VOLUME 18

THE IRISH MARITIME TRANSPORT ECONOMIST

Irish Maritime Development Office

The Irish Maritime Development Office

The Irish Maritime Development Office (IMDO) is Ireland's national development, promotional and marketing agency for the shipping and shipping services sector.

The IMDO is the Irish government agency which provides support to national and international maritime businesses in Ireland. It is the aim of the IMDO to be the focal point for maritime business in Ireland. The IMDO provides the government and industry with a range of information and reporting across the sector and works with international businesses to help them set-up or expand in Ireland. The IMDO is also Ireland's designated Shortsea Shipping Agency and provides independent advice and guidance on EU funding initiatives.

The IMDO was established by the Fisheries (Amendment) Act 1999, as part of the Marine Institute, under an amendment to the marine Institute Act 1991 in December 1999. The IMDO commenced operations in July 2000. After a subsequent amendment in the Harbours (Amendment) Act 2009, its legislative mandate includes the following functions:

1. To promote and assist the development of Irish shipping and Irish shipping services and seafarer training.
2. To liaise, with, support and market the shipping and shipping services sector.
3. To advise the Minister for Transport on the development and co-ordination of policy in the shipping and shipping services sector so as to protect and create employment.
4. To carry out policy as may be specific by the Minister for Transport relating to the shipping and shipping services sector and seafarer training.
5. To advise the Minister for Transport on the development and co-ordination of policy and to carry out policy, as may be specified by that Minister, relating to ports and the ports services sector.
6. To carry out additional functions relating to the shipping and shipping services sector conferred on the Institute under section 4(4) of this Act.

Shipping services is defined as; sea routes, ship management, technical management, commercial management, crew management, ship finance and mortgages, marine insurance, maritime legal services, shipbroking and ship chartering.

Editorial Team: Daniel Fallen Bailey, Darragh Treacy

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Published by:

Irish Maritime Development Office,
Three Park Place
Upper Hatch Street,
Dublin 2,
D02 FX65

Tel: +353 1 775 3900
www.imdo.ie
info@imdo.ie

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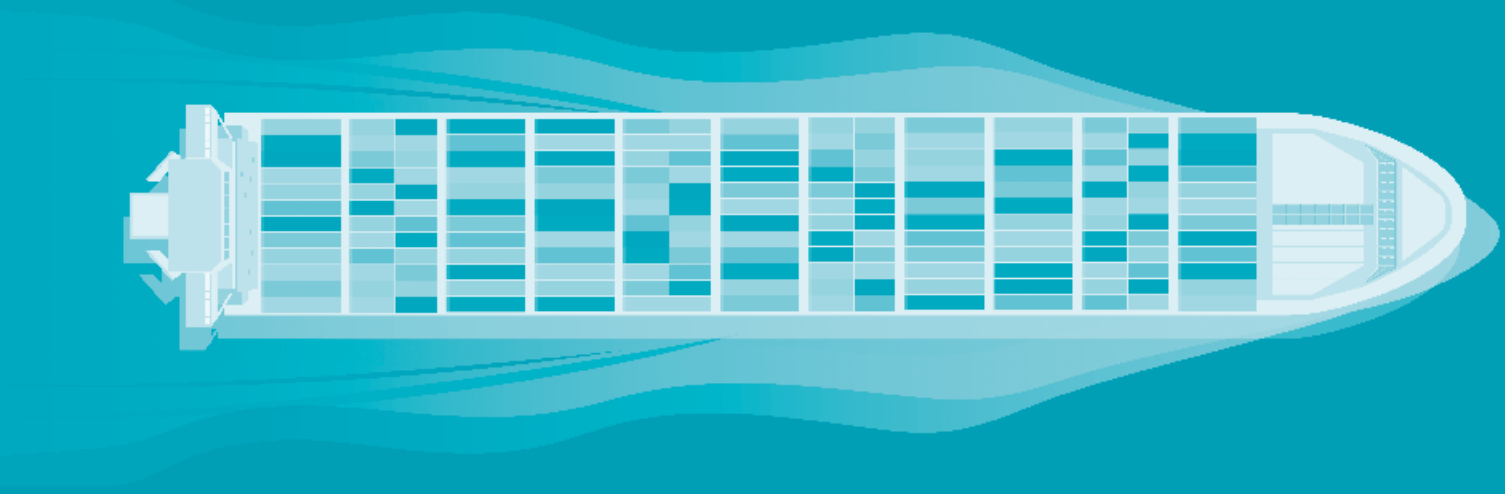
Contents

Contents

Ministerial Foreword



I am pleased to provide the foreword for this, the 18th edition of the Irish Maritime Transport Economist, which reports on the performance of Ireland's maritime industry for 2020. This publication forms part of an invaluable time series that allows volumes and trends in the Irish maritime industry to be monitored, analysed and understood. The value of this work, which is carried out by the Irish Maritime Development Office (IMDO), was brought into sharp relief in 2020 as my Department dealt with the unprecedented impacts that the COVID-19 pandemic and Brexit had on the maritime industry. This publication, and the rigorous research behind it, provides a reliable evidence base on which to develop policy responses and served us well in addressing the challenges of the past year.

The year under review was marked by the outbreak of COVID-19 in Ireland at the end of Q1. The impacts of the pandemic were felt throughout the maritime industry, especially in the RoPax sector, where both passenger and freight volumes were suppressed by the restrictions introduced by the Government in the interest of public health. The Department of Transport acted quickly in Q2, through the implementation of Public Service Agreements (PSAs), to stabilise the RoPax sector and maintain connectivity to international markets. With the recovery of freight volumes in the second half of the year, the PSAs were no longer required and were terminated at the beginning of Q3.

RoRo and LoLo volumes for 2020 were in line with 2019 levels, notwithstanding the negative effects of the pandemic on these sectors in the first half of the year. The recovery in RoRo and LoLo volumes in the second half of the year is attributable to stockpiling activities in Q4. Volumes through our ports surged as traders prepared for the UK's departure from the EU in January 2021. Total bulk traffic fell by 5% in the year, mainly as a result of reduced demand for transport fuels. However, the volume of RoRo and LoLo traffic handled by Irish ports in Q4 exceeded all previous levels, driving the IMDO's iShip Index, which is an aggregate measure of port volumes, to a record 1,068 points. I commend all stakeholders who contributed to the recovery in freight volumes in the second half of the year and would like to express my appreciation for their efforts in keeping trade routes open during a very challenging period.

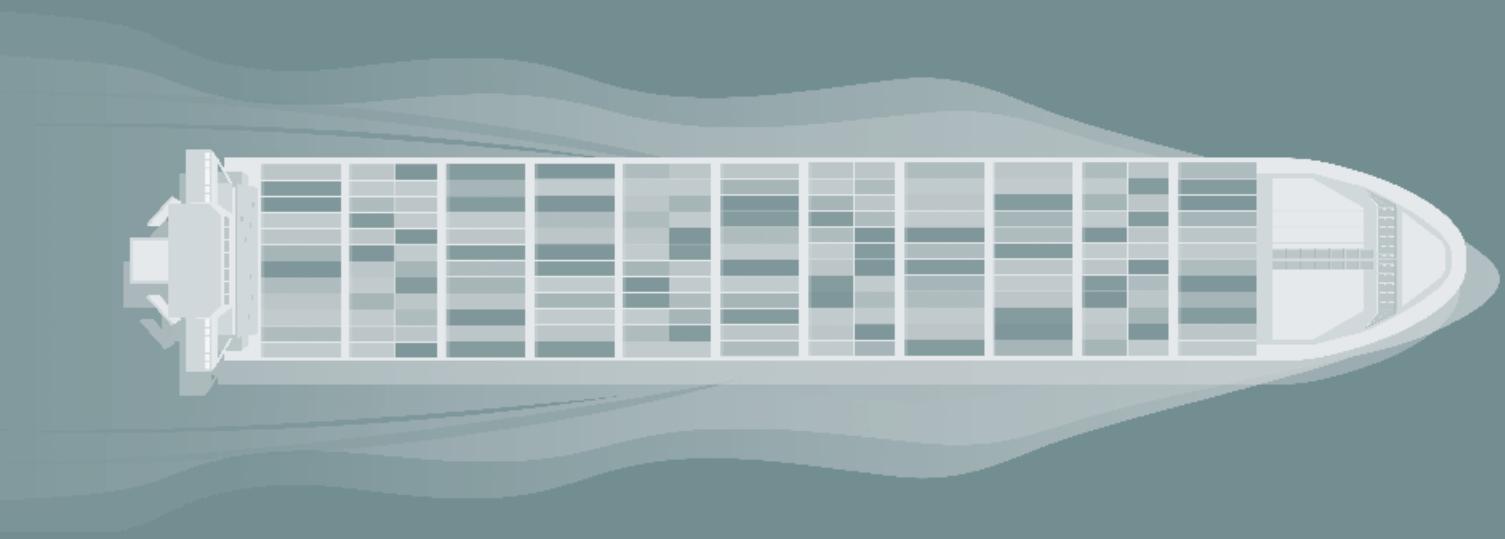
In preparing for Brexit, the shipping companies that service the Irish market were proactive and innovative. New routes were opened, existing services were expanded and additional capacity was added across all shipping modes. By the end of 2020, more than 20 different initiatives were announced by the shipping industry that had the effect of increasing choice and capacity on direct routes to the Continent, maintaining the integrity of Ireland's connectivity to the UK and the Single Market. I would like to acknowledge the efforts of the shipping industry and express my thanks for the invaluable services it provides.

The year 2020 will live long in our memories, not only because of the COVID-19 pandemic and Brexit, but also because of how we collectively faced and overcame very significant challenges in the maritime industry. As we begin to see the positive effects of the vaccination programme, and with the easing and the eventual lifting of restrictions on international travel, we can look forward with optimism and better days ahead for the maritime industry. I applaud the industry for its resolve and professionalism in overcoming the formidable challenges we faced in 2020 and I thank those in my Department and in the IMDO who supported this extraordinary effort.

I am pleased to commend this publication to all industry stakeholders and to anyone who has an interest in maritime affairs.

Hildegarde Naughton T.D
Minister of State for International and Road Transport and Logistics

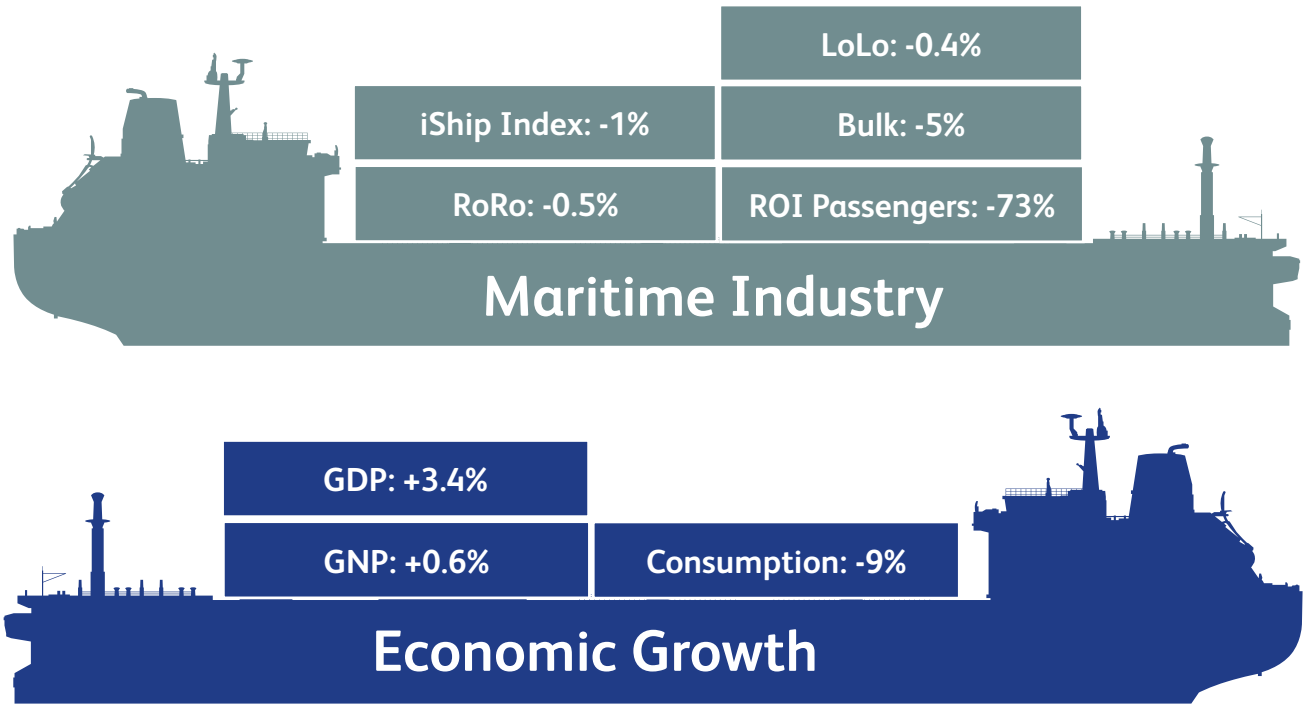
Introduction



Welcome the 18th edition of the Irish Maritime Transport Economist, in which we report on 2020, one of the most challenging years that the Irish maritime industry has faced for many decades. The outbreak of COVID-19 in Q1 had a dramatic and negative effect on freight and passenger volumes. Public health concerns necessitated the imposition of restrictions on the movement of people, internationally and domestically. In the early months of the pandemic, passenger volumes fell by over 90%, while RoRo freight volumes fell by over 25%. Although other shipping market segments were not immune to the suppressive economic effects of the public health restrictions, their impacts were not as deep or as lasting as those experienced in the RoRo freight and passenger segments.

The second half of 2020 stands in marked contrast to the first half, from a RoRo and LoLo freight perspective. The losses of the first half of the year were recovered, as initial public health restrictions were eased and most retail activity recommenced in Q3. Moving through Q4, combined RoRo and LoLo freight volumes set a new record of 1,324 points on the IMDO's iShip Index for unitised trade. Unitised volumes were bolstered by the desire of traders to create stockpiles in advance of the year-end Brexit deadline. RoRo and LoLo volumes in Q4 were sufficient to make good earlier losses and bring overall unitised throughput for the year to just 1% below 2019 levels. The restrictions on international travel introduced in Q1 remained in place, resulting in passenger volumes falling by 73% for the year. Bulk trades were also negatively affected by lockdown measures. Market demand for bulk materials, particularly in the construction and transport sectors, fell significantly.

2020 Key Statistics



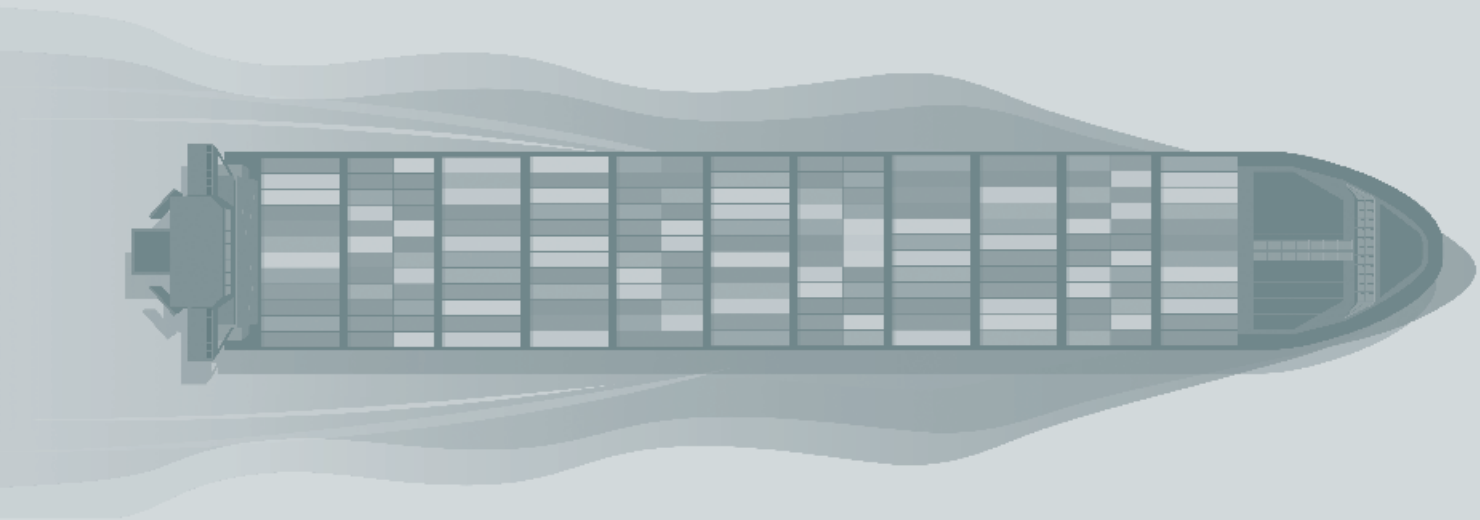
The COVID-19 pandemic and preparations for Brexit placed unprecedented pressure on the maritime industry in 2020. The response of the industry to the COVID-19 outbreak has been remarkable, from both an operational and a health and safety perspective. Connectivity to international markets was maintained, supply chains were protected and measures were put in place to protect the health and safety of users of ports and shipping services. All of this was achieved while preparations ramped up for the UK's departure from the EU, the result of which involves a new regime of border controls and inspections in our ports. This work was undertaken with commitment and professionalism by all workers in our maritime industry, who are deserving of our thanks and admiration.

The IMTE is a collaborative production that relies on the support and confidence of industry stakeholders for the work undertaken by the IMDO to monitor and interpret the performance of the maritime industry. Our work would not be possible without industry participation or without the collaboration of colleagues throughout the Department of Transport. I would like to express my gratitude to all who have contributed to this edition of the IMTE and in particular to our economic analysts Daniel Fallen Bailey and Darragh Treacy, who brought the publication to fruition.

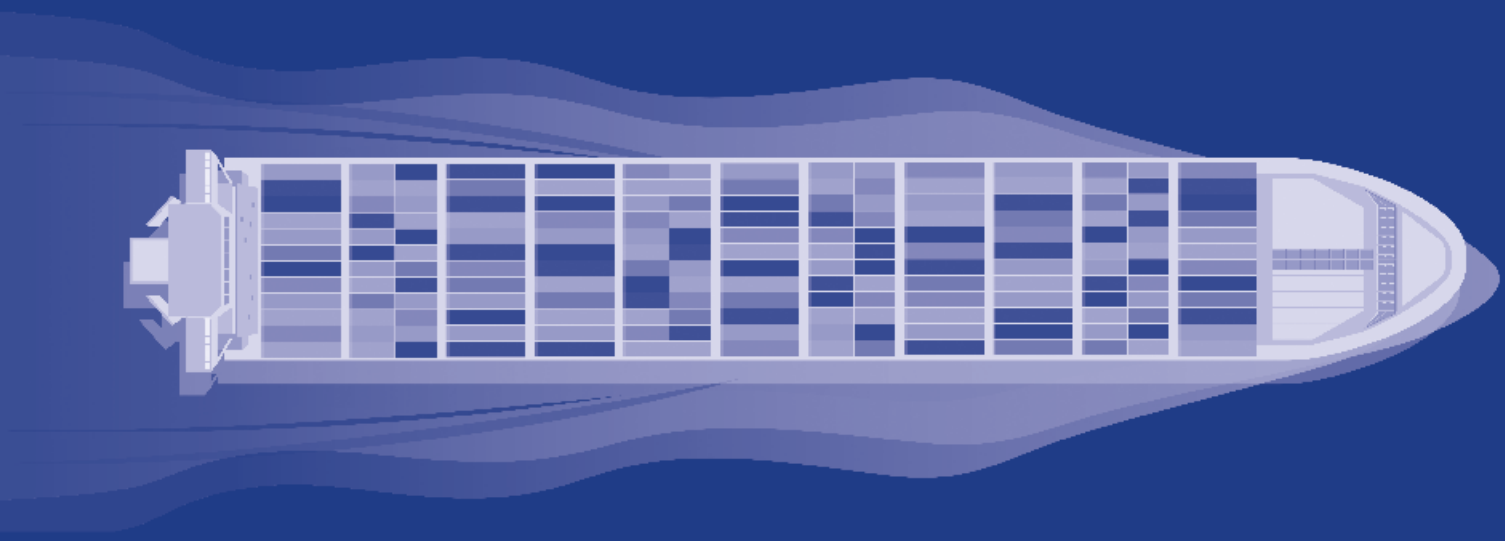
In conclusion, may I take this opportunity to wish all those involved in the maritime transport sector success in the vitally important work they do in maintaining and expanding Ireland's trade links with the rest of the world and in driving growth, efficiency and competitiveness in our economy. May I also thank all those who continue to support this publication through their readership and by providing the information on which the IMTE database is constructed.

Liam Lacey.

Liam Lacey
Director
Irish Maritime Transport Economist



Section 1. **The Irish Shipping Market in 2020**



Introduction

Section 1 of this report is divided into 5 subsections. Section 1.1 details the performance of the all island bulk market, which comprises three cargo modes: liquid bulk, dry bulk and break bulk. Sections 1.2 and 1.3 deal with the unitised freight sector of the Irish shipping industry, which includes the Roll-on / Roll-off (RoRo) and Lift-on / Lift-off (LoLo) cargo modes. The unitised sector is largely made up of perishable food & retail items further along the value chain. Section 1.4 describes the performance of the tourist passenger market, which faced unprecedented declines due to the COVID-19 pandemic. Section 1.5 illustrates the performance of the iShip index in 2020, which is a quarterly weighted indicator that outlines trends within the Republic of Ireland's shipping industry.

1.1 Bulk Market

Bulk Port traffic refers to three market segments of port and shipping activity: Liquid bulk, Dry bulk and Break Bulk. Liquid bulk ranges from fuel for domestic transport and aviation, to crude oil or liquefied natural gas. Dry bulk refers to raw materials for industrial or agricultural purposes, such as fertiliser, animal feeds and iron ores. Lastly, break bulk is largely made up of non-containerised construction products such as timber, steel and machinery.

Table 1 below provides a summary of bulk tonnage through ports on the island of Ireland in 2020. Overall, combined bulk traffic handled at ports in the Republic of Ireland (ROI) declined by 5% in 2020, or roughly 1.6 million tonnes. This was driven predominantly by a 9% decline in liquid bulk traffic, as restrictions on domestic and international travel due to the COVID-19 pandemic reduced demand for fuel imports. In Northern Ireland, bulk traffic fell by 7%, or 860,000 tonnes.

The following sections provide detail on the performance of each market segment in 2020.

Table 1: All Island Bulk Traffic 2020

	Dry Bulk		Liquid Bulk		Break Bulk		Combined Bulk	
	Tonnes	Growth (%)	Tonnes	Growth (%)	Tonnes	Growth (%)	Tonnes	Growth (%)
ROI	15,284,032	-1%	10,036,726	-9%	1,433,147	-10%	26,753,905	-5%
NI	7,652,344	-9%	2,843,694	-2%	653,391	-3%	11,149,430	-7%

Source: *IMDO*

1.1A Dry Bulk

Dry bulk volumes at ports in the Republic of Ireland were stable in 2020, declining by 1%, or 150,000 tonnes. Imports represented 75% of this total, a share which has been consistently held since 2013. The only deviation from this split came in 2017/2018 when dry imports surged as a result of a national fodder crisis. The impact of this has subsided in 2020, and thus the makeup of the Irish dry bulk market is reflective of past years.

Table 2 provides an overview of annual dry bulk tonnage across Irish and Northern Irish ports in 2020. Ireland's core ports - Dublin, Cork and Shannon Foynes – make up 75% of the dry bulk market. 53% of dry bulk tonnage is handled by Shannon Foynes alone. Drogheda, which holds a 6% market share, recorded the largest decline of 270,000 tonnes, a 22% fall over 2019. Greenore recorded a 15% increase in dry bulk tonnage in 2020, following a 12% increase in 2019. If such growth continues, Greenore will surpass 1 million tonnes of dry bulk tonnes in 2021.

Table 2: Dry Bulk Volumes

	2019		2020		Year-on-Year Change	
	Tonnes	% Share	Tonnes	% Share	%	Tonnes
Cork	1,388,826	9%	1,424,613	9%	3%	35,787
Drogheda	1,236,587	8%	969,510	6%	-22%	-267,077
Dublin	1,819,969	12%	1,957,532	13%	8%	137,563
Dundalk	45,499	0%	54,694	0%	20%	9,195
Galway	169,427	1%	184,781	1%	9%	15,354
Greenore	827,432	5%	953,744	6%	15%	126,313
New Ross	358,728	2%	278,631	2%	-22%	-80,097
Shannon-Foynes	8,209,640	53%	8,104,810	53%	-1%	-104,830
Waterford	1,360,014	9%	1,349,095	9%	-1%	-10,919
Wicklow	22,154	0%	6,621	0%	-70%	-15,533
Total Ireland	**15,438,275**	**65%**	**15,284,032**	**67%**	**-1%**	**- 154,243**
Belfast	6,697,949	79%	6,241,139	82%	-7%	-456,810
Foyle	1,229,828	15%	973,002	13%	-21%	-256,826
Larne	58,078	1%	29,259	0%	-50%	-28,819
Warrenpoint	453,759	5%	408,944	5%	-10%	-44,815
Total Northern Ireland	**8,439,614**	**35%**	**7,652,344**	**33%**	**-9%**	**-787,270**
Total All-Island	**23,877,889**		**22,936,376**		**-4%**	**-941,513**

Source: *IMDO*

In all, there has been no discernible upward or downward momentum in dry bulk volumes in the Republic of Ireland outside of the national fodder crisis between 2017 and 2019. Average growth in ROI imports has remained between 0% and 1% in the period 2016 to 2020. The impact of the national fodder crisis in both 2017 and 2018 led to growth of 7% in both these periods. This was followed by a sharp decline of 14% in dry bulk imports in 2019 as the market was corrected.

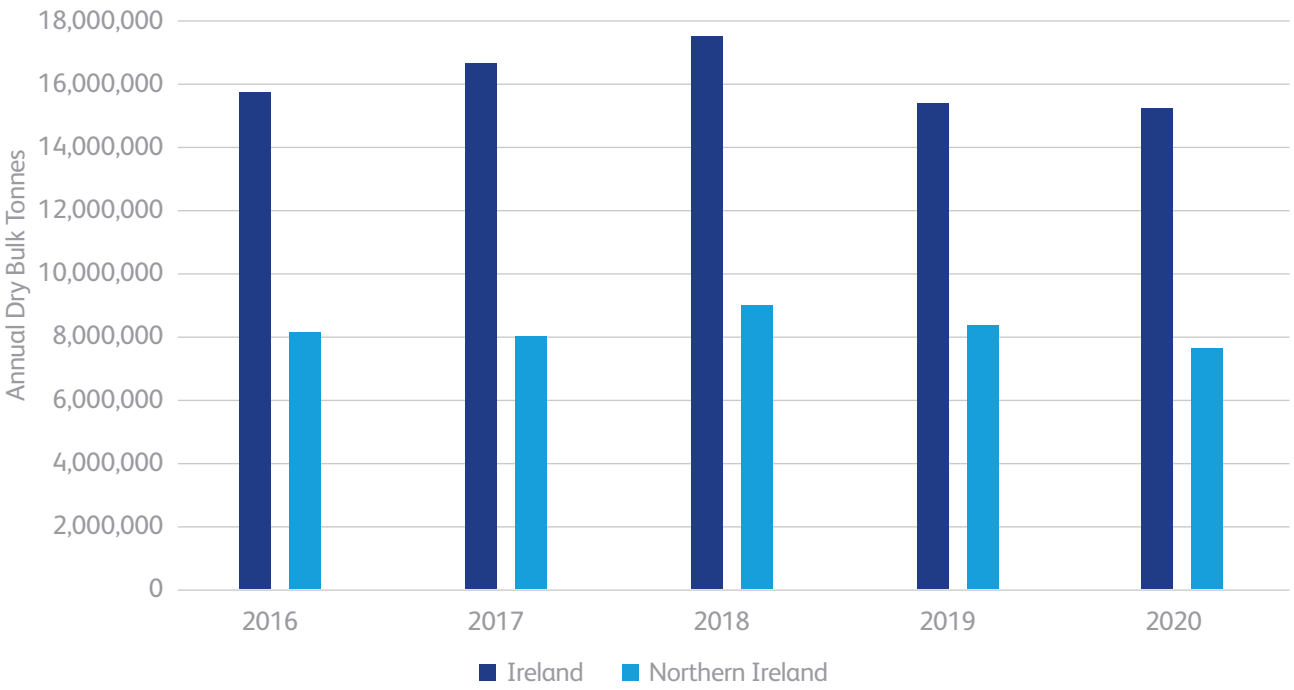
Growth in Irish dry bulk exports has also remained relatively steady between 2016 and 2020. However, after a 2% fall in 2020, exports have now recorded two consecutive years of decline, following a 6% drop in 2019.

Dry bulk volumes through Northern Irish ports declined by 9% in 2020, equivalent to 787,000 tonnes. The majority of this decline is attributable to dry bulk exports, which recorded a 20% decline, falling under 3 million tonnes for the first time since 2016. Dry bulk imports, which account for two-thirds of the market, also declined in 2020, falling by 3%. Total dry bulk volumes through Northern Irish ports were under 8 million tonnes for the first time since 2015.

Of the 9% decline in dry bulk volumes in Northern Ireland, Warrenpoint and Foyle recorded declines of 10% and 21% respectively. The decline at Foyle accounted for one-third of the overall decline in tonnage despite the port holding a 15% share in 2019. As a result, Belfast's share of the dry bulk market increased from 79% in 2019, to 82% in 2020.

Figure 1 below illustrates the annual volume of dry bulk tonnage through Ireland and Northern Ireland from 2016 to 2020.

Figure 1: All-Island Dry Bulk Volumes, 2016 - 2020



Source: *IMDO*

1.1B Liquid Bulk

2020 recorded the lowest volume of liquid bulk tonnage in the Republic of Ireland since 2007. Liquid bulk volumes declined by 9%, or roughly 1 million tonnes. Just over 10 million tonnes of liquid bulk were handled at Irish ports this year, compared to an annual average of 11.2 million tonnes between 2016 and 2019. The drop in liquid bulk traffic drove the overall fall in bulk traffic through Irish ports in 2020.

Restrictions on domestic and international travel caused by the COVID-19 pandemic led to significant declines in the demand for transport fuels. All of the decline in 2020 was driven by a fall in imports, as exports remained steady at 1.75 million tonnes. Liquid bulk exports account for approximately 18% of the ROI market.

Table 3 below provides a summary of the volume of liquid bulk handled at ports on the island of Ireland in 2019 and 2020.

Dublin Port recorded the largest decline in liquid bulk traffic in volume terms, with tonnage falling by roughly 800,000 tonnes, a 17% fall. This accounted for three quarters of the total decline in ROI liquid bulk, despite Dublin Port holding a 42% market share in 2019. The vast majority of liquid bulk traffic at Dublin Port is from imports, and petroleum products and fuel oils for domestic vehicles and aviation make up most of these imports. The decline at Dublin Port was concentrated in Q2 2020, during the initial wave of COVID-19 infections in Ireland. Liquid bulk imports through Dublin Port fell by 38% during this quarter compared to 2019. This was followed by a 20% decline in Q3 and 12% decline in Q4.

Ireland's core ports make up the most of the liquid bulk market. Dublin Port and the Port of Cork account for 87%, while Shannon Foynes holds a 10% share. Liquid bulk volumes at Cork and Shannon Foynes did not fall as steeply as those at Dublin Port. Volumes through both ports fell by 2%, or roughly 140,000 tonnes. Petroleum products make up 70% of all bulk tonnage through the Port of Cork.

In Northern Ireland, liquid bulk tonnage declined by 2%, or 50,000 tonnes. There are no liquid bulk exports from Northern Irish ports, so this decline is entirely driven by a fall in imported liquid bulk. The decline through NI ports was driven by Belfast, which holds a 77% share in 2020. Liquid bulk volumes fell by 4% through the port in 2020, or 97,000 tonnes. This was offset by increases at Foyle, Warrenpoint and Larne, worth 50,000 tonnes when combined. Liquid bulk volume through Northern Ireland in 2020 was marginally below average for the previous 5 years. Between 2015 and 2019, liquid bulk in Northern Ireland amounted to 2.9 million tonnes per year on average.

