

NORTH ATLANTIC TRADE AND TRANSPORT STUDY



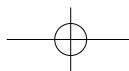
An Institute of International Trade of Ireland study

A division of Irish Exporters Association

**Institute of
International
Trade of Ireland**



January 2007



FOREWORD BY SIR GEORGE QUIGLEY, CHAIRMAN, BOMBARDIER AEROSPACE NORTHERN IRELAND



This study into the potential viability of a direct shipping service between the island of Ireland and North America deals with issues which are highly significant for the competitiveness of business in both parts of the island.

The island's position on the edge of Europe should give it a competitive advantage in trade with North America. However, the absence of direct shipping services and the need to tranship through ports in Great Britain or Continental Europe denies the opportunity to capitalise on that advantage. In an era when supply chain efficiency is a key factor in competitiveness, this is clearly a matter that has to be seriously addressed.

The study systematically examines the elements which would have to interlock successfully in order to deliver a direct shipping service which makes economic sense for both users and shippers and is sustainable. These include: the size of the market for such a service; the possibility of mobilising that market cost effectively within the island, the ability of ports to accommodate the size of vessel involved, etc.

It is clear that, so far as LoLo freight is concerned, a direct service dedicated to the island's requirements is a non-starter and that the prospects for the island being included in the itinerary of transatlantic operators are at least in the short term remote, not least because of limitations on the ability of the island's eastern and southern seaboard to receive the vessels now plying the route, never mind the larger vessels coming into service.

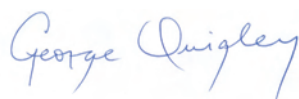
The critical value of this study arises from the fact that it does not stop there but goes on to review promising alternative solutions, such as refocusing more of the LoLo traffic on U.K. ports like Liverpool, which could shorten transit time by up to a week as well as reducing feeder costs. This would clearly have implications for the pattern of feeder services. The study is, incidentally, a wakeup call to all involved in the planning of port development to take urgent account of the fact that the size of vessels providing such services will also be increasing.

The study also identifies promising opportunities for improving the position on Ro Ro freight, most of which is generated in Northern Ireland and is a significant contributor to the regional economy. The possibility of a direct call by a vessel which the Port of Belfast would be capable of handling seems to be at least open for exploration.

The authors of the study are to be congratulated on putting the vital issue of better shipping services for the island's exporters firmly on the agenda, not just of the shipping sector but of all who have any part to play in securing improvements. It is evident from this report that there are possibilities that merit serious and urgent exploration. Vigorous and sustained follow-up on all the aspects of the agenda will be essential.

To this reader at least, a worrying feature of the report is the puzzling discrepancies between the official trade statistics in both parts of the island and the figures indicated by the survey conducted in connection with the study. These need to be resolved. There also seems to be a case for reviewing the official statistics in both parts of the island to ensure that they are collected and presented on the same basis and in a way that facilitates policy analysis of the kind involved in this study.

I am delighted that Bombardier was intimately engaged in the inception of this project and throughout, as a contributor to its cost and as a member of the Steering Group. We look forward to the emergence of the very concrete results which we believe are achievable on foot of this ground-breaking study.



Sir George Quigley
Chairman Bombardier

SPONSORS ACKNOWLEDGEMENT

Bombardier Aerospace, Belfast

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With a strong aviation heritage, world-class facilities and a highly skilled workforce of around 5000, Bombardier Aerospace, Belfast is one of the largest manufacturing companies in Ireland, and one of Europe's leading designers and manufacturers of major aircraft structures in metal and advanced composites, nacelles systems and wing components. It also provides whole-life product support.

With customers in North America and Europe, the company is responsible for some 12 per cent of Northern Ireland's exports, and has an extensive supply base in Ireland/UK and worldwide.

Innovation and technology are key elements of its business, derived from focused investment and partnerships in national and European Framework R&D Programmes.

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Located on the East Coast, in the heart of the capital city, Dublin Port is the principal port in the Republic of Ireland. Offering world-class facilities to our customers, Dublin Port is also well positioned at the hub of the national road and rail network at the centre of Ireland's industrial heartland. With 50% of all imports arriving at Dublin Port remaining within the M50 area, Dublin Port is a key strategic access point for Ireland and the Dublin market.

Dublin Port handles over two-thirds of containerised trade to and from Ireland and 50% of all Ireland's imports and exports, making it a significant facilitator of Ireland's economy. Dublin Port Company's development plan for 2007 will see an increase of Lo/Lo capacity by almost 400,000 teu.

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"Established in 1994, Forfás is Ireland's national policy and advisory board for enterprise, trade, science, technology and innovation. It operates under the auspices of the Department of Enterprise, Trade and Employment. Forfás provides the Department of Enterprise, Trade and Employment (DETE) and other stakeholders with analysis, advice and support on issues related to enterprise, trade, science, technology and innovation; including on the development and coordination of the enterprise development agencies, IDA Ireland, Enterprise Ireland, Science Foundation Ireland (SFI) and other bodies as the Minister may designate."

InterTradelreland



InterTradelreland helps to create an environment to make it easier to do business on an all-island basis. We help individual companies to access knowledge and share information so they can build alliances and become more profitable and globally competitive. We create and foster networks of people and businesses in sectors so they can develop business opportunities together and we connect business, policy makers and government so policy planning is based on a real understanding of the needs of business across the whole island.

Invest Northern Ireland



Invest Northern Ireland is Northern Ireland's main economic development organisation.

We are working to increase wealth and prosperity in Northern Ireland. We do this by delivering expertise and resources to accelerate the creation and growth of businesses.

Focusing on the three key economic drivers of being entrepreneurial, being innovative, and being international, our goal is to help to:

- improve the competitiveness of our client companies
- create more positive attitudes to enterprise and more and better quality business start-ups
- increase innovation, R&D and commercialisation of research
- increase skill levels
- promote a stronger international focus by increasing inward investment and helping companies develop broader and better exports

We aim to be a world-class development agency that is a forward-looking and responsive champion of innovation, entrepreneurship and internationalisation.

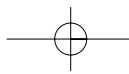
Port of Belfast



The Port of Belfast is Northern Ireland's leading maritime gateway, handling almost £20bn worth of cargo, representing 60% of all Northern Ireland's sea borne trade and 20% of the entire island's (including, in some trades, customers as far away as Cork).

With direct routes to Great Britain and Europe, Belfast handles all types of traffic and is the island's largest bulk and ferry port. The Port is also one of the island's key logistics & distribution hubs.

Belfast also benefits from access to a sizeable strategic land bank zoned for port operations which will facilitate extensive development plans over the next 20 – 25 years.



Port of Waterford

Port of Waterford is a key economic driver in the southeast of Ireland and enjoys an advantageous geographical location close to the UK and Europe.

Waterford Container Terminal at Belview, Co Kilkenny is now the port's principal operational facility and is the second largest lo-lo terminal in the State.

The Port has ambitious development plans and recently signed a contract for a major extension to the quayside at Belview.

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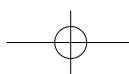
More than 300,000 people visit Waterford Crystal every year making it is the fourth most popular tourist attraction in Ireland. As well as experiencing the magic of crystal making on the tourist trail through the factory, each visitor has the opportunity to browse through the largest and most magnificent collection of scintillating items in the Waterford Crystal Visitors Centre.

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Designed and produced to the highest quality standards, Waterford Crystal is renowned worldwide for its excellence.

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ACKNOWLEDGEMENTS

The Institute of International Trade wish to acknowledge with thanks the contribution and expertise of Strategic Transport Solutions International Ltd (STS) as principle consultants in the compilation of this study.

The IITI also wish to thank the expert Steering Committee;

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The IITI would like to give grateful recognition to the staff in the CSO who answered all queries promptly and patiently

The IITI would also like to thank, most sincerely, all the companies who took part in the project, and provided the necessary survey data on which to base the general analysis of the study.

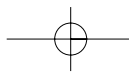
Finally the IITI would like to thank the Sponsors without whose support the study would not have been possible.

Principal Consultants

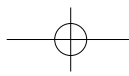
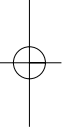
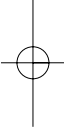


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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

1. Introduction

This study has been commissioned by the Institute of International Trade for Ireland (IITI) to review trade and services on the North Atlantic and to determine whether a direct shipping service between the island of Ireland and North America might be viable. If so the study should not only identify potential ship owners/operators who might supply the service but also the Irish ports to be served.

The client recognises that this study may conclude that the current Irish market conditions cannot support such a service. In this instance the study will identify:

- How the existing service arrangements could be improved
- What facilities a port would need to provide to be able to cater readily for such a service.
- What factors would trigger a re-examination of this issue

2. The economic & trading performance of the island of Ireland¹

Since 1994, the Republic of Ireland's average annual rates of export growth have been the highest among OECD countries. The RoI is one of the most globalised economies in the world with a unique dependence on, and capacity for, international trade. There is a broad consensus at present among the major economic forecasting institutions that, notwithstanding the current slowdown in the US economy, the short-term outlook for the global economy is generally positive. In its autumn 2006 forecasts the EU Commission estimates that Ireland's export markets will grow by 6.4% in 2007 before slowing to a growth rate of 6.1% in 2008. The Department of Finance, in its recent forecasts², believes that the prospects for the Irish economy over the period 2007 – 2009 are generally favourable, with an average growth rate (in both GDP and GNP terms) of 4.7% per annum projected over this period.

In recent years the NI economy has grown faster than many other regions of the UK. The correlation between UK overall growth and that of the NI economy is used to make forecasts for the latter. On this basis an average derived growth rate of 3.2% is projected for NI for the next three years; this compares with the RoI's projected average growth rate of 5.1%. This is a continuation of the trend whereby the RoI's economic growth has been faster than that of the NI economy. It should be pointed out, however, that the level of forecast growth in Northern Ireland may be considered to be somewhat conservative, given the NI economy's capacity to grow faster than the UK economy in recent years.

2.1 Trade between the island of Ireland and North America

In describing external trade we have looked separately at N Ireland and the Republic of Ireland only because there is no consolidated source of data. The ports industry is genuinely an all-island business; the hinterlands of the ports are very extensive and do not stop at the border.

Because LoLo traffic moving between Ireland and North America is trans-shipped via ports like Liverpool, Rotterdam and Antwerp, official statistical sources do not capture these volumes separately in either tonnes or units. We have therefore excluded RoRo and bulk cargoes from the total volumes for 2005 in order to derive the volumes in tonnes that move in containers.

In tandem with this study the IITI also conducted a survey of exporters on the island of Ireland. This provided useful insight into some of the critical cargo flows to and imports from the North American market from both the RoI and NI. In some instances the survey showed higher volumes of cargo moving to North America than the official statistics published either in the RoI and NI; this may be the result of incomplete returns. The source used is stated in each context.

¹ The island of Ireland will be used in this report when reference is made to Northern Ireland and the Republic of Ireland. When reference is made to the individual economies or territories, the acronym "NI" will be used to designate Northern Ireland and "RoI" or "Ireland" will be used to designate the Republic of Ireland.

² Department of Finance, "Ireland – Stability Programme Update", December 2006. This document updates Ireland's Stability Programme. It includes macroeconomic projections up to 2009 and takes account of the measures adopted in Budget 2007.

Table 1.1 Summary of LoLo Exports to North America

RoI Exports: 22,289 TEUs
 NI Exports: 15,870 TEUs

Source: IITI/IEA Survey. Summer 2006

The profile of Northern Ireland's exports to North America differs from that of the RoI in that it includes significant volumes of RoRo traffic in the form of machinery and other out of gauge cargo which moves on its own wheels or on low loaders. This manufacturing sector is critical to the NI economy.

North America, especially the USA, is one of the most significant export markets for the island of Ireland; it is particularly important as a destination for high value manufactured goods. Feedback from the market indicates that trade between North America and the island of Ireland remains buoyant. There is also some evidence that volumes being shipped by air are growing; in the context of trade in high value-added goods, this is not surprising.

2.2. Export Ireland Survey 2006

The 2006 Export Ireland Survey, conducted by the Irish Exporters' Association revealed a general optimism about export growth. Most of this, however, related to services rather than manufacturing. The USA was seen to be the most significant market outside Europe. The survey results underline the importance of efficient transport and logistics in enabling Irish exporters to exploit the US market which as seen as the market with most potential outside Europe.

3. A Review of Existing Services

Because Irish deep-sea traffic is inevitably routed via either GB or the Continent, the use of feeder services is essential. The IITI/IEA survey suggests that LoLo trade between the RoI and North America is largely trans-shipped through Continental ports, particularly Rotterdam but also Antwerp and Zeebrugge, whereas Northern Ireland traffic has a more even balance between GB ports (particularly Liverpool) and Continental ports, especially Rotterdam. Feedback from the shipping lines suggests, however, that Liverpool is a popular trans-shipment point for imports from North America destined for RoI.

The survey indicates a reasonable level of satisfaction with the existing feeder services insofar as they go, but a strong awareness of the competitive disadvantage, in terms of transit times, reliability and cost, which this system imposes on the Irish exporter. To secure reliability many exporters have turned to air services for the shipment of high value goods in particular. The options for moving non unitised cargoes are more restricted. The ACL service out of Liverpool is the primary RoRo carrier, but market feed-back indicates that this service is often full.

4. The Potential for a direct service to North America

The existence of adequate base cargoes is necessary but, on its own, is not sufficient to secure a direct call to an Irish port by a transatlantic service. The other requirements are a port that can handle the appropriate size of ship and a willingness by a MLO (Main Line Operator) to alter an existing itinerary to accommodate an Irish call. In discussion with several MLOs about this issue a number of interesting points emerged:

- Securing a base cargo is essential and the minimum would be 100 units on and 100 units off (i.e. 170 TEUs each way).

- The Irish port needs to be capable of receiving a deep-sea ship. The present transatlantic ships, while Panamax in dimensions, generally have a capacity of approx 3000 TEUs. Modern panamax tonnage has a capacity of well over 4,000 TEUs.
- The shipping lines do not see the transatlantic market as a discrete market but as an element of a global network. Therefore an Irish call would need to be able to provide potential traffic for all markets, not just North America.
- There is a unanimous view that on the basis of existing schedules, no one has the spare time in their itinerary for an additional call to Ireland. Therefore a complete re-appraisal of their operations by the MLOs would need to be undertaken as a prelude to securing a direct call.
- Ships en route to North America tend to go south about rather than north. Therefore a ship calling to Dublin or Belfast (or indeed Liverpool) runs back on itself. The more southerly route is longer but is more favourable from the point of view of weather. This makes Cork or Foynes relatively attractive for an Irish call.

5. Conclusions & recommendations

The study establishes that there is sufficient LoLo cargo generated by the island of Ireland to justify a call by a transatlantic line. While a number of Irish ports have plans to develop their unitised facilities, there is none which could, at the moment, readily and consistently handle a ship of the size used on the Atlantic run. The MLOs also seem very reluctant to drop a UK or Continental port from their existing itineraries in order to accommodate a call to Ireland. They noted that their rates are already under severe pressure and felt that current established carriers of Irish traffic would react very strongly to the diversion of cargo flows to a new direct service. In other words, while the MLOs acknowledge that the core traffic exists, they anticipate that their attempt to increase their presence in the marketplace would be met by an aggressive competitive response.

We therefore concluded that there is little chance of securing a direct call at the moment. That does not mean that there are no opportunities for Irish exporters to secure an improvement in service quality. Consultation with the MLOs indicated a willingness on their part to review the feeder links to ensure that Ireland has more capacity to trans-ship through ports that are “last out and first in” on the transatlantic itinerary. The recent increase in the number of operators using Liverpool suggests that it may prove a much more feasible trans-shipment port in the future. The use of Liverpool or other UK port rather than Rotterdam would permit Irish exporters to enjoy a shorter and more reliable transit to North America – 10/12 days rather than 17/20 days.

While there are LoLo services linking Dublin and Belfast with Liverpool and Southampton there are none linking Cork and Waterford to these UK ports. Unless this gap is filled, exporters in the West and South West will still have to rely on feeder services to Rotterdam and Antwerp or pay a premium to truck to Dublin or Belfast.

It should also be noted that even if a direct service was available from the island of Ireland it would impose additional transport costs on some cargoes. At the moment the range of feeder services from a number of ports makes it possible to minimise road haulage costs. The establishment of a direct service from just one Irish port would increase road haulage costs for many shippers.

The current shortage of RoRo capacity on the Atlantic is a critical issue for NI exporters. However, our consultations did indicate that there is one line based in Northern European which is willing to consider a call to Belfast to pick up some or all of this traffic. We also established that the RoRo ferry operators on the Irish Sea may be interested in undertaking some dedicated services at the week-end to ship this traffic from Belfast to Liverpool.

5.1 The Next Steps

The consultations undertaken in the course of this study have introduced, to the agenda of the transatlantic shipping sector, the subject of better services to the Irish exporter. Through the IEA, discussions with specific operators could be pursued to secure improvements in LoLo feeder services to/from RoI and RoRo and LoLo feeder services to/from N Ireland.

The issue of the ship size was reviewed in this report from a number of angles: reference was made to the increasing size of the world LoLo fleet as well as to the capacity limitations of Irish ports. It is vital for the economy of the island of Ireland that Irish ports are developed to accommodate the larger LoLo vessels which are beginning to be deployed on the feeder services. This is likely to require infrastructural development involving some or all of the following: capital dredging, the expansion of berths and the provision of larger cranes.

In the context of larger feeder ships serving particular ports and the possible eventual establishment of a direct call by a transatlantic service, rail has a potential role to play. It can be used to move large numbers of containers economically (especially empty boxes from the point of discharge to the point of re-loading or shipment) and in a more environmentally friendly fashion than road. Rail, in conjunction with modern IT/EDI, can also be used to integrate the sea port with an inland satellite port, which also avoids congestion in city centres.

In the absence of confirmation of the market to attract a direct call to Ireland by a transatlantic service we were asked to suggest what might trigger a re-examination of this subject. A significant increase in traffic volumes and/or a change in the shipping patterns of the MLOs might prompt another look at this issue.

