnover - €'000		
	2002	2003	2004
Tonnage Dues			

8. Please indicate below the Port's total annual revenues/turnover over the last three years, excluding tonnage dues.

Port Service	Revenues/Turnover - €'000		
	2002	2003	2004
Roll-on, roll-off facilities			
Lift-on, lift-off facilities			
Other lifting services (cranes)			
Liquid bulk handling			
Dry bulk handling			
Pilotage			
Towage			
Fuel and other storage facilities			
Ship repairs			
Tenancy income			
Other – please state			

9. Please provide details below in relation to wages & salaries of Stevedores employed directly by the Port.

Port Service	Stevedores Employed Directly by Port - €'000		
	2002	2003	2004
Wages/salaries			

10. Please provide details below in relation to revenues generated by stevedoring companies operating within the Port.

Port Service	Revenues of Stevedoring Companies Operating within Port - €'000		
	2002	2003	2004
Wages/salaries			

Current and Capital Expenditures

11. Please indicate below the total value of annual operating expenditures (excluding capital expenditures) over the last 3 years.

Expenditure	Total Annual Operating Expenditures – €'000		
	2002	2003	2004
Staff costs (current wages & salaries)			
Non-staff operating costs (purchase of goods & services)			
Total current expenditures			

12. Please indicate below the Port's total annual Capital Expenditure over last 3 years

Expenditure	Total Annual Capital Expenditure – €'000		
	2002	2003	2004
Capital expenditures			

Exchequer Contribution

13. Please indicate below the Port's total annual payments to the Exchequer by area of taxation over the last 3 years.

Payments to Exchequer	Total Annual Payments – €'000		
	2002	2003	2004
Staff income tax/PAYE			
Employers PRSI			
VAT			
Corporation tax			
Local authority rates			

Port Users and Tenants

14. Please provide a comprehensive listing of Port users, including (a) Port tenants; (b) Passenger/car ferry operators; (c) Stevedoring companies/operations; (d) Haulage operators; (e) Car transporters; (f) Warehousing operators; (g) Ship and container repairers; (h) Other Port users – please provide details. Please use additional pages if required.

Views on Economic Impacts

15. In addition to the above aspects, if you have any other views/inputs in relation to the nature of Port operations and their direct and indirect economic impact, please describe below. Please use additional pages if required.

Annex 2 Survey of Leading Exporters - Questionnaire

INDECON SURVEY OF STATE COMMERCIAL SEAPORT USERS - 100 LARGEST EXPORTERS

Background Details

Q1. (a) Please state the name of your company _____

(b) Please state/describe the main sector of activity in which you operate:

(c) Please state the approximate number of persons your company employs in:

- (a) Ireland _____
 (b) Worldwide _____

Q2. Please indicate the approximate % of the total value of your exports from Ireland which are exported via:

- (a) Seaports _____ %
 (b) Airports _____ %

Q3. Please rank the level of priority you would attach for your business to investment under the Government's next National Development Plan in the following areas of infrastructure:

	Extremely High Priority	Very High Priority	Neither High nor Low Priority	Not a Priority	Don't Know/Not Stated
Investment in seaports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment in railways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment in airports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment in roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment in energy infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment in telecoms infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>