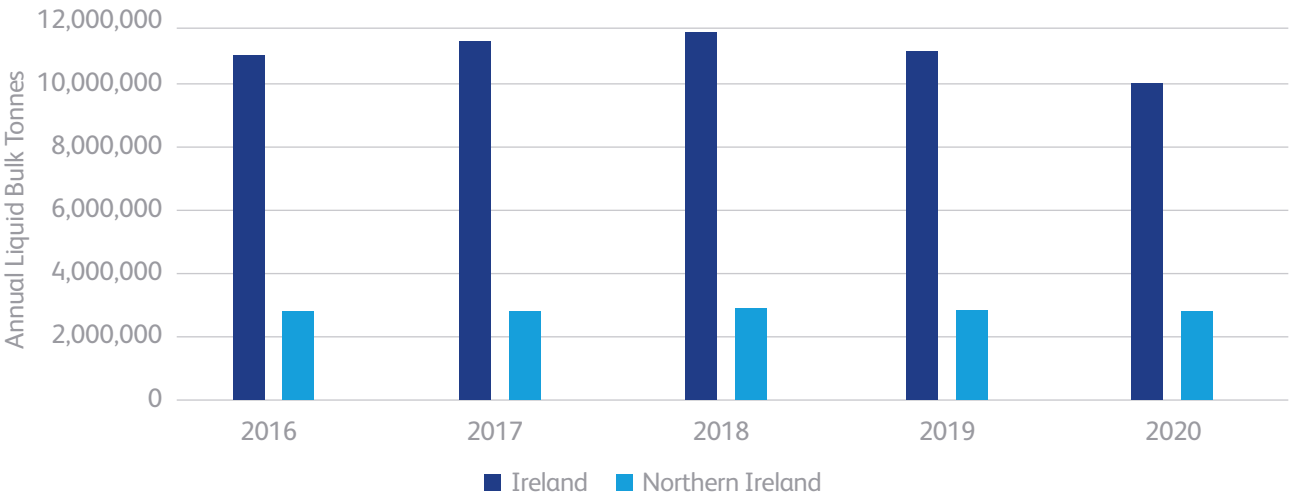
Table 3: Liquid Bulk Volumes

	2019		2020		Year-on-Year Change	
	Tonnes	% Share	Tonnes	% Share	%	Tonnes
Cork	4,940,346	45%	4,822,110	48%	-2%	-118,236
Drogheda	34,696	0%	28,261	0%	-19%	-6,435
Dublin	4,662,140	42%	3,871,000	39%	-17%	-791,140
Galway	368,350	3%	264,431	3%	-28%	- 103,919
Shannon Foynes	1,072,064	10%	1,050,924	10%	-2%	-21,141
Total Ireland	**11,077,596**	**79%**	**10,036,726**	**78%**	**-9%**	**-1,040,870**
Belfast	2,284,307	79%	2,187,134	77%	-4%	-97,173
Foyle	594,033	21%	622,534	22%	5%	28,501
Larne	4,301	0%	5,607	0%	30%	1,306
Warrenpoint	9,005	0%	28,419	1%	216%	19,414
Total Northern Ireland	**2,891,646**	**21%**	**2,843,694**	**22%**	**-2%**	**-47,952**
Total All-Island	**13,969,242**		**12,880,420**		**-8%**	**-1,088,822**

Source: *IMDO*

Figure 2 illustrates the annual volume of liquid bulk tonnage through Ireland and Northern Ireland for the past 5 years.

Figure 2: All-Island Liquid Bulk Volumes, 2016 – 2020



Source: *IMDO*

1.1C Break Bulk

Break bulk volumes through ROI ports declined by 10% in 2020, equivalent to 162,000 fewer tonnes. This is the largest annual decline in break bulk tonnage since 2009, in the wake of the financial crash. Both imports and exports declined by 10% each in 2020. For most of the last decade, imports have held a 55% share of break bulk tonnage in Ireland. Overall, at 1.4 million tonnes, break bulk volumes in 2020 are similar to those recorded in 2016 and 2017.

Table 4 below presents the total break bulk tonnage handled by each port in Ireland and Northern Ireland in 2020.

Table 4: Break Bulk Volumes

	2019		2020		Year-on-Year Change	
	Tonnes	% Share	Tonnes	% Share	%	Tonnes
Cork	352,463	22%	340,484	24%	-3%	-11,979
Drogheda	259,159	16%	288,091	20%	11%	28,932
Dublin	17,102	1%	32,714	2%	91%	15,612
Dundalk	33,847	2%	38,613	3%	14%	4,766
Galway	8,141	1%	0	0%	-100%	-8,141
Greenore	199,355	12%	130,471	9%	-35%	-68,885
Rosslare-Europort	35,082	2%	0	0%	-100%	-35,082
Shannon Foynes	353,488	22%	302,598	21%	-14%	-50,890
Waterford	175,707	11%	142,051	10%	-19%	-33,656
Wicklow	150,354	9%	144,885	10%	-4%	-5,469
Youghal	10,570	1%	13,241	1%	25%	2,671
Total Ireland	**1,595,268**	**70%**	**1,433,147**	**69%**	**-10%**	**-162,120**
Belfast	317,715	47%	260,077	40%	-18%	-57,638
Foyle	60,915	9%	115,254	18%	89%	54,339
Larne	2,063	0.3%	-	0%	-100%	-2,063
Warrenpoint	295,293	44%	278,061	43%	-6%	-17,232
Total Northern Ireland	**675,986**	**30%**	**653,391**	**31%**	**-3%**	**-22,594**
Total All-Island	**2,271,253**		**2,086,539**		**-8%**	**-184,715**

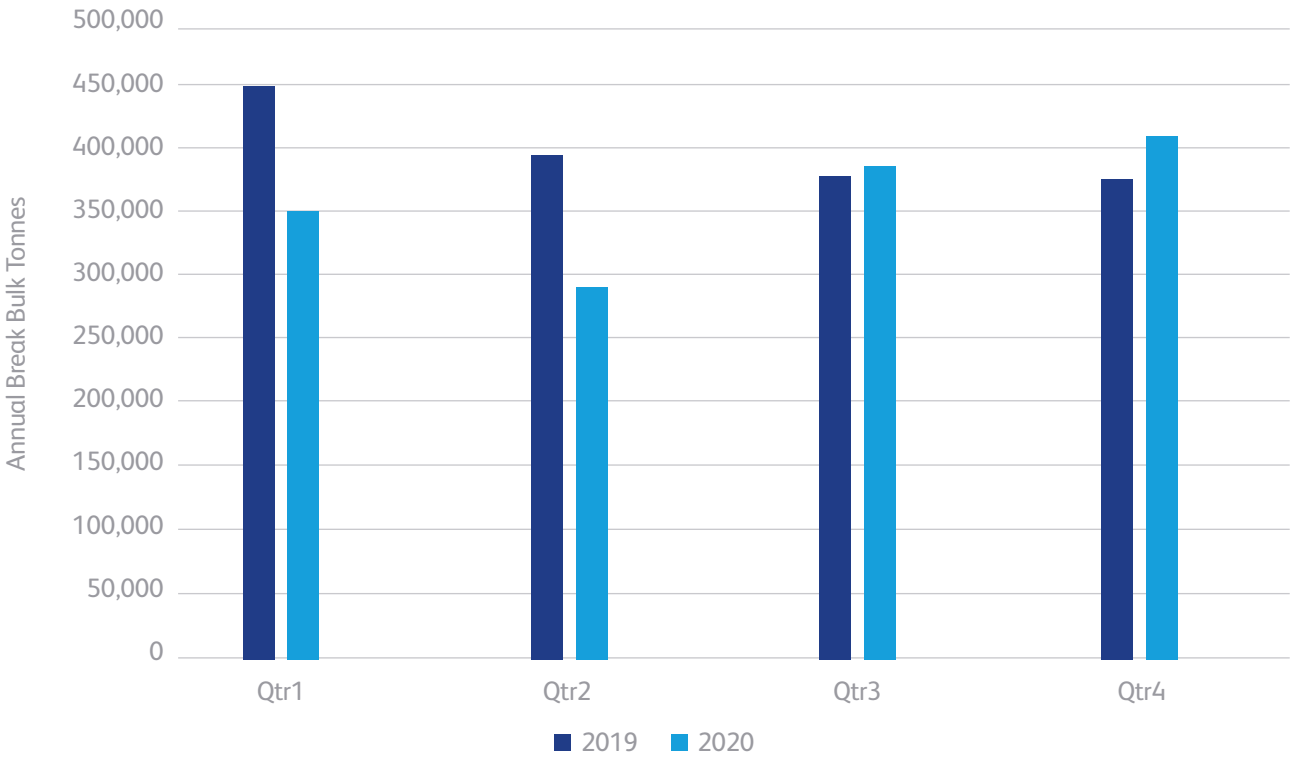
Source: *IMDO*

Much of the demand for break bulk cargo is derived from construction activity. Measures introduced to stop the spread of COVID-19 in Ireland meant that construction activity was restricted for much of the year. This was the most significant factor driving the 2020 decline in break bulk traffic. Consequently, it brings to a halt several years of growth in break bulk tonnage in Ireland. ROI break bulk volumes had averaged 4% growth per year between 2015 and 2019. In addition, 2019 was the busiest year of break bulk traffic since 2007. Such growth was driven entirely by break bulk imports, and is reflective of increased activity in the Irish construction sector during this time.

As an example of this sectoral growth, the CSO's 'New Dwelling Completion[1]' grew by an annual average of 31% between 2015 and 2019. In 2020, annual growth in this sector fell by 2%. In addition, the CSO's 'Production in Building & Construction Index[2] had recorded 7 consecutive years of growth up to 2019, averaging 9% growth per year during that time. In 2020, this index declined by 7%, another example of stalled economic momentum that impacted upon break bulk volumes in 2020.

All of the decline in ROI break bulk tonnage occurred in the first six months of 2020. Volumes in Q1 fell by 22% and volumes in Q2 fell by 26%. In all, there were 200,000 fewer break bulk tonnes in the first half of 2020 compared to 2019. There was some resurgence in the latter half of the year, as Q3 and Q4 recorded growth of 2% and 8% respectively, helping to partially offset the annual decline. Figure 3 below illustrates the quarterly volumes of break bulk tonnage through ROI ports in 2019 and 2020.

Figure 3: Quarterly Break Bulk Volumes, Republic of Ireland Only



Source: *IMDO*

[1] New Dwelling Completions, Q4 2020 (CSO, 2021)
[2] Production in Building and Construction Index, Q4 2020, (CSO, 2021)

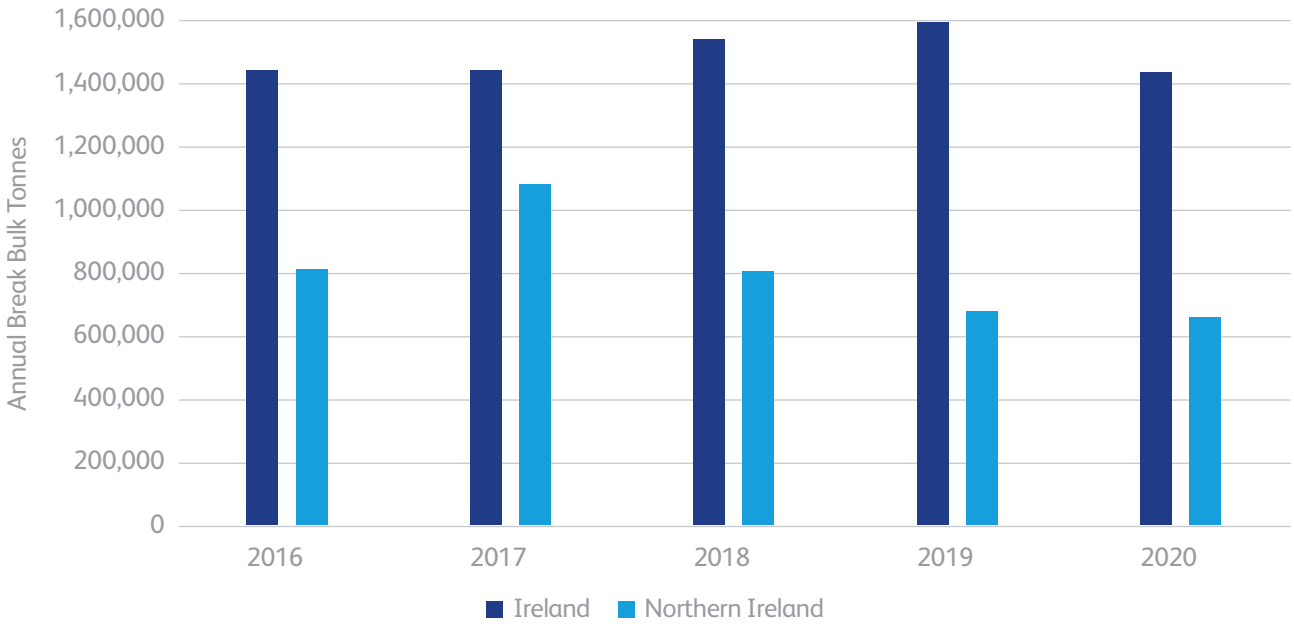
In Northern Ireland, break bulk volumes declined by 3%, or approximately 23,000 tonnes. This is the third consecutive year of decline for NI break bulk volumes, after significant declines in 2018 & 2019. In 2017, 1 million tonnes of break bulk passed through NI ports. By 2019, this total had fallen by 400,000 tonnes, meaning NI break bulk is approximately 40% below that peak in 2017.

Belfast, Warrenpoint and Foyle makeup the majority of the break bulk market in Northern Ireland. In 2019, Belfast & Warrenpoint held a 91% market share. In 2020, that fell to 82% as Foyle added 54,000 tonnes. Belfast and Warrenpoint both recorded declines of 18% and 6% respectively in 2020.

The decline in recent years in NI break bulk is reflected in the NISRA Construction Output Index from the NI Statistics & Research Agency (NISRA). In its Q3 2020 bulletin, NISRA noted that annual declines have been recorded in 5 of the last 7 quarters in NI construction[3]. The volume of construction also fell by 30% in Q2 2020.

Figure 4 below illustrates the annual volume of break bulk tonnes through Ireland and Northern Ireland for the past 5 years.

Figure 4: All-Island Break Bulk Volumes, 2016 - 2020



Source: *IMDO*

[3] Northern Ireland Statistics & Research Agency (NISRA), 2020: Construction Output Statistics

1.2 Roll-on/Roll-off (RoRo) Market

As shown in Table 5 below, RoRo volumes on the island of Ireland in 2020 were roughly flat compared to 2019. In the Republic of Ireland, volumes declined by just 0.5%, or 6,000 RoRo units. Volumes through Dublin Port in 2020 were identical to those in 2019, while volumes through Rosslare Europort declined by 3%, or 3,800 units. The Port of Cork recorded the largest relative decline in 2020, with 4,000 fewer units.

In Northern Ireland, RoRo volumes fell by 3%, or 24,400 units. Belfast recorded the largest decline in volume terms, with 14,000 fewer RoRo units this year. Larne and Warrenpoint recorded 4% and 3% declines respectively. Market shares in both ROI and NI also remained constant in 2020.

RoRo volumes on the island of Ireland in 2019 were higher than any previous year on record. That volumes in 2020 have remained close to these levels is remarkable given the significant challenges faced by ports, shipping companies and importers and exporters in 2020 as a result of the COVID-19 pandemic.

To understand the changes in RoRo volumes recorded throughout 2020, the following sections will outline the key trends that emerged this year, as well as those trends that have been consistent for several years.

Table 5: All-Island RoRo Units, 2011 - 2020

	2019	2020	Growth (%)	Diff
Dublin	1,059,103	1,060,979	0.2%	1,876
Rosslare	122,095	118,306	-3%	-3,789
Cork	5,569	1,527	-73%	-4,042
Total Ireland	**1,186,767**	**1,180,812**	**-0.5%**	**-5,955**

	2019	2020	Growth (%)	Diff
Belfast	555,410	541,350	-3%	-14,060
Larne	192,678	185,274	-4%	-7,404
Warrenpoint	103,852	100,897	-3%	-2,955
Total Northern Ireland	**851,940**	**827,521**	**-3%**	**-24,419**

Total All-Island	**2,038,707**	**2,008,333**	**-1%**	**-30,374**

Source: *IMDO*

Key Trends 2020

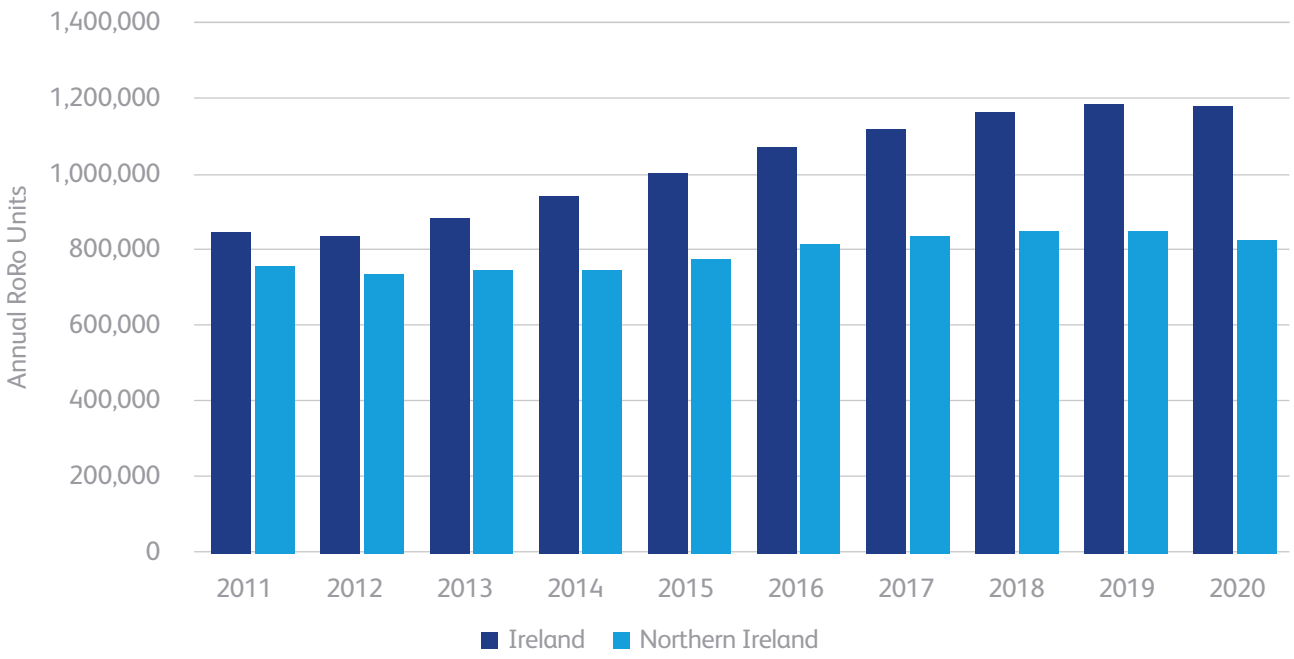
Stalled Momentum

The most notable impact of the COVID-19 pandemic on RoRo volumes was that it brought an end to seven consecutive years of annual growth in both ROI and NI RoRo. 2020 is the first annual decline in RoRo volume in both economies since 2012. Between 2012 and 2019, ROI volumes averaged 4% growth per year, while NI volumes averaged 2% growth (See Figure 5).

Annual growth in ROI had slowed to 2% in 2019, but as highlighted above, 2019 was the highest volume of ROI RoRo on record. 2020 volumes are therefore the second highest on record, despite the considerable challenges faced in 2020. Also in 2019, NI volumes reached their highest point since 2007. NI volumes between 2016 and 2019 averaged approximately 850,000 units per year.

2019 therefore represents a benchmark year for RoRo volumes on the island of Ireland, a peak which ports both in ROI and NI will likely surpass if similar momentum builds in a post-pandemic economy.

Figure 5: All Island Annual RoRo Volumes



Source: *IMDO*

A Year of Two Halves

The performance of the RoRo market on the island of Ireland in 2020 is better understood when the year is separated into the first half, January – June (H1), and the second half, July – December (H2). Table 6 below illustrates the change in ROI and NI RoRo volumes in each period.

Table 6: All-Island RoRo Units, H1 & H2

	H1 2019	H1 2020	Growth (%)	Diff
Republic of Ireland	598,535	535,998	-10%	-62,537
Northern Ireland	424,847	377,407	-11%	-47,440

	H2 2019	H2 2020	Growth (%)	Diff
Republic of Ireland	588,232	644,814	10%	56,582
Northern Ireland	427,093	450,114	5%	23,021

Source: *IMDO*

As shown in Table 6, both ROI and NI recorded significant declines in the first half of the year. Economic restrictions introduced to halt the spread of COVID-19 had a significant and immediate effect on RoRo traffic both north and south. The impact of these restrictions on economic activity began to be felt in March 2020, when ROI RoRo volumes fell by 7% compared to March 2019. The most concentrated period of disruption however, came in April and May. ROI traffic fell by 24% in April and by 19% in May compared to the same months in 2019. Such declines had not been recorded since 2009, in the wake of the financial crash. RoRo traffic in Northern Ireland declined by 31% in April and by 24% in May.

A phased reopening of certain sectors of the Irish economy began towards the end of May 2020. This also had an immediate effect on RoRo traffic, as pent up demand began to be satisfied over the summer period. Figure 6 below shows the seasonally adjusted monthly growth rate in ROI RoRo volumes, wherein the 'bounce back' between April and July is illustrated. Volumes in July typified this resurgence, as 107,000 RoRo units were recorded across Dublin Port, Rosslare Europort and the Port of Cork, one of the busiest months for RoRo traffic on record.

Figure 6: Republic of Ireland RoRo Units 2020, Monthly Growth Rate , Seasonally Adjusted (SA)

Source: *IMDO*

Stockpile & Trial

A second surge in RoRo traffic began in October 2020. Figure 7 below shows the year-on-year (Y-o-Y), unadjusted increase in ROI – EU, ROI – GB and NI - GB RoRo volumes for each month of 2020. As shown, there was a surge in traffic on all routes in the latter half of 2020, particularly in November and December.

Q4 2020 was the busiest quarter for ROI traffic on record, with over 330,000 units handled at Dublin, Cork and Rosslare Europort. The increases occurred predominantly on UK routes, however, the volume of ROI – EU trade in these months was also unprecedentedly high. Overall, in Q4 2020, there were an additional 35,000 units carried on ROI – GB routes, an additional 19,000 units on NI – GB routes, and an additional 9,000 units on ROI – EU routes.

Severe restrictions were still in place on economic activity in Ireland and Northern Ireland for most of Q4 2020. Such increases in Q4 are therefore reflective of advanced preparations on the part of importers and exporters, in Ireland and the UK, for the formal withdrawal of the UK from the European Union on January 1st 2021 and the new customs controls that would come into force from that point.

The IMDO consults regularly with stakeholders in the Irish shipping industry, and also prepares a weekly monitor of shipping volumes. Consultations during this period of heightened uncertainty in late 2020 showed that concerns about delays and disruption at Irish and UK ports drove both Irish and UK companies to stockpile goods ahead of the regulatory changes introduced at the beginning of 2021. This stockpiling of goods explains much of the surge in ROI – UK traffic and importantly, it also explains the significantly lower ROI – UK volumes recorded in early 2021.

Turning to ROI - EU trade, the increase in late 2020 occurred alongside a campaign led by the IMDO and Department of Transport encouraging importers and exporters to 'Be Prepared' and to 'ACT Now'[4] by **A**ssessing current supply chains, **C**ommunicating future demand to shipping companies, and **T**rialing alternative routes, such as direct sailings from ROI to the continent.

Figure 7: All-Island RoRo Units, Year - on - Year Growth Rate, 2020

Source: *IMDO*

In all, the stockpiling of goods in the latter half of 2020, caused by the uncertainty of delays and disruption at Irish and UK ports due to Brexit, helped to balance out many of the losses in RoRo traffic recorded during the first wave of COVID-19 restrictions. In the first 6 months of 2020, there were 110,000 fewer RoRo units through ports on the island of Ireland when compared to 2019. In the latter 6 months of the year, there were 80,000 additional units.

Table 7 below presents the annual changes in EU and GB trade in 2020, while Figure 8 illustrates the quarterly volumes recorded on each route.

As shown in Table 7, ROI – EU traffic was the only route to record growth in 2020. As outlined above, traffic on this route also benefitted from large increases in the latter half of the year. This momentum continued into early 2021, when ROI – EU volumes surged as shipping companies began to make increased use of RoRo services on direct routes to the continent.

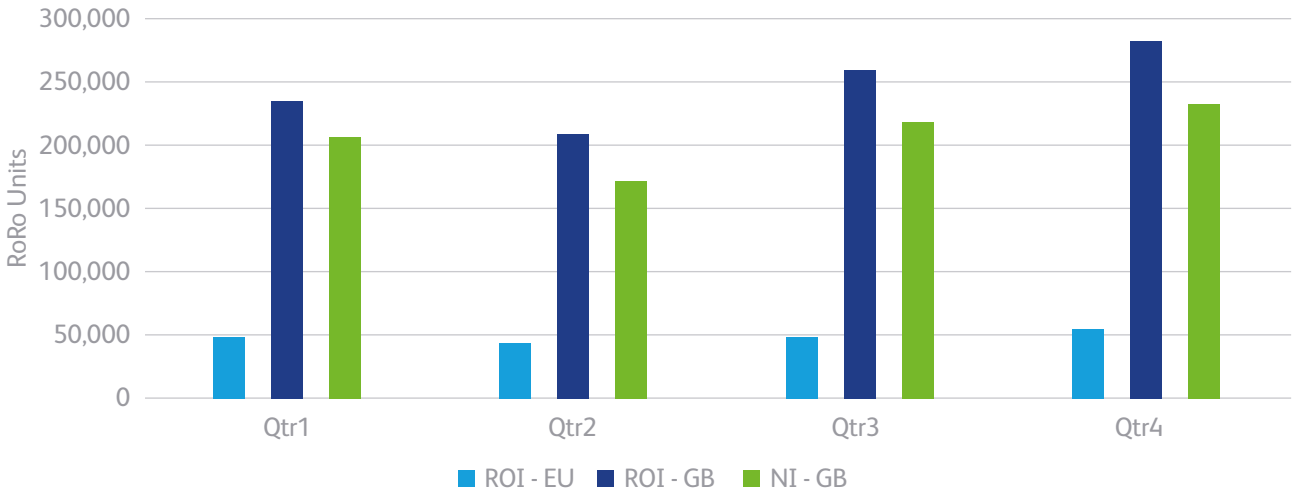
[4] 'Be Prepared for Brexit: ACT and Prepare to Switch', IMDO, November 2020

Table 7: All-Island RoRo Units, by Route

	2019	2020	Growth (%)	Diff
ROI - GB	998,950	982,680	-1.6%	-16,270
ROI - EU	187,817	198,132	5.5%	10,315
NI - GB	851,940	827,521	-2.9%	-24,419

Source: *IMDO*

Figure 8: All-Island RoRo Units 2020, Quarterly, by Route



Source: *IMDO*

Market Response – Increases in Capacity

As outlined above, ROI – EU traffic was the only route to record growth in 2020, and the majority of this growth occurred in the final quarter of the year. Concerns of logistical disruption on the UK Landbridge[5] due to post-Brexit customs controls on GB traffic drove increased demand for ROI – EU services.

A report[6] published in 2018 by the IMDO estimated that the volume of goods transported via the UK Landbridge was equivalent to approximately 150,000 Heavy Goods Vehicles (HGV's) per year. Speed and frequency were cited as key factors driving the choice of the UK Landbridge. In 2020, many importers and exporters sought out direct EU shipping services as a means to access EU markets and avoid potential delays and disruption arising from new customs controls.

In response, shipping operators in the Irish unitised (RoRo & LoLo) freight market introduced an unprecedented level of additional capacity on direct EU services throughout the year. In the RoRo sector, all four incumbent shipping operators offering ROI – EU services (Stena Line, Irish Ferries, CLdN and Brittany Ferries) announced additional capacity on direct services for 2021. Destinations included Zeebrugge, Cherbourg, Bilbao and Santander. In addition, a new entrant, DFDS, began operating a RoRo service between Rosslare Europort and Dunkirk in January 2021.

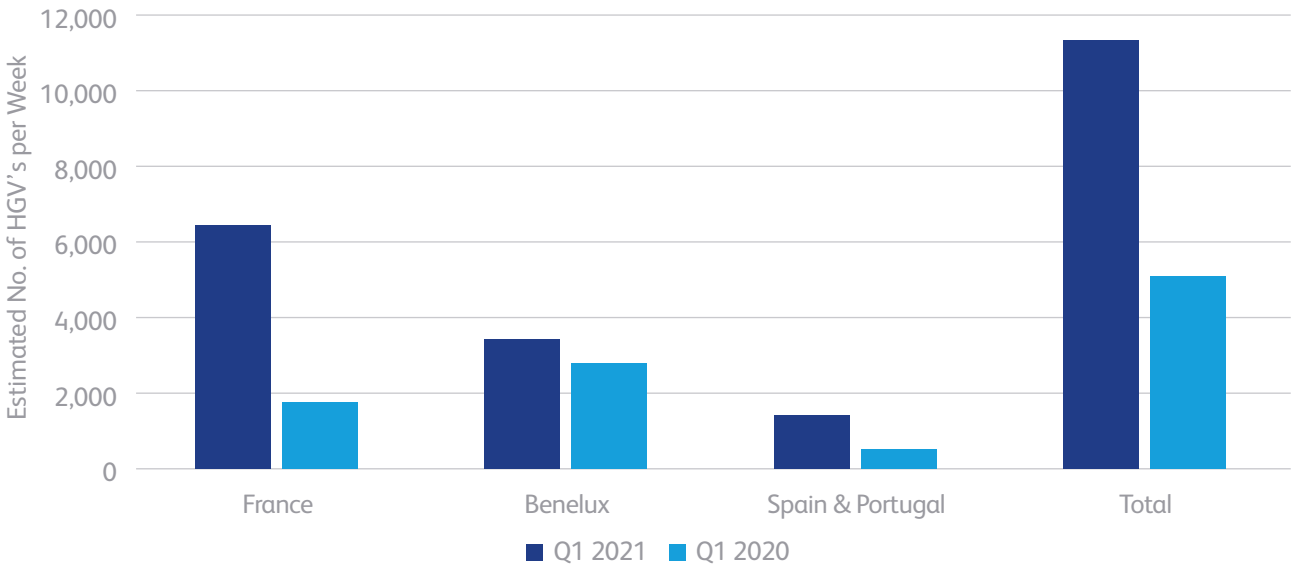
[5] The UK Landbridge is a term used to describe a route to market that connects Irish importers and exporters to international markets via the UK road and ports network. It is a strategically important means of access to the single market that has been favoured by traders in high value or time sensitive goods because it offers significantly faster transit times than alternative routes. The reintroduction of customs controls as a consequence of Brexit increases transit times and places additional costs on Irish businesses that undermines their competitiveness in accessing international markets

[6] 'The Implications of Brexit on the use of the Landbridge' – IMDO, 2018

Figure 9 below shows the estimated change in shipping capacity on direct EU RoRo services between Q1 2020 and Q1 2021 as a result of this market response. Capacity is estimated here as the weekly number of HGV's capable of being handled to each destination.

In all, the combined effect of these actions was to double available capacity on direct RoRo services to continental Europe for 2021. The number of different route options also rose from 5 to 13.[7]

Figure 9: Estimated Weekly RoRo Capacity, ROI - EU Routes



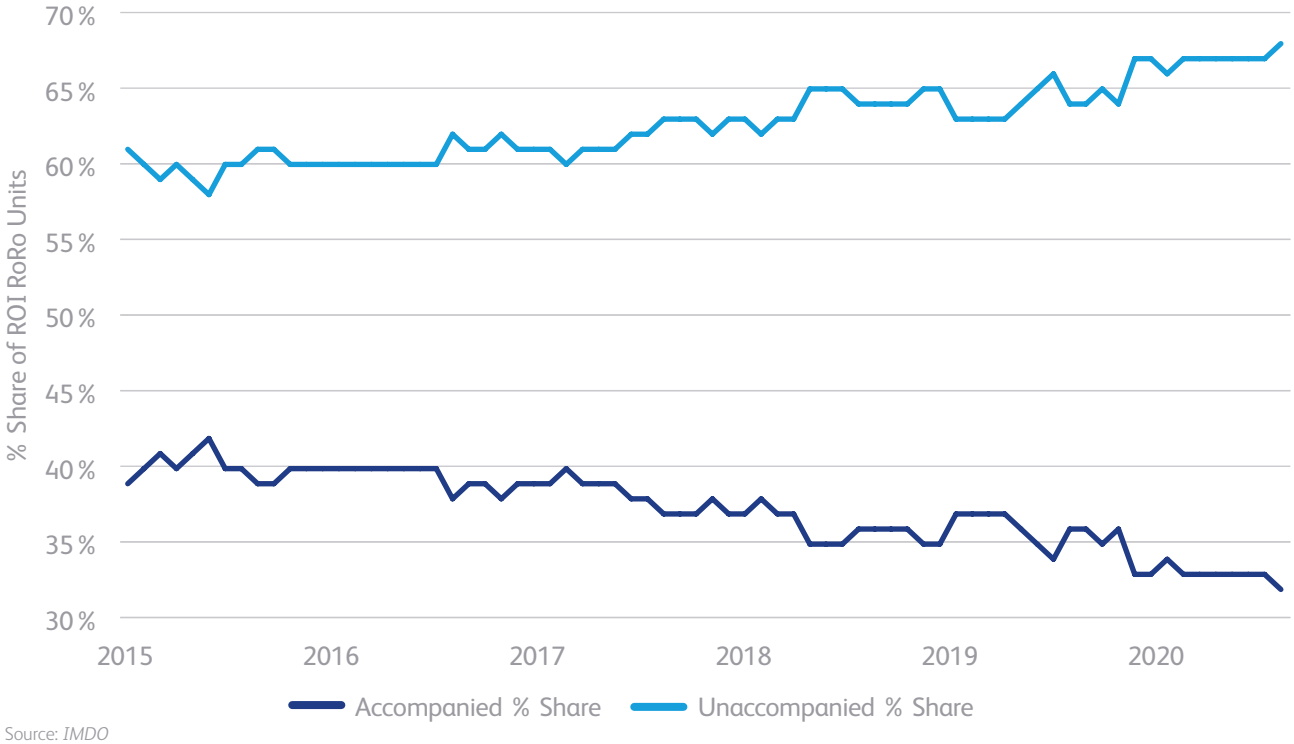
Source: *IMDO*

[7] The RoRo market for both EU and GB services remains extremely competitive and dynamic. As a result, capacity, route choice and frequency have changed frequently as shipping operators adapt to new demand patterns

Unaccompanied RoRo Growth

One trend that has been a persistent feature of the RoRo market for at least five years is the increasing share of unaccompanied[8] volume as a percentage of total RoRo traffic (see Figure 10 below).