5.2 A note on Statistics

While undertaking research for this study the authors encountered some significant disparities between the official published statistics and the results of the IITI Survey of exporters; this applied to statistical sources in both the Republic of Ireland and the UK. To ensure that any sources of disparity are identified and eliminated we suggest that this issue is explored further by the IITI with the statistical services building upon the work of InterTradelreland's "North/South Trade: A Statistical Ground Clearing Exercise". We also suggest that it would be helpful if data were published showing the volumes and values of import and export traffic by mode.

GLOSSARY OF TERMS USED

LoLo

Lift-on Lift-off. This refers to traffic moved in containers (boxes) and on and off ships by crane. Containers come in various sizes: 20ft, 30ft, 40ft and 45 ft.

TEU

Twenty-foot equivalent unit. To take account of the various sizes of container, they are sometimes converted to the standard unit of a TEU.

RoRo

Roll-on Roll-off. This refers to freight traffic which is driven on and off ships. There are two types of RoRo traffic: accompanied where the cab unit accompanies the trailer and unaccompanied where the trailer is towed on and off a ship by a tugmaster.

MLO

Main Line Operator i.e. a deep-sea container shipping line

Chart Datum

Chart datum is the depth of water in a port at mean low water on spring tide.

LOA

Length Over All i.e. the total length of a ship from stem to stern.

Beam

This refers to the width of a ship at its widest point.

Draft

This refers to the depth of the ship below the water.

Air draft

This refers to the height of the ship and is relevant if it has to pass under bridges en route to/from a berth.

Panamax ship

This refers to the maximum size of ship that can negotiate the Panama canal. The maximum dimensions of such a ship are:

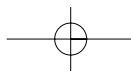
- 294.1m LOA
- 32.3m Beam
- 12.0m Draft
- 57.9m air draft

SITC

Standard International Trade Classification of commodities

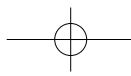
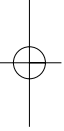
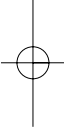
FOB

Free on Board. This means the costs of getting the cargo from the place of manufacture and onto the ship are borne by the manufacturer. The receiver of the goods pays for all subsequent costs, including insurance during shipment.



CHAPTER 1

INTRODUCTION & BACKGROUND



1. INTRODUCTION & BACKGROUND

1.1. Introduction

There is a paradox underlying the history of services across the North Atlantic. The frustrated demand, from certain areas like the island of Ireland and Scotland for a direct link across the Atlantic has to be counter balanced against the fact that the North Atlantic has seen more shipping venture failures than any other route due to over-capacity, historical imbalances in freight traffics on the West/East leg and the consequential poor financial returns for ship owners. So whilst the concept of a direct shipping link between the island of Ireland and North America is to be encouraged, potential supporters will need to be satisfied that any new proposal offers the real possibility of a sustainable service.

1.2. Background

It is appropriate to ask why a direct shipping service between the island of Ireland and North America no longer exists. (Historically the island of Ireland was the last port of call for transatlantic services.) The deep-sea shipping sector is one where the dynamics of supply and demand tend to work very effectively; if the market detects sufficient demand for a particular service it will usually respond by supplying it. Therefore is the absence of a North Atlantic link simply the result of insufficient demand? The study considers this issue.

An earlier study , published by the IITI in 1999, found that it would not be commercially viable to divert a vessel of Panamax dimensions to an Irish port within an existing schedule. It noted that the container trade between the island of Ireland/Scotland and North America constituted a growing market niche which “with time, begs to be exploited”. It also concluded that a substantial share of this trade would have to be secured to justify this service; the degree to which this could be achieved would, the study concluded, depend on the willingness of Irish exporters/importers to support and nurture this service. In articulating this last point the authors of the 1999 study seemed to indicate that the existence of demand might not, in itself, be sufficient to attract a direct service; or alternatively that a concerted effort by Irish industry (even in the context of a demand that fell somewhat short of the required critical level) could provide a necessary incremental encouragement to attract an operator who would, at least, test the market.

In 2001 the Port of Cork Company commissioned a report “to identify the operational factors that are necessary for the Port to be a successful Transatlantic container and transshipment hub”. The purpose of this study was not to assess the market potential for such services but rather to explore what the port of Cork needed to provide in terms of infrastructure and services to act as a transshipment hub. The report did, however, note that a transatlantic service calling at Cork “could readily secure 40-45% of the Irish market with the US East Coast”. It also suggested that the establishment by the port of Cork of a strategic alliance with Liverpool and Rotterdam would permit Cork to become a productive element of a North Atlantic itinerary from either or both of those ports.

1.3. Purpose of this study

This study has been commissioned by the Institute of International Trade for Ireland (IITI) to review trade and services on the North Atlantic and to determine whether, under various scenarios, a direct shipping service between the island of Ireland and North America might be viable and if so to identify potential ship owners/operators to supply the service as well as the ports to be served. Its specific purposes are:

- To determine current routes and cost structures in the North Atlantic transport systems
- To provide templates for services and service improvements that would support present and potential Exporters from Ireland in developing their business to and from North America.
- To identify the market opportunities for Carriers making a direct call to Ireland and to build the business case for such operations.

³ “Study of the Feasibility for the Establishment of a Direct Calling Container Service between Ireland and North America” by Dr. Felix Schimdt, University of Ulster and Eamonn O’Reilly, ORM Consulting, Dublin 1999.

⁴ “Report on the Establishment of the Port of Cork as a Transatlantic Container and Trans-shipment Hub”, Nautical Enterprise Centre, Cork, 2001

- To provide a tool to enable Irish based manufacturers, particularly those trading with North America to improve their Supply Chain Competitiveness

The client recognises that this study may conclude that the current Irish market conditions cannot support such a service. In this instance the study will identify:

- How the existing service arrangements could be improved
- What factors would trigger a re-examination of this issue
- What facilities a port would need to provide to be able to cater readily for such a service.

1.4. Methodology

In preparation for this study the IITI conducted a survey of the main Irish importers, exporters and service providers in an effort to quantify the interest in and potential demand for such a service. A full analysis of the data from the survey questionnaires was supplied to the authors. (Appendix A contains the text of the survey questionnaire.)

A profile of the island of Ireland-North America sector in terms of trade and transport is built around the following elements:

- An assessment of the business flows of finished product from Plants based in Ireland to North America.
- An analysis of current sea and airfreight services being used, their strengths and weaknesses.
- An identification of any physical or economic obstacles or weaknesses which could frustrate the successful securing of direct call services.
- A review of other economic areas with similar problems in order to strengthen the case.

In addition the study identifies the ship owners and lines most likely to give serious consideration to the outcomes of the project.

Mention was made above of the report on the North Atlantic which was published by the IITI in 1999. In assessing the current potential market for a direct call to Ireland by a North Atlantic service, the incremental changes in the market since 1998 are considered in certain instances. Where this is done, for example in calculating unitised traffic between the island of Ireland and North America, we have observed the same methodology to enable comparisons to be made between both data sets.

1.5. Outline of the Study

Trade between North America and the island of Ireland is reviewed in **chapter 2** in terms of current traffic volumes and types. To set this market in context this chapter begins with a brief review of the economies of Ireland and Northern Ireland followed by a brief profile of external trade.

The transport services used to facilitate trade between Ireland and North America are considered in **chapter 3** in terms of shipping and air services, rates and service standards.

Chapter 4 assesses the potential for a direct shipping service between Ireland and North America. It reviews the minimum conditions which must be satisfied to attract such a service in terms of:

- Economic cargo volumes
- Minimum deviation from optimal shipping routes
- Port infrastructure required.

In the case of such a service not being feasible, this chapter will consider how the existing arrangements could be improved. It will also identify what might trigger a re-examination of this issue.

The conclusions and recommendations are presented in **chapter 5**.

⁵ See 3 above.

1.6. A note on Statistical Sources

In assessing the volume of the RoI's external trading activity two statistical references are relevant: the Analysis of External Trade and the Statistics of Port Traffic. Both are produced by the Central Statistics Office but the focus of each is quite different.

The Analysis of External Trade is concerned primarily with external trade in terms of value, origin/destination by country and type of goods. While mode may be recorded as a factor at the statistical collection point it is not validated in relation to the **volume** (tonnes) of traffic handled by each mode.

The Port Statistics are concerned with export and import volumes by port, maritime mode (unitised, bulk etc.) and broad origin/destination (e.g. UK, EU and non-EU); the type or value of goods is not their primary interest. In the case of unitised tonnage the volumes recorded in the CSO Port Statistics refer to the tonnage of the goods and the immediate packaging; they do not include the weight of the container or the truck.⁶

While "sea" is by far the most significant mode of transport employed, exports and imports also move by air and by road (to/from Northern Ireland). There is, however, no single published statistical source which presents a full profile of external trade by mode (sea, air and road). In the absence of such a source we have consulted the air transport sector regarding volumes by **air**.

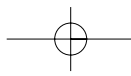
Data for Northern Ireland comes from the regional trade data analysis published as "UK Trade Info" by HM Customs. This source lists N Ireland trade in value and tonnage terms with N America and other parts of the world. UK Trade Info contains data on import and export trade between N Ireland and the RoI, but does not capture data relating to cargoes moved through N Ireland en route to third countries.

We also consulted this source in relation to external trade by **road** (i.e. between NI and RoI). UK Trade Info indicates that there were 8.1 m tonnes exported from NI to RoI and 2.7m tonnes imported by NI from RoI. We also consulted the Northern Ireland Transport Statistics 2005-06⁷ which showed that 6.4m tonnes are carried by NI registered vehicles (over 3.5 tonnes Gross Vehicles Weight) to RoI and 2.6m tonnes carried by those same vehicles from RoI to NI. The CSO confirmed that 2.4m tonnes were carried by Irish registered vehicles (unladen weight of over 2 tonnes) from RoI to NI and 3m tonnes carried from NI to RoI. The variances in the figures may be accounted for, in part, by the different minimum size of truck for which carryings are recorded in each jurisdiction. No set of national statistics captures the global picture as none takes account of freight carried in foreign registered vehicles.

In this study the Analysis of External Trade is used where the values of exports and imports overall or by country are concerned. Where modal split is the primary focus the Port Statistics and airline industry sources are used.

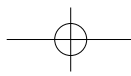
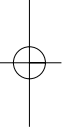
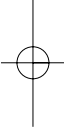
⁶ Ports handling unitised traffic levy dues per unit. They are not concerned with the weight of the unit.

⁷ Northern Ireland Transport Statistics 2005-2006. Dept for Regional Development, Belfast.



CHAPTER 2

THE ECONOMIC & TRADING PERFORMANCE OF THE ISLAND OF IRELAND



2. THE ECONOMIC & TRADING PERFORMANCE OF THE ISLAND OF IRELAND

2.1. Introduction

It is important to set the island of Ireland's trade with North America in the context of its overall trading profile in order to discern its scale, value and pattern. This chapter presents a short profile of Ireland's and Northern Ireland's external trade in terms of value, volume, mode, destination and principal categories of goods.

As a prelude to the profile of external trade a review is presented of economic performance in the recent past and a forecast of likely performance in the medium-term. The first section deals with the economy of the Republic of Ireland while the second focuses on Northern Ireland.

2.2 The Republic of Ireland's Economic Performance

2.2.1 A globalised economy

Ireland is an open globalised economy⁸ hosting a large number of multinational companies, whose activities contribute significantly to its economic growth. As a small open economy, Ireland relies strongly on trade with other countries. It has achieved substantial economic growth over the past decade. This is often referred to as the phenomenon of the "Celtic Tiger". (Box 2.1) This has propelled Ireland's GDP per capita to well above the EU average, placing the country on a par with many of the richer EU member States. Unemployment has fallen dramatically with full employment being achieved at the end of the decade. The public debt ratio has dropped from the destabilising levels of 100% or more in the 1980s to less than 30% today, one of the lowest in the EU and well below the Maastricht criterion of 60%.

2.2.2 Ireland's Export Growth

Since 1994, Ireland's average annual rates of export growth have been the highest among OECD countries. Trade in goods and services now accounts for over 150% of GDP, making Ireland one of the most globalised economies in the world with a unique dependence on, and capacity for, international trade. This status was confirmed recently, with Ireland being ranked in second place, in the world, on the AT Kearney and Foreign Policy Magazine globalisation index; with Singapore in first place (*Source 1, Appendix B*). This trading success is closely associated with the rate of Foreign Direct Investment (FDI) in Ireland. Table 2.1 below shows Ireland with a considerably higher inward FDI stock than the EU average

⁸ The EU' version of the term 'globalisation' is used in this chapter. In essence, 'globalisation' refers to the process of deeper international economic integration in terms of financial markets, trade in goods and services, foreign direct investment, and flows of human capital, including issues such as outsourcing, off-shoring and the relocation of production activities abroad (*EUROPEAN ECONOMY, The EU Economy: 2005 Review, No.6, 2005, Brussels*).

Box 2.1: What produced the “Celtic Tiger”?

Several theories have been advanced to explain Ireland’s outstanding economic growth over the past decade. The reality is that there is more than one explanatory factor. The following factors are seen as being critical to the growth in the Celtic Tiger”.

- **EU Membership:** Ireland’s membership of the European Union laid the groundwork for the economic growth of the 1990s. Being centrally involved means that decisions taken by the EU reflect Ireland’s interests and concerns.
- **Partnership:** The succession of national partnership agreements, starting with the Programme for National Recovery in 1987, has made a major contribution to Ireland’s success. “Towards 2016” is the latest agreement in the series.
- **Education:** Ireland has a tradition of good education. There has been a continuing emphasis on investment in education which has resulted in the availability of young highly educated and English-speaking workers.
- **Foreign Direct Investment (FDI):** The contribution from Foreign Direct Investment has been considerable. The benefit is not just the investment itself, but also the accompanying transfer of skills and technology.

The FDI inflow into Ireland accelerated strongly in the 1990s particularly in the electronics, software and pharmaceuticals sectors. The increase in FDI is linked with investment being made by the USA in the EU. Ireland has benefited in particular from such US investment. On the basis of data from the US Bureau of Economic Analysis, it has been estimated that Ireland received around 10% of total annual US FDI outflows into the EU in the second half of the 1990s, compared with only 2.5% in the 1980s⁹ (*Source 2, Appendix B*).

Table 2.1. Inward & Outward FDI Stocks (as a % of GDP)

	1990	1995	2000	2003
Ireland: Inward	71.5	10.2	144.1	129.7
Outward	24	19.9	33.9	22.5
EU-15: Inward	10.9	13.2	28.5	32.8
Outward	11.6	15	37.5	39.6

Source: *EUROPEAN ECONOMY, The EU Economy: 2005 Review, No.6, 2005, Brussels.*

⁹ This is cited in *EUROPEAN ECONOMY, The EU Economy: 2005 Review, No.6, 2005*, European Commission, Brussels.

2.2.3 Recent Economic Growth

The economic growth over the most recent six-year period is captured in Table 2.2. The data shows strong growth, with GNP averaging 4.5% growth annually and GDP achieving an average growth of 5.2%. As regards constituents, there has been an average growth rate of 5% for private consumption and government consumption, and for exports and imports. Investment has grown at an average rate of 5.6%. Employment growth has been very strong, with an absolute increase of nearly 0.35 million for 2000-2006. Annual inflation averaged 3.6%.

Table 2.2 Economic Data for Rep of Ireland, 2001-2006

% Volume Change*	2001	2002	2003	2004	2005	2006
GNP	3.9	2.8	5.5	3.9	5.3	5.7
GDP	5.8	6	4.3	4.3	5.5	5.4
Private Consumption	5.4	3.8	3.2	3.8	6.6	6.5
Government Consumption	9.8	7.1	3.2	1.8	4.6	3.6
Gross domestic fixed capital formation	-0.2	3.5	5.7	7.4	12.8	6.8
Exports of goods & services	8.6	4.5	0.5	7.3	3.9	4.8
Imports of goods & services	7.2	2.4	-1.2	8.6	6.5	5.9
Consumer Price Index (%)	4.9	4.6	3.5	2.2	2.5	4
Unemployment (% of labour force)	3.9	4.4	4.6	4.4	4.3	4.4
Employment change ('000s)	53	32	34	54	87	87

Sources: Department of Finance and Central Statistics Office, Dublin.
* Unless otherwise stated

2.2.4 Ireland's Medium-term Prospects to 2009

As a small, globally-integrated economy Ireland is exposed to international economic developments. There is a broad consensus at present among the major economic forecasting institutions that, notwithstanding the current slowdown in the US economy, the short-term outlook for the global economy is generally positive. Nevertheless, there are some potential downside risks, including those related to exchange rate developments and volatile oil prices. The EU Commission's autumn forecasts predict that EU growth will exceed potential in the short-run. Estimates for GDP growth in both the Euro area and the EU25 have been revised upwards from the spring forecasts, to reflect the strong acceleration of activity in the first half of 2006 (*Source 3, Appendix B*).

Outside the EU, some slowing of the US economy, a weakening dollar allied to a possible disorderly unwinding of global imbalances and potential oil price volatility are forecast by the EU. Nevertheless, modest growth is seen as persisting in the US until midway through 2008. Table 2.3 sets out the forecasts for GDP growth in Ireland's main trading partners; the forecasts are based on the EU Commission's technical assumptions regarding key external variables and developments in the main trading areas. (See Appendix B.) On this basis the Commission estimates that Ireland's export markets will grow by 6.4% in 2007 before slowing to a 6.1% growth rate in 2008.

Table 2.3: GDP Annual %Growth in Ireland's Main Trading Partners

	2005	2006	2007	2008
Euro Area	1.4	2.6	2.1	2.2
Germany	0.9	2.4	1.2	2
France	1.2	2.2	2.3	2.1
Italy	0	1.7	1.4	1.4
UK	1.9	2.7	2.6	2.4
EU 25	1.7	2.8	2.4	2.4
US	3.2	3.4	2.3	2.8
Japan	2.6	2.7	2.3	2.1

Source: European Commission 2006 Autumn Forecasts.