Figure 10: Percentage Share of Republic of Ireland RoRo Units, 2015 - 2020

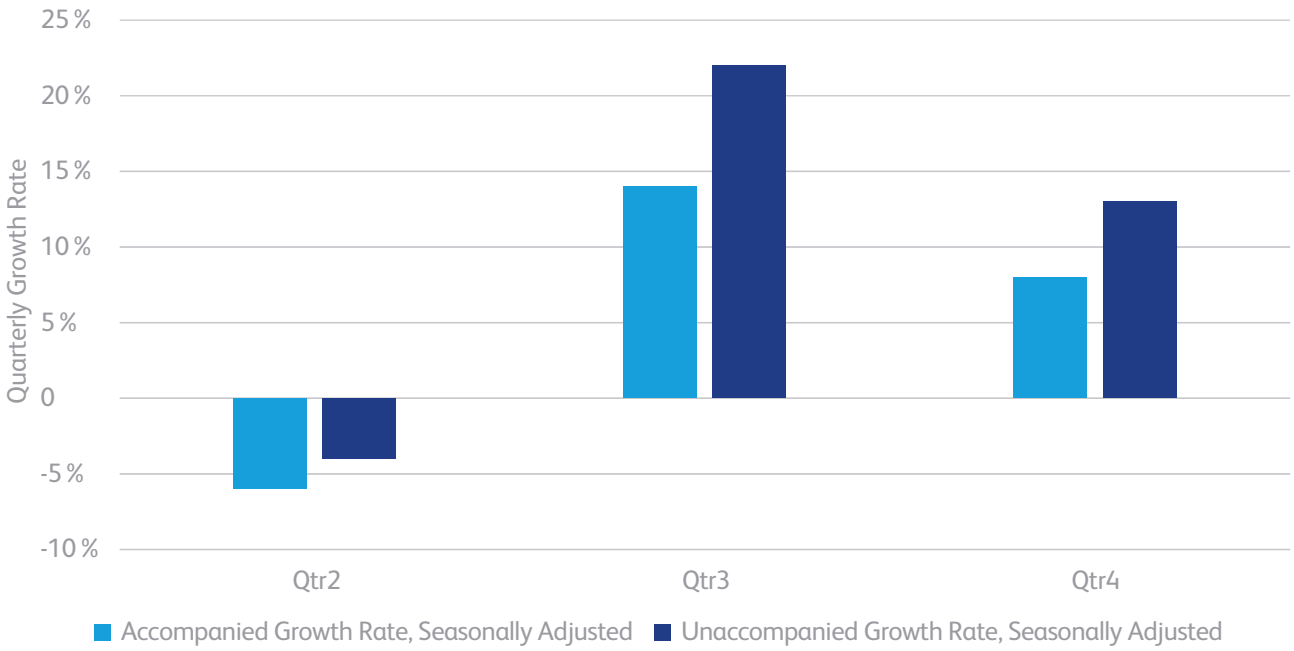


Source: *IMDO*

[8] Unaccompanied RoRo traffic does not require a commercial HGV driver to travel alongside each RoRo unit.

This trend was accelerated in 2020 by COVID-19 travel restrictions and health and safety issues relating to international freight drivers. During the first wave of the pandemic in 2020, unaccompanied traffic recorded shallower declines in Q2 and a faster recovery in Q3 (See Figure 11 below).

Figure 11: Republic of Ireland RoRo Units, Quarterly Growth Rate, Seasonally Adjusted



Source: *IMDO*

Secondly, a rise in direct EU volume will naturally be followed by a rise in unaccompanied volume. Traffic on ROI – EU routes makes disproportionate use of the unaccompanied mode due to, among other things, the significantly longer journey times on direct routes.

Overall, unaccompanied traffic increased its share of the RoRo market again in 2020, holding a 67 % share, up from 64 % in 2019. Table 8 below details the accompanied and unaccompanied volumes recorded in 2020.

Table 8: All-Island RoRo Units, Accompanied & Unaccompanied

	Accompanied 2019		Accompanied 2020		Unaccompanied 2019		Unaccompanied 2020	
	No.	% Share	No.	% Share	No.	% Share	No.	% Share
Cork	3,861	69%	556	36%	1,708	31%	971	64%
Dublin	357,497	34%	335,462	32%	701,606	66%	725,517	68%
Rosslare	63,351	52%	56,491	48%	58,744	48%	61,815	52%
Total Ireland	**424,709**	**36%**	**392,509**	**33%**	**762,058**	**64%**	**788,303**	**67%**
Total Northern Ireland	**319,610**	**38%**	**286,383**	**35%**	**532,330**	**62%**	**541,139**	**65%**
Total All-Island	**744,319**	**37%**	**678,892**	**34%**	**1,294,388**	**63%**	**1,329,442**	**66%**

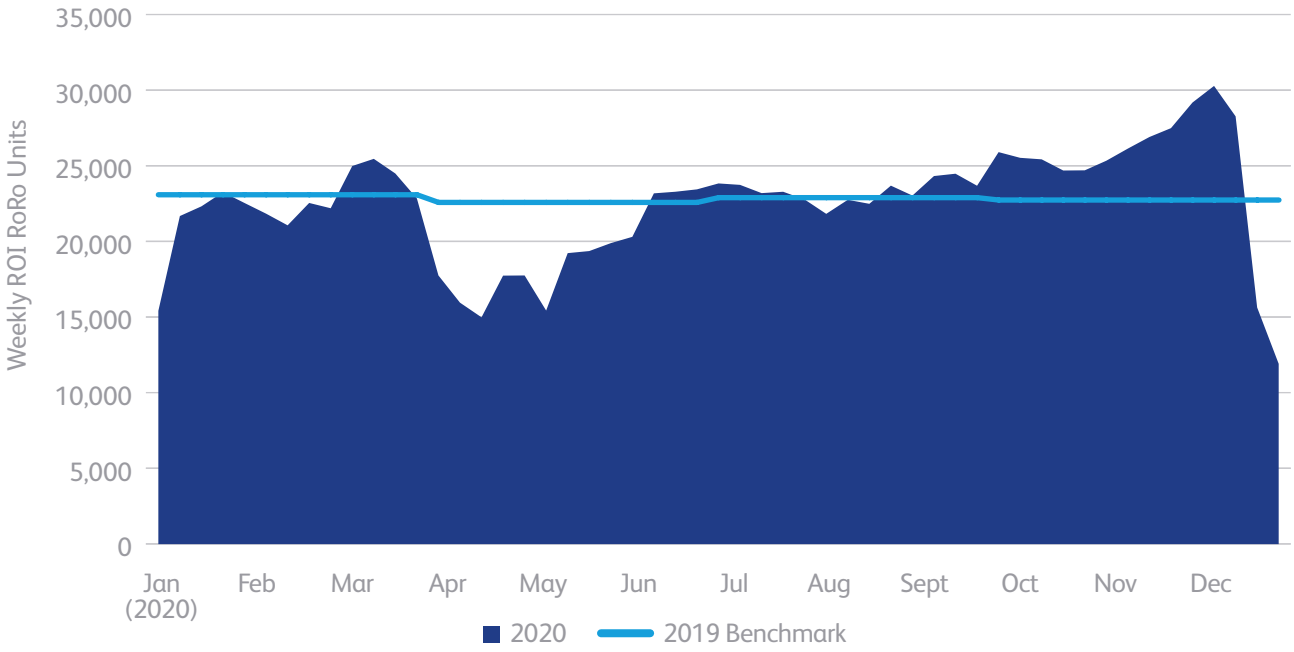
Source: *IMDO*

Conclusion

Overall, the factors driving volume changes in the RoRo market in 2020 were complex and multi-faceted. By March, the impact of widespread restrictions on economic activity across Europe to combat the COVID-19 pandemic began to suppress trade in Ireland and Northern Ireland. A phased reopening between May and July drove a resurgence in RoRo traffic. During this time, unaccompanied traffic recovered faster and increased its market share, accelerating a trend that emerged in the latter half of the decade. By October, a second surge in traffic had begun on GB and EU routes in anticipation of new customs controls enforced from January 1st. This 'pre-Brexit stockpile' led to the busiest quarter of RoRo traffic on record, and helped to balance almost all of the losses during the first wave of the pandemic in Ireland. In response to the impact of COVID-19 on the Irish shipping sector, the IMDO began a weekly monitor of the RoRo and LoLo markets in early March 2020. Figure 12 illustrates the weekly volumes of ROI RoRo traffic throughout 2020, compared against a 2019 benchmark.

The shipping companies operating in this market should be commended for the resilience and adaptability shown to overcome the significant and overlapping challenges of COVID-19 and Brexit, and for ensuring that essential food and medicine continued to flow throughout the entirety of a very challenging year.

Figure 12: Republic of Ireland RoRo Units, Weekly



Source: *IMDO*

1.3 Lift-on/Lift-off (LoLo) Market

LoLo volumes on the island of Ireland declined by 2% in 2020, equivalent to 32,000 fewer twenty-foot equivalent units (TEUs). In the Republic of Ireland, volumes fell by 0.4%, or 4,500 TEUs. There was a much steeper decline in Northern Ireland, where volumes fell by 11%, or 27,500 TEUs. Table 9 presents the volume of LoLo traffic, both laden and unladen, through ports on the island of Ireland in 2019 and 2020.

As outlined in Table 9, Dublin Port was the only ROI port to record a decline in 2020. Volumes fell by 2%, or 16,000 TEUs. Volume through Cork and Waterford increased by 4% and 3% respectively. Market shares were roughly constant in 2020. In Northern Ireland, Belfast made up 92% of the market in 2020. A 12% decline through Belfast port drove the overall decline in Northern Ireland.

Similar to the RoRo market, 2019 was a record year for LoLo volume in the Republic of Ireland, wherein 1 million TEUs were handled for the first time since 2008, in the wake of the financial crash. To surpass 1 million TEUs for a second consecutive year despite the considerable disruption to global trade caused by the COVID-19 pandemic is testament to the resilience and adaptability of the LoLo freight sector.

Table 9: All Island LoLo TEUs, Laden & Unladen

	2019		2020		Year-on-Year Change	
	Tonnes	% Share	Tonnes	% Share	%	Tonnes
Cork	240,186	23%	250,324	24%	4%	10,138
Dublin	774,056	73%	757,722	72%	-2%	-16,334
Waterford	49,348	5%	50,845	5%	3%	1,497
Total Ireland	**1,063,589**	**100%**	**1,058,890**	**100%**	**-0.4%**	**-4,699**
Belfast	231,407	93%	203,889	92%	-12%	-27,518
Warrenpoint	17,200	7%	17,070	8%	-1%	-130
Total Northern Ireland	**248,607**	**100%**	**220,959**	**100%**	**-11%**	**-27,648**
Total All-Island	**1,312,196**	**100%**	**1,279,849**	**100%**	**-2%**	**-32,347**

Source: *IMDO*

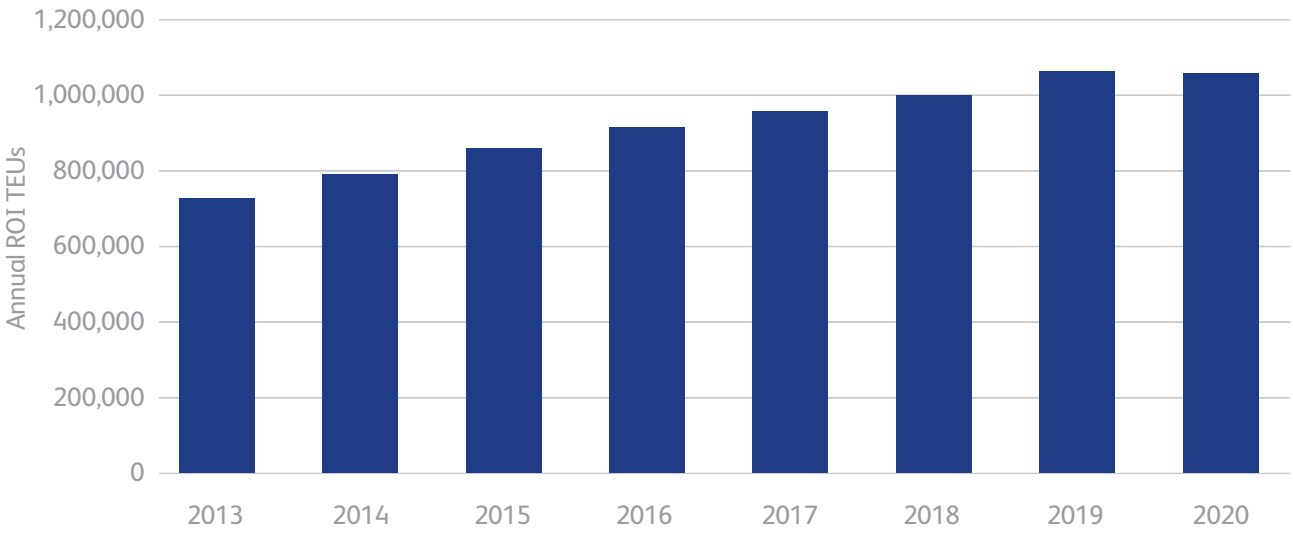
Many of the trends that emerged in the RoRo market in 2020 were also evident in the LoLo market. Services offered by both sectors can be effective substitutes for one another, and shipping operators compete for similar business. To understand the changes in ROI LoLo volumes recorded throughout 2020, the following sections will outline the key trends that emerged in the Irish market this year, as well as those trends that have been consistent for several years.

Stalled Momentum

One of the most significant impacts of the COVID-19 pandemic on the ROI LoLo market was that it brought to an end six consecutive years of growth. 2020 is the first decline in ROI LoLo volume since 2013 (see Figure 13 below). Between 2013 and 2019, LoLo volumes averaged 5% per year, more than twice the rate of growth in the RoRo sector during that period.

After a period of decline in the first half of the last decade, ROI LoLo volumes added approximately 50,000 TEUs on average each year from 2013 to 2019. As mentioned above, 2019 was the busiest year of the decade. 2020 is therefore the second busiest year of LoLo traffic of the past ten years, despite the considerable disruption caused by the COVID-19 pandemic. Like the RoRo market, 2019 is a benchmark year that will likely be surpassed in a post-pandemic economy.

Figure 13: LoLo TEUs, Republic of Ireland, 2013 - 2020



Source: *IMDO*

A Year of Two Halves

The performance of the ROI LoLo market in 2020 is better understood when the year is separated into the first half, January – June (H1), and the second half, July – December (H2). Table 10 below illustrates the change in ROI LoLo volumes in each period.

Table 10: Republic of Ireland, LoLo TEUs, H1 & H2

	H1 2019	H1 2020	Growth (%)	H2 2019	H2 2020	Growth (%)
ROI TEUs	**534,941**	**504,055**	**-6%**	**528,648**	**554,835**	**5%**

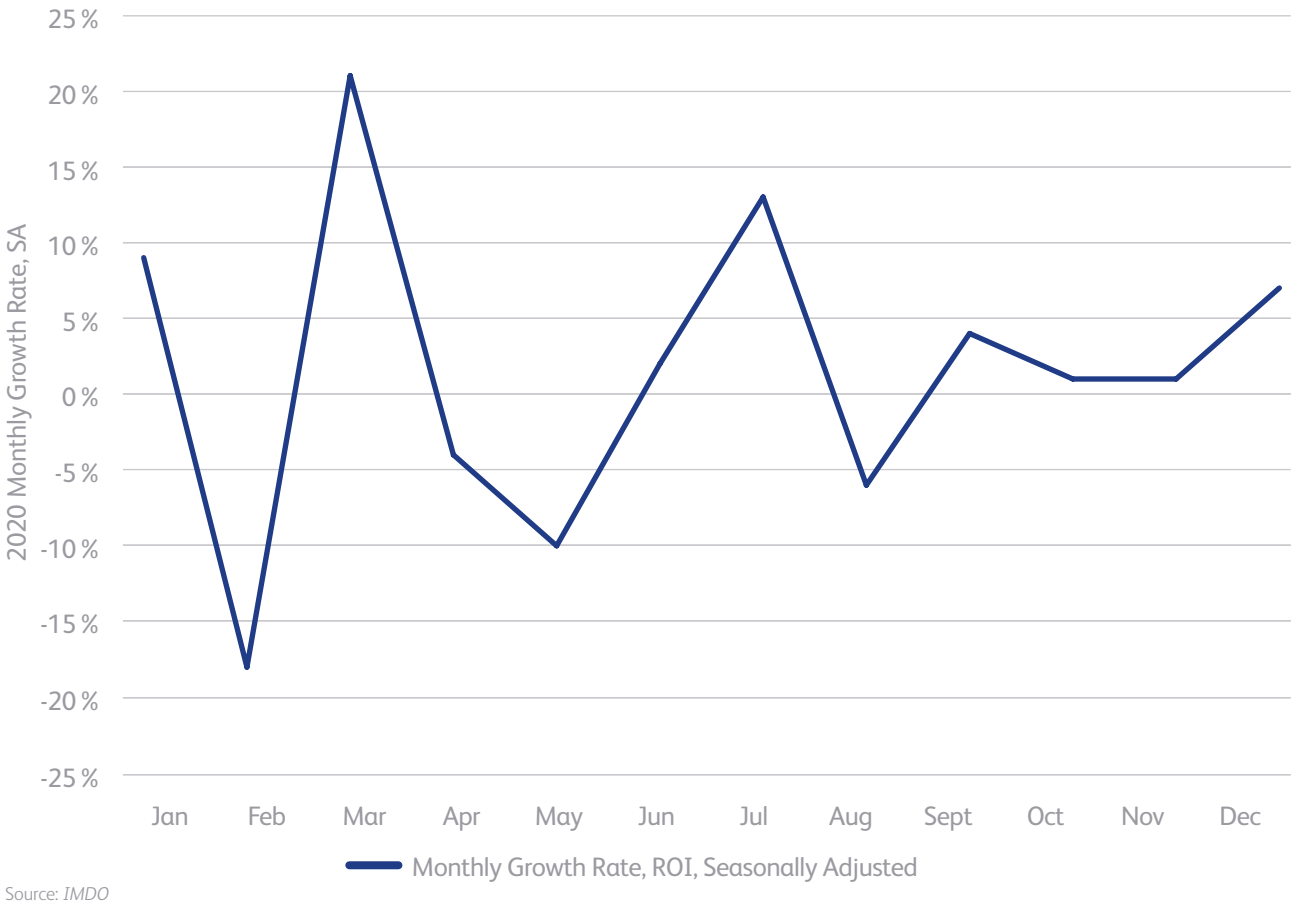
Source: *IMDO*

As shown in Table 10, H1 2020 volumes declined by 6%, equivalent to 31,000 fewer TEUs compared to 2019. Almost all of this was recovered in H2 2020, which recorded an additional 26,000 TEUs.

Economic restrictions introduced to halt the spread of COVID-19 had a significant and immediate effect on LoLo traffic both north and south. The impact of these restrictions on economic activity were concentrated between April and June 2020. ROI LoLo volume fell 5% in April and by 14% in May when compared to the same months in 2019. Consecutive declines of this magnitude had not been recorded in the ROI LoLo market since 2011. TEU volumes were still down by 9% in June, as the LoLo market recovered relatively slower than the RoRo market.

A phased reopening of certain sectors of the Irish economy began towards the end of May 2020. This also had an immediate effect on LoLo traffic, as pent up demand began to be satisfied over the summer period. Figure 14 below shows the seasonally adjusted monthly growth rate in ROI LoLo volumes, wherein the 'bounce back' between May and July is illustrated. As with the Irish RoRo market, this resurgence peaked in July, as 95,000 TEUs units were handled across Dublin, Cork and Waterford, one of the busiest months for LoLo traffic on record.

Figure 14: Republic of Ireland LoLo TEUs, Monthly Growth Rate 2020, Seasonally Adjusted (SA)[9]



Source: *IMDO*

[9] The fluctuation between February and March 2020 is explained by a period of inclement weather, wherein many sailings were delayed and / or cancelled. Much of this volume was recovered in March.

Pre-Brexit Surge

The RoRo and LoLo sectors continued to exhibit similar trends in the last few months of 2020. As highlighted in Section 1.2, the volume of RoRo trade was unprecedentedly high in Q4 2020. The LoLo market also recorded its busiest ever quarter of traffic, with over 280,000 TEUs handled at Dublin, Cork and Waterford in Q4 2020. In addition, October 2020 was the busiest month of LoLo traffic on record, with 98,000 TEUs. Average monthly volumes in 2019 were 88,500 TEUs. In fact, three of the four busiest months of LoLo traffic were recorded in 2020 - July, October & November – illustrating that 2020 was a year of fluctuation, and that demand from importers and exporters in Ireland was concentrated between periods of 'lockdown.' Figure 15 below shows the year-on-year (Y-o-Y), unadjusted increase in LoLo volumes for each month of 2020. Positive Y-o-Y growth was recorded in each of the last four months of the year, despite many economic restrictions still being in place in Ireland, the UK and continental Europe.

Figure 15: Republic of Ireland LoLo TEUs, Year-on-Year Growth Rate, 2020

Source: *IMDO*

The vast majority of LoLo services on the island of Ireland are direct to continental EU ports, meaning the surge in late 2020 is not interpreted as a period of stockpiling ahead of new customs controls on GB trade that began in January 2021. Instead, many of the factors that drove a surge in ROI – EU RoRo volumes, also drove increases in LoLo traffic, as LoLo and RoRo services are substitutes for one another, and operators in each market compete for similar business.

The increase in LoLo traffic in late 2020 occurred alongside a campaign led by the IMDO and Department of Transport encouraging importers and exporters to 'Be Prepared' and to 'ACT Now' by **A**ssessing current supply chains, **C**ommunicate future demand to shipping companies, and **T**rial alternative routes, such as direct sailings from ROI to the continent. It is clear that there was increased demand on the part of importers and exporters in Ireland for LoLo services ahead of the formal introduction of Brexit regulations. This growth continued into Q1 2021, as LoLo traffic recorded another quarter of traffic above 280,000 TEUs, the second busiest on record.

1.4 Passenger Market

No Irish maritime market segment has been more severely disrupted by the COVID-19 pandemic and its accompanying restrictions than the market for passengers. Precipitous declines were felt by all shipping operators in the passenger market due to COVID-19 travel restrictions. Many shipping operators in the RoRo market operate a RoPax model, whereby vessels are used that are capable of carrying passengers, passenger vehicles, and RoRo freight. Passengers are therefore an essential component for the business model of many operators in the Irish shipping sector, and the declines recorded this year introduced risks to the viability of RoPax services.

Tourism / passenger numbers on the island of Ireland fell by 65% in 2020, an unprecedented annual decline. In the Republic of Ireland, 1.8 million fewer passengers travelled to and from the ports listed in Table 11 below, a decline of 73%. In Northern Ireland, 960,000 fewer passengers travelled to and from the ports of Belfast and Larne, a decline of 54%. In all, 2.75 million fewer passengers travelled on ferry services on the island of Ireland in 2020.

Table 11: All-Island Tourist Passenger Numbers

	2019	2020	Growth (%)	Diff
Dublin	1,778,698	513,118	-71%	-1,265,580
Rosslare	581,613	150,405	-74%	-431,208
Cork	113,346	9,083	-92%	-104,263
Total Ireland	**2,473,657**	**672,606**	**-73%**	**-1,801,051**
Total Northern Ireland	**1,774,760**	**812,892**	**-54%**	**-961,868**
Total All-Island	**4,248,417**	**1,485,498**	**-65%**	**-2,762,919**

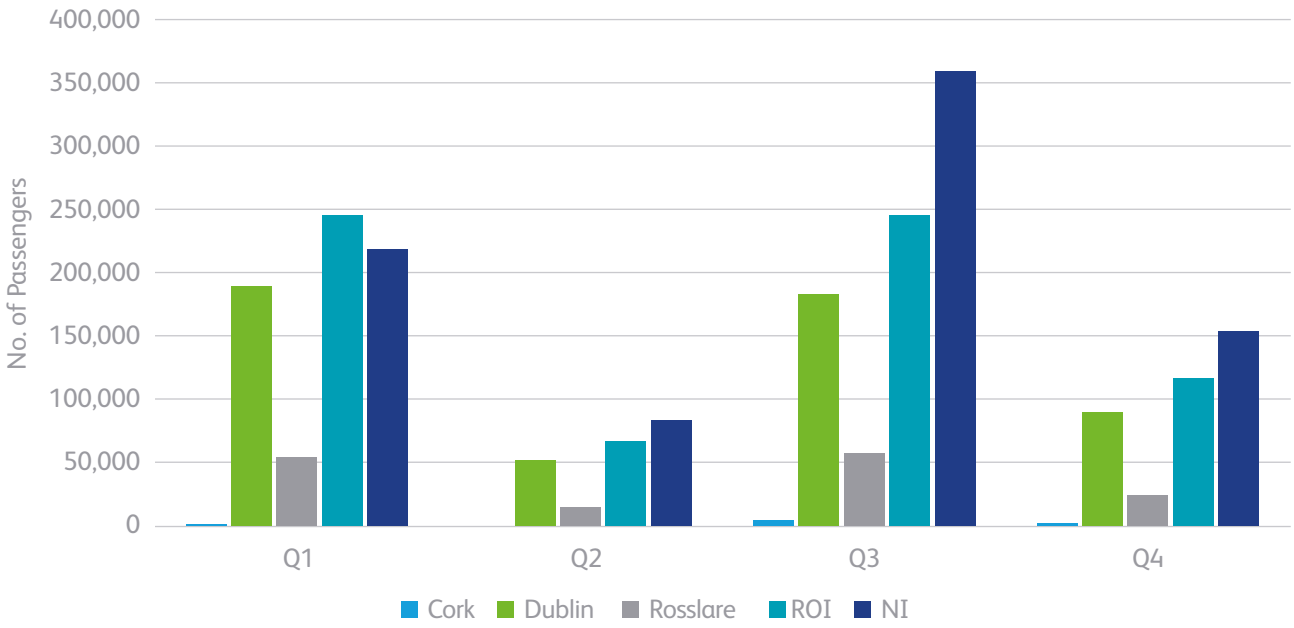
Source: *IMDO*

Figure 16 below shows the quarterly volumes of tourist passengers recorded in 2020. Q2 recorded the steepest drop, with volumes falling by 91% in the Republic of Ireland and by 83% in Northern Ireland.

During the peak summer months, or Q3, ROI volumes were still recording severe declines. Volumes in Q3 were down by 77%. In Northern Ireland, some losses were recovered during this period. NI passenger volumes declined by 46% in Q3 2020.

In percentage terms, the Port of Cork recorded the steepest declines throughout 2020. There were no passengers through the port in Q2 and 92% fewer passengers in Q3.

Figure 16: All-Island Passenger Numbers, Quarterly, 2020

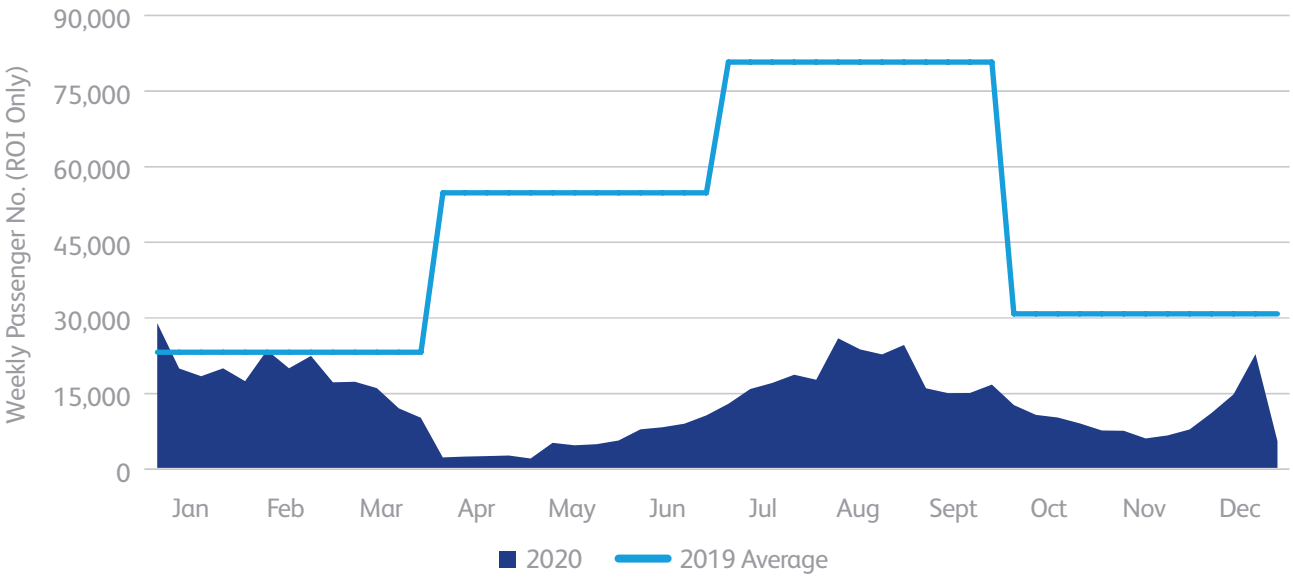


Source: *IMDO*

In response to the impact of COVID-19 on the Irish shipping sector, the IMDO began a weekly monitor of the unitised freight and passenger markets in early March 2020. Figure 17 below illustrates the weekly volumes of ROI passengers through Dublin Port, Rosslare Europort and the Port of Cork in 2020, set against 2019 averages. As shown in the figure, passenger numbers were severely below 2019 levels for almost all of 2020, reflecting the unprecedented challenges faced by operators in this market.

Passenger numbers across ROI ports did not surpass 30,000 per week throughout 2020, despite averaging over 50,000 per week in a 'typical' spring, and 80,000 per week in summer.

Figure 17: Republic of Ireland Passenger Numbers, Weekly



Source: *IMDO*

Table 12 shows the volume of tourist passengers on the island of Ireland broken down by ferry route. As shown, ROI – EU passenger volumes, or continental passenger volumes, recorded the steepest proportional declines of 83%.

Table 12: All-Island Passenger Numbers, by Route

	2019	2020	Growth (%)	Diff
ROI - EU	380,207	63,824	-83%	-316,383
ROI - GB	2,093,450	608,782	-71%	-1,484,668
NI - GB	1,774,760	812,892	-54%	-961,868
Total	**4,248,417**	**1,485,498**	**-65%**	**-2,762,919**

Source: *IMDO*

1.5 iShip Index

Since 2007 the IMDO has produced the iShip Index, a quarterly weighted indicator that outlines trends within Ireland's[10] shipping industry, and as a result, the wider economy. The index accounts for five separate market segments, representing the main maritime traffic sectors moving through ports in Ireland. Unitised trade includes Lift-on/Lift-off (LoLo) and Roll-on/Roll-of (RoRo), while Bulk traffic includes Break Bulk, Dry Bulk and Liquid Bulk. All three of the bulk segments are measured in tonnes. In order to establish a common denominator, the LoLo and RoRo volumes are expressed in tonnage terms within the index, whereby 1 Twenty-Foot Equivalent Unit (TEU) = 10 tonnes, and 1 RoRo Freight Unit = 14 tonnes. The base period is Quarter 1 2007 at which point, all indices were set at 1,000.

Figures 18 to 23 below illustrate the performance of the iShip index in each sector of the shipping market in the Republic of Ireland. The suppressive and immediate impact of the COVID-19 pandemic is evident in each index. Like many sectors of the Irish economy, economic activity was brought to a sudden halt in March 2020, and this was evident in the traffic flows through Irish ports.

Declines in fuel imports for domestic transport and aviation suppressed liquid bulk volumes, and a halt to all construction activity had an immediate impact on break bulk cargo. In the unitised trade sector, the closure of restaurants and retail outlets led to the steepest quarterly declines recorded in LoLo and RoRo since the financial crash in 2008/09.

Also evident in the below indices is the resurgence in port traffic in the latter half of 2020, particularly in unitised trade. A phased reopening of the Irish economy, a pre-Brexit stockpile in merchandise goods on GB routes, and a surge in the use of direct services to the continent, all led to a recovery in unitised traffic in the last 6 months of the 2020.