The Department of Finance, in its recent forecasts¹⁰, believes that the prospects for the Irish economy over the period 2007 - 09 are generally favourable with an average growth rate (in both GDP and GNP terms) of 4.7% per annum projected over this period (*Source 4, Appendix B*). Employment growth is forecast to average 2.4% per annum over the period, with unemployment remaining relatively low. (Table 2.4 below) The rate of growth in investment spending is forecast to moderate over the forecast horizon. Inflation should moderate and converge to the Euro area average over the period.

The OECD in its recent Economic Outlook¹¹ provides broadly similar forecasts (*Source 5, Appendix B*). Specifically, it states that "activity is projected to keep expanding robustly with a mild slowdown in growth from 5 per cent in 2007 to 4.5 per cent in 2008..." It should be noted that the Department of Finance recognises that risks and vulnerabilities exist on the domestic front also (see Source 4). A further deterioration in competitiveness could materialise through, for example, relatively high price or wage inflation. In addition, the construction sector accounts for a very high proportion of overall economic activity and developments in this sector will exert an important influence on the economy as a whole.

Table 2.4 Ireland's Medium-term Prospects, 2006-2009

% change	2006	2007	2008	2009
GNP growth at constant market prices	5.7	5.3	4.6	4
GDP growth at constant market prices	5.4	5.3	4.6	4.1
Components of real GDP				
Private consumption expenditure	6.5	7.3	4.8	4.1
Government consumption expenditure	3.6	3.7	3.5	3.4
Gross domestic fixed capital formation	6.8	5.4	3.8	2.5
Exports of goods & services	4.8	4.9	4.6	4.5
Imports of goods & services	5.9	6.2	4.3	3.9
Price developments				
Consumer Price Index	4	4.1	2.4	2
Labour Market				
Unemployment (% of labour force)	4.4	4.4	4.5	4.6
Employment	4.4	3.5	2.1	1.6

Source: Department of Finance

¹⁰ Department of Finance, "Ireland – Stability Programme Update", December 2006. This document updates Ireland's Stability Programme. It includes macroeconomic projections up to 2009 and takes account of the measures adopted in Budget 2007.

¹¹ OECD, Economic Outlook, No. 80, 28 November 2006.

2.3 Northern Ireland's Economic Performance

2.3.1 Introduction

As a small open economy, Northern Ireland, like Ireland, cannot insulate itself from global economic developments. Not only is Northern Ireland facing increased competition from global competitors but the business cost base is rising. Globalisation, however, also presents a number of opportunities for Northern Ireland and so enterprises need to take advantage of new markets as they open in order to increase the level and value of exports.

2.3.2 NI/UK Synergy

The NI economy is heavily dependent on UK Government payments (the so-called annual 'subvention' from taxpayers in Great Britain) which are still considerable. The UK's relatively strong economic performance has, in turn, benefited NI in recent years. The NI economy has grown faster than many other regions of the UK. The correlation between UK overall growth and that of the NI economy is used to make forecasts for the NI economy. Accordingly, the UK forecasts are next presented, as a prelude to deriving forecasts for the NI economy. The most recent forecasts for the UK produced by the OECD are set out in Table 2.5 (*Source 5, Appendix B*). GDP growth in the UK is expected to maintain its recent pace of 2_ to 2_ per cent, supported by buoyant domestic demand. Exceptionally fast growth is forecast for both exports and imports over the period.

Table 2.5 UK's medium-term prospects, 2005-2008

% change	2005	2006	2007	2008
GDP growth at constant market prices	1.9	2.6	2.6	2.8
Components of real GDP				
Private consumption expenditure	1.4	2.1	2.1	2.2
Government consumption expenditure	2.8	2	1.3	1.3
Gross domestic fixed capital formation	2.7	5.4	6.2	6
Exports of goods & services	7.1	12.8	5.6	9.1
Imports of goods & services	6.5	12.1	5.2	8.3

Source: OECD Economic Outlook, November 2006

2.3.3 Northern Ireland's Medium-term Prospects to 2008

The latest available figures show that nominal growth in the Northern Ireland economy (measured by Gross Value Added) was 5% in 2004, a little above the UK rate of 4.6%. Over the longer term Northern Ireland has experienced some convergence with the rest of the UK: in 2004 Northern Ireland's GVA per head was 80.2% of the UK whereas in 1989 it was 74.8% (*Source 6, Appendix B*). For the purposes of this forecast it is assumed that percentage per capita GVA¹² for NI will continue to improve at the rates experienced between 1989 and 2004. It has not been necessary to adjust for population change, as the latest UK and NI population projections demonstrate a broadly similar growth rates for NI and for the UK as a whole (*Source 7, Appendix B*). On this basis, Table 2.6 has been prepared.

¹² The NI data on Gross Value Added (GVA) are broadly equivalent to Gross Domestic Product (GDP), the economic measure used in the United Kingdom.

It should be noted that the average derived 3.2% projected growth rate for NI is just two-thirds of Ireland's projected average growth rate of 5.1%. This is a continuation of the trend whereby Ireland's economic growth has been much faster than that of the NI economy. It should be pointed out, however, that the level growth forecast for NI may be considered to be somewhat conservative, given the NI economy's ability to grow faster than the UK economy in recent years.

Table 2.6 NI Economy's Medium-term Prospects to 2008

% change	2006	2007	2008
GDP growth at constant market prices	3.1	3.1	3.3
NI's GVA as % of UK's GVA	80.92%	81.28%	81.64%

* The OECD's forecasts for UK have been used as a proxy for NI potential performance, having made an adjustment for relative improvement in NI's GVA percentage by comparison with that of the UK.

2.4 Rol External Trade

2.4.1. Introduction

In the previous section reference was made to the heavy dependence on external trade of the open, globalised economies of Ireland and Northern Ireland. This section now presents a short profile of that external trade performance in terms of value, volume, mode, destination and principal categories of goods.

2.4.2. The Value & Volume of Rol's External Trade

Table 2.7 below summarises Ireland's trading external trade by value for the years 1996 and 2003-2005 and encapsulates its performance as a small, open, trade-dependent economy which is also one of the fastest growing economies in the developed world. 1996 was chosen as a benchmark as it provides a link with the study published by the IITI in 1999 and it also captures the early stages of the "Celtic Tiger" economic growth.

**Table 2.7 Summary of Rol's External Trade,
1996 & 2003-2005** €m

	Imports	Exports	Surplus
1996	€28,480	€38,609	€10,129
2003	€47,865	€82,076	€34,211
2004	€51,105	€84,409	€33,304
2005	€56,475	€86,739	€30,264

Source: CSO Analysis of External Trade

- In the ten years since 1996, imports have almost doubled in value.
- During that same period exports have more than doubled in value.
- While the trade surplus has fallen a little it still remains at a very healthy level.

2.4.3. External Trade by Area

It is also helpful to assess the distribution of trade by geographic area. Table 2.8 below summarises the value of trade with the principal trading areas. It illustrates:

- The phenomenal growth in exports to North America between 1996 and 2003 and the importance of this area as a destination for exports and as a source of imports.
- The growing importance of “Other EU States” as a destination for exports. In 2005 this area accounted for 47% of exports from Rol.
- The continuing significance of Rol’s traditional trading partner, the UK. In 2005 it was the source of 32% of Rol imports and was the destination for 17% of exports.

Table 2.8 Value of Rol Imports & Exports by Area, 2003-05 €000s

	1996	2003	2004	2005
Total Imports of which:	€28,480,000	€47,865,000	€51,105,000	€57,475,100
Great Britain	€9,085,738	€13,662,100	€14,885,400	€16,987,700
Northern Ireland	€815,680	€1,042,300	€1,149,300	€1,275,600
Other EU States	€6,256,634	€11,944,100	€13,851,900	€15,199,100
Other European Countries: Members of EFTA	€554,495	€1,254,300	€1,506,500	€2,067,400
U.S.A. and Canada	€4,593,151	€7,868,800	€7,255,200	€8,286,200
Total Exports of which:	€38,609,000	€82,076,000	€84,409,000	€86,739,400
Great Britain	€8,449,218	€13,434,700	€13,714,500	€13,762,100
Northern Ireland	€1,044,487	€1,408,300	€1,484,200	€1,574,000
Other EU States	€16,922,942	€35,505,400	€37,810,200	€40,398,000
Other European Countries: Members of EFTA	€1,206,378	€3,176,800	€3,297,800	€3,874,700
U.S.A. and Canada	€3,887,303	€17,408,500	€16,881,900	€15,828,700

Source: CSO Analysis of External Trade (Database on 3rd Jan 2007)

Table 2.8 also shows exports to North America to have declined a little in recent years. This may reflect the impact of US\$/€ exchange rates rather than a real decline in the value of this trade. Feedback from exporters, as well as industry commentary, indicates that trade with North America is very buoyant.

2.4.4. External Trade by Commodity

The range of goods traded by Ireland is very varied. Table 2.9 summarises the value of exports and imports by SITC category (level 1). It shows clearly the dominance of the pharmaceutical and healthcare sector (5) in the export market and of the machinery sector (7) in both the import and export markets.

Table 2.9 Value of Rol External Trade by Category €000s

SITC Code (level 1)	IMPORTS			EXPORTS		
	2003	2004	2005	2003	2004	2005
Food & Live Animals (0)	3,159,800	3,273,100	3,679,900	5,779,400	6,063,000	6,380,700
Beverages & tobacco (1)	705,700	696,100	703,100	1,107,500	1,036,700	1,103,400
Crude materials inedible excl fuel (2)	790,100	843,900	939,600	865,500	991,400	1,075,700
Mineral fuels, lubricants etc (3)	1,969,000	2,813,500	4,020,600	201,200	399,800	626,200
Animal & vegetable oils, fats & waxes (4)	120,700	116,800	129,600	31,300	25,300	18,500
Chemicals & related products (5)	6,897,400	7,139,600	7,420,000	35,785,500	37,491,800	40,420,000
Manufactured goods classified by material (6)	4,245,000	4,619,800	4,943,000	1,792,100	1,817,400	1,756,800
Machinery & transport equipment (7)	20,732,000	21,963,500	25,018,800	23,521,300	22,935,000	22,717,800
Misc manufactured articles (8)	6,302,600	6,331,600	7,082,100	9,456,900	9,910,000	10,464,000
Commodities & transactions unclassified (9)	1,265,800	1,307,900	1,253,300	2,697,200	2,874,400	2,670,800

Source: CSO Analysis of External Trade

Table 2.10 pinpoints more precisely the top 10 exports by value in 2005. On foot of exceptional growth in 2005 “organic chemicals” has now moved to the top of the export table. In 2005 it accounted for 20% of Irish exports by value. The IT sector continues to dominate the imports market. (Table 2.11 below)

Table 2.10 Rol Top 10 Exports by Value 2005 €m

Exports by Commodity Group	2004	2005	2005 % Share
	80,571	87,234	
Organic Chemicals	14,651	17,757	20%
Medical & pharmaceutical products	15,155	14,530	17%
Office machines & data processors	13,383	13,980	16%
Electrical machinery	5,528	4,922	6%
Essential oils, perfumes & materials	4,762	5,216	6%
Miscellaneous manufactured goods	4,873	5,051	6%
Professional & scientific apparatus	3,796	3,308	4%
Chemical materials	2,300	2,321	3%
Meat & meat products	2,054	2,175	2%
Telecomms & sound recording equipment	1,496	1,438	2%
Misc edible products	1,354	1,427	2%
General industrial machinery	1,182	1,135	1%

Sources: CSO Analysis of External Trade & the Irish Maritime Transport Economist, July 2006

Table 2.11 Rol Top 10 Imports by Value 2005 €m

Imports by Commodity Group	2004	2005	2005 % Share
Total value	50,100	57,475	
Office machines & data processors	7,855	9,141	16%
Electrical machinery	4,721	4,332	8%
Road vehicles	3,292	3,768	7%
Petroleum & petroleum products	2,255	3,198	6%
Miscellaneous manufactured goods	3,035	3,092	5%
Other transport equipment	1,539	2,032	4%
Organic chemicals	2,209	2,008	3%
Telecomms & sound recording equipment	1,678	2,006	3%
Medical & pharmaceutical products	1,970	1,992	3%
Articles of apparel & clothing accessories	1,307	1,527	3%
General industrial machinery	1,116	1,372	2%
Specialised machinery	1,000	1,158	2%

Sources: CSO Analysis of External Trade & the Irish Maritime Transport Economist, July 2006

2.4.5 The location of industry in Rol

Every town in Ireland supports industry of some sort but there are distinct industrial clusters in certain areas. Cork is a favoured location for the pharmaceutical and chemical sectors while the medical sector tends to be found in the West of Ireland. Dublin is the centre of the ICT industry.

2.5 Northern Ireland's External Trade

2.5.1 Introduction

The primary source of data about Northern Ireland trade and its role in the UK import- export market is "UK Trade Info" which is produced by HM Customs. This study also drew on the survey of exporters conducted by the IITI in tandem with *Invest NI* as part of this study. Talking to the MLOs, there was a consistent view that the market out of Ireland (North and Republic) was larger than indicated by official data. This view was corroborated by the IITI survey.

2.5.2 Value & Volume of Northern Ireland's External Trade

Northern Ireland, like its neighbour is also an open trading economy. The value and volume of its external trade for the years 2003-2005 is summarised in Table 2.12 below. The volume and value of exports have both grown in the last three years by 32% and 13% respectively. Northern Ireland also enjoys a trade surplus in terms of both value and volume.

Table 2.12 Summary of Northern Ireland's External Trade, 2003-05 o00s Tonnes £m

	Imports		Exports		Surplus/Deficit	
	Tonnes	Value	Tonnes	Value	Tonnes	Value
2003	6,038	£3,723	6,719	£4,056	681	£333
2004	5,806	£3,875	7,753	£4,390	1,947	£515
2005	5,966	£4,017	8,936	£4,614	2,970	£597

Source: UK Trade Info

Of the total manufacturing output (in value) 76% is exported and 33% is destined for markets outside the UK. This global picture for 2003-05 is summarised in Table 2. 13. (Note that the "year" in this case refers to the period from 1st April to 31st March).

Table 2.13 Value & Destination of Northern Ireland's exports £m

	2003/04	2004/05	2005/06
Total Sales	£13,508	£13,826	£13,948
Northern Ireland	£3,182	£3,288	£3,325
External Sales	£10,326	£19,538	£10,623
GB	£5,959	£6,005	£6,063
Export Sales of which	£4,377	£4,533	£4,560
Rep of Ireland	£1,115	£1,243	£1,298
Rest of EU	£1,133	£1,212	£1,129
rest of the world	£2,129	£2,078	£2,132

Source: NI Manufacturing Sales & Exports Survey 2004/05 & 2005/06. Dept of Enterprise, Trade & Investment

Great Britain remains the most important destination for NI external sales. The value of exports to the Republic of Ireland has increased along with that to the “Rest of the World” while exports to the “Rest of the EU” have declined somewhat.

2.5.3 The Principal Exports

The top 5 exporting sectors in Northern Ireland (in terms of sales to areas outside the UK) are:

- Food, drink and tobacco
- Electrical and Optical Equipment
- Other Machinery & Equipment
- Transport Equipment
- Rubber & plastics

Table 2.14 below presents the value of sales for the top 10 commodities for 2005/06.

Table 2.14 Summary of NI Trade by Principal Commodities, 2005/06 £m

Commodities	External Sales	Export Sales
Food, drink & tobacco	£5,132	£723
Electrical & optical equipment	£1,231	£1,015
Other machinery & equipment	£818	£559
Transport equipment	£844	£569
Rubber & plastics	£716	£467
Other non-metallic mineral products	£298	£169
Basic metals & metal products	£340	£234
Paper & printing	£167	£93
Other manufacturing	£258	£186
Chemicals & man-made fibres	£333	£304
Textiles, clothing & leather	£316	£122

Source: NI Manufacturing Sales & Exports Survey 2004/05 & 2005/06 Dept of Enterprise, Trade & Investment, Belfast

2.6 Trade between North America & the island of Ireland

2.6.1 North America – Rol Trade

Table 2.8 above (Value of Imports and Exports by Area) showed clearly the importance of the North American market for Rol exports. The US market alone is Rol's single most important export destination. In 2005 it accounted for almost 19% of the value of Rol exports. Table 2.15 below summarises Rol trade with North America in terms of both value and volume.

Table 2.15 Trade between the USA/Canada & Rol in Tonnes & Value 2003-2005

	Imports		Exports	
	Tonnes	€000s	Tonnes	€000s
2003 Total	30,462,000	47,865,000	11,790,000	82,076,000
USA	1,444,524	7,416,148	549,460	16,939,257
Canada	107,508	452,393	22,977	469,295
2004 Total	32,943,000	51,105,000	12,966,000	84,409,000
USA	1,257,075	6,984,316	505,176	16,555,538
Canada	95,900	270,667	24,922	326,365
2005 Total	36,883,000	57,475,000	13,537,000	87,739,000
USA	1,257,708	8,001,403	433,341	16,273,070
Canada	133,859	285,461	25,387	339,453

Source: IEA & CSO

Note: The tonnage figures shown in this table should be treated with considerable caution. The CSO has advised that, whilst they collect this data, it has not been validated by them.

Table 2.15 shows:

- The relative importance of the USA as a market in terms of value and its relative insignificance in terms of volume.
- The lack of growth in exports to the USA in terms of value and volume.
- The relative unimportance of the Canadian market.
- The large trading deficit in volume with the USA in contrast with the large surplus in value

The principal commodities exported to North America by the Rol are:

- Organic chemicals
- Medical & pharmaceutical products
- Professional & scientific equipment
- Essential oils & perfumes
- Office machines & data processing equipment

This reflects the general pattern of Ireland's export trade.

In relation to imports the USA ranks second as a source of Rol imports. In 2005 it was the origin of 14% of Ireland's imports by value; this was exceeded only by Great Britain.

The principal imports from North America are:

- Animal feed
- Petroleum & petroleum products
- Organic chemicals
- Oil seeds
- Cork & wood
- Paper & pulp

2.6.2 North America – Northern Ireland Trade

North America is the most important destination of Northern Ireland's exports to the "Rest of the World"; it accounts for 47% of the value of sales to this area¹³. When assessed, however, in terms of export volumes North America accounts for only 1% of the exports from Northern Ireland. The profile of trade between Northern Ireland and North America is summarised in Table 2.16 below.

Table 2.16 Summary of North America-Northern Ireland Trade, 2003-05

	Imports		Exports	
	Tonnes	£'000s	Tonnes	£'000s
2003				
Total	6,038,419	3,723,088	6,719,730	4,056,404
North America	435,406	567,332	80,582	872,071
2004				
Total	5,806,302	3,875,232	7,753,106	4,390,682
North America	563,363	558,332	46,632	923,273
2005				
Total	5,966,260	4,017,245	8,936,528	4,614,526
North America	421,863	555,875	57,583	909,542

Source: UK Trade Info

The most important export categories from NI to North America in 2005 were:

- Machinery & Transport Equipment
- Crude materials inedible excluding fuels
- Manufactured goods
- Chemicals & related products

Imports from North America accounted for about 3% of all imports by volume. Food stuffs are a significant import from North America (and elsewhere); these consist of grains and animal feed from both Canada and the USA. Imports of machinery and transport equipment from North America are noticeably higher than the level of imported manufactured goods in general.

When compared with other regions in the UK, Northern Ireland exports proportionately above the average, although exports in tonnes to North America are very small. Its overall pattern of imports is similar to that of the UK as a whole with North America being a very important source.

The principal points to note are that:

- North America accounted for almost 20% of exports by value from Northern Ireland last year and
- The economy of Northern Ireland is dependent on a few categories of goods, particularly SITC category 7 (machinery and transport equipment) which accounts for 41% by value of all exports. In the case of trade with North America it accounts for almost 72% of all export trade by value. This same category accounted for 28% of total imports in 2005 but 67% of imports from North America

2.7 North American Trade by Mode

2.7.1 Introduction

In a study which is assessing the potential for a direct call to Ireland by a transatlantic service it is important not only to establish the value and volume of trade between the island of Ireland and North America but also to review the modes of transport used.

There is no single, comprehensive statistical source which captures fully the share of Ireland's trade held by each of the transport modes – sea, air and road. Some clues can, however, be gleaned from other sources such as the CSO Statistics of Port Traffic, IATA and the transport industry itself.

¹³ Northern Ireland Manufacturing Sales & Exports Survey 2005/06

“Sea” is the dominant mode. It is generally assumed that over 95% of the island’s trade passes through the island’s ports. In 2005 this amounted to a total of 76m tonnes. Imports accounted for 54m tonnes and exports 22m tonnes. Trade moving through the ports tends to be divided into two major categories: bulk traffic (e.g. fertiliser, animal feed, petroleum, timber) and unitised traffic (RoRo and LoLo).

“Air” holds a very small share of the volume of Ireland’s trade (tonnes), but it is attracting increasing volumes of high value products. The leading destination for air freight exports and imports in terms of both volume and value is the USA.

“Road” is the principal mode for the movement of traffic between RoI and NI. UK Trade Info indicates that there are 8.1m tonnes being exported by NI to RoI and 2.7m tonnes being imported from RoI. An examination of the Northern Ireland Transport Statistics 2005-2006¹⁴ and the CSO statistics for 2005 suggest that the first figure should be treated with some caution. (See section 1.6 above for a more detailed comment on these statistics.) Leaving aside any caution about the statistics it is clear that there are strong trading links between the two areas. With no rail freight link between NI and RoI it is assumed that all of the traffic between the two regions moves by road.

2.7.2 Modal split of North American Traffic

Freight moves between North America and the island of Ireland by air and by sea. In the absence of a source of comprehensive statistics we have drawn on industry and IEA sources to indicate the principal features of the modal pattern of traffic between the island of Ireland and North America. These suggest that:

- The USA is the single biggest origin and destination of air freight in terms of value and volume. The indications are that more than 60% of the air freight exports by value are destined for the USA.
- In terms of the value of exports to the USA, air seems to be the dominant mode. Its share may amount to 80%.
- Between 2003 and 2005 imports by sea from the USA declined in value. This may reflect the transfer of manufacturing to cheaper locations in South East Asia.

Trade sources also indicate that there has been an increase in the imports of timber and related products from North America in 2006 as a result of the favourable $\text{€}/\text{\$}$ exchange rate.

Air services between Ireland and North America will be reviewed in chapter 3.

2.8 LoLo Trade between the RoI and North America

2.8.1 Introduction

There are three types of cargo moving by sea between the island of Ireland and North America:

Bulk: For example animal feed and petroleum products. These are typically lower value, homogeneous cargoes that only move in large quantities.

RoRo: Typically manufactured, but “out-of-gauge” traffic like machinery that will not readily fit into a container. This includes trade cars and potentially forest products.

LoLo: A wide variety of manufactured goods & raw materials that will fit into a standard container.

Much of the bulk traffic is outside the terms of reference of this study as the pattern of shipment tends to be irregular and therefore cannot provide a base cargo for a liner service. The RoRo traffic on the North Atlantic is largely generated by the SITC 7 manufactured goods from Northern Ireland. There are, however, some manufactured wood products which could be shipped RoRo on mafi trailers rather than on chartered bulk vessels. This would facilitate a more responsive supply chain and would reduce inventory costs.

¹⁴ Northern Ireland Transport Statistics 2005-2006. Dept for Regional Development, Belfast

2.8.2 The potential unitised market between Rol and North America

Because LoLo traffic moving between Ireland and North America is transhipped via ports like Liverpool, Rotterdam and Antwerp, statistical sources do not capture these volumes separately in either tonnes or units. To identify the volume of LoLo traffic in tonnes it is necessary to delete the bulk and RoRo tonnes from the total volumes as well as the air freight tonnes. (See Table 2.17 below.) In doing this we have replicated the approach adopted in the 1999 report, though the volume of air freight (tonnes) appears to have been excluded in that case. The outcome of this first step is shown in Table 2.18 below, which shows the estimated number of TEUs moving.

Table 2.17 Potential Containerised Cargo (tonnes) between Rol and North America. 1998-2005

	USA Exports	USA Imports	Canada Exports	Canada Imports
1998	182,634	212,942	26,881	23,863
2003	232,038	184,451	21,027	38,501
2004	204,969	194,924	22,273	33,164
2005	219,002	219,498	23,862	30,411

Note: 1998 tonnages include air freight while those for 2003-2005 do not.

Table 2.18 Estimated LoLo Trade (TEUs) between Rol and North America. 1998 & 2003-2005

	USA Exports	USA Imports	Canada Exports	Canada Imports	Tonnes/TEU Imports	Tonne/TEU Exports
1998	18,300	22,799	2,693	2,555	9.34	9.98
2003	19,741	14,913	1,948	3,986	9.30	10.07
2004	15,882	16,756	2,016	3,429	9.30	10.07
2005	16,224	16,693	2,096	3,038	9.62	10.56

Source: CSO Analysis of External Trade (Database)

On the basis of this analysis there is a potential export market of:

16,000 TEUs to the USA, and
2,000 TEUs to Canada.

The corresponding estimates in the case of imports are:

17,000 TEUs from the USA
2,000 TEUs from Canada

This translates into a weekly flow (50 weeks) of:

360 TEUs westbound
380 TEUs eastbound

The IITI Survey suggests that actual export volumes from RoI might be understated in the CSO data; this would be consistent with a view from the MLOs that the RoI market was larger than official data might suggest. Table 2.19 below captures the results of the survey.

Table 2.19 Summary of RoI Exports to North America

Tonnes	Estimated TEUs
257,390	22,289

Source: IITI/IEA survey 2006

With about 36 competing Lines, it is unlikely that any one operator would attract all of this traffic; it is therefore appropriate to assess the critical share of business which would need to be secured in order to justify a direct call. The prospect of securing 50% of the eastbound and westbound business would, in our view, prove sufficient to attract the attention of an existing operator, assuming other conditions could also be met allowing a direct call.

This states the case rather simplistically as it merely takes account of the number of TEUs and ignores such factors as the nature of the goods being moved, the number of exporters/importers concerned and any seasonality in cargo flows. Nor does it take account of the traffic between Northern Ireland and North America. This will be discussed in more detail below.

2.9 LoLo Trade between Northern Ireland and North America

Table 2.20 is based on data from *UK Trade Info* and the same methodology is used to assess the volume of potential LoLo trade between North America and Northern Ireland. It suggests that the export market from Northern Ireland has been very flat for the last three years. On the basis of these figures export units, in 2005, would appear to amount to about 2,700 TEU that is about 54 TEU per week. This is not enough traffic to justify a direct call in Northern Ireland. The profile of imports from North America shows a broadly similar picture, with about 2,700 TEU per annum being sent to Northern Ireland from North America. Whilst these traffic flows are well balanced the number of units would not justify a weekly direct call.

Table 2.20 Potential LoLo Cargo (Tonnes & TEUs) between North America and Northern Ireland, 2003-2005

	Exports Tonnes	Exports TEUs	Imports Tonnes	Imports TEUs
2003	27,565	2,737	22,132	2,380
2004	30,410	3,020	26,999	2,903
2005	28,389	2,688	25,925	2,695

Source: UK Trade Info

Note: The same conversion factors are used as those in Table 2.18 above

The 2006 IITI survey of Northern Ireland exporters, however, indicates a higher volume of containers being exported from the province to N America than that shown in the data published by UK Trade Info. These results are summarised below in Table 2.21

Table 2.21 Northern Ireland's Exports to North America 2005

Total tonnes	209,300
Estimated TEUs	15,870
Estimated RoRo units	4,400

Source: IITI/IEA Survey of exporters. Summer 2006

On the basis of this survey the volumes of containerised exports to North America generated by Northern Ireland is equivalent to 70% of the those from RoI. On this basis sufficient base traffic also exists to justify a direct call to Northern Ireland.

2.10 RoRo Trade between Northern Ireland & North America

The profile in the case of Northern Ireland traffic is quite different; here both UK Trade Info and the IITI/IEA survey established that out of gauge RoRo cargo constitutes the critical flow. It was shown earlier that the Northern Ireland economy is, in value terms, dependent upon a few industrial sectors; this is confirmed in tables 2.22 and 2.23 below.

It can be seen from these tables that Northern Ireland imports and exports a significant amount of high value transport equipment; this is also borne out by the IITI survey. There is therefore a case for arguing that Northern Ireland needs a direct call RoRo service to meet the needs of its "out of gauge" cargo base which is generated by a manufacturing sector that is crucial to the economy of Northern Ireland.

Table 2.22 Potential RoRo exports from N Ireland 2003 – 5

N Ireland Ro-Ro traffic 2003 - 5	Total			Exports		
	Mass Tonnes			Mass Tonnes		
	2003	2004	2005	2003	2004	2005
25 Pulp & Waste Paper	15,219	8,328	16,881	-	-	1
64 Paper, Paperboard & Manufactures Thereof	43,101	66,354	80,497	394	326	446
71 Power Generating Machinery & Equipment	69,904	85,449	97,303	9,436	8,580	13,126
74 General Industrial Machinery & Eq. & Machine	21,994	24,271	24,574	513	576	912
78 Road Vehicles (Including Air Cushion Vehicles)	49,566	50,727	57,172	390	360	438
79 Other Transport Equipment	3,413	3,376	3,089	3,045	3,038	2,801
Total	203,197	238,505	279,516	13,778	12,880	17,724

Source: UK Trade Info

Table 2.23 Potential RoRo imports into N Ireland 2003 – 5

N Ireland Ro-Ro traffic 2003 - 5	Imports					
	Total			North America		
	Mass Tonnes			Mass Tonnes		
	2003	2004	2005	2003	2004	2005
25 Pulp & Waste Paper	2,864	5,597	3,092	274	947	150
64 Paper, Paperboard & Manufactures Thereof	68,416	82,654	98,199	895	676	494
71 Power Generating Machinery & Equipment	38,665	43,302	51,372	18,790	20,294	20,580
74 General Industrial Machinery & Eq. & Machine	22,256	26,557	26,896	5,657	4,688	4,266
78 Road Vehicles (Including Air Cushion Vehicles)	41,998	36,663	28,068	366	360	591
79 Other Transport Equipment	1,117	4,307	3,716	679	748	716
Total	175,316	199,080	211,343	26,661	27,713	26,797

Source: UK trade info

2.11 Export Ireland Survey 2006.

A survey of trading activity is regularly undertaken by the IEA. From the most recent survey the following points of direct relevance to this study were noted:

- Exporters on the island of Ireland are generally more optimistic about export sales growth than the home market. Much of this growth in exports, however, appears to be in the services sector rather than manufacturing. Manufacturing exports appear to have grown by only about 3% in 2005.
- The Survey states; “The USA also poses significant challenges to exporters in terms of managing exchange rate fluctuations and the scale of operation required by the Irish exporters to successfully enter the market. However, managing transport and logistics to the USA were considered equally as challenging as managing the exchange rate fluctuations .”
- About 32% of respondents saw major opportunities in the US market, which is about half of those seeing opportunities in the EU. That said, the US market was ahead of everywhere else outside Europe and was perceived to be less difficult to penetrate than Germany.
- Outsourcing of components, goods and services from elsewhere is a growing trend.
- There has been a significant increase in the value of products shipped which are paid for in Euro; this insulates the exporter from currency risks.

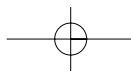
The survey underlines the importance of efficient transport and logistics in enabling Irish exporters to exploit the US market which as seen as the market with most potential outside Europe.

2.12 Summary

The IITI survey of exporters and general feedback from the MLOs indicate, that the island of Ireland exports about 37, 000 TEUs per annum to North America. In addition there is a significant volume of RoRo exports from NI to North America and that these exports constitute a significant element of the manufacturing sector in Northern Ireland.

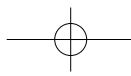
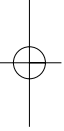
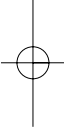
In addition the Export Ireland Survey 2006 found that the USA is perceived by exporters as a buoyant market for their goods but that efficient transport and logistics services were essential to support trade in this arena which is such an important market for high value goods from the island of Ireland.

¹⁵ IEA Export Ireland Survey 2006



CHAPTER 3

A REVIEW OF EXISTING SERVICES



3. A REVIEW OF EXISTING SERVICES

3.1 Feeder services to the UK and the Continent

Because Irish deep-sea traffic is inevitably routed via either GB or the Continent, the use of feeder services is essential. Feeder traffic is very important to Rotterdam which is one of the principal transshipment ports used by Irish exporters and importers. 27% (2.5m TEUs) of all LoLo traffic passing through Rotterdam in 2005 was transhipped onto feeder services¹⁶.

The port of Rotterdam has confirmed that significant portions of its LoLo traffic are generated by the UK (1.2m TEUs in 2005), Ireland (447k TEUs) and Spain (182k TEUs). On this basis 45% of all container traffic passing through ports in RoI is moves through Rotterdam; some of this is transhipped to deep-sea services and some is moved by road or rail to destinations within Europe. North Atlantic traffic from the island of Ireland is also routed via Liverpool to link, in particular, with the ACL service from that port; this is a combined RoRo and LoLo service. The range of LoLo services to North America expanded recently, making Liverpool a more attractive transshipment port for Irish traffic as it is the last port out and the first port in on a transatlantic itinerary.

3.1.1. LoLo Feeder Services

The LoLo services from Irish Ports are outlined in Table 3.1 in terms of ports served, operator and frequency. The provision of lo-lo feeder services is continually being revised and improved by the different lines, so this should only be seen as a useful illustrative guide.

The survey conducted by the IITI suggests that LoLo trade between RoI and North America is largely transhipped through Continental ports, particularly Rotterdam but also Antwerp and Zeebrugge, whereas Northern Ireland traffic has a more even balance between GB ports (particularly Liverpool) and Continental ports, especially Rotterdam. Feedback from the shipping lines suggests, however, that Liverpool is a very popular trans-shipment point for North American imports and that it is also frequently used in the case of exports to North America.

¹⁶ Source for breakdown of volumes is the port of Rotterdam Authority

Table 3.1 Feeder container services to/from Ireland

Line	Irish Ports	Continental Ports	GB Port	Frequency
APL	Cork, Dublin	Rotterdam	None	1 pw
BG Freight	Belfast	Rotterdam	Felixstowe	1pw
BG Freight	Belfast	Antwerp, R'dam	Southampton	1 pw
BG Freight	Dublin, Cork	Rotterdam		1 pw
BG Freight	Dublin, Cork	Antwerp, R'dam		1 pw
	Cork	Antwerp, R'dam	Felixstowe	1 pw
	Dublin	Rotterdam	Felixstowe	1 pw
Clydeport	Belfast		Greenock	1 pw
			Southampton	
CMA/CGM	Belfast, Dublin	R'dam/ Le Havre	Liverpool	1 pw
Coastal	Belfast		Liverpool	2 pw
	Dublin		Liverpool	6 pw
	Dublin, Waterford		Cardiff	3 pw
C2C	Waterford & Warrenpoint	Zeebrugge		1 pw
DFDS	Waterford	Rotterdam		1 pw
Eucon/Eurofeeders	Belfast	Antwerp		2 pw
	Belfast	Rotterdam		2 pw
	Dublin	Le Havre		2 pw
		Antwerp		
	Cork	Rotterdam		1 pw
Europe Lines	Drogheda	Rotterdam		1 pw
Samskip/GNSL	Belfast	Rotterdam		2 pw
	Cork	Rotterdam		2 pw
	Dublin	Rotterdam		4 pw
MSC	Dublin	Antwerp	Bristol	1 pw
Xpress Container Line	Dublin	Rotterdam	Felixstowe	1 pw
	Dublin	Rotterdam		1 pw
	Belfast	Rotterdam	Felixstowe	1 pw
	Cork, Dublin	R'dam, Zeebrugge		1 pw
Teamlines	Shannon	Rotterdam		1pw

Source: Operators and ports

3.1.2 Ro-Ro feeder services

Containers and out of gauge cargoes are fed between Ireland and GB on a number of RoRo services. (Table 3.2. below) This shows only those services which operate to ports with connecting services and which seek to carry transshipment cargoes. Consultation with the RoRo operators on the Irish Sea revealed some interest in the provision of an additional and dedicated service from Belfast to Liverpool, at the week-end, to carry the out of gauge RoRo feeder cargo as well as LoLo boxes on mafi trailers.