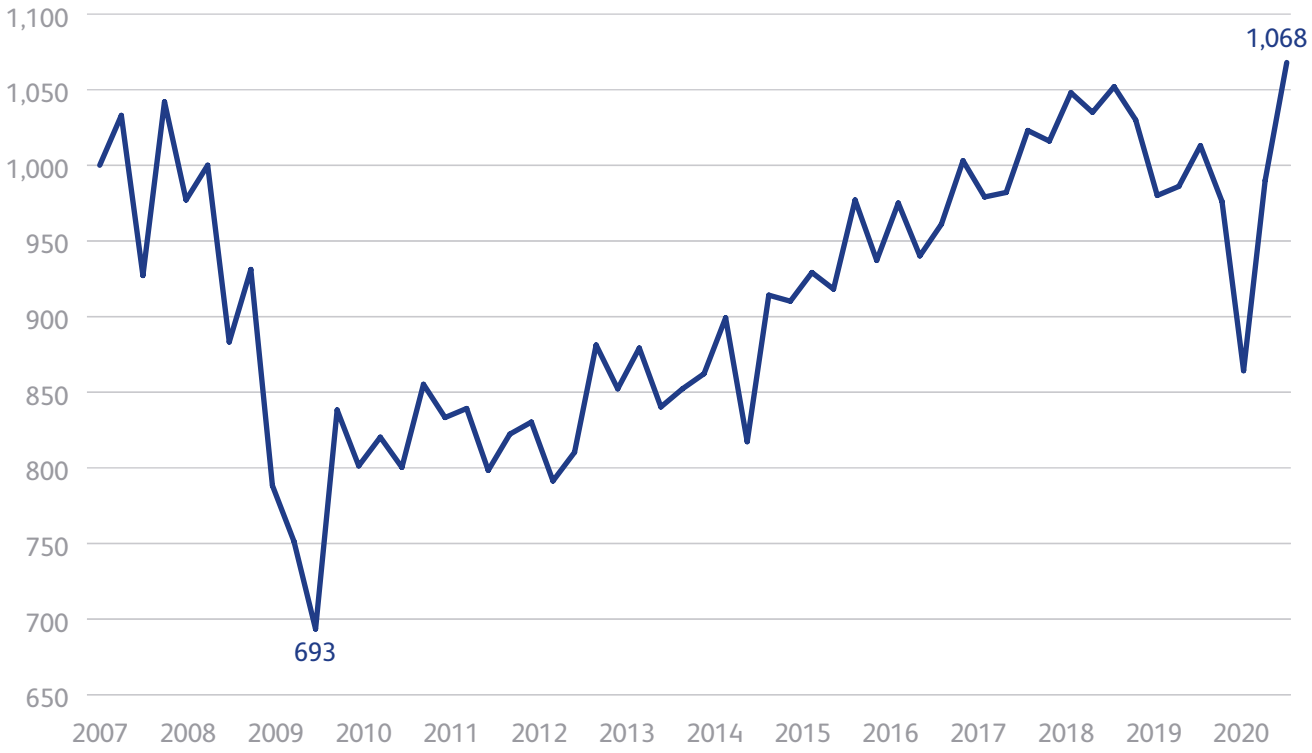
Overall, Irish ports in 2020 faced the most significant challenges in the last decade. Despite this, the iShip index fell by just 1%. In the final quarter of 2020, over 14 million tonnes passed through Irish ports, the highest volume since at least 2007 and reflective of the significant preparations made by Irish importers and exporters ahead of new Brexit customs controls which began on January 1st 2021.

At this early stage of 2021, it is too early to quantify the impact on Brexit of tonnage volumes through Irish ports. The IMDO will continue to monitor this closely, particularly focusing on emerging trends and new trading patterns in the Irish shipping sector.

What is clear from 2020 is that the Irish port sector is resilient, capable of withstanding sizeable challenges like COVID-19, and importantly, capable of adapting to changes in trading rules with Great Britain and responding to new demand patterns. This is typified by the response in the unitised trade sector to the demand for increased capacity on direct services to EU ports, as outlined in Section 1.2. The response to Brexit showed that the unitised shipping sector is highly competitive, open and dynamic.

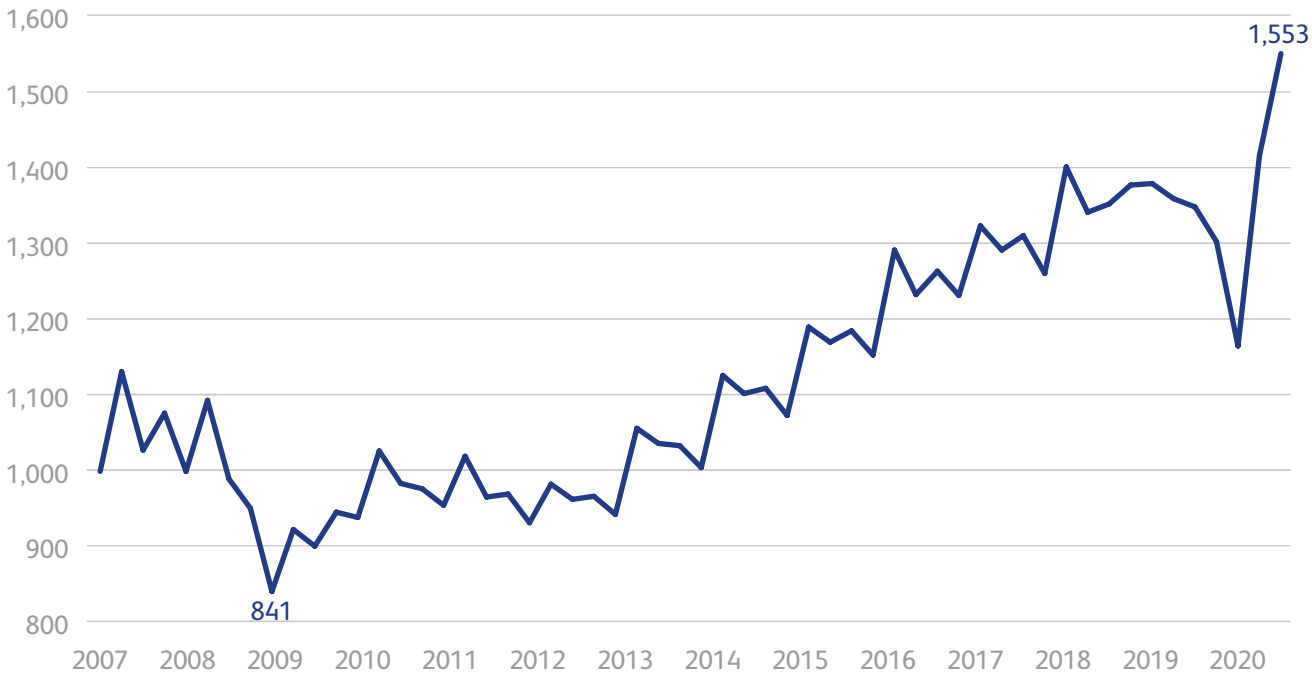
[10] The iShip index does not include ports in Northern Ireland.

Figure 18: Total iShip Index



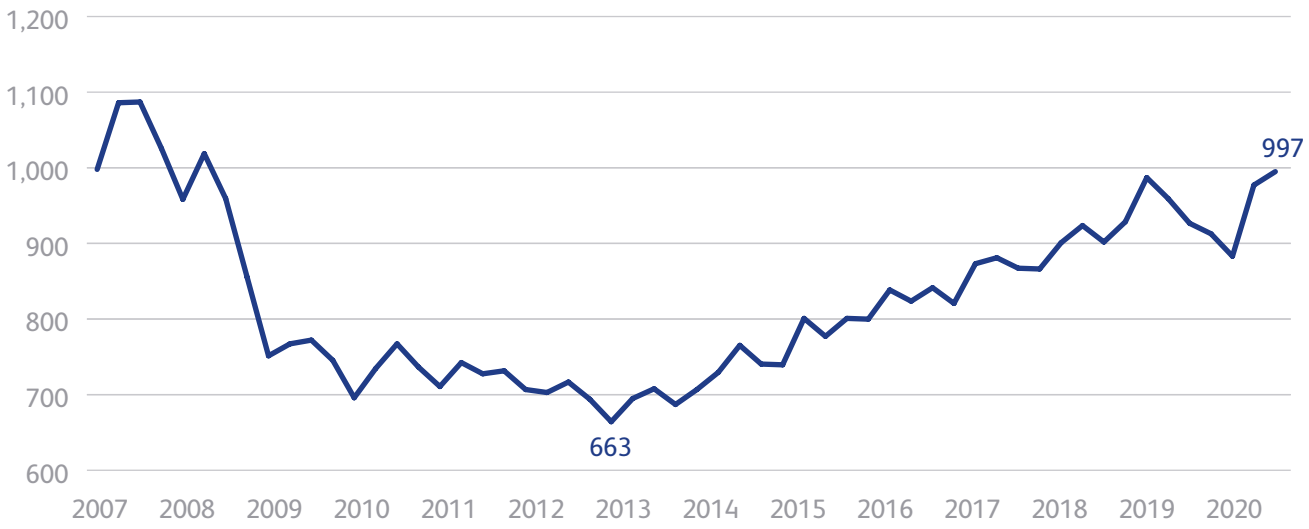
Source: *IMDO*

Figure 19: RoRo Index



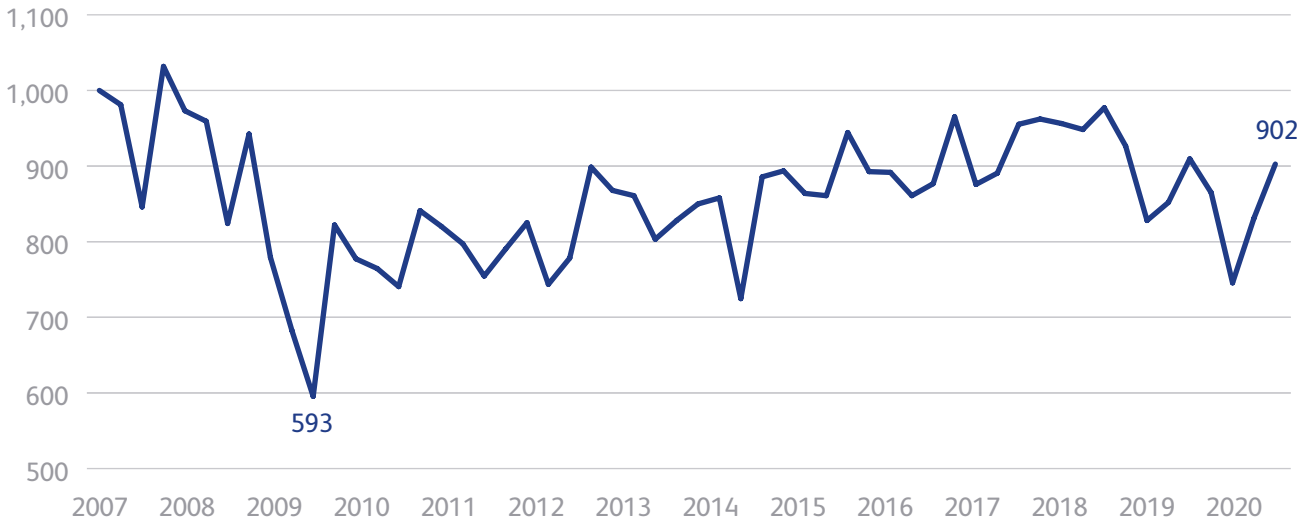
Source: *IMDO*

Figure 20: LoLo Index



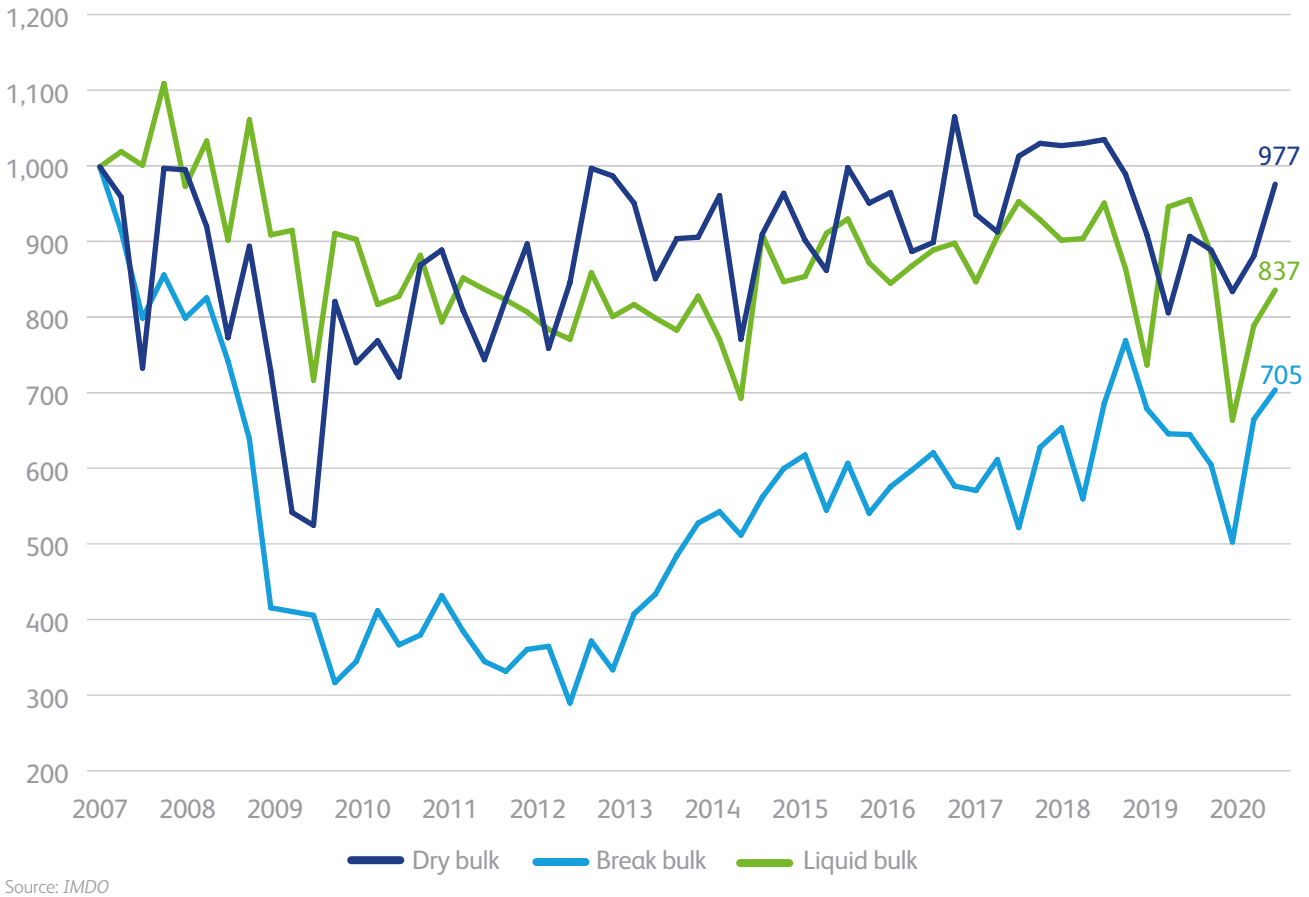
Source: *IMDO*

Figure 21: Combined Bulk Index; Dry bulk, Liquid bulk, Break bulk



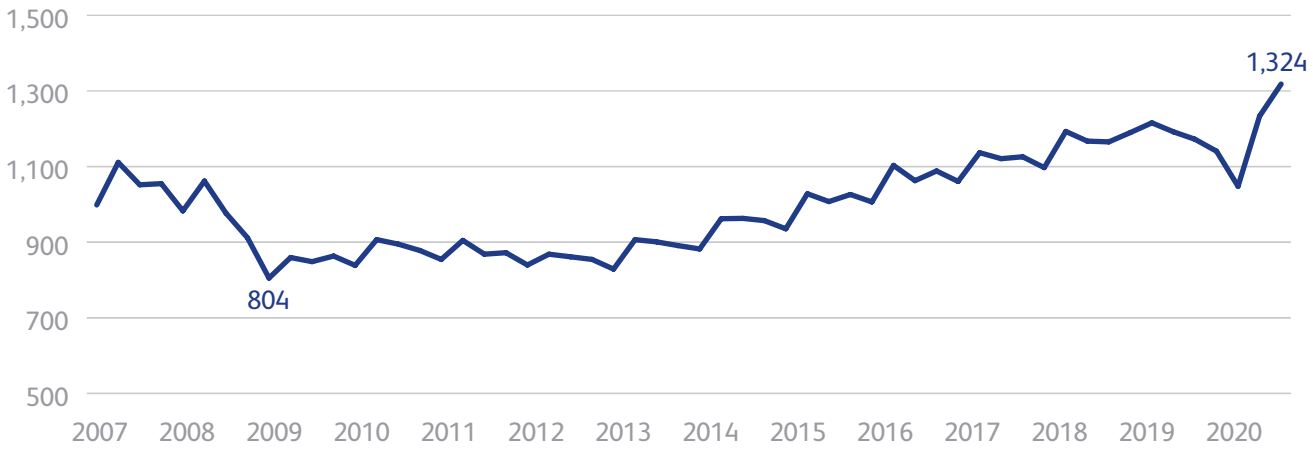
Source: *IMDO*

Figure 22: Individual Bulk Indices; Dry bulk, Liquid bulk, Break bulk

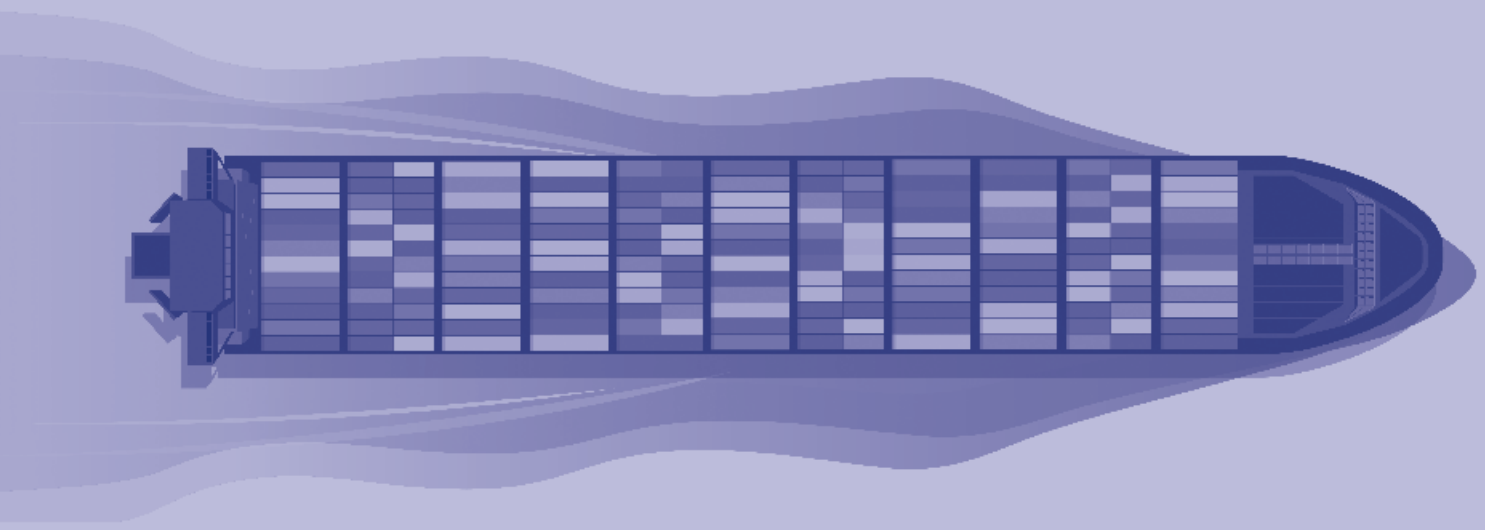


Source: *IMDO*

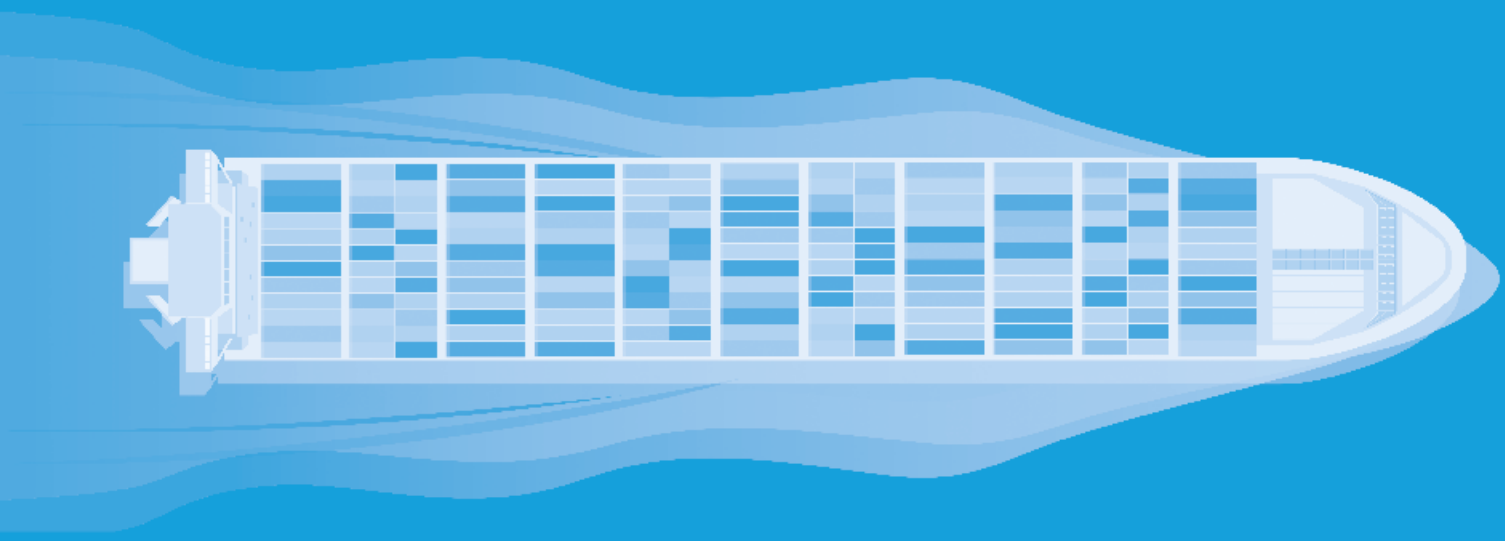
Figure 23: Unitised Trade (RoRo & LoLo) iShip Index



Source: *IMDO*



Section 2: **Irish Merchandise Imports - Market Outlook**



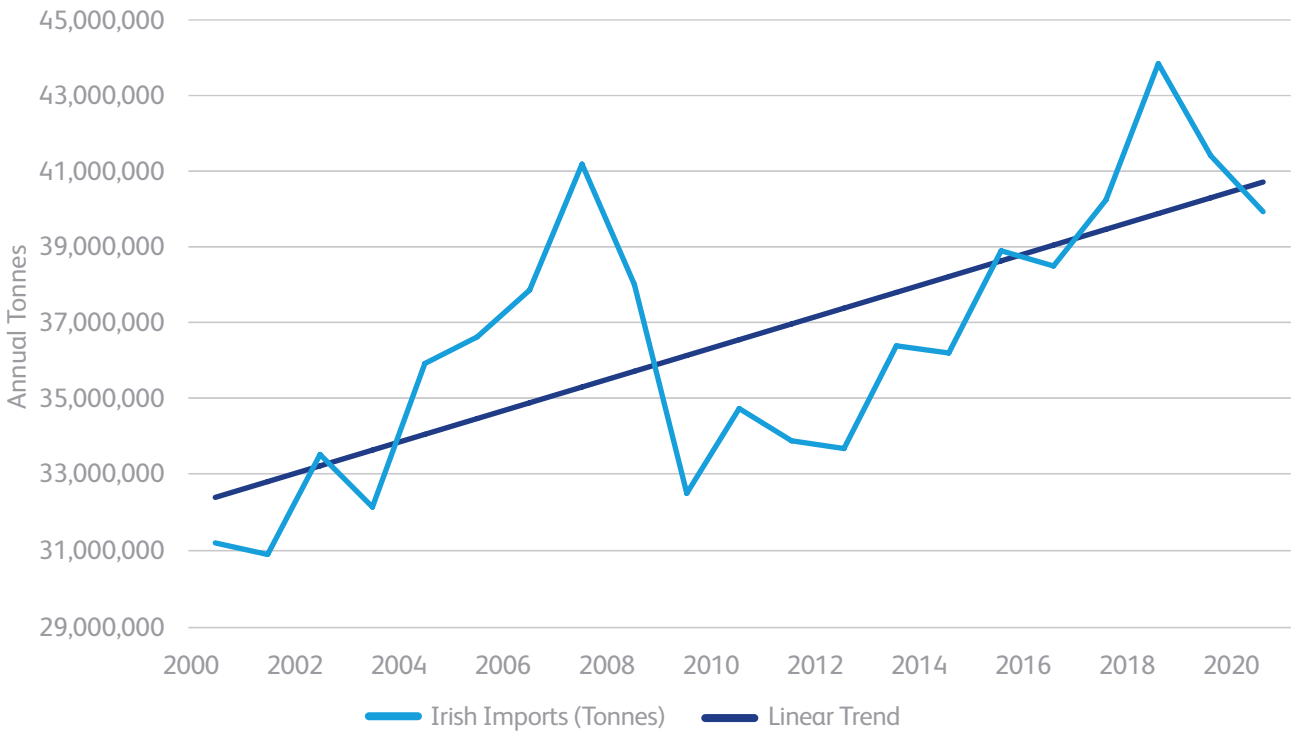
2.1 Merchandise Trade Review of Irish Imports

2.1A Tonnage

Approximately 90% of all imported and exported tonnage in Ireland is handled by ports. Import tonnage fell by 3.5% in 2020, to 40 million tonnes. This is equivalent to an annual decline of 1.5 million tonnes. Overall, the trend in Irish imported tonnage over the past 2 decades is upward, with the country importing between 400,000 and 450,000 additional tonnes per year during that time. This is illustrated below in Figure 24 which includes a linear trend line plotted alongside imported tonnage.

Import volumes between 2017 and 2019 were significantly impacted by a national fodder crisis that necessitated agricultural stockpiling. Average import volumes over these three years were approximately 39.9 million tonnes, or roughly equivalent to that of 2020. However, the COVID-19 pandemic negatively impacted tonnage volumes in 2020, illustrated by the fact that 2020 marks the first consecutive decline in imported tonnage since 2011/12.

Figure 24: Irish Merchandise Import Volumes, 2000 - 2020



Source: *CSO*

The impact of COVID-19 on Irish imports is better understood once the Standard International Trade Classification (SITC) categories are analysed in detail. Table 13 provides further analysis of Irish imports in 2019 and 2020, with products organised using SITC groupings.

Table 13: Irish Imported Tonnes by SITC Grouping

	2019	2020		
SITC Product Grouping	Tonnes	Tonnes	Growth (%)	Diff
Mineral fuels, lubricants and related products	12,343,561	11,109,779	-10%	-1,233,783
Food and live animals	9,225,007	9,072,278	-2%	-152,729
Crude materials	8,340,835	8,253,308	-1%	-87,527
Chemicals and related products	3,858,219	4,258,000	10%	399,782
Manufactured goods	4,137,378	3,833,795	-7%	-303,583
Machinery & transport equipment	1,216,740	1,100,946	-10%	-115,794
Beverages and tobacco	885,725	984,033	11%	98,307
Miscellaneous manufactured articles	1,083,583	978,871	-10%	-104,712
Animal and vegetable oils	321,499	363,306	13%	41,807
All Other Commodities	6,912	4,081	-37%	-2,831
Total	**41,419,460**	**39,958,397**	**-3.5%**	**-1,461,062**

Source: *CSO*

In line with previous years, the top three import categories in terms of tonnage were Mineral Fuels, Crude Materials and Food & Live Animals, which made up over 70% of all imported Irish tonnage in 2020. As outlined below, the decline in import tonnage through 2020 was driven predominantly by mineral fuels, and offset by chemical products.

Mineral Fuels

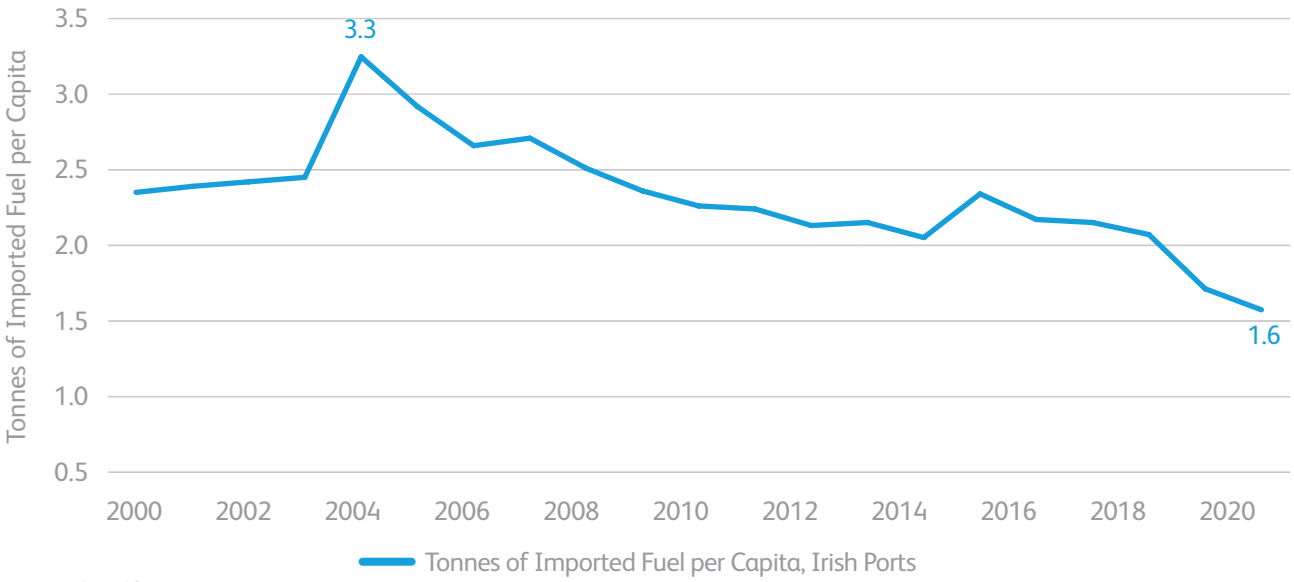
As stated in the SEAI's Energy Ireland report[11], 87.5% of Ireland's primary energy supply is made up of coal (2.6%) peat (4.3%), oil (49%) and gas (31%).

The mineral fuels category referred to in Table 13 is made up of coal, oil and gas products imported from outside of Ireland. As a result, it does not include indigenous gas supply (for example, Corrib gas) which rose substantially in the past two years. Over 98% of Ireland's non-indigenous imported natural gas came from Great Britain, which is supplied through an interconnector from Scotland. As a result, only Coal and Oil is handled at Irish ports.

Figure 25 below compares coal and oil imports with CSO population estimates, providing an illustration of Ireland's dependency on imported energy arriving through the country's ports.

[11] Energy in Ireland 2020 Report, SEAI

Figure 25: Republic of Ireland Coal & Oil Imports per Capita, 2000 - 2020



Source: *Adapted from CSO*

As evident in Figure 25, Ireland imported approximately 3.3 tonnes of coal and oil per person in 2004, and that this has fallen to 1.6 tonnes in 2020, a 52% decline. The average for the previous 5 years was 2.1 tonnes, which indicates that the effects of the COVID-19 pandemic accelerated this trend due to collapsing demand for energy fuel, mainly for transportation.

Ireland's dependency on imported fuel through Irish ports is therefore declining, as it sources more energy from the pipeline from the UK, indigenous gas supply, and renewable energy. Despite this shift, the importance of Irish Port's in facilitating the energy requirements of the population is still significant. The reduction in dependency on ports for energy imports coincides with Ireland's reduction in demand for oil, coal and peat and the rise in indigenous natural gas and renewable energy production.

As shown in Table 13, the most significant decline in imported tonnage came in the mineral fuels category, which fell by 10%, or 1.2 million tonnes. Mineral fuels hold a roughly 30% share of all imported tonnage. The majority of mineral fuels are made up of petroleum products, gas and coal. The imported tonnage of mineral fuels in 2020 included the lowest volume of petroleum imports since 2003, and the lowest volume of mineral fuels overall since 2000.

Coal imports in 2019 and 2020 were significantly below previous years, which was mostly due to a reduction in activity at ESB coal fired power stations. As a result of this, coal imports in these years were the lowest on record. The pandemic greatly reduced demand for fuels, as both domestic and international travel dropped significantly, beginning in Q2 2020.

Food & Live Animals

Imported tonnage in the Food and live animals category declined by 2% in 2020. Within this was a 5% decline in vegetables, dairy products and meat products, which fell by roughly 100,000 tonnes when combined. This was offset by a rise in Beverages of 11%, also equivalent to 100,000 tonnes.

Chemicals & Related Products

A 10% rise in Chemicals & Related Products, equivalent to 400,000 tonnes, significantly offset the overall decline in imported tonnage in 2020. Notably, over 80,000 tonnes of this increase was driven by a rise in 'Medical & Pharmaceutical products' equivalent to a 147% annual increase. Categories such as these benefitted from the significant rise in imported volume of protective and sanitary products necessitated by the pandemic.

Manufactured goods

Manufactured goods, which holds a 10% share of all imported tonnage, declined by 7% in 2020, equivalent to 300,000 fewer tonnes. This was almost exclusively driven by declines in the import of iron & steel, as well as other manufactures of metal. As with other categories, the pandemic had a significant impact upon the manufacturing and construction sectors.

The decline in manufactured goods is reflected in the CSO's Production in Building & Construction Index. This is the first annual decline in this index in seven years. As with many sectors, this was mostly due to the economic disruption experienced in Q2, wherein the index fell by 38% compared to Q1 2020, on a seasonally adjusted basis.

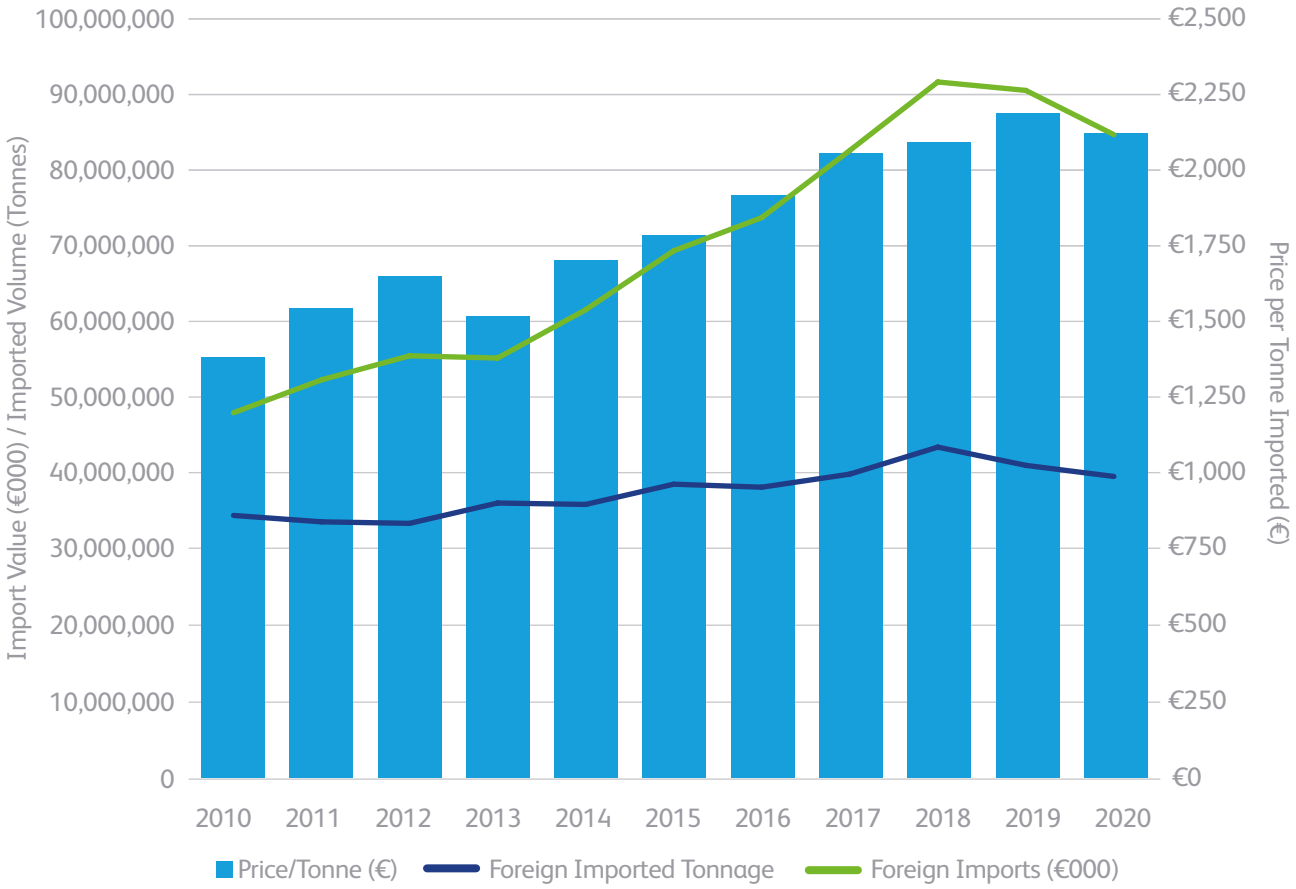
2.1B Value

The value of Irish imports declined by 6% in 2020. This represents a decline in value of €5.8bn. As a result, 2020 interrupts a period of significant growth in the value of Irish imports, wherein the value of imported merchandise goods rose by an average of 9% per year between 2014 and 2019.

During this period, the value of imports rose by roughly €5.9bn per year. The overall trend over the past two decades has, like tonnage, been upward. The value of Irish imports has risen by approximately €1.5bn - €2bn per year since 2000.

A significant trend to emerge in the latter half of the 2010's was the increase in the price per tonne of Irish merchandise imports. Illustrated in Figure 26 below, the price per tonne of Irish imports in 2020 was €2,127, a 3% decline over 2019. However, the price per tonne of Irish imports rose by an average of 6% per year between 2014 and 2019. Irish imports in 2020 were 53% more expensive per tonne than in 2010, in nominal terms.

Figure 26: Republic of Ireland Import Volume, Import Value, & Price per Tonne, 2010 - 2020



Source: *Adapted from CSO*

The impact of COVID-19 on Irish imports is better understood once the SITC categories are analysed in detail. Table 14 provides further analysis of Irish import value in 2019 and 2020, with products organised using Standard International Trade Classification (SITC) groupings.

Table 14: Irish Import Value by SITC Grouping

	2019	2020		
SITC Product Grouping	(€m)	(€m)	Growth (%)	Diff
Machinery & transport equipment	40,810,535	32,103,117	-21%	-8,707,418
Chemicals and related products	16,998,682	21,220,920	25%	4,222,238
Miscellaneous manufactured articles	9,480,486	10,214,100	8%	733,615
Food and live animals	7,818,145	7,856,990	0%	38,845
Manufactured goods	5,881,727	5,754,104	-2%	-127,623
Mineral fuels, lubricants and related products	5,443,368	3,364,002	-38%	-2,079,366
All other commodities	2,128,350	2,166,314	2%	37,965
Beverages and tobacco	989,327	1,071,326	8%	82,000
Crude materials	1,001,933	939,921	-6%	-62,012
Animal & vegetable oils	258,949	296,382	14%	37,433
Total	**90,811,501**	**84,987,179**	**-6%**	**-5,824,322**

Source: *CSO*

The most significant decline in imported value was recorded in the Machinery and transport equipment category. The value of these imports fell by 21%, or €8.7bn. The decline in this category was driven exclusively by a 41% drop in the subdivision of "Other Transport Equipment", which includes the industry for the leasing of aircraft. Import value in this subdivision fell by almost €9bn, and is indicative of the impact of COVID-19 on the market for international travel.

Machinery and transport equipment, and Chemicals & related products make up approximately two-thirds of the value of all Irish imports when combined. In 2020, the dramatic decline in the value of imports within machinery & transport were offset by a 25% rise in the value of imports of Chemicals & related products. This rise was equivalent to an additional €4.2bn in value.

The increase in Chemicals & related products was driven by two subdivisions; Organic Chemicals and Medical & Pharmaceutical Products, which added €3.2bn and €1.2bn respectively in imported value this year. After steadily increasing each year in the first half of the decade, the value of Medical & Pharmaceutical imports over the last 5 years has fluctuated. The value of this category rose by 17% in 2020, however, €8.3bn is approximately average for the latter half of the 2010's. The 2020 increase in organic chemical products is more significant. The average value between 2015 and 2019 stood at approximately €4bn. The value in 2020 is roughly twice that amount, at €7.9bn. This represents a 66% increase on 2019. In all, Chemicals and related products now account for one quarter of all imported value in 2020.

Elsewhere, the import value of food and live animals remained static in 2020, while the value of manufacturing imports increased by 8%, or €0.7bn. This was driven by a rise in the import of Professional, scientific & controlling apparatus worth €0.3bn.

2.2 Ireland's Merchandise Trading Partners

2.2A Tonnage

Table 15 presents Ireland's largest import trading partners in goods other than those related to energy and raw materials. Among the goods excluded are: oil, crude materials, fertilizers and scrap metal, all of which are high volume industrial products. The merchandise goods in Table 15 represent 50% of Ireland's total tonnage imports from abroad.

Table 15: Ireland's Top Merchandise Import Partners in Volume terms, Excluding Energy & Raw Materials[12]

	2019	2020		
	Tonnes	Tonnes	Growth (%)	Diff
Great Britain	5,970,023	5,605,557	-6%	-364,466
Northern Ireland	1,978,351	2,022,732	2%	44,381
Germany	1,322,490	1,368,549	3%	46,059
Netherlands	1,031,193	1,101,308	7%	70,114
France	944,073	997,463	6%	53,389
United States	1,149,281	970,823	-16%	-178,459
Belgium	803,873	813,829	1%	9,956
Argentina	631,183	797,839	26%	166,656
Spain	762,732	737,937	-3%	-24,795
Russia Federation	522,731	565,723	8%	42,992
China	570,542	560,290	-2%	-10,251
Other	5,048,590	5,053,262	0%	4,672
Total	**20,735,064**	**20,595,311**	**-1%**	**-139,753**

Source: *CSO*

As illustrated in Table 15, Ireland's non-energy imports were stable in 2020. The largest decline came in imports from Great Britain, which fell by over 350,000 tonnes. Driving this decline was fewer imports of manufactured items, equivalent to roughly 200,000 tonnes. This was partly offset by a 70% rise in the import of chemical materials of just under 100,000 tonnes. Great Britain holds a 27% share of Ireland's non-energy imports, while Northern Ireland accounts for 10%.

Five of Ireland's top ten non-energy trading partners are within the European Union. When combined, 5 million tonnes of non-energy goods were imported from the Member States listed in Table 15 in 2020, a 3% rise versus 2019.

Elsewhere, significant fluctuations in imports from Argentina and the USA can be explained by animal feed. Imports of animal feed from the US declined by 190,000 and rose from Argentina by roughly the same amount.

Table 16 presents Ireland's top import partners for Energy and Raw material products. The total volume included in Table 16 accounts for approximately 40% of all of Ireland's imports from abroad.

[12] All SITC categories excluding category 2 (Crude materials, inedible, except fuels), & category 3 (Mineral fuels, lubricants and related products)

Table 16: Ireland's Top Merchandise Import Partners in Volume terms, Energy & Raw Materials Only[13]

	2019	2020		
	Tonnes	Tonnes	Growth (%)	Diff
Great Britain	3,725,577	3,283,988	-12%	-441,590
Guinea	3,273,447	3,162,455	-3%	-110,992
United States	2,559,822	2,581,133	1%	21,311
Northern Ireland	1,545,895	1,902,100	23%	356,206
Brazil	1,395,101	1,543,871	11%	148,771
Norway	511,751	559,420	9%	47,669
Spain	691,130	529,700	-23%	-161,430
Russian Federation	597,627	522,027	-13%	-75,600
Netherlands	682,910	424,184	-38%	-258,725
Other	1,835,698	1,608,428	-12%	-441,590
Total	**16,818,957**	**16,117,307**	**-4%**	**-701,650**

Source: *CSO*

Imports of natural gas and electrical current are excluded from Table 16, due to the fact that the vast majority of these products do not make use of Ireland's port infrastructure.

As stated in the SEAI's Energy Ireland report, more than half of Ireland's primary energy supply employs the use of coal, oil and peat, all of which are included in Table 16. As a result, the table is reflective of Ireland's dependence on its port network not only for raw materials for industrial production, but for the provision of primary energy.

Economic restrictions on industrial production, as well as domestic and international transport, had a significant effect on Ireland's demand for raw materials and energy in 2020. Imports of these products fell by 4%, or 700,000 tonnes.

The overall decline was offset significantly by a rise in imports of crude minerals and fertilisers from Northern Ireland, worth over 330,000 tonnes. Once this is excluded, the overall decline in energy and raw materials rises above 1 million tonnes. The largest declines were recorded from Great Britain and the Netherlands. In the case of both countries, the changes were driven by the fall in demand for petroleum products.

As highlighted, Table 16 is comprised of both primary energy products and raw industrial & agricultural materials. The pandemic's effect was concentrated on energy products however, which account for 90% of the decline in Table 16.

When primary energy is considered alone, Ireland's import of petroleum products is dominated by the United States and Great Britain. When combined, both countries hold a two thirds share of all of Ireland's petroleum imports in 2020. The Russian Federation, Norway and Northern Ireland hold another 17%, while the Netherlands is the only EU member state with a significant stake in Ireland's petroleum imports, with a 4% share.

As for raw materials, Guinea and Brazil account for close to 60% of Ireland's imports among this category. Imports from these countries is dominated by metalliferous ores & scrap metal. Great Britain and Northern Ireland account for another 25%, where imports of raw materials are concentrated around agriculture.

[13] Includes SITC category 2 (Crude materials, inedible, except fuels), & category 3 (Mineral fuels, lubricants and related products). Natural Gas (34) and Electrical Current (35) are excluded as they do not make predominant use of port infrastructure.

2.2B Value

Table 17 details Ireland's top trading partners in value terms, with energy and raw materials excluded. As shown in Table 17, the value of non-energy imports into Ireland fell by 4% in 2020, worth approximately €3.7bn.

Table 17: Ireland's Top Merchandise Import Partners in Value terms, Excluding Energy & Raw Materials

	2019	2020		
	€000	€000	Growth (%)	Diff (€000)
Great Britain	15,795,290	15,880,792	1%	85,503
United States	12,851,237	11,567,714	-10%	-1,283,523
France	12,257,218	9,350,747	-24%	-2,906,471
Germany	7,423,666	6,683,064	-10%	-740,602
China	5,072,749	6,069,090	20%	996,341
Switzerland	2,156,988	4,220,871	96%	2,063,884
Netherlands	2,676,177	2,717,176	2%	40,999
Belgium	1,600,855	1,816,205	13%	215,351
Italy	1,443,897	1,710,932	18%	267,036
Spain	1,368,479	1,561,582	14%	193,103
Other	21,719,645	19,105,080	-12%	-2,614,565
Total	**84,366,200**	**80,683,255**	**-4%**	**-3,682,945**

Source: *CSO*

The 4% decline in Table 17 was offset by an additional €3bn worth of imports from Switzerland and China. Driving the growth in value from China were articles of apparel/clothing accessories, which rose by €280m (+60%). The price per tonne of this category of Chinese import rose by 78% as a result. As for Switzerland, a €1.9bn rise in the import of Organic Chemicals, an annual increase of 113%, drove this significant value change.

Elsewhere, the large decline in the value of French imports was driven by 'Other Transport Equipment', which as noted, includes the industry for the leasing of aircraft. The same influential category drove declines from the United States. Once France is excluded, the value of imports from the EU Member State's in Table 17 was stable.

Table 18 presents Ireland's top import partners in Energy and Raw materials. The value of energy and raw material imports into Ireland fell by a third in 2020. Import value declined from all of Ireland's main trading partners in this category. Once more, this was driven by the reduced demand for energy and industrial materials as a consequence of the economic restrictions in place for much of 2020.

The most significant value declines occurred from Great Britain and the United States, with declining petroleum imports the main cause in both cases.

Table 18: Ireland's Top Merchandise Import Partners in Value terms, Energy & Raw Materials Only

	2019	2020		
	€000	€000	Growth (%)	Diff (€000)
Great Britain	1,908,493	1,276,540	-33%	-631,953
United States	1,172,009	814,787	-30%	-357,221
Netherlands	420,388	250,154	-40%	-170,234
Russia Federation	265,318	156,169	-41%	-109,149
Norway	226,489	176,226	-22%	-50,263
Northern Ireland	195,962	165,771	-15%	-30,191
Guinea	129,555	122,511	-5%	-7,044
Brazil	79,991	77,058	-4%	-2,933
Other	989,415	548,580	-45%	-440,835
Spain	1,368,479	1,561,582	14%	193,103
Other	21,719,645	19,105,080	-12%	-2,614,565
Total	**5,387,619**	**3,587,797**	**-33%**	**-1,799,823**

Source: *CSO*

2.3 Key Drivers of Irish Merchandise Imports

Introduction

In section 1, a breakdown of the volumes handled at Irish ports across unitised and bulk shipping modes is provided. Section 2 focuses on imports and provides an insight into the types of goods handled and from which countries they originated. Underpinning these import volumes are the prevailing economic conditions in the domestic economy. In this section, the report outlines the performance of key economic indicators such as domestic demand and the domestic price level. This provides further context for the volumes received through Irish ports in 2020.

2.3 A) Domestic Demand

The COVID-19 pandemic was a severe and sudden shock to the domestic and international economy. Despite this, the Irish economy grew in 2020, albeit at a slower pace than the previous three years. Ireland's inflation adjusted Gross Domestic Product[14] (GDP) grew by 3.4% even with the public safety measures taken to combat the spread of COVID-19. Ireland and Luxembourg were the only two members of the European Union to record GDP growth in 2020.

However, once the dominant impact of multinational corporate activity in Ireland is taken into account, underlying demand conditions in Ireland recorded significant declines. As highlighted by the Central Bank of Ireland in April 2021, a surge in the export of high value pharmaceutical products, alongside the continued growth in Ireland's IT sector, masked the severity of this domestic decline.

Annual growth in Ireland's Gross National Product (GNP), which excludes net factor income earned abroad[15], was 0.6%. Modified domestic demand, an indicator which removes globalisation effects such as trade in intellectual property and aircraft leasing (CSO, 2021), declined by 5.4%. A similar indicator, modified investment,[16] declined by 8.5%, reflecting the impact of uncertainty for businesses surrounding not just the future path of economic restrictions, but also the impact of Brexit on the Irish economy. Lastly, private consumption on goods and services declined by 9%. This measure had been averaging 3% growth per year since 2015.

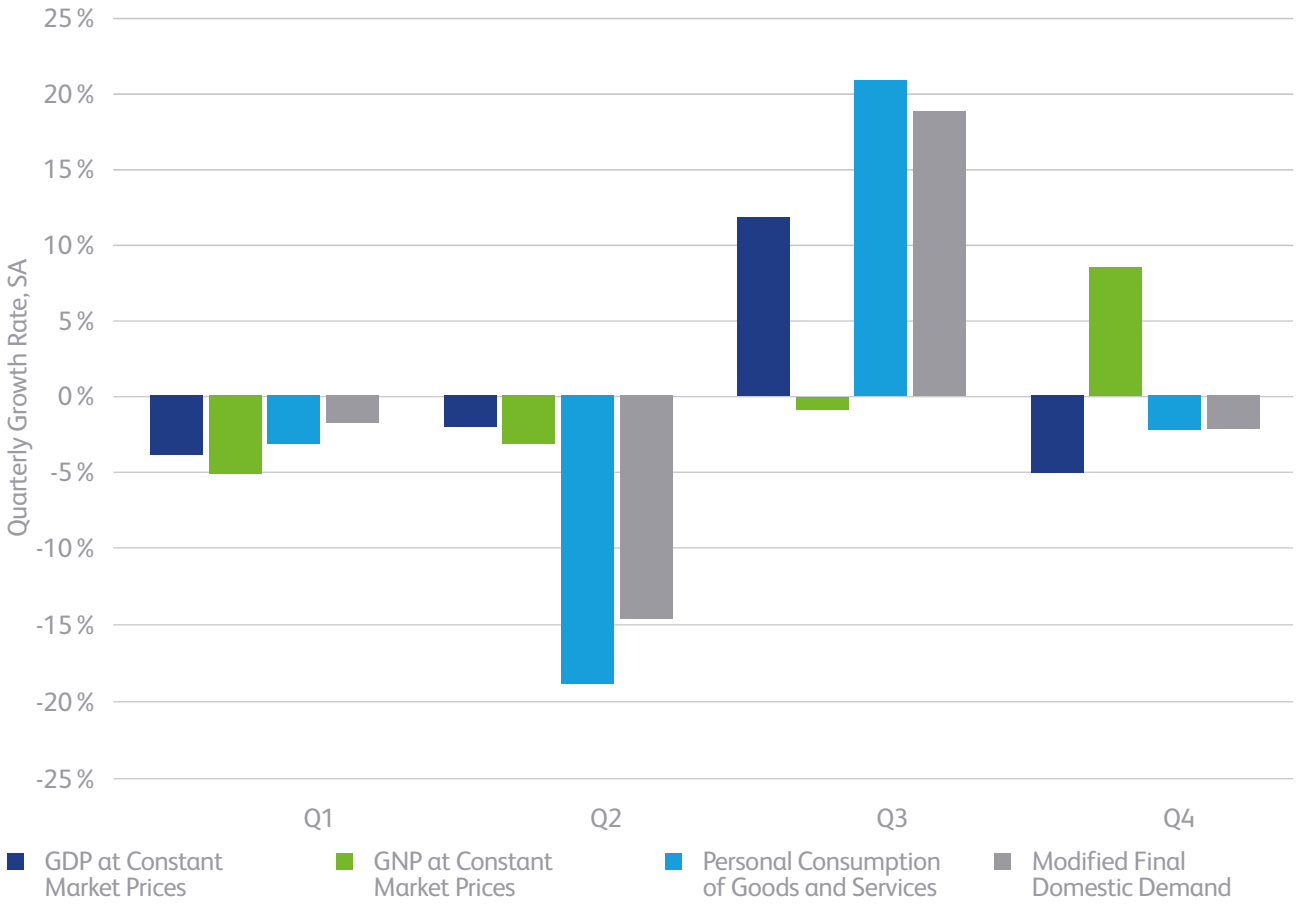
Figure 27 illustrates how each of these four demand indicators progressed through 2020 on a seasonally adjusted basis.

[14] Constant Market Prices (Chain linked annually and referenced to year 2018)

[15] Net factor income from abroad represents the difference between what Irish citizens and companies earn abroad, and what foreign workers and companies earn in Ireland and repatriate. In many countries, these two figures offset one another, leaving little difference between GDP and GNP. In Ireland, net factor income from abroad amounted to €90bn, or 25% of inflation adjusted GDP.

[16] Modified investment excludes multinational R&D related IP and aircraft leasing flows, making this indicator a more relevant of domestic economic activity (CBI, 2021).

Figure 27: Republic of Ireland Domestic Demand, Quarterly Growth Rate, Seasonally Adjusted (SA)



Source: *CSO & Central Bank of Ireland*

As evident in Figure 27, the severity of the negative economic impact of the pandemic was concentrated in Q2 2020 and followed by a positive surge in Q3 wherein many economic restrictions were temporarily lifted. This trend was reflected in the volume of unitised trade arriving at Irish ports during this period, as highlight in Sections 1.2 and 1.3. The reintroduction of restrictions negatively impacted upon underlying demand in the final quarter of 2020.

Looking ahead, the forecast for domestic demand presented by the Central Bank of Ireland in April is more positive. An economic rebound is expected, albeit from a relatively low starting position. Modified domestic demand is forecast to grow by 2.8 % in 2021, private consumption by 3.7 % and GDP by 5.9 %. This growth is expected to be driven by a number of factors, one of which is the rise in household savings in Ireland, which grew by over €15bn in the first 12 months of the pandemic. As noted by the CBI;

"The timing and extent to which this exceptional building up in household savings is unwound will have significant impact on the pace and timing of the post-pandemic recovery in domestic demand."

Central Bank of Ireland, April 2021

Elsewhere, the gradual lifting of economic restrictions in line with a national vaccine rollout program means that much of this growth is expected to come in the latter half of 2021. The stronger growth outlook is underpinned by the continued growth expected in key export sectors such as IT and pharmaceutical industries.

2.3 B) Prices

When considering key determinants of a given level of imports, the prices faced by industry and consumers can have a substantial impact. Two measurements, inflation and exchange rates, are significant variables impacting Irish import levels, as both determine the relative affordability of domestic goods.

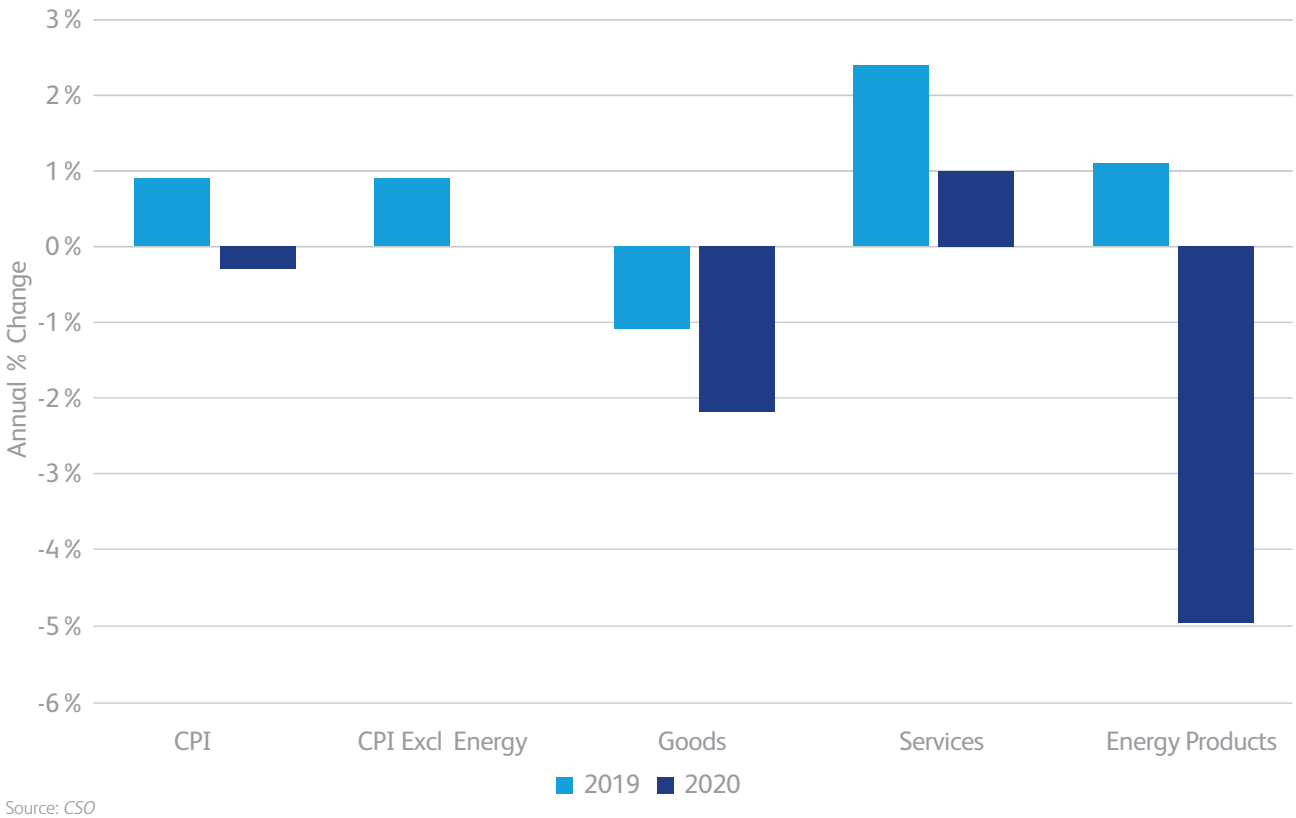
Inflation

The Consumer Price Index (CPI) is Ireland's official measure of inflation. The CPI analyses the overall change in the prices of typical goods and services that people buy over time.

For large parts of the economy, the pandemic had a suppressive effect on the general price level. Prices in Ireland had risen by 0.6 % per year on average between 2017 and 2019. In 2020, the CPI in Ireland declined by 0.3 %. The CPI level excluding energy products, otherwise known as 'core inflation', remained unchanged in 2020 at 0 %.

Figure 28 summarises the annual price level changes of the main categories of goods and services. 'Goods' in this case are defined as physical items bought and transferred, usually from a retail outlet (CSO, 2021). Among this category, 'Clothing & Footwear' prices declined by 3.7 %, while 'Furnishings & Household Equipment & Maintenance' fell by 3.1 %. The 5 % decline in energy products was driven primarily by a reduced demand for transport.

Figure 28: Republic of Ireland, Annual Price Changes for Main Categories of Goods & Services, 2020

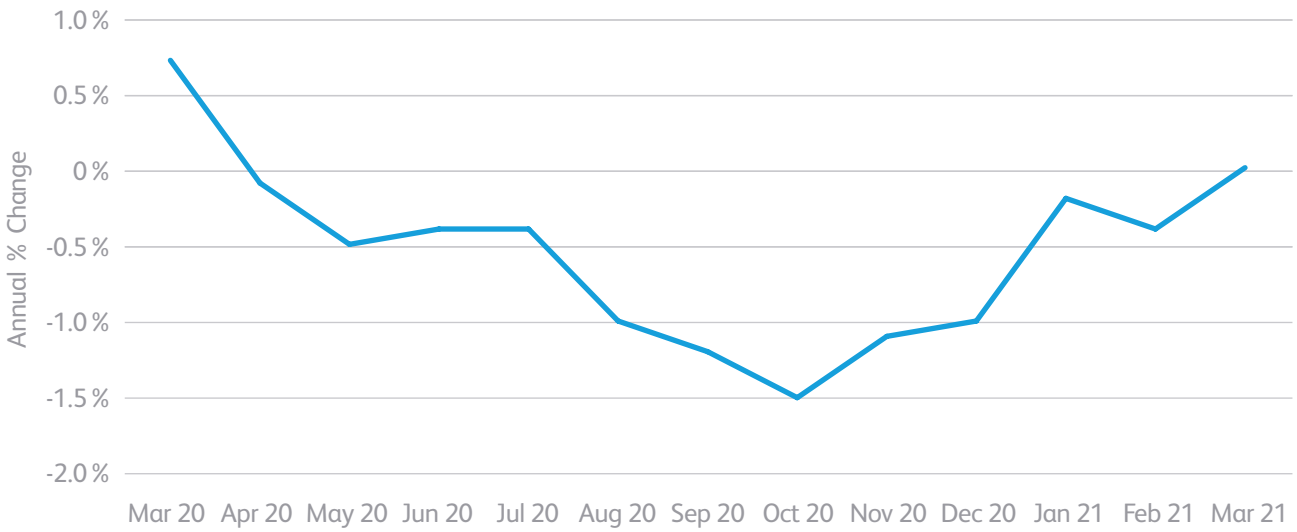


Source: *CSO*

The general price level of goods and services began to decline in April 2020. The annual growth rate in prices remained below zero for the remainder of the year. The largest annual decline was recorded in October 2020, when prices were 1.5 % lower than October 2019. Figure 29 illustrates the path taken by domestic prices in the twelve months from March 2020 to March 2021.

The gradual upward trend in prices in the last 6 months was highlighted recently by the CBI, who noted that the downward pressure on prices may have come to an end, particularly as the outlook for demand in 2021 is more positive. As for the cause of this shift, the CBI pointed to the fact that cost increases associated with the UK's departure from the European Union in January 2021 are likely to be passing through to import prices from the UK. In the first quarter of 2021, the IMDO has recorded significant increases in cargo volumes on direct EU services. Delays and administrative costs associated with the UK Landbridge in early 2021 account for much of this increase.

Figure 29: Republic of Ireland Consumer Price Index, All Items



Source: *CSO*

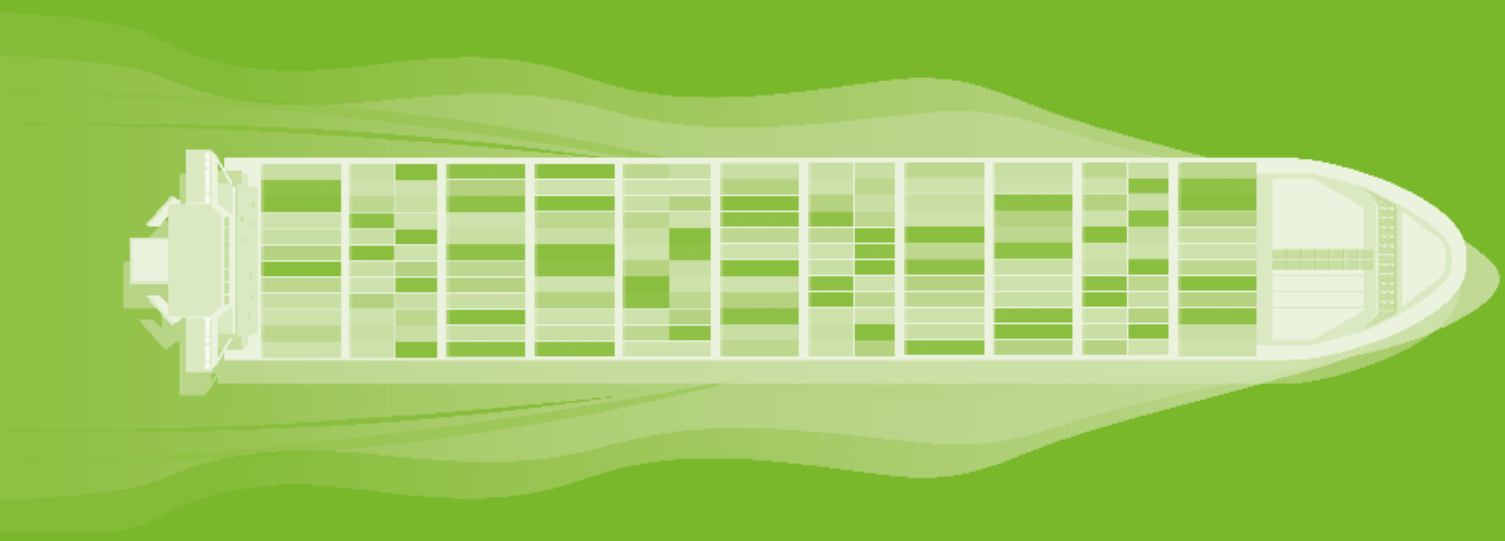
Exchange Rates

Exchange rates impact the relative affordability of imported goods. An appreciation in the value of the Euro relative to another currency means its purchasing power increases in that market, making imports from that market relatively cheaper. As outlined in section 2.2, Great Britain and the United States represent a sizeable share of Irish import trade. Consequently, the Irish economy is particularly exposed to fluctuations in the pound sterling (GBP) and the US dollar (USD).