RoRo feeder services appear to be used principally to carry out of gauge cargo (where there is a requirement to minimise road distance travelled) and sometimes to carry trans-shipment containers, often double-stacked. P&O is the main carrier of the latter. There is some concern about the continuing availability of capacity on the Irish Sea RoRo services to handle out of gauge cargoes. It tends to be high and when moving on its own wheels can be difficult to manoeuvre on sloping vehicle decks.

Table 3.2 RoRo Feeder Services from the island of Ireland

Line	Route
Norfolk Line	Belfast – Birkenhead
Norfolk Line	Dublin – Birkenhead
Norfolk Line	Dublin – Heysham (and road to Liverpool)
Norfolk Line	Belfast – Heysham (and road to Liverpool)
P&O Irish Sea	Dublin – Liverpool
Seatruck	Warrenpoint-Heysham (road to Liverpool)

Note: All the above services carry out of gauge RoRo cargo. P&O also carries containers.

3.2 North Atlantic services

There are approximately 36 container lines purporting to operate services between Europe and North America. The market is complicated by the activities of the Trans Atlantic Conference Agreement (TACA) which tries to stabilise freight rates, by two global alliances (Grand Alliance and the New World Alliance) whose members pool their ships to achieve economies of scale and to try to moderate competition and most importantly by extensive route sharing and slot charters between operators on various routes. This results in a very complex web of relationships between the various carriers.

The two main alliances are the **Grand Alliance** and the **New World Alliance**. The **Grand Alliance** comprises Hapag Lloyd, MISC, NYK and OOCL. ACL (owned by Grimaldi) and CP Ships (now part of Hapag Lloyd) co-operate on the Atlantic services. The current members of the **New World Alliance** are APL, Hanjin and MOL. Maersk, the world's largest container line operates outside the consortia but continues to conclude slot agreements on certain routes. The Conference system will come to an end in 2008 as a result of EU and US pressures, but there is a general expectation that it will be replaced by some form of alternative alliance.

One important point to note is that the New World services and the PAX service of the Grand Alliance are part of a global network service. This has significant implications when trying to induce change by one member of an alliance.

Details of all services and the ships operated in 2005 are shown in Appendix C. It is worth noting that ACL features strongly in the survey carried out by IITI.

The fleet deployment and size of ship used in these services is also shown in Appendix C. The table details ship size for each service. Where there is no ship indicated the line concerned is chartering space from others. The table indicates the degree to which lines are sharing capacity and confirms that no ships of more than Panamax size are in use.

3.2.1 Major destination ports in North America.

The results of the IITI survey show that the primary ports served by the current network of shipping services are, in order of importance:

- i. New York
- ii. Baltimore
- iii. Norfolk
- iv. Halifax
- v. Los Angeles
- vi. Charleston

The first four destinations are also those typically offered by the MLOs (Main Line Operators) running to the North East Coast. Thereafter Los Angeles and Charleston attracted significant support.

The sheer physical size of the North American continent and market needs to be understood in relation to the choice of port. The distance from New York to Miami is about 1,330 miles while that to San Francisco is about 3,000 miles and to Chicago is 810 miles. This makes the correct choice of North American port and efficient land-side logistics very important, since an extra 300 miles of inland haulage can cost almost US\$ 500, which eliminates any profit.

US double-stack railway rates for container haulage are competitive at about US\$ 0.40 per mile covered, compared with a long distance trucking cost of over US\$ 1.65 per mile, although the railroads are only geared up for carriage over a minimum distance of about 500 miles. This means that the pattern of US regional logistics is very heavily influenced by the port used. Norfolk and New York might compete in a few areas, but generally a Line can save over US\$100 per box by choosing the most appropriate port for each destination. The only exception to this rule is that Canadian National Railways offer very competitive rates per mile out of Halifax to New England and Chicago to try to sustain business from that port which is remote from many of the major destinations.

3.2.2 Equipment need

The main market need is for 40ft containers with a small demand for 20ft units. The dimensions of the international standard (ISO) containers are as follows:

- Length 40 feet (12.2m) or 20 feet (6.1m)
- Width 8 feet (2.4m)
- Height 8ft 6in (2.59m) but increasingly 9 ft 6 in (2.90m)

Deep-sea ships have cell guides in the hold to allow faster and easier loading of containers of the above dimensions. Unit height is not critical provided the unit has a “footprint” of standard length and width.

The 45ft box used by the deep-sea lines is 8ft wide, permitting it to be stowed alongside the regular 20ft and 40ft boxes. The survey of Irish exporters, however, showed a notable preference for 45 foot long (13.7m) x 2.5m wide (8ft 3 in) x 9ft 6in high (2.90m) containers. These containers have been developed for trade within the EU to allow container operators to offer equipment that has the same loading capability as a standard 13.6m road trailer. The extra length and width of these units is important. These larger units will not, however, fit into the cell guides of a standard container ship – they are too long and too wide- causing a major loss of stowage capacity.

In some US states these 45 foot units are not permitted on the roads as they exceed the legal limits for the length of boxes. Their poor stowage capability is a major problem for deep-sea lines. As a result the 45 ft boxes are unpopular with many Lines. A further benefit of the 40ft unit is that it is genuinely global, whereas the 45ft unit is currently an intra European unit. The global matter is important for the Lines, since a container may switch trades several times in a year e.g. come in from China to Ireland, but go out to the US from Ireland, and finally go trans Pacific to the Philippines.

But as the profile of cargo shifts from heavier foodstuffs to lighter but bulky pharmaceutical products, the additional capacity offered by the 45ft box is becoming increasingly important and it remains to be seen whether it becomes a global unit because of its improved flexibility (it can accommodate 26 europallets on the deck) and capacity.

More special equipment in the form of temperature-controlled boxes is also likely to be needed by Irish exporters to meet the requirements of the US FDA (Food & Drug Administration).

3.2.3 Average container rates being paid

Our understanding is that current average rates for a 40ft unit out of the continent, westbound to the US, is about US\$ 3,250 (€2,539), with a return 40ft unit charging about US\$ 1,920 (€ 1,500). We understand Irish traffic is paying a fraction above average. The reasons for this small premium are explored below. Rates from Liverpool are about US\$ 300 per 40ft unit above average, since Liverpool offers a faster transit than Continental trans-shipment. With an increasing array of lines serving Liverpool this rate premium is expected to be reduced, if not completely removed.

Consultation with shipping lines suggested that rates were still under pressure.

3.2.4 Gaps in service standards

In the context of the overall North American market sector there is no evidence of market failure in terms of the quality of service offered to European exporters and importers. In the specific case of the island of Ireland the market mechanism is to feed traffic into the mainstream Continental services either through a GB or Continental port.

The IITI survey did not find major dissatisfaction with service standards, although there was a level of unhappiness with the long transit time via the Continent. The “Export Ireland Survey”¹⁷, which was also undertaken in 2006, showed that the US market was particularly important and that transport and logistics to access the US was seen as being as significant an issue as managing foreign exchange risk. Therefore it can be argued that, whilst present services are adequate, there is room for improvement. This is discussed in more detail later.

¹⁷ “Export Ireland Survey” undertaken by the Irish Exporters Association. Summer 2006

What is needed, for an efficient feeder service, is a link to the hub port that is scheduled to handle the “mother” ship offering a seamless flow from feeder vessel to “mother” ship and *vice versa*. There is some evidence that this flow does not always work for Irish traffic, particularly for cargoes that do not readily fit into an ISO container. Irish traffic can take up to a week longer to reach North America than would be taken if a direct service was available. The journey to Rotterdam of 560 nautical miles takes about 2 days, with a further two days spent in Rotterdam to tranship from feeder vessel to “mother” ship. The container then comes back upon itself, via a port of call in the UK, taking another 3 days. This “wasted” time has a logistical cost in terms of value of stock in transit. Lines interviewed confirmed that a continental routing was typically 17 days to New York, whereas ACL offered a 10 day transit via Liverpool. That said the MLOs were also clear that Irish exporters were more sensitive to price than to transit time. In other words no Irish exporter would pay for a faster transit unless they were forced to do so.

What is clear is that Irish exporters would avail of the faster transit itinerary if it were offered at the same price as the slow one. With an increasing number of transatlantic services calling to Liverpool the potential for this is greater. What is also very clear from the interview programme is that the Lines in Liverpool see Ireland as “core” business, whereas those who neither call to Liverpool nor have their own office in Ireland, tend to see Irish business as marginal.

In addition it is understood that it is costing the MLOs about €350 (US\$ 450) per 40ft unit, quay to quay, to move a container between the Continent and Ireland, in addition to stevedoring costs at each end. It is believed that the total cost to a MLO of feeding a box FOB from an Irish port to a “mother” ship in a Continental port, including additional stevedoring and terminal handling costs, is around €450 (US\$ 575) per 40ft unit. This is a significant element (about 18%) of the total sea freight rate to the MLO for the entire journey. In a more buoyant market the MLO has to try to increase Irish revenue simply to cover higher costs than those for standard Continental traffic.

The options for moving non unitised cargoes are more restricted. The ACL service out of Liverpool is the primary RoRo carrier, but market feed-back indicates that this service is often full. ACL is owned by Grimaldi, which operates a fleet of car carriers; this fleet profile may provide an opportunity for the accommodation of RoRo cargoes. There is, however, a large export market of trade cars out of the UK to North America. In 2005 there were 195,000 cars exported from the UK and 30,000 import vehicles, mainly handled through Southampton and Bristol. There may be an opportunity to attract a car carrier passing from one of these two ports to call to an Irish port, probably Belfast, for the RoRo cargo.

3.3 Current facilities in Irish Ports

Existing transatlantic ships are up to Panamax dimensions in size, which are:

- 294.1m LOA (length over all)
- 32.3m Beam
- 12.0m Draft
- 57.9m air Draft.

The ACL ships operating through Liverpool have dimensions of 292m LOA x 32.2m beam x 11.64m draft. Draft in the context of transatlantic services will be important, since an Irish call would be the last call on the outward journey or the first call on the return journey, when ships will be at maximum draft.

The biggest issue facing Irish Ports in attracting a direct call is their ability to accommodate the ships of the size that ply the transatlantic routes.

Dublin Port can handle ships up to 300m LOA but has a draft restriction across the bar at the entrance of 10.2m at high water; this is the primary constraint which the transatlantic ships would face at that port. Several berths have a depth of 11m of water, without length restriction. To accommodate more deeply-drafted ships a larger swinging basin would need to be dredged. Any new berthing facilities developed in Dublin Port, in the future, will have a depth alongside of 14m CD. The restriction at the bar would mean that ships could not, however, enter the port at all states of the tide. Plans have been announced to increase the capacity of the Dublin Ferryport LoLo

terminal which currently handles MSC vessels with a capacity of up to 1500 TEU. This terminal is served by a rail connection which is not currently used.

In **Belfast** VT3 (Victoria Terminal 3) has 9m of water available, which is insufficient to attract any existing transatlantic container service. Stormont Wharf, however, which has 10.2 to 11m of water could accommodate a deep-sea RoRo vessel though the necessary ramp would need to be provided.

In **Cork** the Tivoli terminal is restricted by a channel that is dredged to 6.5m at Chart Datum, with a tidal range of between 3.4m (neap) to 4.4m (spring tides). This gives a practical maximum draught of about 8.5m, which is insufficient for existing transatlantic traffic. The Port of Cork has drawn up plans for the development of a new terminal at Oyster Bank near Ringaskiddy which will be able to accommodate large container ships. The minimum depth alongside in Ringaskiddy (where the Port currently handles large bulk carriers) is 13.4m at low water.

Waterford, Drogheda, Warrenpoint and Londonderry all suffer from the same problems. In theory **Shannon/Foynes** has the necessary depth of water, although it is understood that the existing berth in Foynes offers a working depth of 10.5m. All existing Irish ports are tidal for large ships in that they can only enter or leave port at high tide.

The port of Waterford is rail connected and Norfolk Line currently operates three trains weekly linking the port with Ballina to meet the requirements of two multi-national manufacturers. The port of Foynes is also rail connected.

In the interview programme we spoke to two MLOs who had looked very carefully at Shannon-Foynes. Neither was convinced that they would receive the necessary support from exporters and importers in the region and they also perceived the port to be somewhat peripheral to the principal Irish markets.

3.4 RoRo and semi-bulk cargoes

There is relatively little RoRo cargo moving from the Republic to North America, but RoRo cargo is a major part of the between Northern Ireland and North America. This traffic appears to suffer particularly from short shipment which indicates a lack of capacity in this sector of the market.

Generally this export RoRo traffic from Northern Ireland consists of transport equipment and machinery while the import flow consists largely of paper and other forest products from North East Canada/USA. Trade cars would constitute an opportunity for inward flows, although there are no corresponding export flows. There may, however, be an opportunity to attract a passing car carrier service.

The outbound transport equipment flows appear to be focused upon New York, Baltimore, Montréal and Norfolk, with ACL being a significant carrier. Grimaldi, however, operates into Cork, owns ACL and also has interests in transatlantic traffic. Grimaldi also operates a fleet of car carriers into both Bristol and Southampton; they might be induced to call to Belfast to pick up RoRo traffic.

There is a limited amount of paper and other forest products imported into Northern Ireland from eastern Canada. This is partly carried by Gorthon Lines on their bi-monthly service to Belfast.

The "Analysis of External Trade" from the CSO indicates that imports of paper from North America into Ireland are small. In 2005 imports of paper from Canada amounted to 17,900 tonnes and from the USA 15,600 tonnes. These volumes are insufficient as a base cargo and would not sustain a weekly service even if a new line could secure 100% of this traffic.

3.5 Conventional cargoes

The conventional cargoes that might be of interest to a scheduled service are probably confined to steel and non ferrous metals. There is relatively little of this traffic moving and what volumes there are, have already been containerised.

There are bulk flows of animal feed, grain, fertilizer and other base materials (including salt from Carrickfergus) but these flows are seasonal and irregular, so cannot be used as a base cargo for a new service. If, however, a product like salt was bagged and shipped LoLo it would be of interest. In Waterford Smartply produces OSB (oriented strand board) for the construction industry. This is exported using chartered vessels which make about 6 calls annually using ships of about 40,000 tonnes. But this product could also be shipped RoRo; this might facilitate a more responsive supply chain

3.6 Air Freight

3.6.1 Introduction

The assessment of Ireland's trade by value, volume and mode noted that the USA was the most significant origin/destination for the movement of freight by air. Feedback from the market also indicated that this segment of the market was enjoying healthy growth.

3.6.2 Air Freight Service & Capacity

The analysis of trade by mode in Chapter 2 uses CSO data. In the case of air freight this includes both cargo leaving and arriving in Ireland by air as well as cargo being moved to/from non-Irish airports by RoRo.

The IATA figures are somewhat different as they only include cargo leaving or arriving in Ireland by air; they exclude any trans-shipments to/from non-Irish airports by RoRo. The export volumes in tonnes from both sources for 2005 are:

CSO Air freight tonnes:	137,317
IATA Air freight tonnes:	50,000

Analysis of the IATA figures for exports to USA in 2005 and 2006 to the 5 most important destinations confirms that the volumes mirror very clearly the availability of direct air services to those cities and the cargo capacity of the aircraft being used. Table 3.5 which shows the North American Capacity Summary on direct flights from Dublin and Shannon identifies, not only the number of flights each week and the Airlines operating them, but also the Aircraft type. In the final column is an estimate of the cargo capacity available on each service. This assumes that the aircraft, in each case has a full passenger load.

This shows an average capacity of an American Airlines B767 to be 8 tonnes, while that of a B 757 as flown by American Airlines out of Shannon to Boston and by Continental to Newark out of both Dublin and Belfast will only accommodate 1 tonne. The capacity of the B757 is further limited by the size of the cargo door and of the hold itself to a maximum piece dimension of 70 cm.

Aircraft on the London to New York services would, typically, be a mix of larger aircraft such as the Airbus 340, the B 747 so that the average of 26 flights westbound each day would give a total of 400 tonnes capacity.

Note, that in comparing airfreight and seafreight capacities, rates on deep-sea routes are calculated on a basis of 1 cubic metre being equal to one tonne. In the case of airfreight the equivalence is much more generous to cubic cargo at 6000 cubic centimetres to one kilo.

3.6.3 Airfreight Capacity out of Irish Airports.

Table 3.5 below shows the summer capacity out of Dublin, Shannon and Belfast. At the end of October this is drastically reduced. US Airways and Air Canada cease their services for the winter, Aer Lingus reduces its New York services from 3 flights a day to 2, Delta takes out one flight daily to Atlanta and American Airlines combines its Chicago and Boston flights. These changes come at the time when the airfreight requirement is reaching its annual peak in the last quarter. In the first

quarter of the year American Airlines further reduces capacity, by switching to a B757 aircraft, but this coincides with the least busy period for airfreight. Air Canada and Globespan also operate seasonal summer services between Belfast & Canada.

Table 3.5. Estimate of Summer Capacity on Transatlantic Air Services 2006

Carrier	Destination	Equipment	Weekly Weight Estimate kgs	
American Airlines	ORD	7X B747	56,000	
American Airlines	BOS	7X B747	7,000	Shannon
Aer Lingus	JFK	21X A330	168,000	
Aer Lingus	BOS	10X A330	80,000	
Aer Lingus	LAX	3 X A330	24,000	
Aer Lingus	ORD	7X B767	28,000	
Delta	ATL	7 XB767	56,000	Dublin
Delta	ATL	7 XB767	56,000	Shannon
Delta	JFK	7 XB767	56,000	
US Airlines	PHL	14XB767	112,000	
Air Canada	YYZ	7 XB767	56,000	
Continental	EWR	14 XB757	14,000	
Continental	EWR	7 XB757	7,000	Belfast
Total summer capacity			720,000	

Though reliable figures are impossible to get, Agents report that, in the main North American markets the capacity offered by the airlines out of Ireland is:

January to March – adequate.
 April to September – more than enough.
 October –very tight.
 November and December – quite inadequate.

Plans for 2007 indicate that transatlantic capacity will increase out of both Dublin and Shannon by approximately 30%.

3.6.4 Freight rates and charges.

Though Airlines agree airfreight rates with IATA the rates that are paid by anyone, other than the small exporter who does not use a Forwarder, vary hugely and are generally well below the IATA levels.

The 'real' rates reflect supply of and demand for freight capacity on the chosen services. They are also diluted by the ability of the Exporter, Agent or Consolidator to drive down the cost by trucking the cargo to Airports where there is surplus airfreight capacity.

Thus, in the case of the export airfreight from Irish Airports, the rates charged will be quite different in the October to December period than those levied during the summer months.

An average, pure airfreight cost for the year 2006 for airfreight loaded at an Irish Airport though to arrival at US Airport would be €1 per kilo/ 6000 cubic centimetres. Airlines impose various surcharges on this rate. At the time of writing the fuel surcharge on these routes was US\$ 0.50 per kilo, and the War risk was US\$ 0.15 per kilo.

3.6.5 Potential for freighter Aircraft, Ireland to USA.

At present, there are two direct freighter aircraft services operating into Irish Airports, both using B747 aircraft. Singapore Airlines operates three times weekly ex Singapore into Dublin and returns via Copenhagen and the Middle East. The other is operated by Air France once weekly into Shannon from New York. It goes on to Paris before heading back to the US. Unlike the Singapore Airlines service, which allows 6 tonnes of Irish exports to be loaded, the Air France service has no allocation for Irish export cargo to the US.

The following based on B747 Freighter can show an indication of the economics of freight operation.

Capacity of Aircraft – 100 tonnes.

Flight time Irish Airport to New York – 8 hours.

Cost per hour of Aircraft operation - €14,000.

Total cost of flight (excluding surcharges, handling, etc.) €112,000.

Total cost per kilo freight €1.12 based on 100% full aircraft.

Average likely revenue €100,000.

Loss €12,000

These figures are obviously very optimistic as they assume not only fully laden westbound trips but also that a similar volume could be secured eastbound.

They also assume a direct service between the Irish and North American airports. Additional stops can add 40% to the fuel cost and significantly increase the charter rate and journey time.

The assumption of balanced eastbound and westbound flows is not unrealistic, but the seasonal pattern can vary in each direction. The volumes in each direction are also very much dictated by firms in the IT sector seeking to ship product to meet monthly and quarterly deadlines.

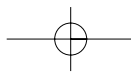
There is also a shortage of dedicated freight planes. There are very limited transatlantic air freight services from Britain. Capacity on planes operating out of Frankfurt, Amsterdam and Paris is restricted; this is mainly due to the strong increase in volumes moving out of Central European Airports.

To use a smaller aircraft than the B747, say a B767 with 54 tonnes capacity would incur a substantially higher cost per kilo. Unless the service operator was able to secure a high volume of the high rated small parcel business for the service it would be difficult to operate profitably.

3.7. Summary

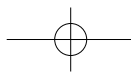
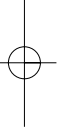
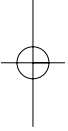
Irish trade with N America is all fed through either the Continent (particularly Rotterdam) or the UK. There is no evidence of any major failure of the feeder network. There is, however, a resigned acceptance of its limitations which means that longer and uncertain transit times have been built into the system and allowances made for them automatically. There are two possibilities of improving the existing system – instituting a direct call or securing better feeder services. In the case of improved feeder services, it is essential to link with a trans-shipment point that is “last port out and first port in”. This suggests that the UK ports may offer the best option.

Transport and logistical linkages are seen as crucial to sustaining a viable US market for Irish exporters. In this respect the air freight market is seen as a reliable alternative option. It has experienced considerable growth in cargo volumes to the US, particularly for the carriage of high value goods. If the maritime sector is to compete, a quicker through transit time, combined with a reliable logistics system is needed, but at the same price as presently offered through Rotterdam.



CHAPTER 4

THE POTENTIAL FOR A DIRECT CONTAINER LOLO SERVICE



4. THE POTENTIAL FOR A DIRECT CONTAINER LOLO SERVICE.

4.1. Introduction

The existence of sufficient demand is necessary but not sufficient to secure a direct call to an Irish port by a transatlantic service. In addition, to secure a call by a direct service to North America, an Irish port must be able to accommodate the mother ship.

This chapter begins by noting the impact which a direct call would have on Irish trade. It then considers some relevant emerging trends in relation to the size of ship and shipping patterns before assessing the minimum volumes required to attract a direct call. It concludes by identifying some emerging market trends.

4.2 The impact of a direct call

Chapter 3 reviewed the existing services which are used by Irish exporters and importers trading with North America. The range of feeder services is extensive; there is a healthy range of operators who serve a number of ports with a service of reasonable frequency. Feedback from industry and from the shipping lines suggests, however, that the dominance of Rotterdam as a trans-shipment port for trade from and to the island of Ireland may be perpetuating a degree of uncertainty about the overall transit times to/from North America; this arises from a degree of congestion in the port itself and the built-in delays which arise as feeder cargo is transferred between the terminals used by the MLOs and some feeder lines. In ports like Rotterdam priority is given to “mother” ships rather than feeder ships; this can sometimes result in trans-shipped cargo missing that once weekly transatlantic sailing.

A direct call by a transatlantic operator would certainly yield a significant improvement in the service supplied to exporters and importers throughout the island of Ireland. It would reduce the transit time between Ireland and North America by almost one week and would enhance overall reliability of service by eliminating the uncertainty which the necessity to use feeder services engenders.

It would not, however, constitute a universal solution.

- The North American ports most likely to be used are Halifax and those in the North East USA like New York, Baltimore and Norfolk). But the sheer size of North America means that other destinations not served by these ports would still need to be reached through existing itineraries.
- The survey suggested that 53.8% of cargo was going to North East USA, with a further 28% to East Coast Canada. If this traffic was removed from present feeder services it might undermine some of them; this might lead, in turn, to a deterioration in service quality elsewhere.
- US West Coast traffic will transit the Panama Canal. It will take a more southerly routing across the Atlantic than that taken by ships bound for the East coast of Canada and the US North East. This makes it more difficult to induce them to deviate to Ireland.
- The MLOs all look at the Irish market from a global perspective; thus they seek transport and logistical systems that benefit all export markets and not just the East coast of North America. Therefore any solution must be appropriate to Asia and South America as well as North America.

If, however, a larger MLO were attracted to Ireland with a direct service to the East Coast of North America, that MLO ought to be able to offer additional services for all other North American destinations.

4.3. Trends in Ship Size

There is a trend throughout the LoLo sector for the MLOs to seek to capture economies of scale by building increasingly larger ships. The capital costs of larger ships indicate a relatively small improvement in costs per TEU. Data from “Containerisation International” suggests that the capital costs per TEU of various new ships in early 2006 were as follows:

Ship size	Capital cost	Cost/TEU (\$)
4,300 TEU panamax	US\$ 64m	14,884
5,100 TEU post panamax	US\$ 74m	14,510
8,000 TEU post panamax	US\$ 115m	14,375

Source: Containerisation International

Whilst the capital costs per TEU only fall marginally as size increases, the ship operating costs fall rapidly. The ship's crew is fixed regardless of ship size, bunker costs increase relatively slowly, as do general maintenance costs. Provided care is taken with port choice, port costs usually benefit larger ships at the expense of the smaller. With rates under pressure, and expected to remain so until 2008, the MLOs are all looking to maximise revenue and minimise cost. Where possible, cost minimisation means using the largest size of ship consistent with market demand.

Maersk recently introduced the 11,000+ TEU "Emma Maersk" (believed in the industry to be 14,000 TEU capacity) as the first of a series of up to 17 new vessels. This ship has beam of 56.4m (24 containers) and a length of 397.7m. The ship has a deadweight of 58,200 tonnes and a working draft of about 15m. At this draft it will be too deep for most but not all UK ports. It is understood that conceptually Maersk believe that they could fill these large ships in Rotterdam / Antwerp / Dunkerque without needing to call to a UK port, although Maersk have made it clear that they see the UK as a core market and do not intend to cut out the UK call. Nevertheless, the concept of deploying this size of vessel on the Europe/Far East itinerary to operate to Rotterdam / Antwerp / Dunkerque only, would signal a change in the pattern of shipping services to North West Europe. Some MLOs are considering such a change.

The emergence of direct services by very large ships between the Fast East and ports like Rotterdam and Antwerp would mean that these MLOs can either feed containers through Rotterdam/Antwerp or they could deploy a second string of smaller ships of about 6,000 TEUs. It is this development that could provide a possible opportunity for Ireland, by creating the potential for an itinerary that incorporates say Iberia, the UK and Ireland on a transatlantic routing; or by providing the opportunity for improved feeder services between Ireland and the Continent and the UK.

The transatlantic market has seen only slow growth over the last few years and is operated more or less solely by ships of about Panamax dimensions, giving a container capacity of up to about 4,300 TEU and typically up to about 55,000 tonnes deadweight. Panamax ships can achieve a deadweight of up to 70,000 tonnes, but such high deadweight is only achieved by bulk carriers loading heavier bulk commodities. An exception to the rule is ZIM/Evergreen who operate a transatlantic service out of Liverpool using vessels with a capacity of 1800 TEUs. With some modest port development such vessels could be accommodated in Ringaskiddy. Most forecasters expect the transatlantic market to remain a low growth market, so in the medium term we do not expect this approach to change. In this context it is, therefore, unlikely that the large new ships will encroach into the transatlantic trades. Some transatlantic services are provided as part of a global itinerary, using the Panama Canal, but these ships are restricted to panamax dimensions.

4.3.1 The Order Book in 2006

Table 4.1 shows the profile of container ships in service and on order in Jan 2006. It confirms that the world container fleet is expanding and that the average size of ship is getting larger.

Table 4.1 World Cellular fleet at 1st January 2006

Size in TEU	In service 1 st Jan 06		On order		On order as %age of existing fleet	
	No	TEU	No	TEU	No	TEU
0-499	393	125,525	0	0	0%	0%
500-999	643	465,408	138	114,653	21%	24%
1,000 – 1,999	972	1,372,615	212	323,276	22%	24%
2,000 – 2,999	579	1,441,230	191	506,512	33%	35%
3,000 – 3,999	288	989,243	74	252,881	26%	26%
4,000 – 4,999	285	1,245,485	158	692,680	55%	56%
5,000 – 5,999	217	1,188,329	76	422,647	35%	36%
Over 6,000	170	1,195,055	247	1,968,866	145%	165%
Total	3,547	8,022,890	1,094	4,264,911	31%	53%

Source: Containerisation International

This table shows a complete absence of orders for the smallest size of containership of less than 500 TEUs. Whilst it can be argued that ships of this size are not always cellular vessels, the complete absence of new orders is telling. This size of ship has been and remains the traditional workhorse on the Irish Sea although on the run to the Continent this size of vessel is now too small.

Interestingly, the next size of ship from 500 – 999TEUs, which is now the dominant size on the run to the Continent, has the lowest rate of new orders. At 1st January 2006 this ship size accounted for 18% of the number of container ships and 6% of capacity. Of the order book it accounts for 13% of ships and only 3% of capacity in TEU on order.

This pattern is replicated for the next size of ship of 1,000 – 1,999 TEUs. The present fleet accounts for 27% of all ships and 17% of available capacity. For ships on order, however, this size represents only 19% of ships and 8% of capacity.

In short, new container ships are getting bigger. This has implications for Irish ports which are generally struggling to handle the larger ships. Waterford, Cork, Drogheda, and Warrenpoint cannot handle ships above 1,000 TEUs and some are concerned that Dublin and Belfast struggle above 1,500TEUs. It might be argued that as new ships are being built, there will be second-hand ships available. This is true, but if it were assumed that in 2006 the market in ship size was roughly in balance, then the new order book indicates a major swing towards bigger ships. With the new order book being equivalent to 53% of the existing fleet, this is not a minor change. Ireland has to adapt to this new market by ensuring that its ports are capable of handling larger LoLo ships.

4.4 Minimum volume requirements

As stated in chapter 2, the minimum volume needed to induce a direct call is, in our view, an interchange of about 100 units per call (about 170 TEUs) or about 50% of the Republic market. Such a volume might be secured with the co-operation of three or four of the largest exporters and importers in the Republic. Ideally a MLO will seek an interchange of at least 10% of the ship's carrying capacity and in the case of a panamax ship this means about 300 TEUs off and on. On the basis of CSO and UK trade Info data this represents about 100% of the market in the Republic and more than 100% of the Northern market. As noted earlier in this report the results of the IITI survey suggests that official sources underestimate the size of the market.

Discussion with various Lines produced a unanimous response that any service that introduced an Irish call would do this at the expense of a call elsewhere. Therefore the only issue was whether the Irish call would generate more revenue than that lost at the discontinued port. This essentially

means Irish ports are competing with the likes of Le Havre, UK ports and Gothenburg, since the primary call will always be in Rotterdam, Antwerp, Bremen or Hamburg.

In terms of cost this means that the cost of entering an Irish port would be offset against savings achieved from the discontinued port of call. There may or may not be increased deviation costs – for example if Le Havre were the discontinued port, there would be at least an equal saving in sailing time and probably some saving in port entry cost.

Any of the Irish ports likely to attract a transatlantic service will be tidally restricted; this means that ships can only enter and leave port at the top of the tide. Therefore with a compulsory 12 hours in port, a Line will wish to see at least 200 units handled (100 off and 100 on). This equates to 1 crane x 20 moves/hour x 10 hours. Ideally trade volumes would be enough to justify two cranes being used.

As noted above, because present schedules have little slack in them, the opportunity to add an extra port call is very limited. Additionally, given present bunker costs and lack of profitability, the operators are reluctant to increase ship speed significantly– if indeed this can be done – so the opportunity for Ireland is dependent on dropping a call elsewhere. Given the limited number of calls on the Continent, this opportunity may require the development of a completely new itinerary. The extensive slot chartering that pertains on the transatlantic market might make this difficult. On the other hand it could be argued that this very fact makes it easier by allowing several Lines to share the direct call. This, however, might lead to allegations of a cartel emerging.

In Northern Ireland there is a broadly similar situation in that a handful of the largest users could generate the necessary critical mass to induce a direct call to Belfast; in this case the service required would be RoRo.

One interesting incremental benefit of the direct call to Ireland, particularly Belfast, is the potential to attract traffic from other regions e.g. Scotland which exports whisky, machinery and electronics to North America.

It needs to be stated that there is not enough volume from the Irish market alone to justify a dedicated direct service between the island of Ireland and North America. The only economic case is dependent upon the island of Ireland being a part of a European – North American network.

4.5 Some emerging trends

There are hints of some fundamental changes in the Europe / Far East market that might have implications for Ireland. Earlier in this chapter reference was made to the shift in the pattern of shipping which seems to be emerging with some of the MLOs concentrating their Far East/European itineraries on very large vessels serving a smaller number of NW European ports. The suggestion that this, in turn, would seem to create an opportunity for a second string of services using smaller ships and serving ports other than the very large trans-shipment hubs, was not accepted by the MLOs.

In discussion with several MLOs, where the authors explored how their approach to the market will take shape in the future, a number of points emerged about the potential for a direct call to the island of Ireland:

- Securing a base cargo is essential and the minimum would be 100 units on and 100 units off (170 TEU on plus 170 TEU off).
- The Irish port needs to be capable of receiving a deep-sea ship. The current transatlantic ships have a capacity of 3000 TEUs. It should be noted that the Panama Canal will be enlarged to accommodate bigger ships in the future.
- The shipping lines do not see the transatlantic market as a discrete market but as an element of a global network. They will only look at a call in Ireland as part of an overall strategy, including serving the Far East, South Asia (India, Pakistan, etc) and elsewhere. Therefore a call in Ireland would need to be able to provide potential business to all markets, not just North America.
- There is a unanimous view that on the basis of existing schedules, no one has the spare time in their itinerary for an additional call to Ireland. Therefore a complete re-appraisal of their

operations by the MLOs would need to be undertaken as a prelude to securing a direct call. Otherwise feeder services will remain the only option.

- Ships en route to North America tend to go south about rather than north. Therefore a ship calling to Dublin or Belfast (or Liverpool) retraces its steps. The more southerly route is longer but is more favourable from the point of view of weather. This makes Cork or Foynes relatively attractive for an Irish call.
- Finally it is worth noting that the interest, among UK shipping lines, in the Irish market is much greater in those lines who call to west coast UK ports, compared to those using the traditional ports in the Southampton to Felixstowe area, although there are some noticeable exceptions to this.

4.6. Possible ways forward

4.6.1. The direct LoLo call

This appears to be an option only if it is effective as an attractive working element of a network that serves the entire European market in its trade not just with North America but also with Asia.

4.6.2. Improved feeder services

Consultation with exporters, importers and shipping industry sources in Ireland suggests that the use of Rotterdam or Antwerp as a trans-shipment point can add a week to an itinerary, even if all the links in the chain work. It is possible to improve on this if feeder traffic from the island of Ireland is channelled instead to a UK port being served by an MLO making a “last out – first in” on a transatlantic itinerary. On this basis, IF a reliable connection can be made with the UK port, then Irish traffic would get a faster through transit time than exporters or importers based in Rotterdam or Germany. A container discharged in Liverpool or Bristol on day 1 should be in Ireland 24 hours later, i.e. before the ship has berthed in Rotterdam. The same logic applies to export cargo.

To enable this to happen stronger feeder links from the island of Ireland to Liverpool, Bristol or another UK ports are needed. Liverpool is now served by at least five MLOs operating transatlantic services: ACL, CMA-CGM, ZIM, ICL and MSC.

Liverpool is currently linked to Dublin and Belfast by the Coastal LoLo services; there are 6 sailings each week to/from Dublin and 3 to/from Belfast. MSC currently links Dublin and Bristol once a week. Boxes are also carried on the P&O RoRo services between Dublin and Liverpool. There are also a number of daily RoRo services linking Northern Ireland and Scotland. This would provide an opportunity to “feed” traffic from Scotland into Belfast to link with a transatlantic service.