In 2020, both the USD and GBP weakened against the euro. The USD declined by 2 %, averaging 1.14USD per euro throughout 2020, while the GBP declined by 1.4 %, averaging 0.89p. In both cases, these currencies depreciated as the year wore on. The USD ended the year at 1.22USD, while the GBP ended the year at 0.91p. Heightened uncertainty surrounding Britain's departure from the EU drove much of this change.

In early 2021 however, both the USD and GBP have began to strengthen on the back of early successes in vaccination rollouts and a positive outlook for the remainder of 2021.

Section 3 - **Irish Merchandise Exports - Market Outlook**



3.1. Merchandise Trade Review of Irish Exports

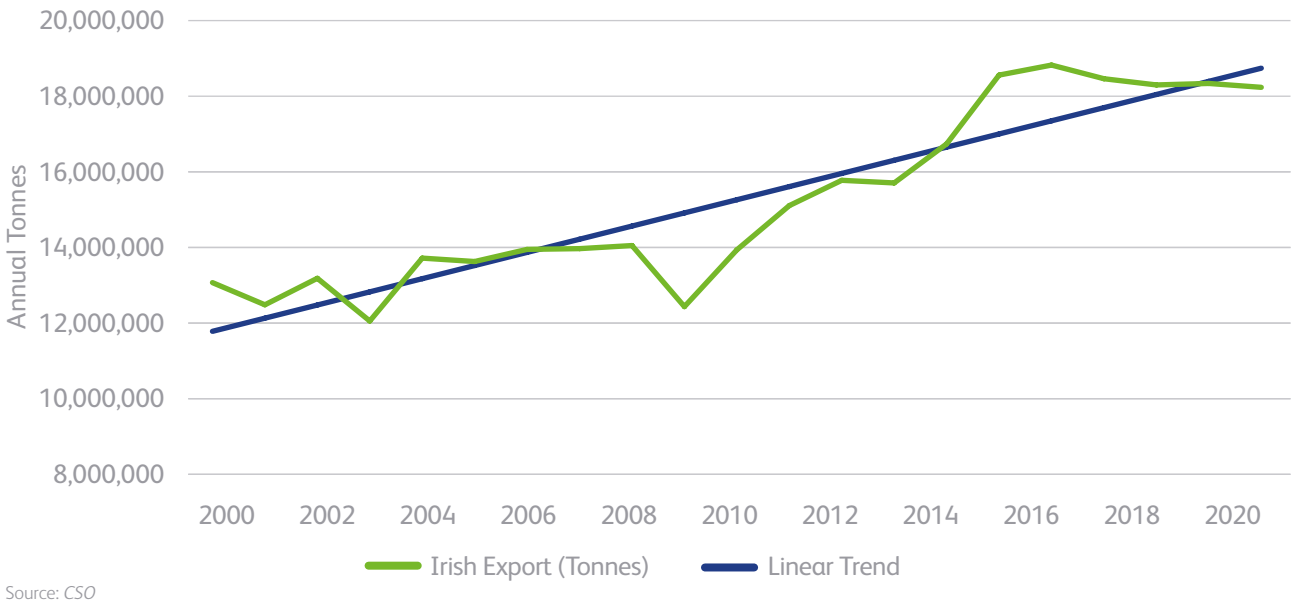
3.1A Tonnage

In 2020, Irish merchandise export tonnage fell by 0.6% to 18.2 million tonnes. This was equivalent to a decline of 104,000 tonnes. Overall, the trend in Irish merchandise exports over the past 2 decades has been upward, with Ireland exporting approximately 250,000 – 350,000 additional tonnes per year during that time. This is illustrated below in Figure 30 which includes a linear trend of Irish merchandise exports over the period.

Irish annual export tonnage has remained steady for the last several years, averaging 18.5 million tonnes per year between 2015 and 2020. 2020 is also the sixth consecutive year that Irish merchandise exports have been above 18 million tonnes. As evident in Figure 30, there was a surge in the volume of Irish merchandise exports between 2013 and 2015. Much of this growth was driven by increased exports of energy products and agricultural raw materials, including fertilizer, coal and petroleum products. However, almost all categories of Irish merchandise exports began increase at this midway point in the decade. High value exports such as food, beverages, IT manufacturing and pharmaceutical products all gained upward momentum in the last five years.

In all, total exported volume between 2015 and 2020 was 44% higher than the period 2010 to 2014, reflecting Ireland's economic recovery in the latter half of the decade from the 2008 financial crash. In 2020, despite the considerable challenges posed by the COVID-19 pandemic for international and domestic trade, the gains made by Irish merchandise exports were retained. Average growth in the volume of exports since 2017 was approximately 0% as Ireland continues to export roughly 18 million tonnes of merchandise goods per year.

Figure 30: Irish Merchandise Export Volumes, 2000 - 2020



Source: *CSO*

The performance of Irish merchandise exports in 2020 is better understood by analysing the SITC categories in detail. Table 19 provides further analysis of Irish exports in 2019 and 2020, with products organized using SITC groupings.

Table 19: Irish Exported Tonnes by SITC Grouping

	2019	2020		
SITC Product Grouping	Tonnes	Tonnes	Growth (%)	Diff
Food and live animals	4,615,814	4,597,461	0%	-18,353
Crude materials	4,424,846	4,169,416	-6%	-255,430
Manufactured goods	3,858,499	3,689,715	-4%	-168,784
Mineral fuels	2,313,066	2,804,779	21%	491,713
Chemicals and related products	1,213,150	1,240,569	2%	27,418
Beverages and tobacco	966,723	865,437	-10%	-101,286
Machinery & transport equipment	471,133	415,351	-12%	-55,782
Manufactured articles	339,377	306,576	-10%	-32,801
Animal and vegetable oils	113,819	121,309	7%	7,490
All other commodities and transactions	11,345	13,588	20%	2,243
Total	**18,327,773**	**18,224,201**	**-0.6%**	**-103,572**

Source: *CSO*

In line with previous years, the top four export categories in volume terms were Food & Live Animals, Crude Materials, Manufactured goods and Mineral Fuels, which together made up 84% of all exported Irish tonnage in 2020. As outlined below, the decline in export tonnage through 2020 was driven predominantly by crude materials and manufactured goods, and was offset by increased exports of mineral fuels.

Dairy, Meat & Beverage Products

Outside of energy products and industrial raw materials, meat, dairy and beverage products[17] have been among the top five merchandise exports from Ireland in volume terms over the past decade. When combined, these three categories hold a 17% share of total Irish export volume, each with a roughly 6% share. However, this 17% share has risen from 13% in 2015 and from 11% in 2010.

This group of products has also grown at a faster pace than total Irish export volume. Average annual growth between 2015 and 2019 was 6% per year, compared to roughly 2% for total Irish export volume.

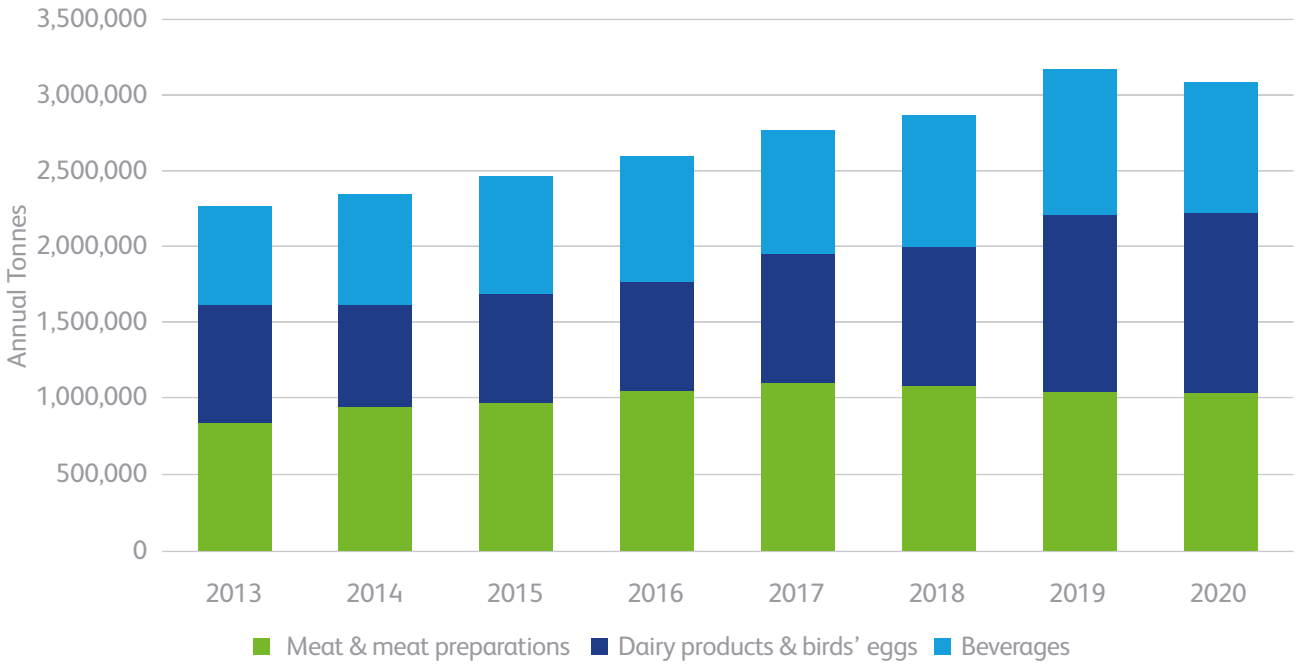
Individually, it is Dairy products that have grown at the strongest pace, averaging 12% growth per year between 2015 and 2019. During the same period, Beverages grew by 6% per year, and Meat products by 2% per year. 2019 was a benchmark year for this group, as it reached 3 million tonnes for the first time since the financial crash of 2008. This represented growth of 11% compared to 2018.

The COVID-19 pandemic brought significant challenges for this sector of the Irish economy, as restaurants and bars were closed across Europe for much of the year. Despite this, volumes recorded a decline of just 3%, and remained above 3 million tonnes for 2020. The largest decline came in the Beverages category, which fell by 10%, or 100,000 tonnes. Meat and dairy products recorded similar volumes to 2019.

Overall, 2020 brings to an end seven consecutive years of growth for this group of export products. Figure 31 illustrates the upward momentum recorded among these items in the latter half of the decade, and the interruption to such momentum in 2020, driven largely by the COVID-19 pandemic.

[17] SITC Categories: Meat & Meat Preparations (01), Dairy Products & Birds' Eggs (02) & Beverages (11).

Figure 31: Meat, Dairy & Beverage Merchandise Exports 2013 - 2020



Source: *CSO*

Energy & Raw Material Merchandise Exports

Metalliferous ores & scrap metal, Non-metallic minerals, Petroleum products, and Coal, coke & briquettes make up over 40% of all Irish export tonnage each year. When combined, these products accounted for 7.8 million tonnes in 2020, a 3% increase on 2019. This group of products consistently represents almost half of all exported Irish tonnage. Since 2015, the group has averaged a 44% share, equivalent to roughly 8 million tonnes per year. Average annual growth has also been flat during this period.

Individually, opposite trends have been recorded in Metalliferous ores & scrap metal, and Non-metallic minerals. The former, which is made up of raw materials such as iron ore and aluminum, has declined by an average of 4% per year since 2015, equivalent to 100,000 tonnes per year. The decline in 2020 was 12%, equivalent to over 325,000 tonnes. The latter category, which is made up of items such as stone, cement and glass, has risen by an average of 4% per year since 2015, or roughly 80,000 additional tonnes per year.

Chemicals & Related Products

Chemicals and related products is an SITC category that includes high value exports that are essential to the Irish economy. As will be outlined in Section 3.1B, this product category represents two thirds of all Irish export value. The value of Irish merchandise exports are concentrated around, and reliant upon this category of goods, and the efficiency of the Irish ports system is essential in maintaining competitiveness for companies operating in this industry in Ireland. Included in this grouping are Medical & Pharmaceutical products and Organic Chemicals. Combined, these two product groups make up just 1.5% of total exported in tonnage. However, 2019 was a peak year for these exports, recording 250,000 tonnes. Volumes in 2020 were 225,000 tonnes, still above annual volumes for the past decade. Exports of organic chemicals rose by 23% in 2020, to 33,500 tonnes. This is the highest volume recorded for this category since 2017.

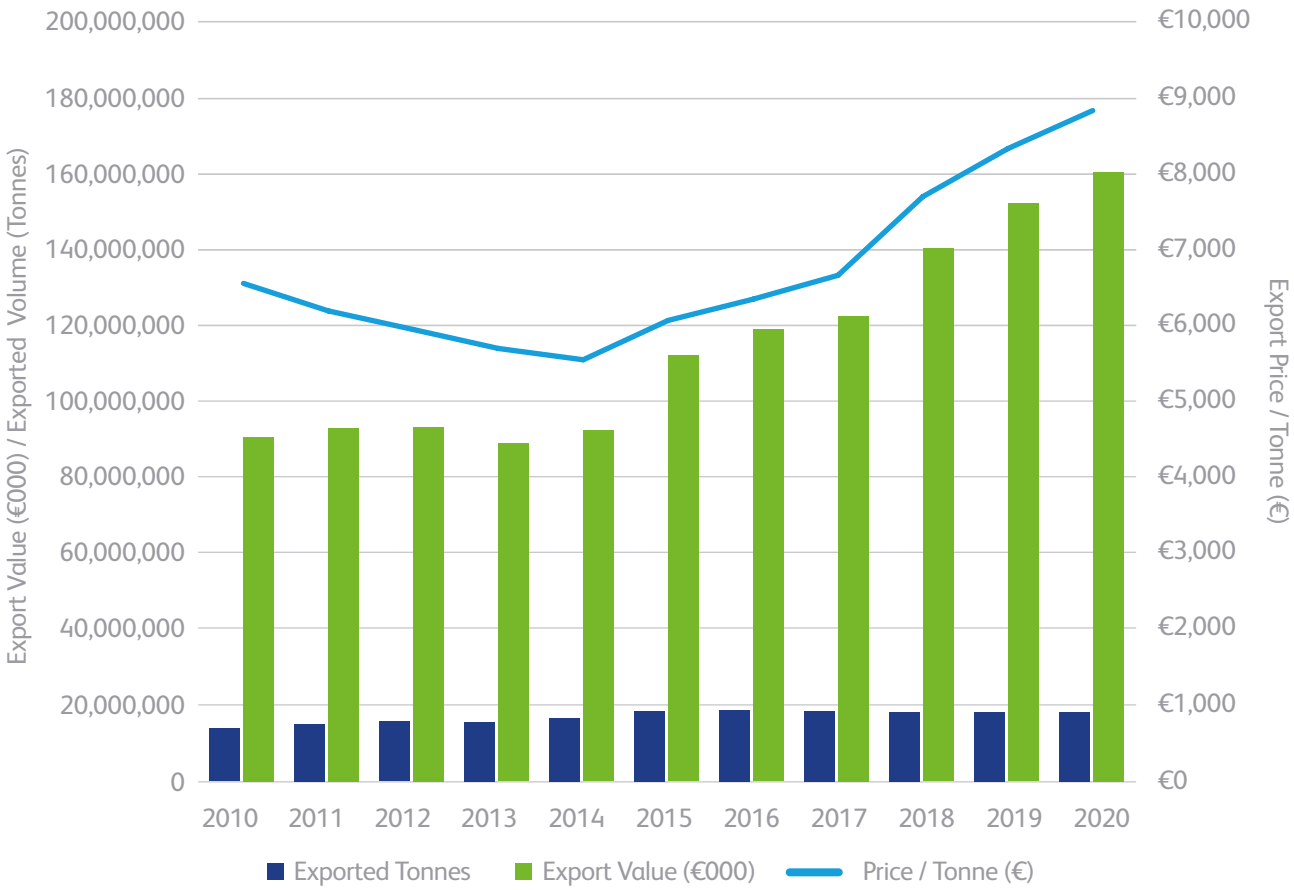
Overall, despite fluctuations in recent years, the volume of exports of these two high value products has been rising in the latter half of the last decade. Average annual growth between 2015 and 2020 has been 4% per year.

3.1B Value

The value of Irish merchandise exports rose by 5% in 2020 to €160.8bn. This was equivalent to an additional €8.3bn in merchandise value compared to 2019. Beginning in 2015, the nominal value of Irish merchandise exports surged. Average annual growth in Irish export value was 10% between 2015 and 2020, equivalent to an additional €11bn per year. In 2020, exports are 43% more valuable than in 2015. This is also the seventh consecutive year of growth in Irish export value.

As outlined in Section 3.1A, Irish export tonnage remained flat, at roughly 18 million tonnes per year, between 2015 and 2020. As a result of the surge in value, the nominal price per tonne of Irish exports has also risen significantly. This is illustrated in Figure 32 below. The value per tonne of Irish exports has risen by 46% since 2015, equivalent to and additional €2,750 per tonne in 2020.

Figure 32: Irish Merchandise Export Volume, Export Value and Price per Tonne, 2010 - 2020



Source: *Adapted from CSO*

Irish merchandise export value in 2020 is better understood once the SITC categories are analysed in detail. Table 20 provides further analysis of Irish exports in 2019 and 2020, with products organized using SITC groupings.

Table 20: Irish Merchandise Export Value by SITC Grouping

	2019	2020	Growth	Diff
SITC Product Grouping	€000	€000	(%)	€000
Chemicals and related products	92,973,782	105,834,620	14%	12,860,837
Machinery & transport equipment	23,749,585	21,630,504	-9%	-2,119,081
Manufactured articles	16,330,266	14,842,015	-9%	-1,488,251
Food and live animals	11,770,907	11,505,255	-2%	-265,652
Manufactured goods	2,349,331	2,350,952	0%	1,621
Beverages and tobacco	1,715,101	1,452,490	-15%	-262,611
Crude materials	1,669,562	1,395,960	-16%	-273,602
All other commodities and transactions	1,020,321	1,029,032	1%	8,712
Mineral fuels	886,043	686,511	-23%	-199,532
Animal and vegetable oils	69,096	86,209	25%	17,113
Total	**152,533,994**	**160,813,547**	**5%**	**8,279,553**

Source: *CSO*

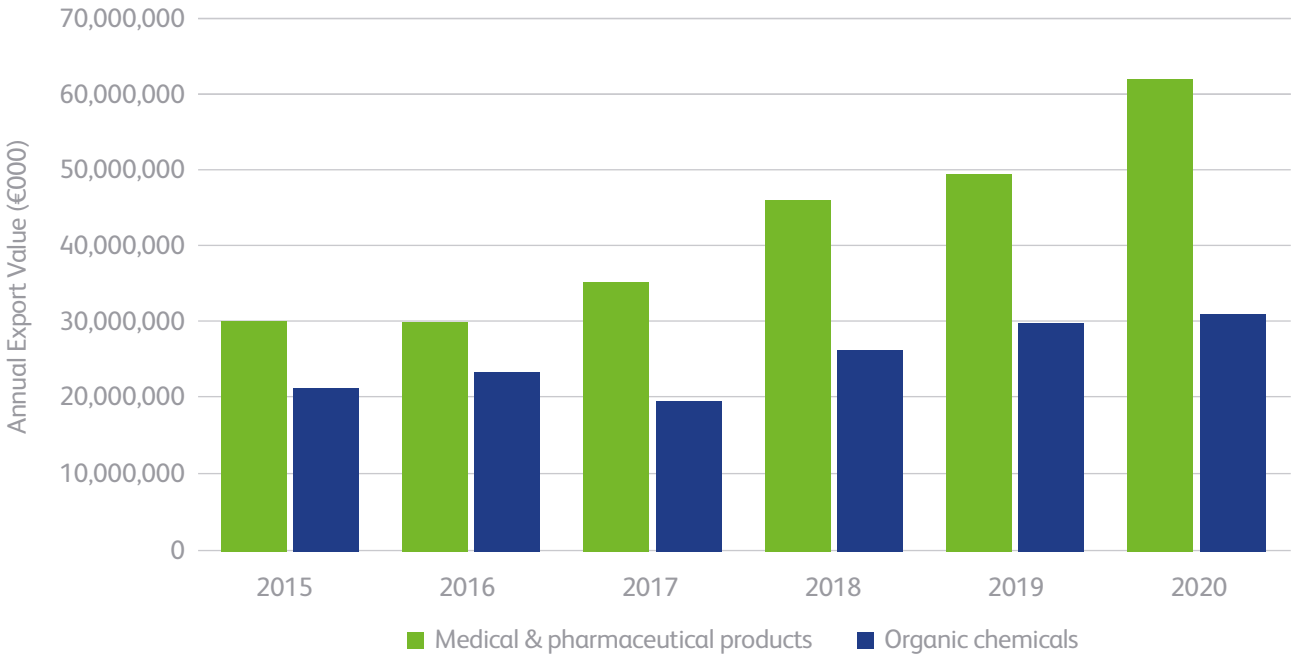
Chemicals & Related Products

As has been the case for the last decade, Irish export value is dominated by merchandise goods in the category of Chemicals & Related Products. As shown in Table 20, the value of these exports rose by 14% in 2020, surpassing €100bn in value for the first time. The growth this year was worth an additional €12.9bn. This category now represents 66% of all Irish export value, its highest share of the decade.

The increase in merchandise export value of this category is driven by the outsized contribution made by two sub-divisions; Medical & Pharmaceutical products, and Organic Chemicals[18]. For the past several years, Medical & Pharmaceutical products have represented roughly one third of all Irish merchandise export value, while Organic Chemicals have represented one fifth. No other individual product grouping holds a share similar in size to these two categories. Figure 33 illustrates the growth in export value of both categories since 2015.

[18] SITC Categories: Medical & Pharmaceutical products (54), and Organic Chemicals (51)

Figure 33: Irish Merchandise Export Value, Selected SITC Product Groupings, 2015 - 2020



Source: *CSO*

The concentration of Irish merchandise exports around these product groupings was highlighted in Volume 17 of the Irish Maritime Transport Economist.[19] In 2020, the Central Bank of Ireland (CBI) noted that export growth in a small number of products represents a risk to the Irish economic outlook, as a downturn in one industry could substantially effect the value of Irish exports.

The importance of this industry was evident in 2020, as the COVID-19 pandemic caused the largest negative shock to international trade since 2008. When the 'Chemicals & Related Products' category is excluded, Irish merchandise export value declined in 2020 by 8%.

In addition, average annual growth in Irish merchandise exports since 2015 is 5% per year when this category is excluded, compared to 10% when included. In April 2021, the CBI noted that the resilience of the Irish economy in 2020 was underpinned by continued growth in high value exports such pharmaceuticals;

"Strong export growth, especially in the pharmaceutical sector, was the main factor behind the expansion of output in 2020.[20]*"*

Central Bank of Ireland, 2021

Ireland and Luxembourg were the only two members of the European Union to record GDP growth in 2020. Looking ahead, the Irish economy is expected to grow in 2021 and 2022 and, according to the CBI, this will be supported mostly by continued resilience in the pharmaceutical sectors.[21]

The value of both categories labelled in Figure 33 amounted to €93bn in 2020, or 58% of all Irish merchandise exports. When combined, the two groupings recorded growth of 17% compared to 2019. This was driven predominantly by 25% growth in Medical & Pharmaceutical products, worth an additional €13.7bn in value. Average growth in Medical & Pharmaceutical products has been 19% per year between 2015 and 2020, and 11% per year for Organic Chemicals.

[19] Section 3.1B, Vol 17 Irish Maritime Transport Economist, 2020
[20] Central Bank of Ireland Quarterly Bulletin, April 2021 p.14
[21] Central Bank of Ireland Quarterly Bulletin, January 2021, p.28

All Other Categories

Outside of chemical and pharmaceutical products, 'Machinery & Transport Equipment[22]' holds a 13% share of export value in 2020. This category includes high value goods from the ICT sector such as data processors. This is another important sector of the Irish export market, with many multinational companies operating in, and exporting from, Ireland. After significant growth of 19% in 2019, merchandise export value in this category declined by 9% in 2020, to €21.6bn. Office machinery & data processors, a subdivision of this category, declined by 7%, its first annual decline since 2017.

Food & Live Animals, including Beverages, declined by 4% in 2020, equivalent to a decline of €0.5bn. The steepest drop came in the Beverages category, which fell by 15%, or €0.25bn.

3.2 Ireland's Merchandise Trading Partners - Exports

3.2A Tonnage

Table 21 presents Ireland's largest export trading partners in volume terms, with energy and raw materials excluded[23]. Among the items excluded are oil, crude minerals, fertilizers and scrap metal, all of which are high volume industrial products. Outside of energy and raw materials, Ireland exported 11.3 million tonnes of merchandise goods in 2020, a decline of 3% compared to 2019. The merchandise goods in Table 21 represent 62% of Ireland's tonnage exports in 2020.

Table 21: Ireland's Top Merchandise Export Partners in Volume terms, Excluding Energy & Raw Materials

	2019	2020		
	Tonnes	Tonnes	Growth (%)	Diff
Great Britain	4,518,211	4,281,872	-5%	-236,340
Northern Ireland	2,659,622	2,632,801	-1%	-26,820
Netherlands	631,234	680,035	8%	48,801
Germany	390,838	389,920	0%	-918
Belgium	385,499	356,063	-8%	-29,436
United States	368,903	365,260	-1%	-3,643
France	381,934	351,006	-8%	-30,928
China	235,278	228,942	-3%	-6,336
Italy	171,459	130,552	-24%	-40,907
Spain	128,452	112,700	-12%	-15,751
Other	1,718,431	1,720,854	0%	2,423
All Non-Energy Exports	**11,589,860**	**11,250,006**	**-3%**	**-339,855**

Source: *CSO*

In volume terms, Great Britain and Northern Ireland are Ireland's two largest trading partners for non-energy merchandise exports. When combined, both countries hold a 61% share of exported tonnage in 2020. Non-energy export volumes to Great Britain declined by 5% in 2020, or by 236,000 tonnes. This decline to Great Britain was driven in part by a 13% decline in Beverage exports, equal to 59,000 tonnes and a 6% decline in meat products, equal to 23,000 tonnes. The widespread closure of hospitality in Great Britain for much of the year significantly challenged Irish exporters of such products.

[22] "Machinery & Transport Equipment" - SITC Category No. 7
[23] SITC Sections Excluded: Crude Materials (2), Mineral Fuels (3)

As shown in Table 21, EU member states make up six of Ireland top ten export partners for non-energy products, equivalent to an 18% share in 2020. When combined, 2 million tonnes of non-energy goods were exported to the EU member states listed above, a 3% decline compared to 2019. Merchandise exports to The Netherlands grew by 8%, driven by 34,000 additional tonnes of chemical products, a doubling compared to 2019.

Overall, this is the first year of decline in non-energy/raw material exports in the past decade. These products have grown by 4% on average each year since 2015, adding roughly 350,000 tonnes per year during that time.

Table 22 presents Ireland's top export partners in energy and raw material products only. The total volume included in this table accounts for 38% of all of Ireland's merchandise export tonnage.

Table 22: Ireland's Top Merchandise Export Partners in Volume terms, Energy & Raw Materials Only[24]

	2019	2020		
	Tonnes	Tonnes	Growth (%)	Diff
Great Britain	2,042,497	1,964,055	-4%	-78,442
France	726,101	718,857	-1%	-7,245
Northern Ireland	660,179	658,150	0%	-2,029
Netherlands	490,728	552,568	13%	61,841
Russia Federation	381,708	394,800	3%	13,093
Sweden	248,612	202,274	-19%	-46,338
India	250,630	187,860	-25%	-62,770
Belgium	54,252	344,137	534%	289,886
Iceland	228,512	131,943	-42%	-96,569
Norway	52,834	256,477	385%	203,644
Other	1,601,860	1,563,073	-2%	-38,787
Total Energy & Raw Materials	**6,737,913**	**6,974,195**	**4%**	**236,283**

Source: *CSO*

Merchandise exports of energy and raw material products increased by 4% in 2020. This was driven by increased exports of petroleum products to both Norway and Belgium, equivalent to an additional 350,000 tonnes. This was offset by fewer exports of the same product to Great Britain, as well as a decline in scrap metal exports to Iceland.

3.2B Value

Table 23 presents Ireland's top export partners in value terms, with all product categories included. The United States is Ireland's largest merchandise export partner in value terms, holding a 31% share of Irish exports. Irish merchandise export value rose by 5% in 2020, adding €8.2bn in value. This was driven mostly by increased exports to the USA, Belgium and Germany. As outlined in Section 3.1B, Irish export value is dominated by Medical & Pharmaceutical Products and Organic Chemicals. Exports of these two products to the USA, Belgium and Germany rose by €12bn in 2020, which drove the 5% growth outlined above. This increase was offset by a decline in merchandise exports to Switzerland, worth €2.3bn. This again, was driven by a change in the makeup of pharmaceutical products.

As show in Table 23, Member States of the EU make up five of Ireland's top ten export partners. Merchandise exports to all EU member states rose by 13% in 2020 to €64bn. This represented 40% of all Irish export value in 2020, up from 37% in 2019.

[24] SITC Sections: Crude Materials (2), Mineral Fuels (3)

Table 23: Ireland's Top Merchandise Export Partners in Value terms, All Product Groupings

	2019	2020		
	€000	€000	Growth (%)	Diff
United States	46,959,554	49,845,115	6%	2,885,561
Belgium	15,504,774	17,896,746	15%	2,391,972
Germany	13,601,140	17,448,660	28%	3,847,520
Great Britain	13,581,644	12,399,054	-9%	-1,182,590
China	8,228,741	9,848,499	20%	1,619,758
Netherlands	8,622,233	8,552,283	-1%	-69,950
France	5,434,977	5,160,997	-5%	-273,980
Switzerland	5,528,873	3,221,237	-42%	-2,307,637
Italy	3,899,814	4,615,616	18%	715,803
Japan	2,823,710	2,785,956	-1%	-37,754
Other	28,348,536	29,039,385	2%	690,849
Total	**152,533,994**	**160,813,547**	**5%**	**8,279,553**

Source: *CSO*

Given the concentration of Irish export value around a small number of products, Table 24 presents Ireland's top export partners in value terms, with Chemicals & Related Products excluded. Table 24 is therefore reflective of Ireland's top non-pharmaceutical export partners. Outside of pharmaceutical exports, Irish merchandise export value declined by 8% in 2020, equivalent to €4.6bn.

Table 24: Irish Top Merchandise Export Partners in Value terms, Excluding Pharmaceutical Products[25]

	2019	2020		
	€000	€000	Growth (%)	Diff
United States	11,921,139	9,717,166	-18%	-2,203,973
Great Britain	9,557,863	8,657,643	-9%	-900,221
China	6,849,407	8,240,556	20%	1,391,149
Netherlands	5,671,672	4,890,993	-14%	-780,679
Germany	3,676,793	3,681,912	0%	5,119
France	2,409,843	1,980,905	-18%	-428,937
Northern Ireland	1,812,203	1,716,817	-5%	-95,386
Japan	1,286,868	1,176,111	-9%	-110,756
Belgium	998,673	896,487	-10%	-102,185
Italy	952,430	912,037	-4%	-40,393
Other	14,423,321	13,108,300	-9%	-1,315,021
Total	**59,560,212**	**54,978,928**	**-8%**	**-4,581,284**

Source: *CSO*

[25] SITC Category Excluded: 'Chemicals & Related Products' (5)

The decline in export value in Table 24 was driven by reductions in exports to The USA, Great Britain and The Netherlands. The decline to the USA was driven by manufactured goods, beverages and 'Other Transport Equipment' which includes aircraft leasing. Exports in Table 23 to Great Britain fell by 9%, or €0.9bn. Roughly 20% of this decline to Great Britain was attributable to fewer exports of dairy, meat and beverage products. When combined, this decline amounted to approximately €160m.

The fall in export value in Table 24 was offset by increased merchandise exports to China in 2020. China represents 15% of Ireland's exports outside of pharmaceutical products, equivalent to €8.2bn in 2020. The majority of the increase in exports to China this year was driven by a 15% rise in exports of Electrical Machinery. Exports of meat products to China also rose by 4%.

Exports to EU Member States, excluding pharmaceutical products, declined by 11% in 2020, equivalent to a fall of €2bn. EU member states made up 30% of Ireland's non-pharmaceutical export value in 2020.

3.3 Key Drivers of Irish Merchandise Exports

Introduction

This section follows the analysis undertaken in Section 2 and investigates the key factors determining current volumes of Irish merchandise exports. This will provide further economic context for the volumes of goods which exited through Irish ports in 2020. Underpinning these export volumes are the prevailing conditions in the economies of Ireland's trading partners. The COVID-19 pandemic caused the largest negative shock to the Irish economy and the economies of its trading partners since the 2008 financial crash. This section provides an assessment of the impact of COVID-19 on economic conditions in those economies. Two significant variables are investigated; foreign demand and foreign prices.