While there are reasonable connections between Dublin, Belfast and Liverpool, there are none between Cork or Waterford and Liverpool. Unless this gap is filled, exporters and importers in the south and south west of Ireland will still be dependent on feeder services to Rotterdam.

Some Lines noted that it is easier to feed through the UK than Rotterdam or Antwerp because there is a single port where containers are exchanged. In Rotterdam and to a lesser degree Antwerp, terminals can be a long way apart. Rotterdam has also experienced some labour unrest recently. Others advised that UK ports were more expensive than continental ports for trans-shipment. Certainly where an MLO operates its own hub terminal it is keener to trans-ship through that hub.

There are further landside costs that might be minimised by feeding, rather than having a direct call. This issue is examined below.

4.6.3. Landside costs in Ireland

The cost of feeding a 40ft or 45ft container from Ireland to the Continent is about €350 per unit (€250 for a 20 ft unit) as well as handling costs of about €100 per unit or €450 in total. We understand the cost of feeding across the Irish Sea is about €300, saving the Line about €150 per unit compared to running to the Continent. These rates apply to Cork, Dublin and Belfast.

The relative scale of these costs raises an interesting point. If a mother ship calls to Dublin then boxes for Belfast and Cork will need to be moved by road from Dublin. This will be expensive. We understand that the costs for delivering a container from Dublin to Belfast would be in the order of €350 or £ 250: the cost for delivering in Cork would be higher at €400 or £ 275. What this means is that any savings made, by putting the mother ship into one Irish port, may be lost by incurring additional costs in moving the box to that single port served by the transatlantic call.

If, however a feeder service to Cork, Dublin and Belfast is used, then landside costs (and environmental impact) would be minimised. In addition several Irish ports benefit instead of one. There is therefore an interesting counter argument that effective feeder services to/from a number of ports offer a more beneficial service than a direct call to one Irish port only.

4.6.4. RoRo Cargoes

Discussions with the MLOs also covered RoRo shipments. These confirmed that, at present, RoRo capacity on the North Atlantic is very limited and if any Irish exporter increases output, then existing services will be under pressure. In addition no existing operator has the spare time in the schedule to add a direct call to an Irish port (probably Belfast).

As was shown in Chapter 2 this is a crucial issue for Northern Ireland, where approximately 70% of exports by value are in the transport equipment sector, with much of this being RoRo traffic moving under its own steam and/or on low loaders. This is seen as a growth opportunity for Northern Ireland, provided the necessary reliability of service could be provided. But few Lines were interested in this business and there is some evidence that several ports do not want it, since RoRo traffic is difficult to handle in a dedicated LoLo terminal layout.

In our consultations with the MLOs we met one operator of transatlantic RoRo services who expressed a willingness to meet the major exporters of RoRo cargoes to North America in order to explore the possibility of a direct call to Belfast. (The Port of Belfast would be able to handle the particular ships involved.) This service could also accommodate some LoLo traffic. With several services operating into Belfast from Scotland, this might also open an opportunity to attract some Scottish import and export trade to Belfast.

4.6.5. How to improve services

The Terms of Reference state that this report should “provide a tool to enable Irish based manufacturers, particularly those trading with North America to improve their Supply Chain Competitiveness”. On foot of this study and the associated consultations the IEA should have a solid basis for undertaking negotiations with the MLOs to ensure both that feeder services connect, more efficiently, with mother ships through the “last port out first port in” and that Irish exporters no longer pay a premium for so doing. With five Lines now operating out of Liverpool and with Bristol chasing more than one operator, the opportunity to switch Irish cargo to the fastest routing should not be lost. In addition with a potential volume of up to 34,000 export TEUs from the island of Ireland, this is a market worth chasing; it is also of sufficient critical mass to negotiate rates so that the use of the “last port out” does not attract a premium. In particular it should be noted that

- it is cheaper to feed a box to Liverpool or WCUK than to Rotterdam, so the Line saves money using the last port out.
- It is in the interest of the MLOs to improve logistics links between the island of Ireland and North America, if only to compete with the air freight market which has enjoyed considerable growth in the last 5 years, and to offer Irish exporters and importers the transport / logistics system they require in order to develop further the potential of the US and Canadian markets.

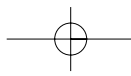
4.7 Summary

While sufficient traffic exists to justify a direct call by a transatlantic operator, there is no slack in any existing schedule to allow an extra call in Ireland. The MLOs also feel that their entry to the market, at the moment, would provoke a strong competitive response by the feeder operators who would simply reduce their rates in order to retain their existing business.

There is a better chance of attracting a RoRo or trade car carrier into Belfast to cater for the RoRo cargoes coming out of Northern Ireland.

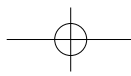
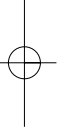
There is, however, a willingness by several MLOs to re-consider feeder links so as to connect with the last port out – first port in. Historically this has been Liverpool which has managed to secure a rate premium for such a service capability, but with more Lines coming to that port, this rate premium appears to be under pressure. There is therefore the prospect that Irish exports to the NE coast of N America may soon enjoy a reliable 10 – 12 day transit service, but at the same price as presently enjoyed through Rotterdam.

There is also interest on the part of one transatlantic RoRo operator in exploring the option of a call to Belfast to pick up NI's critical RoRo exports to North America. There is also interest among the Irish Sea RoRo operators in running additional and dedicated services between Ireland and Liverpool to cater for this business.



CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS



5. CONCLUSIONS AND RECOMMENDATIONS.

5.1. The size of the potential market

The North American market in value terms is very important to the island of Ireland. It accounts for about 19% of all RoI exports by value and 13% of imports. The situation in Northern Ireland is similar, with North America accounting for almost 20% of all exports and 14% of all imports. The significance of this market was confirmed by the "Export Ireland Survey 2006" which ranked it as the largest market outside the EU and the one with the highest growth potential.

In tonnage terms North America is a mature export market; this is demonstrated by its rather flat profile over the last five years. It should be noted, however, that the air freight sector has enjoyed considerable growth in the last three years.

Official sources of data suggest that external trade between the island of Ireland and North America (in TEUs) is as follows:

Table 5.1 Container traffic on the N Atlantic 2005 TEU

	Exports	Imports
Republic of Ireland	18,300	19,700
Northern Ireland	2,700	2,700
Total	21,000	22,400

Source: derived from CSO and UK Trade Information data

The IITI survey and feedback from the market place suggest, however, that this understates the market size. On the basis of these sources the export market is a good deal larger. This is shown in Table 5.2 below.

Table 5.2 Survey Results of Identified Exports to N America TEUs

Origin	TEU	RO-RO units
Republic of Ireland	22,289	-
Northern Ireland	15,870	4,650
Total	38,159	4,650

Source: IITI/IEA Survey 2006

5.2. Improving the service for exporters

While the present system of using feeder services to trans-ship freight to North America generally seems to meet the needs of Irish exporters, it is recognised that the longer transit time and the additional cost place them at a competitive disadvantage.

Improvements can be effected through two mechanisms: either a Main Line Operator can introduce a direct call into one Irish port or feeder links can be improved.

In our view, the minimum “guaranteed” cargo necessary to secure a direct call exists, but this alone is insufficient to secure a direct call. None of the existing operators have sufficient “slack” in their schedule to accommodate a call to Ireland and our consultation with them indicates that they are not willing to drop a call to another port in order to divert to an Irish port. The view was also expressed that potential Irish customers of a direct service would be subject to enticing and persuasive offers to remain with existing carriers and that transatlantic rates were already under pressure.

In the absence of a direct call, the enhancement of feeder services from Ireland offers a more realistic way of enhancing transport links with the North American market. Several lines expressed an interest in improving feeder links to the “last port out; first port in”, generally in the UK. Such a system should reduce transit time to the North East coast of N America from about 17 days to 10-12 days. Whilst at present Liverpool can get a premium for transatlantic cargo, this premium is expected to disappear as more MLOs operate out of the UK west coast. As noted in chapter 4 we believe that the Irish Exporters Association might usefully exert its “purchasing power” to seek to bring down rates out of the UK west coast. It is also in the MLO’s interest to shorten and improve logistics links between Ireland and North America, if only to compete with an aggressive but effective airfreight market.

The position for RoRo cargoes is different, with both official data and the IITI survey confirming that the export of transport equipment from Northern Ireland, in particular is crucial and that a significant part of this is RoRo trade which cannot be carried on a cellular container ship. The prime transatlantic RoRo link – the ACL service out of Liverpool - is currently full and therefore cannot easily accommodate any increased exports from Northern Ireland. It appears, however, that at least one other RoRo operator may be interested in calling directly to Belfast to pick up some or all of this cargo. The survey indicates that there is also some RoRo cargo originating in the Rep of Ireland.

It is also clear that the size of ship trading on the Irish Sea will increase, with 2,000 TEU feeder ships already being considered for a call in Dublin. The order book for new container ships, likewise, shows a strong bias towards larger ships; there are no small containerships of less than 500 TEUs on order. Cork, Dublin and Belfast all need to be able to handle these larger ships. The accelerating increase in ship size is also forcing shipping lines to look at port locations which have access to deep water. In this context Foynes may provide potential for development.

As ships are increasing in size and container volumes are growing, there remains the problem of moving increasing numbers of containers through major port-cities like Belfast, Dublin and Cork. Rail may have a role to play, even on such short haul flows. The port investment required, plus the potential use of rail within the island of Ireland to divert the distribution of containers from the ports away from congested urban roads, are matters that might be considered at the highest level. Feeding containers to and from Ireland offers the opportunity to maximise use of maritime transport and minimise road haulage.

Discussion of this issue at national level may be timely as ports policy is currently being reviewed in the UK and the provision of additional unitised capacity is also being assessed by the Dept of Transport in Ireland¹⁸.

5.3 The Next Steps

The consultations undertaken in the course of this study have introduced, to the agenda of the transatlantic shipping sector, the need for better services to the Irish exporters who wish to strengthen their competitiveness in the North American market. Through the IEA discussions, with particular operators, could be pursued to secure improvements in LoLo and RoRo feeder services. There are some specific opportunities which could be explored such as:

- A regular call by a transatlantic RoRo operator to Belfast to meet the needs of the critical NI machinery and equipment sector
- Calls to Belfast by a RoRo operator that would provide a “feeder” link to Liverpool.

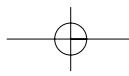
¹⁸ Information paper issued by the Dept of Transport and based on the report of Fisher Associates regarding future seaport capacity requirement for unitised trade in Ireland.

- The provision of better feeder services to ports like Liverpool and Southampton which serve as “last out: first in” on the transatlantic itinerary.

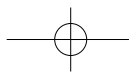
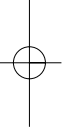
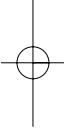
The network of LoLo services is an ever-changing one. To ensure that Irish exporters have access to up to date itineraries the IEA might usefully undertake the creation and maintenance of a live database of North Atlantic services.

The issue of the ship size was reviewed in this report from a number of angles: reference was made to the increasing size of the world LoLo fleet as well as to the capacity limitations of Irish ports. It is vital for the economy of the island of Ireland that Irish ports are developed to accommodate the larger LoLo vessels which are beginning to be deployed on the feeder services. To ensure their timely capacity to accommodate larger container ships (even in the context of feeder services) the ports will need to provide berths of sufficient length and depth. The LoLo sector is highly flexible and manoeuvrable and will not wait around for ports to provide the appropriate infrastructure.

In the absence of confirmation of the market to attract a direct call to Ireland by a transatlantic service we were asked to suggest what might trigger a re-examination of this subject. A significant increase in traffic volumes and/or a change in the shipping patterns of the MLOs might prompt another look at this issue.



APPENDICES



APPENDIX A
Questionnaire sent to Exporters and Importers

A1. **What is your company name?**

.....

A2. **Respondent's name**

Title

Phone no.

E-mail address.

Website:

A3. **Please indicate in which of the following broad industry sectors you would classify your company**

Agriculture, forestry, fishing	1
Construction	2
Drinks Industry	3
Food Industry	4
ICT Industry	5
Manufacturing	6
Mining/quarrying	7
Pharmaceutical Industry	8
Retail distribution	9
Software Industry	10
Wholesale distribution	11
Other company (please specify)	12

B1. **Please indicate your 2005 export breakdown (in tonnes & value) to the following markets ?**

(Please tick your chosen circle)

Destination	Tonnage	FOB value(€)
Great Britain	—	—
Rest of Europe	—	—
United States	—	—
Latin America	—	—
Canada	—	—
Asia	—	—

B2. **Please indicate your 2005 import breakdown (in tonnes & value) from the following markets ?**

(Please tick your chosen circle)

Destination	Tonnage	FOB value(€)
Great Britain	—	—
Rest of Europe	—	—
United States	—	—
Latin America	—	—
Canada	—	—
Asia	—	—

.....

B3. **Please indicate approx. % breakdown by Transport mode of tonnage shipped to each of the following destinations in 2005**

Specify more than one if applicable

Destination	LO-LO Cont.	RO-RO Unit.	Conv. Stow.	Airfrt/
UK	—	—	—	—
Continental Europe	—	—	—	—
USA	—	—	—	—
Latin America	—	—	—	—
Canada	—	—	—	—
Asia	—	—	—	—

B4. **During 2005, did your export volume:**

	0-5%	5-10%	10+%
Increase by	0	0	0
Decrease by	0	0	0
Stay the same	yes 0	no 0	

B5. **Do you expect your volume in 2006 to:**

	0-5%	5-10%	10+%
Increase by	0	0	0
Decrease by	0	0	0
Stay the same	yes 0	no 0	

B6. What type of items do you source overseas?

Raw materials	1
Finished goods	2
Components	3

B7. What percentage, in terms of tonnage, of goods used or sold, do you source from overseas?

None	0
0-10%	0
11-25%	0
26-50%	0
51-75%	0
76-99%	0
All	0

B8. Please break down by shipping mode % of goods imported in tonnes overseas?

Source	Tonnage			
	LO-LO	RO-RO	Conv.	Air.
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

B9. In the Medium Term (3-5 years), do you see any major opportunities to develop Export / Sourcing activities to/from:

Country	Export Activities		Sourcing Activities	
	Yes	No	Yes	No
Great Britain	Yes	No	Yes	No
Continental Europe	Yes	No	Yes	No
USA	Yes	No	Yes	No
Latin America	Yes	No	Yes	No
Canada	Yes	No	Yes	No
South America	Yes	No	Yes	No
Asia	Yes	No	Yes	No

C1(a) What are your normal terms of shipment on export goods shipped by sea

Destination	ex works	FOB	CIF	DDU
		Irish Port	Dest. Port	
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

C1(b) What are your normal terms of shipment on goods imported by sea

Destination	ex works	FOB	CIF	DDU
		Source Port	Irish Port	
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

C2(a) What are your normal terms of shipment on exported goods shipped by air

Destination	ex works	FOB	CIF	DDU
		Ir. A'port	Dest. A'port	
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

C2(b) What are your normal terms of shipment on goods imported by air

Destination	ex works	FOB	CIF	DDU
		Source A'port	Irish A'port	
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

C3. Rank in terms of volume the most used destination Ports in USA and Canada (higher volume ranks (1) etc.)

- Montreal _____
- Halifax _____
- New York _____
- Baltimore _____
- Charleston _____
- New Orleans _____
- San Juan _____
- Los Angeles _____
- Norfolk _____
- Houston _____
- Other (please specify) _____

C4. Rank in terms of volume the most used European transshipment Ports (higher volume ranks (1) etc.)

- Liverpool _____
- Southampton _____
- Le Havre _____
- Zeebrugge _____
- Antwerp _____
- Rotterdam _____
- Hamburg _____
- Shipped direct _____
- Other (please specify) _____

C5. Do you deliver product to your Customers' designated North American Distribution Centres?

Yes No

C6. Where are your main export destinations in:
 Tick one destinations in USA and one destinations in Canada

- Canada.
- (1) USA,
- East Coast _____
 - Gulf _____
 - Mid-West _____
 - Mid-US _____
 - West Coast _____
- (2) Canada.
- East Coast _____
 - Middle _____
 - West Coast _____

C7(a) Do you have a nominated Freight Forwarder for your North American Traffic? (tick as appropriate)

- Mode yes no
- Seafreight yes no
- Airfreight yes no

C7(b) Rank in order of tonnage the principal forwarders you use (1 for most used etc.)

	Seafreight	Airfreight
ABX	_____	_____
BAX Global	_____	_____
DHL / Danzas	_____	_____
Campbell Freight	_____	_____
Celtic Forwarding	_____	_____
Excel	_____	_____
FransMaas / DFDS Transport	_____	_____
IWT	_____	_____
IPS	_____	_____
IEC	_____	_____
Jenkinson Jones	_____	_____
Kuehne + Nagel	_____	_____
Schenker	_____	_____
Other Please Specify	_____	_____

C8. Is your choice of freight routing influenced by?

(Tick more than one if applicable)

- Your Customer 1
- Your Corporate Shipping Plan 2
- The Shipping Conference 3
- Your Freight Forwarder 4
- Cost 5
- Transit Time 6

C9(a) Exports shipped in Container (LO-LO)
 Specify container size and type.
 (Tick more than one if applicable)

Destination	20ft.std.	40ft.std.	45ft.std.	Other.
USA	-	-	-	-
Canada	-	-	-	-
Latin America	-	-	-	-
South America	-	-	-	-
Asia	-	-	-	-

C9(b) **If "other" please specify % in such equipment)**
(Specify more than one if applicable)

Destination	20ft. Reefer	40ft. Reefer	20ft. Flat	40ft. Flat	Other
USA	—	—	—	—	—
Canada	—	—	—	—	—
Latin America	—	—	—	—	—
South America	—	—	—	—	—
Asia	—	—	—	—	—

Note: "Reefer" includes any form of Temperature controlled equipment. "Flat" includes any other non-standard equipment that conforms to ISO Standard.

C10(a) **Imports shipped in Container (LO-LO)**
Specify container size and type.
(Tick more than one if applicable)

Origination	20ft.std.	40ft.std.	45ft.std.	Other.
USA	—	—	—	—
Canada	—	—	—	—
Latin America	—	—	—	—
South America	—	—	—	—
Asia	—	—	—	—

C10(b) **If "other" please specify % in such equipment)**
(Specify more than one if applicable)

Origination	20ft. Reefer	40ft. Reefer	20ft. Flat	40ft. Flat	Other
USA	—	—	—	—	—
Canada	—	—	—	—	—
Latin America	—	—	—	—	—
South America	—	—	—	—	—
Asia	—	—	—	—	—

C11. **Exports shipped by RO-RO to USA and Canada**
(Select more than one if applicable)

(a). Size and Weight of pieces.
Length(m) Width(m) Height(m) Weight.
(kg)
Normal pieces — — — —
Small pieces — — — —
Large pieces — — — —

(b). Are these pieces normally shipped on Ocean Vessel,
- on mafs / flats yes O no O
- on their own wheels yes O no O

C12. **Imports shipped by RO-RO from USA and Canada**
(Select more than one if applicable)

(a). Size and Weight of pieces.
Length(m) Width(m) Height(m) Weight.
(kg)
Normal pieces — — — —
Small pieces — — — —
Large pieces — — — —

(b). Are these pieces normally shipped on Ocean Vessel,
- on mafs / flats yes O no O
- on their own wheels yes O no O

C13. **Exports shipped as Conventional / Bulk Cargo to USA and Canada**
(Select more than one if applicable)

(a). Size and Weight of pieces.
Length(m) Width(m) Height(m) Weight.
(kg)
Normal pieces — — — —
Small pieces — — — —
Large pieces — — — —

(b). What is the average weight of shipment?
(tonnes) _____
(c). Is the cargo shipped from Irish Port or is it transhipped?
Direct 1
Transhipped 2

C14. **Imports shipped as Conventional / Bulk Cargo from USA and Canada**
(Select more than one if applicable)

(a). Size and Weight of pieces.
Length(m) Width(m) Height(m) Weight.
(kg)
Normal pieces — — — —
Small pieces — — — —
Large pieces — — — —
(b). What is the average weight of shipment?
(tonnes) _____

(c). Is the cargo shipped from Irish Port or is it transhipped?

Direct	1
Transhipped	2

C15(a). Please indicate current average cost (including surcharges etc.) for unitised seafreight exporters ex FOB Irish Ports to North American Ports.
(Select more than one if applicable)

20ft Standard	Reefer	Flat
€ _____	€ _____	€ _____
40ft Standard	Reefer	Flat
€ _____	€ _____	€ _____
45ft Standard	Reefer	Flat
€ _____	€ _____	€ _____

C15(b). Please indicate current average cost (including surcharges etc.) for unitised seafreight imports, ex FOB North American Ports to Irish Ports.
(Select more than one if applicable)

20ft Standard	Reefer	Flat
€ _____	€ _____	€ _____
40ft Standard	Reefer	Flat
€ _____	€ _____	€ _____
45ft Standard	Reefer	Flat
€ _____	€ _____	€ _____

C15(c). Please indicate current average cost (including surcharges etc.) for conventional and ro-ro exports per tonne/cubic metre ex FOB Irish Ports to North American Ports.

€ _____

C15(d). Please indicate current average cost (including surcharges etc.) for conventional and ro-ro imports per tonne/cubic metre ex FOB North American Ports to Irish Ports.

€ _____

C15(e). Please indicate current average cost (including surcharges etc.) for airfreight exports per kilo ex Irish Airports to North American Airports.

€ _____

C15(f). Please indicate current average cost (including surcharges etc.) for airfreight imports per kilo ex North American Airports to Irish Airports.

€ _____

D1. Please rank in order your main concerns about supplying your North American Customers from Ireland?
(No.1 for highest concern etc)

Transport Costs	_____
Availability of Ship/Aircraft	_____
Availability of appropriate freight carrying equipment	_____
Customs and Security Compliance	_____
Port Congestion	_____
Inland Transport delays	_____
Other (please specify)	_____

D2. Please rank in order of importance the optimal Shipping Solution to enable you to provide competitive delivery to customers in USA and Canada
(No.1 for highest concern etc)

(a). Routing

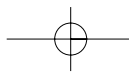
(b). Type of Ship / Aircraft

(c). Container and other equipment type.

(d). Service frequency.

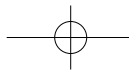
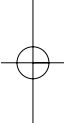
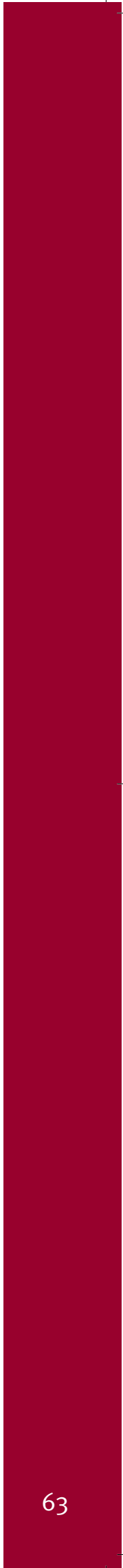
D3. Do you feel that you are at a competitive disadvantage compared with firms based in mainland Europe and the UK who have access to direct shipping services to North America?

yes no
yes no



D4. How many containers do you ship each year to North America?

Further Comments:



Appendix B

Assumptions used in the economic review in Chapter 2

Basic Assumptions for EU Commission's Autumn forecasts				
	2006	2007	2008	2009
USD/€ exchange rate	1.25	1.27	1.27	1.27
Nominal effective exchange rate (% change)	0.5	0.4	0.1	0.1
World GDP growth (excl. EU) (%)	5.7	5.2	5.2	5.2
EU25 GDP growth (%)	2.8	2.4	2.4	2.4
Growth of relevant foreign markets (%)	9.9	6.4	6.1	6.1
World import volumes (excl. EU) (%)	9.1	8.3	7.9	7.9
Oil Prices (Brent, USD/Barrel)	65.6	66.3	68.0	68.0

Source: European Commission, "Economic Forecasts, Autumn 2006", European Economy, n° 5, 2006.

Main Sources to which reference is made in Chapter 2

1. Globalisation Index, Foreign Policy Magazine, May/June 2005.
2. European Commission, "The EU Economy: 2005 Review", EUROPEAN ECONOMY, No.6, 2005, Brussels.
2. European Commission "Economic Forecasts: Autumn 2006", EUROPEAN ECONOMY, No.5, 2006, Brussels.
4. Department of Finance, "Ireland – Stability Programme Update", December 2006, Dublin
5. Organisation for Economic Co-operation and Development (OECD), "Economic Outlook", 28 November 2006, Paris.
6. NI Department of Enterprise, Trade and Investment, "The Northern Ireland Economic Bulletin 2006", June 2006, Belfast.
7. UK Office for National Statistics, "UK Population Projections", 20 October 2005, London.

Appendix C

Table C.1 Transatlantic Liner Services

Table C.2 Size of transatlantic ships

Table C.1 Transatlantic Liner Services

Line	Partners	Route	EU Ports	
APL	ATS	Maersk, NW Alliance	Rotterdam, Felixstowe, Bremerhaven	
	NUE	Evergreen, NW A,	Antwerp, Bremerhaven, Thamesport, Rotterdam	
	EMX	Maersk, NW Alliance, MSC	Antwerp, Bremerhaven, Rotterdam	
Atlantic Cargo	Atlanticargo	Europe - Charleston - Gulf v.v.	Tilbury, Bremen, Rotterdam	
ACL (Grimaldi)	Star Shpg	Europe - WC US v.v.	Antwerp	
	Hapag Lloyd	Europe - Halifax, NY, Baltimore Portsmouth v.v	Liverpool, Antwerp, Bremerhaven	
	Hapag Lloyd	Europe - Halifax, NY, Norfolk, Savannah	Thamesport, Bremerhaven, Rotterdam	
	Hapag Lloyd	Europe - ECNA - Gulf v.v.	Thamesport, Bremerhaven, Rotterdam	
CMA CGM	Hapag Lloyd	Europe - NY, Norfolk v.v.	Hamburg, Rotterdam, Antwerp	
	TransATN	Eur - NY, Baltimore, Norfolk	Antwerp, Bremerhaven, Le Havre	
COSCO	RTWWB	West bound RTW (NY, Norfolk, Savannah)	Tilbury, Hamburg, Rotterdam, Le Havre	
	TA1	Eur - New York, Charleston, Norfolk v.v	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
	ATX/SGX	Eur - ECNA and USG v.v.	Hamburg, Rotterdam, Antwerp, Southampton	
CHKY	GAS	Eur - Houston, Charleston, N orleans, Norfolk	Antwerp, Thamesport, Bremerhaven	
	TA1	Eur - New York, Charleston, Norfolk v.v	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
CP Ships (Hapag Lloyd)	NE1	OOCL, Maersk, CMA, HL, MSC	Thamesport, Antwerp, Le Havre	
	NE2	OOCL, HL	Antwerp, Hamburg	
	NE3	OOCL	Liverpool, Antwerp	
	USNE1	HL, NYK, OOCL,	Hamburg, Rotterdam, Antwerp, Le Havre, Southampton	
	USNE2		Antwerp, Thamesport, Bremerhaven, Rotterdam	
	Eur/med/US		Tilbury, Rotterdam, La Spezia, Zeebrugge, etc	
	Gulf/NE1	HL, OOCL, ACL, CHKY	Antwerp, Thamesport, Bremerhaven	
	Gulf/NE2	HL, OOCL, ACL, CHKY	Antwerp, Le Havre, Bremerhaven	
	Evergreen	NUE	E Asia - Europe - E asia pendulum	Antwerp, Bremerhaven, Thamesport, Rotterdam
	Gold Star	RTW WB	RTW - NY, Norfolk, Charleston, Long Beach	Felixstowe, Rotterdam, Hamburg
Grand Alliance	PAX	All US - Eur - all US	Thamesport, Bremerhaven, Rotterdam	
	ATX/SGX		Hamburg, Rotterdam, Antwerp, Southampton	
Hapag, CP, NYK, OOCL	GAS	Eur - ECNA and USG v.v.	Antwerp, Thamesport, Bremerhaven	
	GAX	plus Cosco, K Line, Yang Ming		
Hanjin	TA1	Cosco, K Line, Yang Ming, Zim	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
	APX (ECS/CN)	APL, Maersk, MOL	Rotterdam, Bremerhaven, Felixstowe, Le Havre	
Hyundai	ATS	Maersk, APL, MOL	Rotterdam, Bremerhaven, Felixstowe	
	Independent Cont. Line		Antwerp, Liverpool	
K Line	TAS1	Hanjin, Cosco Yang Ming, Zim	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
	GAS	plus Cosco, Yang Ming	Antwerp, Thamesport, Bremerhaven	
Maersk	ATX/SGX	Hapag L, OOCL, Cosco, YM, K	Hamburg, Rotterdam, Antwerp, Southampton	
	TA1	New World Consortium	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
	TA2		Rotterdam, Felixstowe, Bremerhaven	
	TA3		Eur - ECUS Newark Charleston	
	TA4	MSC, APL, CMA	Eur/ECU\$Montrael	
	GEX-1	HL, OOCL	Montreal to Europe	
MSC	N Eur/US	CMA	Eur/ECU\$Boston, NY, Baltimore, Norfolk	
	N Eur/gulf	CMA	Eur/ Gulf Mexico v.v.	
	GEX 1	HL, OOCL	ECNA/Eur/ECNA	
MOL	APX	Hyundai, Maersk, APL	Rotterdam, Bremerhaven, Felixstowe, Le Havre	
	ATS	Maersk, APL, Hyundai	Rotterdam, Bremerhaven, Felixstowe	
Norasia	RTW WB	CMA, Gold Star	Felixstowe, Rotterdam, Hamburg	
	SLCS 1	HL Maersk, MSC	Thamesport, Antwerp, Le Havre	
	SLCS 2	HL Maersk, MSC	Antwerp, Hamburg	
St Lawrence Co-ord	SLCS 3	HL Maersk, MSC	Liverpool	
	Yang Ming	TA1	Felixstowe, Bremerhaven, Rotterdam, Le Havre	
Zim	GAS	Hanjin, Cosco, K Line, Zim	Antwerp, Thamesport, Bremerhaven	
	ATX/SGX	plus Cosco, K Line	Hamburg, Rotterdam, Antwerp, Southampton	
	TAS 1	Hapag L, OOCL, Cosco, YM, K	Felixstowe, Bremerhaven, Rotterdam, Le Havre	

Table C.2.

Size of Transatlantic Fleet

Line	Partners	Route	Ship Size
APL	ATS NUE EMX	Maersk, NW Alliance Evergreen, NW A, Maersk, NW Alliance, MSC	US Gulf + Norfolk / NW Europe / US Gulf E Asia - Europe - E asia pendulum Europe - Canada - europe
Atlantic Cargo	Atlanticargo Star Shpg		Europe - Charleston - Gulf v.v. Europe - WC US v.v. BC M 1950 TEU BC M 1950 TEU
ACL (Grimaldi)		Hapag Lloyd Hapag Lloyd Hapag Lloyd Hapag Lloyd	Europe - Halifax, NY, Baltimore Portsmouth v.v. Europe - Halifax, NY, Norfolk, Savannah Europe - ECNA - Gulf v.v. Europe - NY, Norfolk v.v. RC 2908 TEU
CMA CGM	TransATN RTWWB	MSC Hapag L, Hamburg sud	Eur - NY, Baltimore, Norfolk West bound RTW (NY, Norfolk, Savannah) FC 2226 TEU
COSCO	TA1 ATX/SGX GAS	Hanjin, K Line, Yang Ming, Zim Hapag L, OOCL, Cosco, YM, K Hapag L, OOCL, Cosco, YM, K	Eur - New York, Charleston, Norfolk v.v. Eur - ECNA and USG v.v. Eur - Houston, Charleston, N orleans, Norfolk FC 3330 TEU
CHKY	TA1	Hanjin, K Line, Yang Ming, Zim	Eur - New York, Charleston, Norfolk v.v. FC 3330 TEU
CP Ships (Hapag Lloyd)	NE1 NE2 NE3 USNE1 USNE2 Eur/med/US	OOCL, Maersk, CMA, HL, MSC OOCL, HL OOCL HL, NYK, OOCL, HL, OOCL, ACL, CHKY HL, OOCL, ACL, CHKY	Montreal - N Europe Montreal - N Europe Montreal - N Europe Eur - NY, Norfolk Eur - Halifax, NY, Norfolk, Savannah v.v. Eur - NY, Norfolk, Savannah, Philadelphia Eur - USG v.v. FC 4100 TEU FC 3000 TEU FC 1600 TEU FC 2900 TEU
Evergreen	Gulf/NE1 Gulf/NE2	HL, OOCL, ACL, CHKY HL, OOCL, ACL, CHKY	Eur - USG v.v. Eur - USG + Mexico v.v. FC 3000 TEU FC 3300 TEU
Gold Star	NUE	APL, NW alliance	E Asia - Europe - E asia pendulum FC 4200 TEU
Grand Alliance	RTW WB	Norasia, GSL, China Shpg	RTW - NY, Norfolk, Charleston, Long Beach FC 3000 TEU
Hapag, CP, NYK, OOCL	PAX ATX/SGX GAS GAX	ACL plus Cosco, K Line, Yang Ming plus Cosco, K Line, Yang Ming plus Cosco, K Line, Yang Ming	All US - Eur - all US Eur - ECNA and USG v.v. Eur - Houston, Charleston, N Orleans, Norfolk FC 4600 TEU FC 2900 TEU
Hanjin	TA1	Cosco, K Line, Yang Ming, Zim	Eur - New York, Charleston, Norfolk v.v.
Hyundai	APX (ECS/CNY) ATS	APL, Maersk, MOL Maersk, APL, MOL	Pendulum Asia/USG/ECUS/Eur v.v. USG/Charleston, Norfolk Eur v.v. FC 1500 TEU
Independent Cont. Line			Chester/ Richmond and to Europe FC 1500 TEU
K Line	TAS1 GAS ATX/SGX	Hanjin, Cosco Yang Ming, Zim plus Cosco, Yang Ming Hapag L, OOCL, Cosco, YM, K	Eur - New York, Charleston, Norfolk v.v. Eur - Houston, Charleston, N Orleans, Norfolk Eur - ECNA and USG v.v. FC 2875 TEU
Maersk	TA1 TA2 TA3 TA4 GEX-1	New World Consortium New World Consortium MSC, APL, CMA HL, OOCL	Transatlantic sector only USGC/ECNA/Eur and v.v. Houston, Charleston, Norf Eur - ECUS Newark Charleston Eur/ECUS Montrael FC 3460 TEU FC 2500 TEU FC 2732 TEU
MSC	N Eur/US N Eur/gulf GEX 1	CMA CMA HL, OOCL	Montreal to Europe Eur/ECUS Boston, NY, Baltimore, Norfolk Eur/ Gulf Mexico v.v. ECNA/Eur/ECNA FC 3500 TEU FC 5060 TEU
MOL	APX ATS	Hyundai, Maersk, APL Maersk, APL, Hyundai	Pendulum Asia/USG/ECUS/Eur v.v. USG/Charleston, Norfolk Eur v.v. FC 4400 TEU
Norasia	RTW WB	CMA, Gold Star	RTW - NY, Norfolk, Charleston, Long Beach FC 3000 TEU
St Lawrence Co-ord	SLCS 1 SLCS 2 SLCS 3	HL Maersk, MSC HL Maersk, MSC HL Maersk, MSC	Montreal Montreal Montreal FC 4100 TEU FC 3000 TEU FC 1600 TEU
Yang Ming	TA1 GAS ATX/SGX	Hanjin, Cosco, K Line, Zim plus Cosco, K Line Hapag L, OOCL, Cosco, YM, K	Eur - New York, Charleston, Norfolk v.v. Eur - Houston, Charleston, N Orleans, Norfolk Eur - ECNA and USG v.v. FC 3110 TEU
Zim	TAS 1	Hanjin, Cosco Yang Ming, K line	Eur - New York, Charleston, Norfolk v.v.