3.3A Foreign Demand

Through exports, the Irish economy satisfies surplus demand in foreign economies. Consequently, aggregate demand within those economies drives demand for Irish exports. The most common measure for aggregate demand is Gross Domestic Product (GDP). However, the expenditure of households on personal consumption can encapsulate more accurately, and in more granular detail, the consumption of high value goods which the Irish economy competes to provide. As a result, trends in both measures are analysed.[26]

In terms of the speed and depth of decline, the COVID-19 pandemic in 2020 was an unprecedented shock to global economic growth. All of the economies of Ireland's closest export partners shrank in 2020. Table 25 presents the decline in GDP and household consumption across a selection of Ireland's largest export partners.

[26] Personal, household consumption includes expenditure on everyday items such as food, clothing, heating fuel, medical products and transport equipment. As outlined by Eurostat, consists of everyday items; "that are used for the direct satisfaction of individual needs or wants."

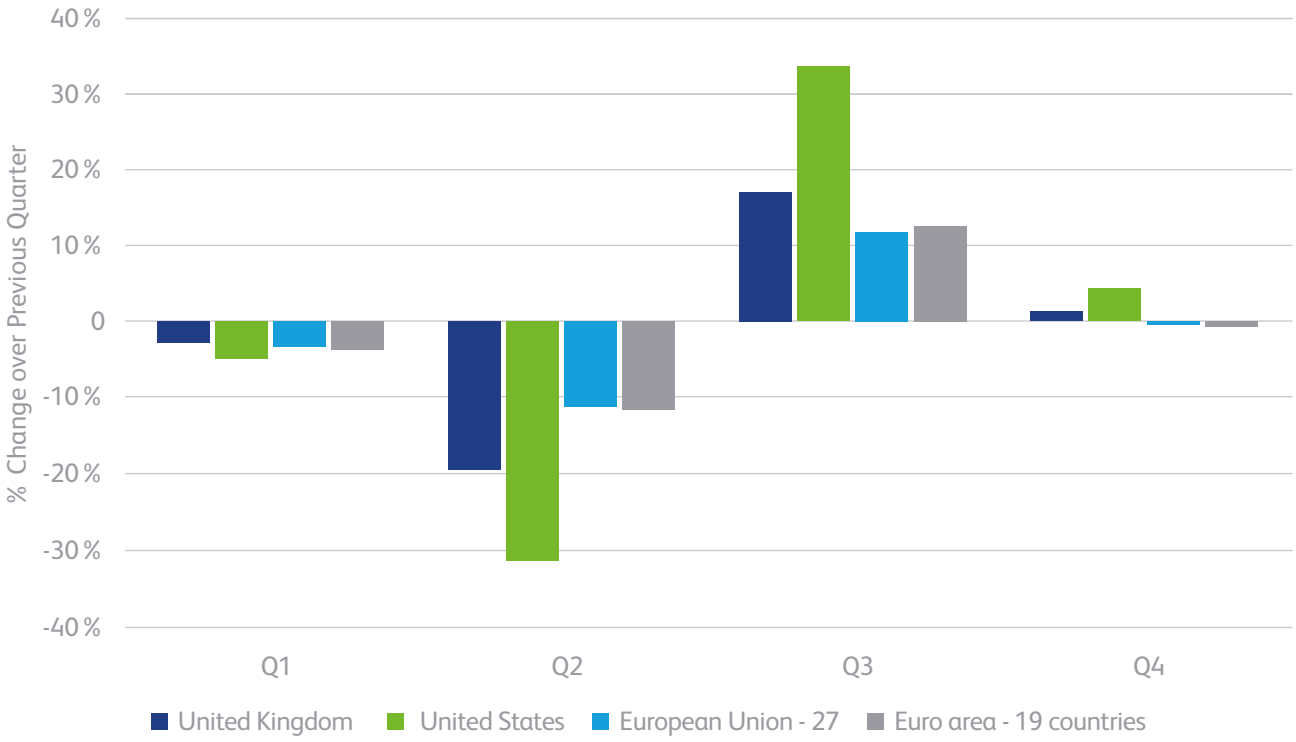
Table 25: GDP & Final Consumption of Households, Selected Economies (Growth Vs 2019)

2020	Real GDP Annual % Change	Household Consumption Annual % Change
EU27	-6.1%	-7.3%
Euro area - 19 countries	-6.6%	-8.0%
Belgium	-6.3%	-8.6%
France	-8.1%	-7.2%
Germany	-4.8%	-6.1%
Netherlands	-3.7%	-6.4%
United States	-3.5%	-3.9%
United Kingdom	-9.8%	-10.9%
Ireland	3.4%	-9%

Source: Eurostat, OECD

The declines recorded in Table 25 are stark, and encapsulate the economic cost of the pandemic for the full year 2020. However, like Ireland, the steepest declines for most economies came in the second quarter of 2020, and were followed by a resurgent period in quarter three, as certain sectors of the international economy began to reopen. Figure 34 illustrates the GDP growth within the US, UK and EU economies on a quarterly basis. As shown in the figure, many of the losses in Q2 were recovered in Q3, and positive momentum was retained in the US and UK economies in the last quarter of 2020. Overall, uncertainty is extremely high for issues surrounding vaccination rollouts, new waves of infection and timelines for reopening the economy. A recovery is underway for Ireland's largest export partners, but the short term outlook remains unclear.

Figure 34: Real GDP 2020, Quarterly Growth Rate, Selected Economies, Seasonally Adjusted



Source: Eurostat, ONS, US Bureau of Economic Analysis

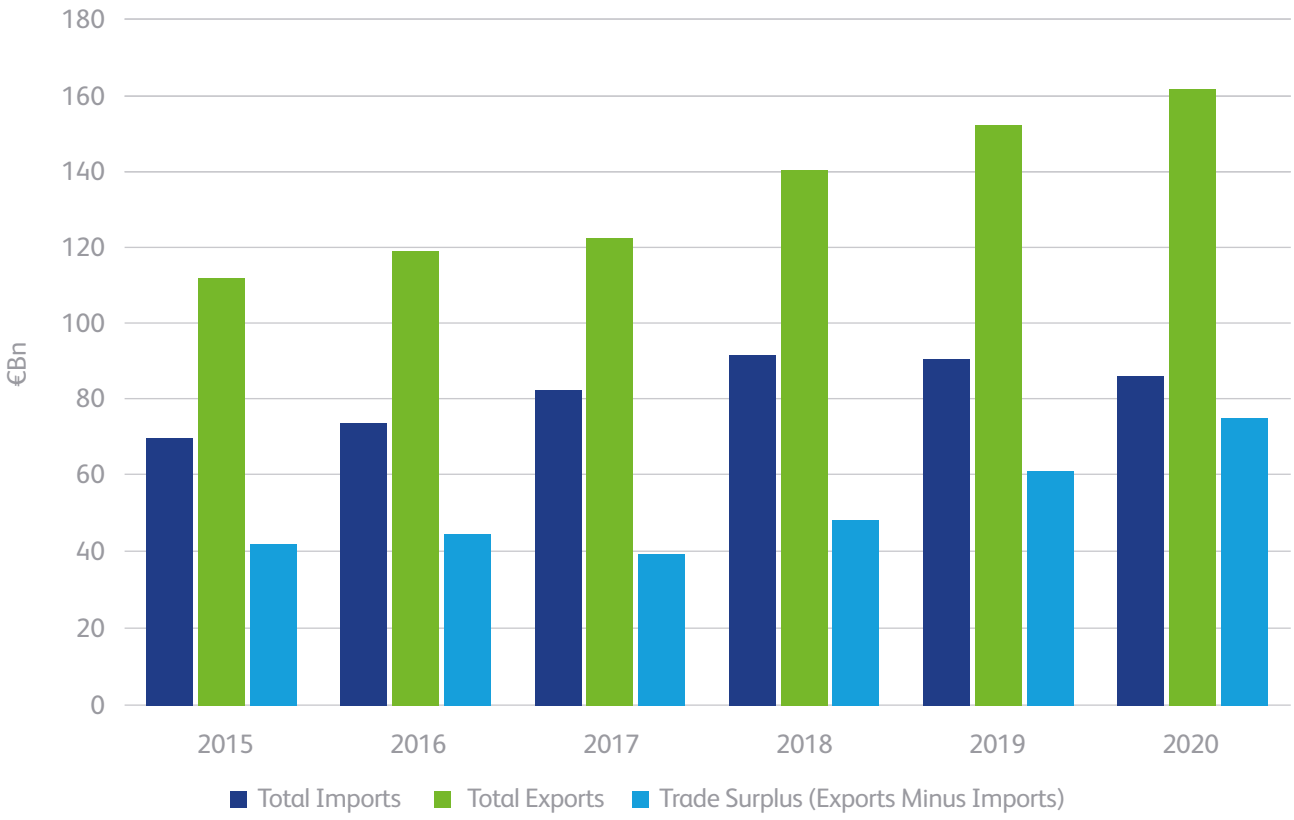
Ireland's trade surplus with these countries remained robust in 2020. Figure 35 illustrates the scale of Ireland's trade surplus in value terms since 2015. In 2020, Ireland's trade surplus rose by 23% to surpass €75bn. As highlighted in Section 3.1B, exports of high value pharmaceutical and IT products by multinational companies operating from Ireland underpin much of this surplus. As noted by the Central Bank of Ireland in its April 2021 Statement;

"Indigenous exporting firms are likely to see a slower recovery more in line with the recovery in import demand in our main trading partners."

Central Bank of Ireland, April 2021

As a result, the future outlook for Irish economic growth is still heavily dependent on the speed of recovery of the economies listed in Table 25.

Figure 35: Irish Merchandise Trade Value - Imports, Exports & Trade Surplus



Source: *CSO*

Looking ahead, the ECB, IMF and OECD all forecast that Euro Area GDP will expand by approximately 4% in 2021, and by roughly the same percentage in 2022.[27] In March 2021, highlighting the uncertainty that still exists surrounding an economic recovery, the ECB presented alternative scenarios for the euro area;

"A mild scenario foresees a resolution of the health crisis by the end of 2021 and little longer-term scarring, while a severe scenario assumes a more protracted crisis and permanent losses in economic potential.[28]"

European Central Bank, March 2021

Elsewhere, first quarter estimates of US GDP growth were better than expected, with the US economy estimated to have grown by 6.4% in the first quarter of 2021 compared to Q4 2020[29]. UK retail sales also rebounded strongly in March 2020 compared to February, as a gradual reopening continues[30]. The same momentum was not recorded across the Euro area. GDP across the euro area economies shrank by 0.6% in Q1 2021, following a 0.7% decline in Q4 2020.

[27] ECB staff macroeconomic projections for the euro area, March 2020
[28] ECB staff macroeconomic projections for the euro area, March 2020
[29] US Bureau of Economic Analysis, April 2021
[30] Office for National Statistics, April 2021

3.3B Foreign Prices

In addition to external demand, the relative price of traded goods is a key determinant of Irish exports. The relative price of Irish goods compared to that of foreign goods will impact upon the competiveness of Irish exports. In this way, the relationship between domestic (Irish) prices and foreign prices should is examined. Inflation and exchange rate fluctuations are two main drivers of relative price changes.

Inflation

The harmonised index of consumer prices (HICP) is designed to facilitate international comparisons of consumer price inflation.

Prior to 2020, inflation across the European Union had been low for the last decade. Belgium, the Netherlands and Germany averaged 1.6%, 1.5% and 1.3% annual growth respectively in 2009 and 2019. Overall, Euro Area HICP averaged 1.3% growth per year over the same period. Irish HICP however, has grown at a significantly slower pace, averaging 0.2% annual growth, one of the lowest within the Eurozone. Outside of the EU, inflation grew at a slightly faster pace. US inflation averaged 1.4% annual growth over the last decade, while UK prices averaged 2.2%.

Table 26 presents the annual HICP change in 2020 among Ireland's largest trading partners. As shown in Table 26, inflation in Ireland remains among the lowest in the Eurozone. Euro area inflation also remain significantly below the ECB price stability target of at or just below 2% inflation per year.

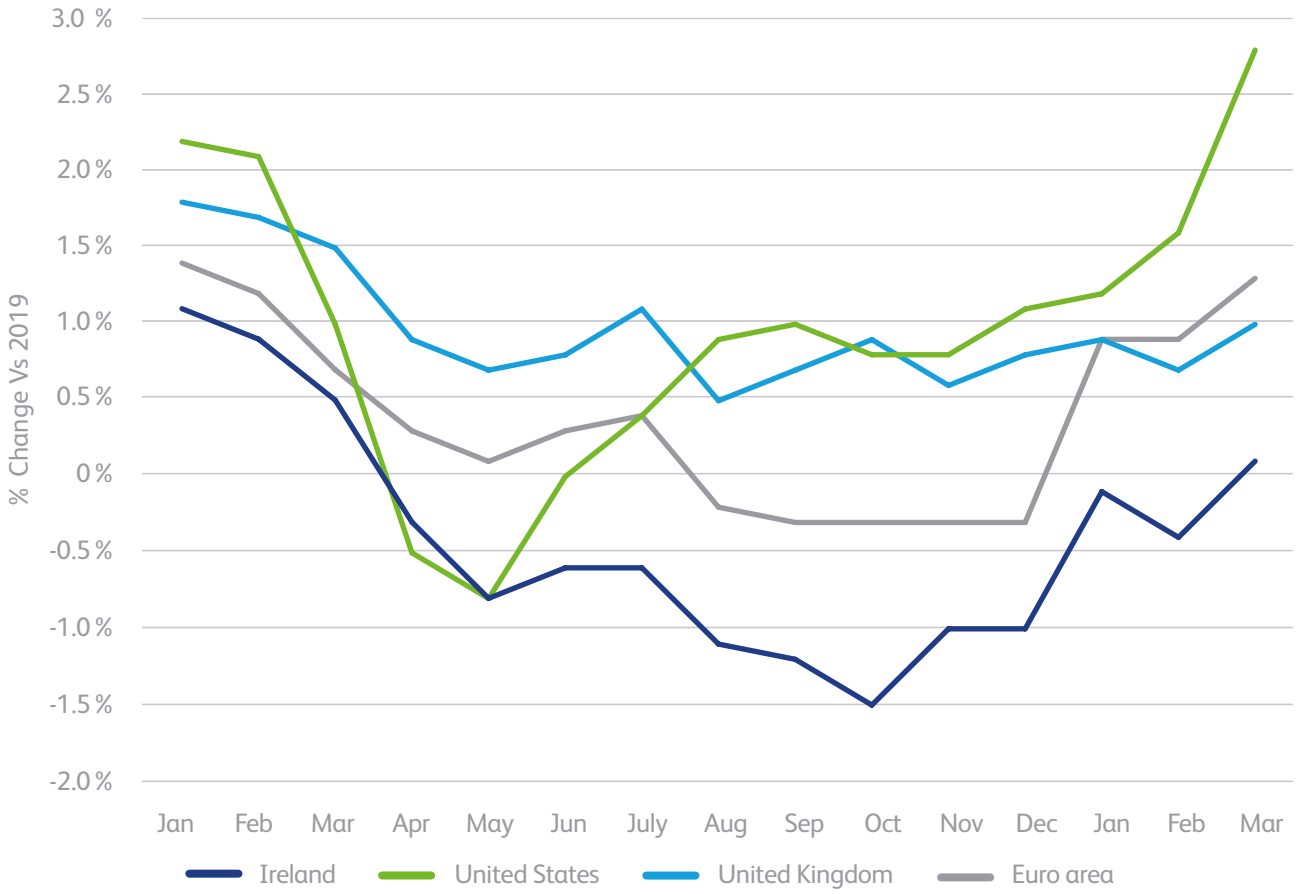
Table 26: HICP Inflation 2020, Annual Percentage Change, Selected Economies

Country	HICP 2020 Annual % Change
EU27	0.8%
Euro area	0.3%
Belgium	0.4%
France	0.5%
Germany	0.4%
Netherlands	1.1%
United States	0.8%
United Kingdom	1.0%
Ireland	-0.5%

Source: Eurostat

Figure 36 below illustrates the annual rate of change of HICP Inflation from the beginning of the COVID-19 pandemic for much of Europe in March 2020. HICP growth in the economies listed in Figure 36 followed a downward trend for much of the year, before steadily increasing as aggregate demand improved in early 2021. This was certainly the case for the Euro Area, which recorded negative price growth between August and December 2020. However, the Euro Area and the United States both recorded their highest rate of price growth in March 2021, reflective of the forecasted recovery in 2021.

Figure 36: HICP Inflation, Year-on-Year Growth Rate 2020, Selected Economies



Source: Eurostat

According to ECB projections produced in March;

"HICP inflation is expected to rise sharply from 0.3% in 2020 to an average of 1.5% in 2021, peaking at 2.0% in the fourth quarter of the year"

European Central Bank, March 2021[31]

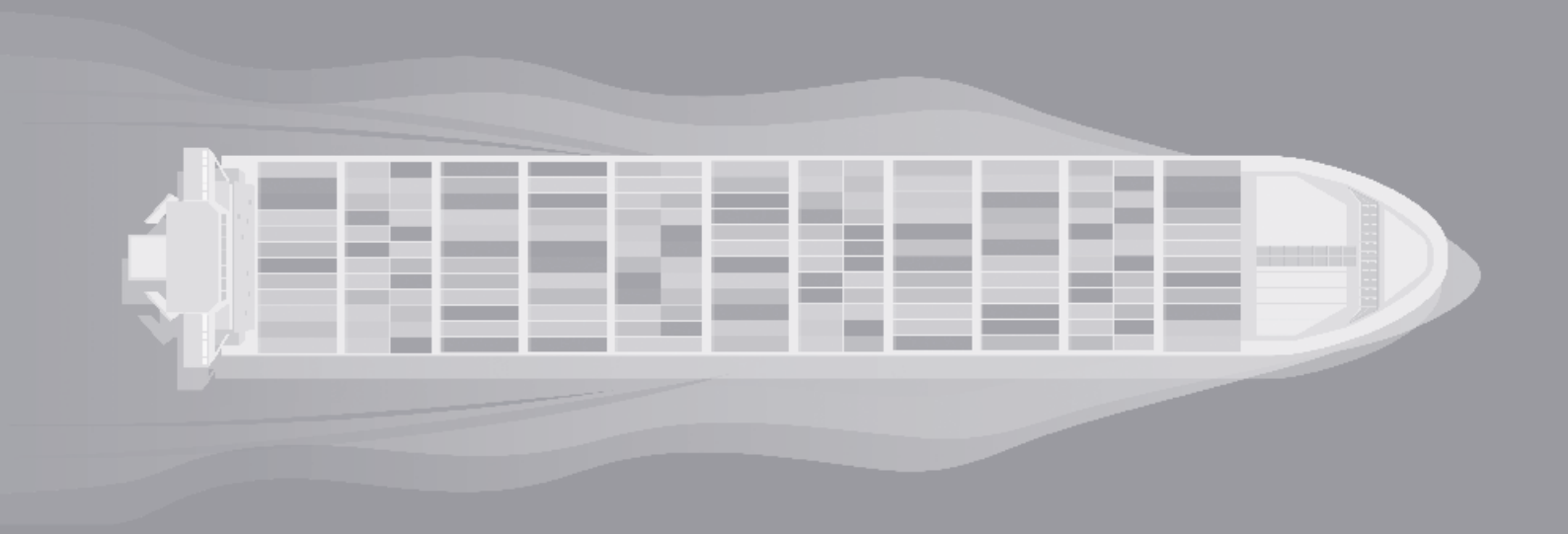
Also highlighted by the ECB was the impact of the American Rescue Plan, which was passed by the US Congress on March 10th 2021. The ECB expects this to have a moderate impact on Euro Area inflation, equivalent to approximately 0.15%.

Conclusion

Section 3 has provided a review of Irish merchandise exports, a breakdown of Ireland's largest export trading partners in terms of volume and value, and an investigation into the key determinants of Irish exports, focused on external demand and prices. Noteworthy points in this section include: the consistent levels of Irish export volumes of approximately 18.5 million tonnes annually for the last six years; the value of Irish merchandise exports reaching a record high of €160.8bn this year - an €8.3bn increase over 2019 despite the significant COVID-19 challenges in 2020; The resilience of Irish merchandise exports, underpinned by high value exports; and the significant decline in economic growth recorded among Ireland's largest trading partners.

[31] ECB staff macroeconomic projections for the euro area, March 2020

Section 4 **- Global Shipping Market Review**



Introduction

Section 4 details the performance of key markets within the international shipping industry. Trends in this industry are driven by economic fundamentals such as the demand for goods, raw materials and the price of energy. Sections 4.1 to 4.3 analyse the market for tanker vessels, the dry bulk market and the containership charter market.[32] In doing so, these sections focus on time charter rates and capacity. Section 4.4 assesses the oil and bunker markets. Section 4.5 provides an update on an IMDO report on the feasibility of alternative fuel infrastructure at Irish ports, which was published in 2019.

4.1 Tanker Market

In 2020, average daily time-charter rates (TCR) for Suezmax and VLCC vessels recorded year-on-year increases of 4% and 9% respectively. Guide prices for VLCC averaged $39,607 per day, whilst the average daily price for Suezmax vessels was $27,794. The daily charter rate for Aframax tankers remained largely unchanged compared to 2019, showing a slight increase of $88 per day. The Product charter market was the only segment to record a decline in prices in 2020, falling by 2% to an average of $14,389 per day. Table 27 below outlines the average daily charter rate for all four tanker market segments.

Table 27: One-Year Tanker Time-Charter Rates, Monthly Average, 2020

	Product $/Day	Aframax $/Day	Suezmax $/Day	VLCC $/Day
January	16,600	28,300	34,500	48,650
February	15,563	22,000	30,750	35,000
March	15,813	24,188	35,188	45,000
April	15,844	31,250	43,500	69,375
May	16,925	30,050	39,000	56,100
June	14,375	22,000	26,000	42,375
July	13,150	20,050	24,100	37,200
August	13,500	19,750	23,000	36,000
September	14,000	19,000	23,000	30,938
October	13,550	17,500	19,050	25,900
November	11,719	16,344	18,563	23,750
December	11,625	15,875	16,875	25,000

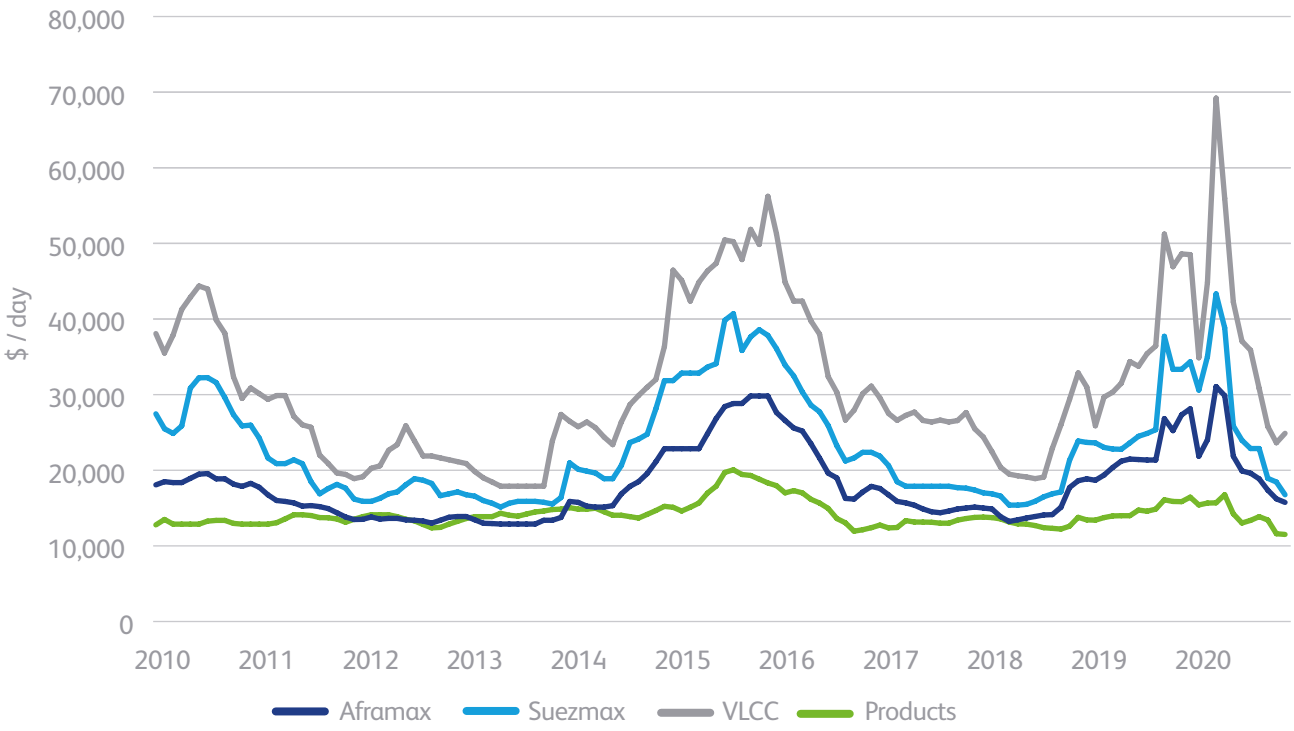
Source: *Clarkson's Shipping Intelligence Network*

Like many markets in 2020, the COVID-19 pandemic created fluctuation in the demand for energy, and thus in the market for tankers. In the first six months of 2020 (H1), all four of the categories listed in Table 27 recorded significantly higher daily charter rates compared to the same period in 2019. Aframax daily rates during this period were 31% higher year-on-year. Suezmax, VLCC and Product rates were also significantly higher compared to 2019, increasing by 49%, 62% and 14% respectively.

These increases were reversed in H2 as average daily charter rates for each of the tanker categories declined compared to 2019. Aframax fell by 25%, Suezmax by 31%, VLCC by 29% and Product by 17%. Figure 37 illustrates the fluctuation in time-charter rates for each of the tanker markets over the last decade.

[32] For more detail on industry definitions and terminology, see Glossary of Terms

Figure 37: One-Year Tanker Time-Charter Rates, Monthly Average, 2010 – 2020



Source: *Clarkson's Shipping Intelligence Network*

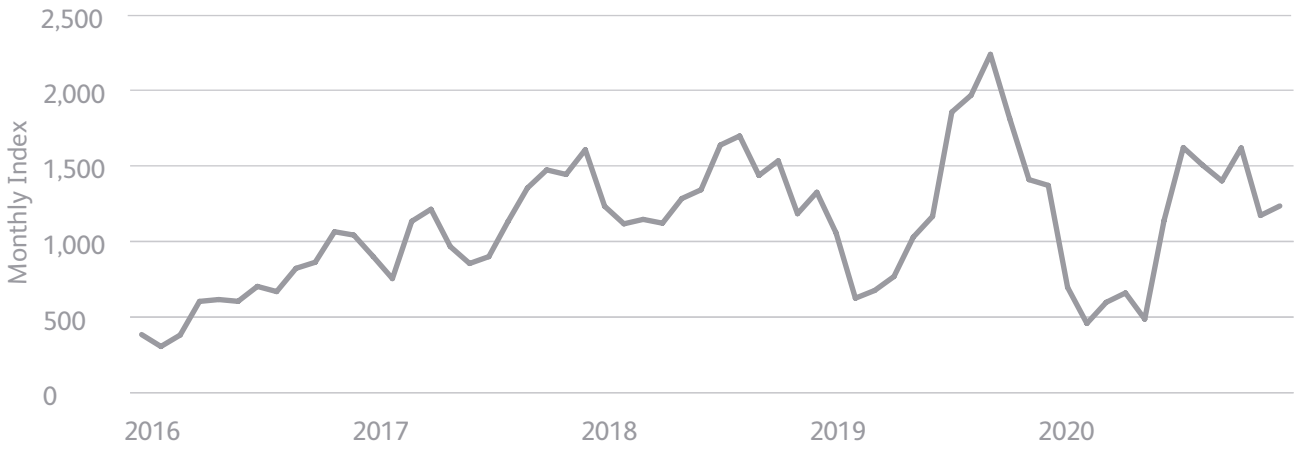
As highlighted by Clarkson's Shipping Intelligence Network (SIN)[33], the spike in the tanker market in H1 2020 was driven by a surge in 'floating storage' in Q2 2020. At its peak in May, 12% of the oil tanker fleet was engaged in floating storage. This trend had begun in 2019 and was motivated in part by the introduction of the IMO 2020 Sulphur cap in 2020[34]. The onset of the COVID-19 pandemic caused global demand for fuel to plummet, further accelerating the demand for storage and putting further pressure on charter prices. According to Clarkson's SIN, approximately 75% of this increased storage has now been unwound. However, as of the January 2021, storage levels remain notably high and thus the market for tankers remains pressurised.

[33] Clarkson's Shipping Intelligence Network (SIN)
[34] IMO 2020 – cutting sulphur oxide emissions

4.2 Dry Bulk Market

The London based Baltic Dry Index (BDI) recorded a significant decrease of 21% in 2020 compared to 2019. The index averaged 1,056 in 2020, compared to 1,341 in 2019. Figure 38 illustrates the trajectory of the BDI between 2016 and 2020. The BDI measures the rates charged for chartering ships that carry essential raw materials such as iron ore, coal, grain, etc. This index is a made up of the Capesize, Supermax and Panamax time charter rate (TCR) averages. The BDI contrasts demand for shipping capacity with the supply of dry bulk carriers. On the supply side, fleet size is relatively inelastic, meaning small changes to fleet size can have outsized impacts on rates. Conversely, the demand for raw materials is an effective indicator of economic activity.

Figure 38: Baltic Dry Index, 2016 – 2020



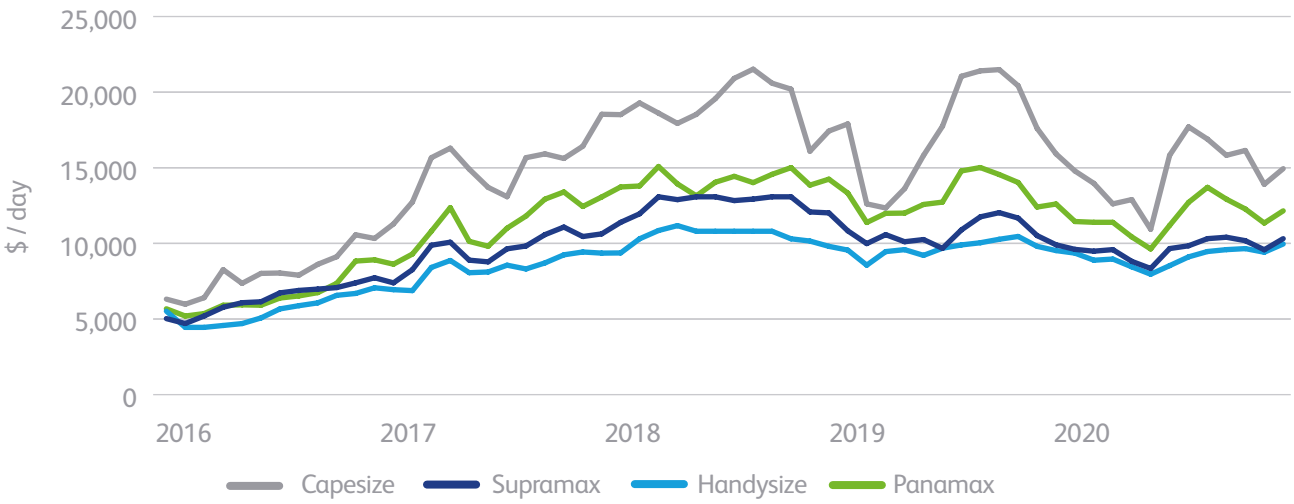
Source: *Clarkson's Shipping Intelligence Network*

As the COVID-19 pandemic severely disrupted economic activity in almost all large economies, 2020 was a challenging year for dry bulk trade. The suspension of economic activity supressed global demand for raw materials and industrial commodities.

Total dry bulk trade fell by 2% in tonnage terms in 2020, while capacity grew by 3.8%. As for average earnings across the entire dry bulk sector, this fell by 18% compared to 2019. Figure 39 illustrates the dry bulk 1-year time charter rates across the four main vessel classes between 2016 and 2020. When combined, average annual 1-year time charter rates for the four vessels in Figure 39 declined by 11% in 2020 to roughly $11,500 per day. This is the lowest annual average since 2017, and follows a decline of 10% in 2019. Overall, the steepest decline in sectoral earnings was recorded in Capesize spot prices, which as highlighted by Clarkson's SIN, declined by 32% in 2020.

The second half of 2020 recorded notable improvements in the sector, underpinned by robust Chinese demand for raw materials. By September 2020, much of the worst impact of COVID-19 had passed, allowing for momentum to build in the latter stages of the year.

Figure 39: One - Year Dry Bulk Time Charter Rates, Monthly Average, 2016 - 2020



Source: *Clarkson's Shipping Intelligence Network*

Looking ahead, a market outlook report by Clarkson's SIN in early 2021 indicated that a rebound of approximately 3.3 % is projected for global dry bulk trade in 2021, and that the market has had a strong start to the year. This growth may be sufficient to support a marginal rebalancing between the global demand and supply of bulkers, as the global bulker fleet is also expected to grow by 2.6 %. Risks to the market include a prolonged period of surplus capacity that could continue to supress charter rates.

4.3 Global Containership Charter Market

The COVID-19 pandemic's disruption to global economic growth, goods consumption and global supply chains exposed the global containership sector to significant declines throughout the year. As reported by Clarkson's SIN[35], global seaborne container/box trade declined by 1.1 % in 2020 to 195 million TEUs. This is the first annual decline in global seaborne container trade since 2009, when an annual decline of 9 % was recorded. However, significant variations were recorded between the first and second halves of 2020 i.e. H1 and H2 2020.

For H1 2020, box trade was down by 6.8 % year-on-year. The steepest declines were recorded in Q2 2020, when global seaborne trade fell by 10 % compared to 2019. At the midway point in 2020, roughly 40 % of the global population was in some form of 'lockdown' and global seaborne trade was projected at this point to have fallen by 11 %.[36] From early 2020, declines in containership trade were driven by the Chinese economy, where global box trade fell by 4 % n Q1.

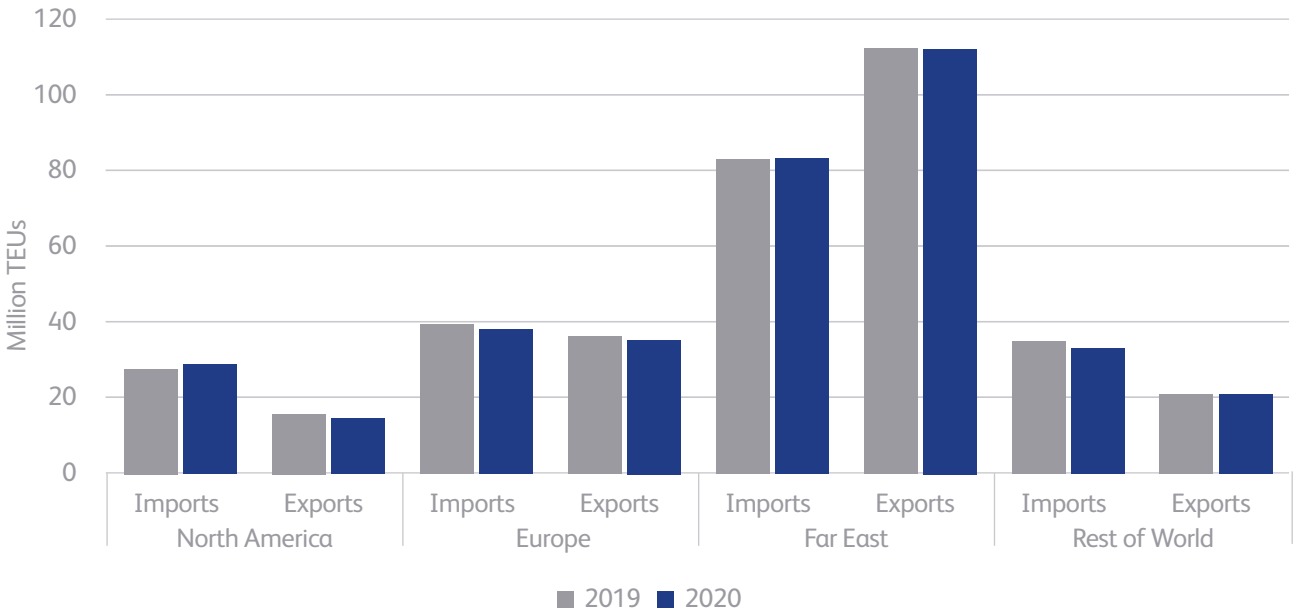
Despite these projections, and the uncertain short term outlook, H2 2020 outperformed expectations and a resurgence in global seaborne trade was evident. Significant fiscal stimuli from governments of large economies drove improvements in aggregate demand.[37] By November 2020, year-on-year growth in global box trade for that month was 8 %, the highest rate of growth in this market since 2018. Global seaborne box trade grew by 3 % in Q3 and by 6 % in Q4 when compared to 2019.

As highlighted by Clarkson's SIN, the improvement in H2 2020 was accelerated by the Far East – North America trade lane. Volumes on these routes declined by 7 % in H1 2020. However, the reopening of the Chinese economy in the summer months led to a 15 % year-on-year increase during this period, and a surge in US retail sales in Q4 drove an estimated increase of 26 % in Q4 2020.[38] A similar late year surge was recorded on Far-East – Europe trade lanes, as pre-Brexit stockpiling helped to recover losses from early in the year. Volumes on these routes fell by 4 % for the full year 2020.

[35] Clarkson's Shipping Intelligence Network, Container Intelligence Quarterly Report
[36] Clarkson's Shipping Intelligence Network, Container Intelligence Quarterly Report, Q2 2020
[37] Clarkson's Shipping Intelligence Network, Container Intelligence Quarterly Report, Q1 2021
[38] Clarkson's Shipping Intelligence Network, Container Intelligence Quarterly Report, Q1 2021

Figure 40 illustrates the volumes of imports and exports of containership trade across the world's largest economic regions for 2019 and 2020. European Imports declined by 4%, while European exports fell by 2%. Both of these measures had recorded four consecutive years of growth prior to the COVID-19 pandemic in 2020. Far Eastern imports and exports were flat in 2020, reflective of the resurgent demand for goods trade in H2 2020. North American imports rose by 4%, driven by the Far East – North America trade lane, as highlighted above. North American exports declined by 7% for the full year (2020).

Figure 40: Global Seaborne Container TEUs, Imports & Exports, Selected Economies



Source: *Clarkson's Shipping Intelligence Network*

The daily time-charter rates for containership vessels throughout 2020 reflects the suppressive impact of COVID-19 in H1 2020, followed by a resurgence in demand for goods trade in H2. Table 28 below details the average daily charter price for containership vessels of various capacities. As evident in Table 28, there was sizeable fluctuation in charter rates throughout the year. This is exemplified in the Handymax sector, where charter rates ranged from $5,788 in June, to $12,900 in December, reflecting the strong fourth quarter in global seaborne trade.

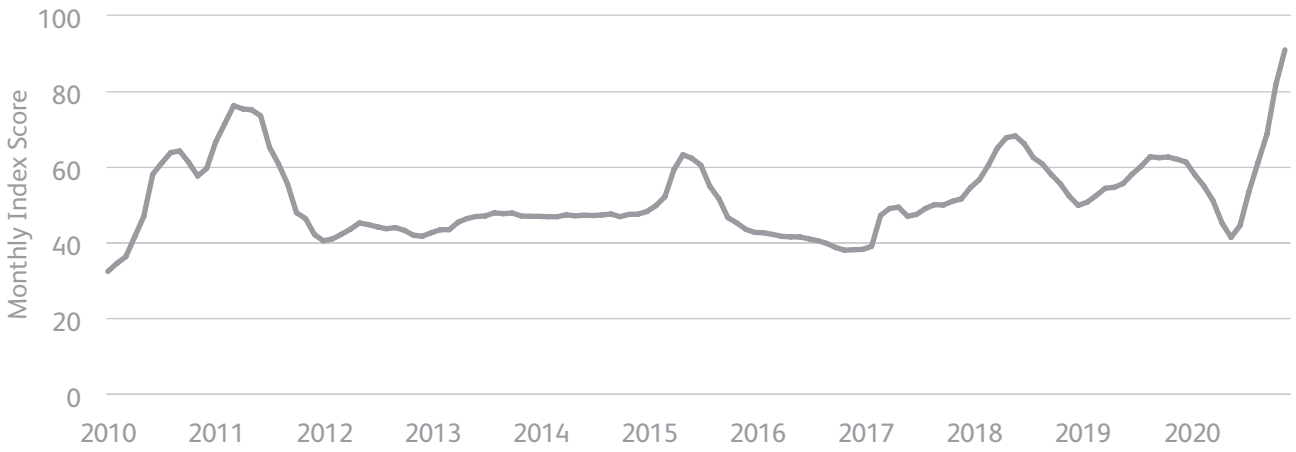
Table 28: One - Year Containership Timer Charter Rates, Monthly Average, 2020

2020	Feeder 350 $/day	Feeder Max 725 $/day	Handysize 1000 $/day	Handymax 1700 $/day
January	3,850	5,100	6,180	8,290
February	3,813	5,025	6,013	7,800
March	3,800	5,000	5,850	7,238
April	3,800	5,000	5,588	6,838
May	3,740	4,860	5,350	6,250
June	3,700	4,700	5,200	5,788
July	3,720	4,620	5,240	5,880
August	3,800	4,763	5,650	7,038
September	3,800	4,863	6,038	8,513
October	3,830	5,070	6,600	9,730
November	3,938	5,775	7,138	11,713
December	4,075	7,100	8,338	12,900

Source: *Clarkson's Shipping Intelligence Network*

As for time charter rates across the containership sector, Figure 41 represents Clarkson's Containership Time Charter Index for the last decade. By the end of 2020, the index was at a record high, and gains have been maintained in early 2021. As highlighted by Clarkson's, the early resurgence in rates was driven by larger vessels, but has since fed down to all vessel classes. Overall, a global economic recovery for goods is underway. Global seaborne trade is projected to grow by 5.7% in 2021, surpassing 2019 levels. Over the medium term, the market is expected to return to more 'normal' levels as demand for services increases as more economies fully reopen.

Figure 41: Containership Time Charter Rate Index, 2010 - 2020, (1993 = 100)



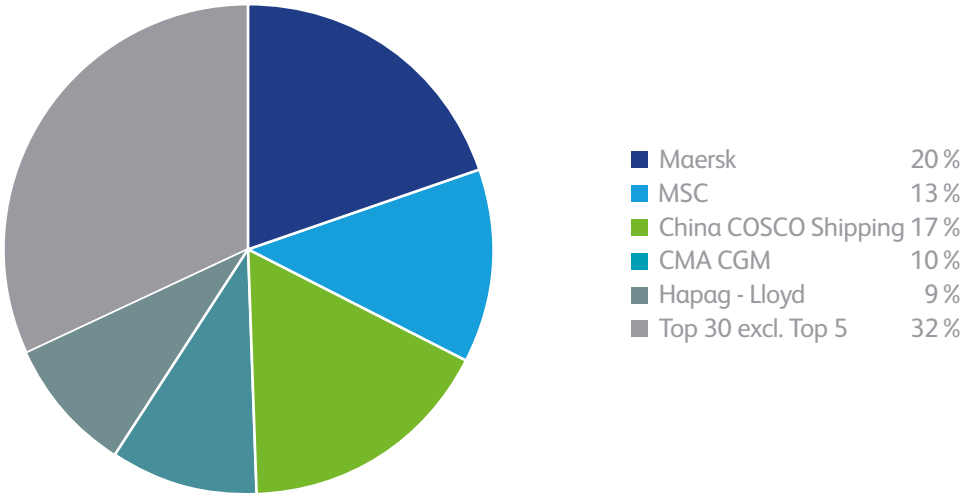
Source: *Clarkson's Shipping Intelligence Network*

Containership Operators

As shown in Figure 42, the top 5 operators in TEU terms in the containership market remained unchanged from 2019. Maersk remained the largest operator, with capacity to deploy 2.4 million TEUs in 2020, representing 20% of total global container trade. China COSCO Shipping and Hapag-Lloyd's vessel capacity remained unchanged from 2019, while MSC and CMA-CGM both added capacity. MSC increased capacity by 7%, equating to an additional 96,000 TEUs. CMA CGM marginally increased capacity by 1% or 13,800 TEUs.

In terms of market shares, Maersk, CMA-CGM and Hapag-Lloyd all retained the same market share as in 2019, holding 20%, 10% and 9% respectively. China COSCO Shipping increased its share of capacity to 17%.

Figure 42: Top Containership Operators by Owned Vessel TEU Capacity, 2020



Source: *Clarkson's Shipping Intelligence Network*

4.4 Oil & Bunker Market

Oil Demand

2020 was a period of heightened uncertainty and fluctuation for energy markets. COVID-19 significantly disrupted economic activity and global oil demand and supply declined as a result. Global oil demand fell by 9% year on year to 92.2 million bpd[39]. This was driven by US and European declines in oil demand, which fell by 12% and 7% respectively, compared to 2019. Oil consumption from OECD countries also declined by 12%. Chinese demand fell by 3%, while non-OECD demand declined by 6%.

The US Energy Information Administration (EIA) estimates that global oil demand will rebound in 2021 by roughly 6%, to 97 million bpd. This is expected to be driven by robust demand arising from the Chinese and US economies. Oil demand is expected to rise by 7% in the US and 6% in China. European oil demand is expected to increase by 3% in 2021[40].

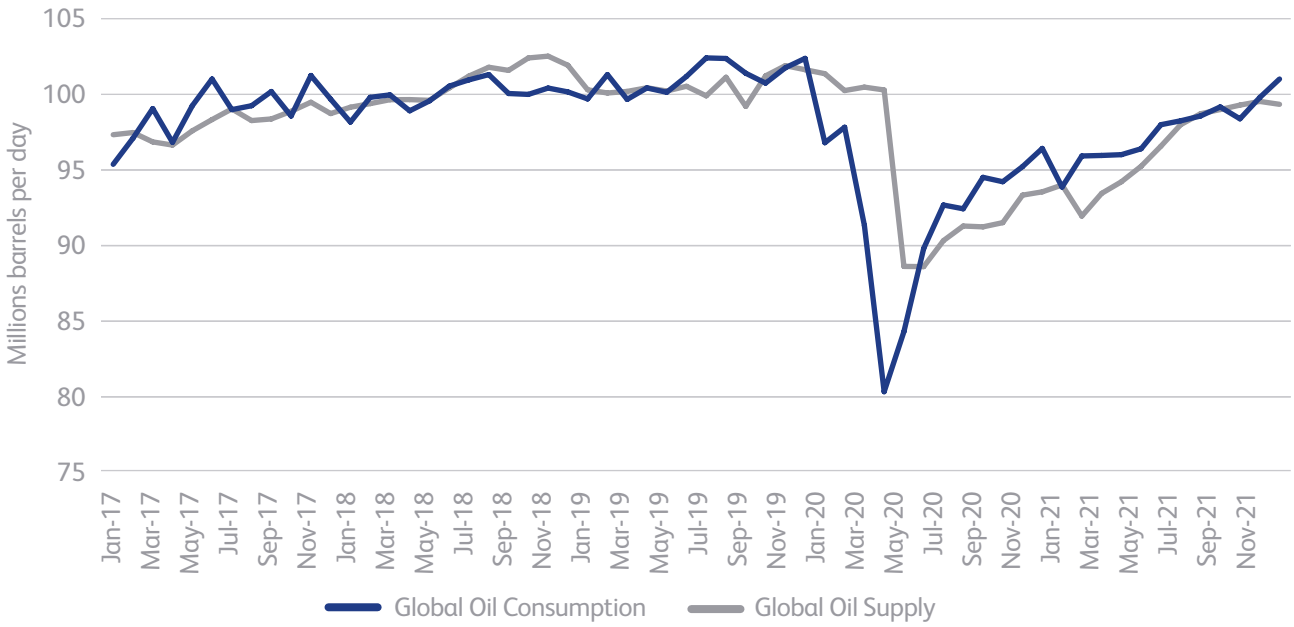
The onset of the COVID-19 pandemic had a swift and significant negative effect on global oil consumption. Monthly demand between March and November 2020 was the lowest since January 2017. In April, demand fell to 80 million bpd, 21% below the 2019 average. This slowly recovered to 96.5 million bpd by December 2020.

[39] Short Term Energy Outlook January 2021, EIA
[40] Short Term Energy Outlook April 2021, EIA

Oil Supply

In response to the sizeable decline in global oil demand, reductions in oil supply quickly followed. In May 2020, OPEC cut production by 18% compared to April, reducing production to 29 million bpd. Non-OPEC production fell by 8% in the same period to 59 million bpd. Both producers gradually increased supply over the remainder of the year, but neither reached pre-COVID-19 production levels. Overall, global oil supply fell by 6% in 2020 to 94.2 million bpd. OPEC production declined by 12% to 32 million bpd, while non-OPEC production declined by 4% to 65 million bpd. In 2021, the (EIA) estimates that global oil supply will increase by 2.5% to 97 million bpd. Figure 42 illustrates the interaction between global oil demand and supply in 2019 and 2020, with forecasted volumes for 2021. As a consequence of the supply changes in 2020, OPEC now represents roughly one third of global oil supply in 2020, down from 38% in 2017. The US represents 19%, an increase compared to 15% in 2017. All other producers represent 48% in 2020.

Figure 43: Global Oil Consumption, Supply, 2017 - 2020



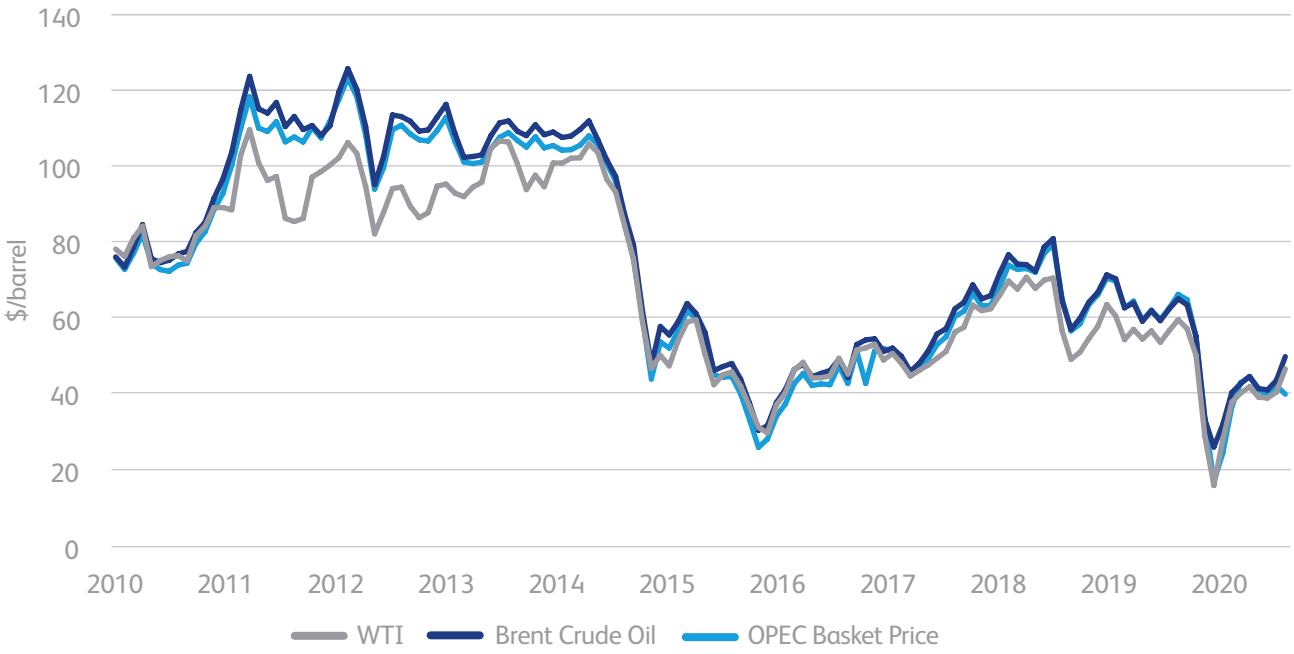
Source: *US Energy Information Administration*

Oil & Bunker Prices

As a result of changes to both demand and supply, crude oil prices fell significantly in 2020. The annual average price of Brent crude fell by 33% to $43/bbl, West Texas Intermediate (WTI) fell by 31% to $39/bbl, and the OPEC basket price fell by 37% to $41/bbl. In April, the price per barrel of each measure fell to their lowest monthly level of the last decade. During this month, both the WTI and the OPEC basket price were almost halved, falling to approximately $17/bbl each. Brent crude fell to $27/bbl at its lowest point. March, April and May 2020 recorded the three lowest monthly prices for all price measures since 2010. This is illustrated in Figure 44.

The precipitous declines in oil price prompted cuts to production, as outlined above. As a result of these supply cuts, and the steady reopening of large economies, prices steadily rose in the latter half of the year for each measure. None however, achieved pre-pandemic price levels. By December, Brent crude was at $50/bbl, WTI at $47/bbl and OPEC basket price at $40/bbl.

Figure 44: Crude Oil Prices, Monthly, 2010 - 2020

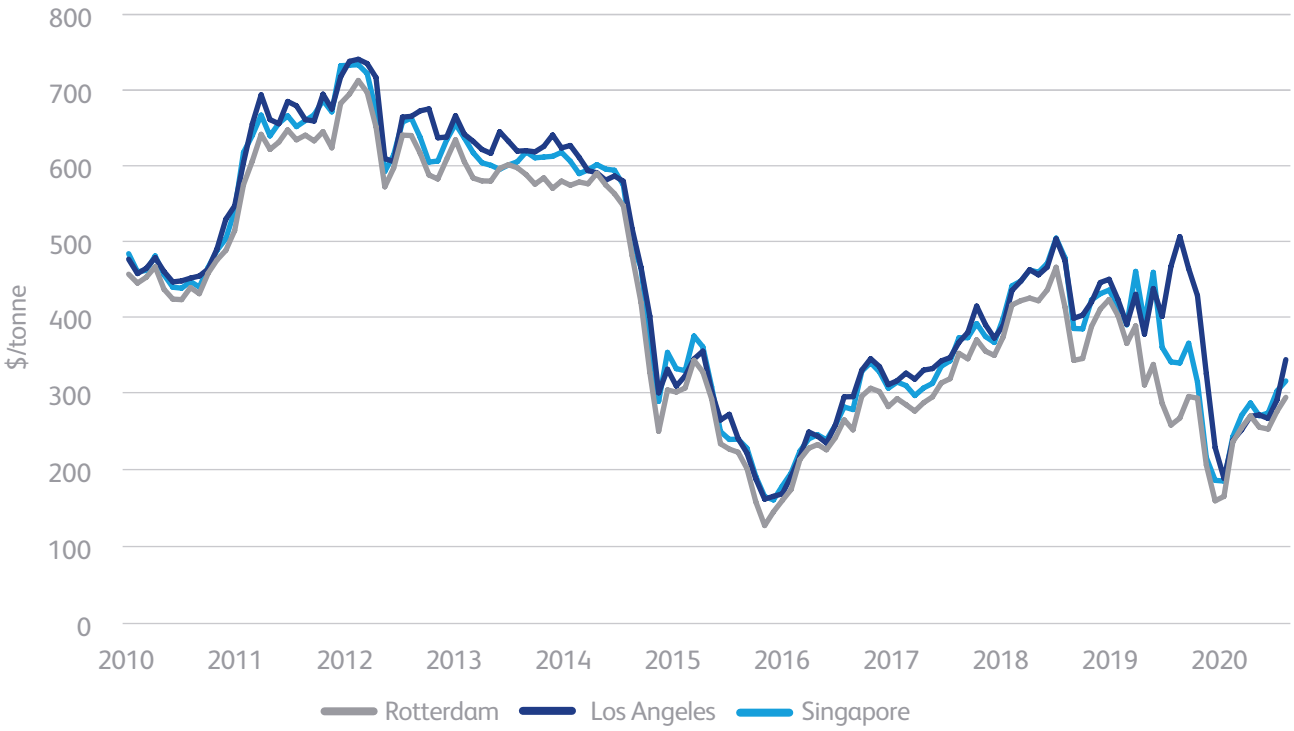


Source: *Clarkson's Shipping Intelligence Network*

The 2020 price trends of crude oil were reflected in Bunker fuel prices. The annual average price for Intermediate Fuel Oil (IFO) benchmark 380 centi-Stoke (cSt) Rotterdam fell by 29% to $247 per tonne compared to an average of $349 per tonne in 2019. The Los Angeles bunker price decreased by a similar margin, by 31% to $298 per tonne. The average Singapore bunker price recorded the steepest decline, falling by 33% to $269 per tonne.

Positive price growth was recorded for all three measures in the late stages of the year, reflective of the increased volumes of international trade, particularly in the US. By December, each measure was roughly 20% below its 2019 average.

Figure 45: 380 cst Bunker Prices, Monthly, 2010 - 2020



Source: *Clarkson's Shipping Intelligence Network*

4.5 Alternative Fuels Infrastructure

In 2019, the Irish Maritime Development Office published a feasibility study on the development of alternative fuels infrastructure (AFI) in Irish ports. As transportation across the European Union is almost entirely dependent on fossil fuels, and to help reduce this dependency and the associated harmful environmental effects, the EU Commission established an alternative fuels strategy. As a result, EU Directive 2014/94/EU was published in November 2014.

In the maritime sector, the directive obliged Member States to install shore-side electricity (SSE) for seagoing ships in the ports of the TEN-T Core Network[41]. In addition, Member States must ensure that an appropriate number of liquefied natural gas (LNG) refuelling points are put in place at maritime ports. These objectives are to be met by 31 December 2025, unless there is an absence of demand or the relevant costs are disproportionate to the benefits.

Motivated by the EU directive, the IMDO, at the request of the Department of Transport, conducted a feasibility study of shore-side electricity (SSE) and assessed market demand for LNG fuelling facilities in major Irish ports. To achieve this, the report examined the factors that determine locational or sectoral concentrations in the deployment of AFI, and discussed the applicability of these factors to the Irish context. A copy of the report can be found **here**.

Overall, the IMDO's AFI report made several recommendations. Among them were that stakeholders in Ireland's maritime transport sector should seek opportunities to get involved in wider European projects related to alternative fuels in order to gain experience and insights into this emerging area.

[41] Trans-European Transport Network (TEN-T): This is an EU policy that aims to build an effective, EU-wide transport network of roads, railways, airports and waterways

This will be supported by the IMDO and other state agencies. Additionally, in the absence of marked changes in environmental regulation or significant incentives, particularly at an international level through organisations or institutions such as the IMO or the EU, which have the effect of making such investments commercially viable, the targets for the development of AFI in Irish ports by 2025 should be set at zero.

Having reviewed market and regulatory conditions since the publication of the IMDO report on The Development of Alternative Fuel Infrastructure in Irish Ports, the IMDO are satisfied that the conditions that underpin the recommendations in the report have not changed materially and do not warrant any change to the advice previously offered, at this time. The IMDO will continue to monitor these conditions closely

Alternative Fuels & the Global Shipping Fleet

The IMDO's Alternative Fuels report in 2019 also detailed the uptake among the global shipping fleet of vessels propelled by alternative fuels. The IMDO continues to monitor these trends closely, and Table 29 provides the latest indication of the use of alternative fuels in the global shipping fleet. The information provided is adapted from DNV's Alternative Fuels Insight online platform[42], as well as Clarkson's SIN.

Table 29: Propulsion Method of Global Shipping Fleet by Vessel Type, 2020

		Conventional Oil Based Fuel		Scrubber Technology Fitted		LNG & LNG Ready		Battery Powered Technology Installed	
Vessel Type	Total Fleet	Total in Operation	% Share of Total Fleet	Total in Operation	% Share of Total Fleet	Total in Operation	% Share of Total Fleet	Total in Operation	% Share of Total Fleet
Bulk Vessels	11,971	10,278	86%	1,610	13%	74	1%	9	0.1%
Container Vessels	5,375	4,299	80%	958	18%	116	2%	2	0.0%
Tanker Vessels	15,552	14,159	91%	1,214	8%	166	1%	13	0.1%
Cruise & Passenger Vessels	8,450	7,877	93%	235	3%	91	1%	247	2.9%
Roll-on/Roll-off & PCC	1,606	1,165	73%	349	22%	72	4%	20	1.2%
Gas tankers	2,046	1,921	94%	115	6%	10	0%	-	0.0%
General cargo ships	18,504	18,384	99%	103	1%	14	0%	3	0.0%
Other activities (Excl fishing)	6,117	5,986	98%	7	0%	22	0%	102	1.7%
Offshore	8,969	8,849	99%	1	0%	38	0%	81	0.9%
Tugs	20,086	20,035	100%	-	0%	35	0%	16	0.1%
Total	**98,676**	**10,278**	**86%**	**4,592**	**5%**	**638**	**1%**	**493**	**0.5%**

Source: *DNV GL, Clarksons Shipping Intelligence Network*

[42] For more information on DNV, see dnv.com

As evident in Table 29, scrubber technology is now fitted to 5% of the global fleet. The International Maritime Organisation (IMO) 2020 sulphur cap began in January 2020, which places stricter conditions on emissions of sulphur from fuel oil used on board ships;

"From 1 January 2020, the limit for sulphur in fuel oil used on board ships operating outside designated emission control areas is reduced to 0.50% m/m (mass by mass). This will significantly reduce the amount of sulphur oxides emanating from ships and should have major health and environmental benefits for the world..."

IMO, 2020[43]

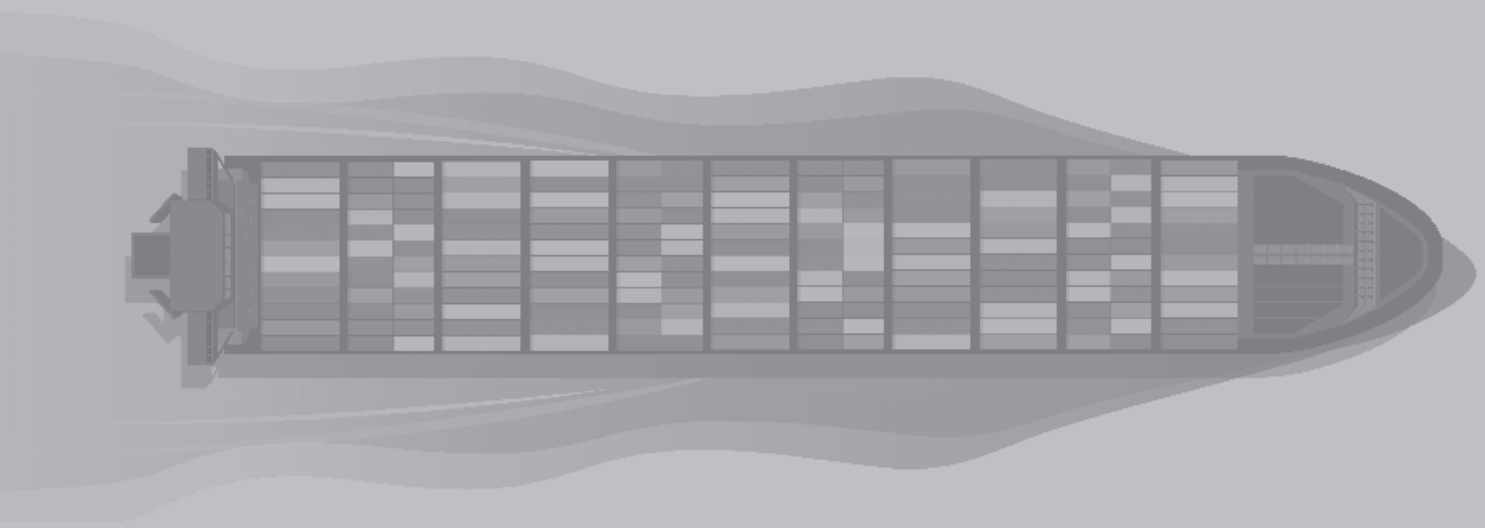
In anticipation of this regulation, changes began to occur in fuel oil markets in 2019. As a result, scrubber-fitted vessels became more widespread this year. The number of vessels with Scrubber technology fitted rose by 18% to 4,592. This increased the market share of Scrubbers from 3% to 5%. Scrubbers allow vessels to continue to use conventional oil based fuels, as the scrubber systems capture and store harmful emissions that can be disposed of at suitable locations.

The number of battery powered vessels rose by 43% to 493 vessels, while LNG and LNG ready vessels rose by 20% to 638.

Conclusion

Section 4 has assessed the 2020 performance of key markets in the global shipping industry, including the tanker market, dry bulk market and containership charter market. It has also investigated trends in the price and production of oil and bunker fuel, and has provided an update on the feasibility of alternative fuel infrastructure at Irish ports. Noteworthy points from Section 4 include: The significant and immediate suppressive effect of the COVID-19 pandemic on volumes and charter rates in the global shipping industry, particularly in the first half of the year; The resurgence in global seaborne container trade in the last quarter of the year; The significant decline in both oil demand and supply, as the pandemic drove global energy consumption to its lowest point since the 2008 financial crash; and the continued, but modest uptake of alternative fuel technology among the global shipping fleet, particularly Scrubber installations in the wake of the IMO 2020 Sulphur cap.

[43] IMO, 2020, available here.



Glossary of Terms:

Aframax: derives its name from AFRA (Average Freight Rate Assessment), which refers to a tanker of between 80,000 – 120,000 DWT.

Balance of Payments: is a statistical statement that systematically summarises, for a specific time period, the economic transactions of an economy with the rest of the world.

bpd: barrels per day

Capesize: are Dry Bulk vessels that average at 156,000 DWT, they cannot transit the Suez Canal.

CBI: Central Bank of Ireland.

cSt: Centistoke is a measurement of fuel viscosity.

DWT: Deadweight tonnage, measurement of ships weight carrying capability.

ECB: European Central Bank.

EIA: U.S Energy Information Administration.

EU27: refers to the number of Member States in the EU.

Eurozone: refers to the nineteen members of the EU's single currency.

GB: Great Britain

Gross Domestic Product (GDP): measures the total output of the economy in a period i.e. the value of work done by employees, companies and self-employed persons.

Gross National Product (GNP): The work done by employees in Ireland generates incomes but not all of the incomes earned in the economy remain the property of residents. The total income remaining with Irish residents is the GNP and it differs from GDP by the net amount of incomes sent to or received from abroad.

HSFO: High Sulphur Fuel Oil – fuel containing up to the 3.5 % sulphur content limit.

Ireland / Irish / IE: Refers to the Republic of Ireland.

IFO: Intermediate Fuel Oil, oil with a maximum viscosity of 380 centistokes (<3.5 % sulphur), see cSt.

Merchandise Trade: Goods which add or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory.

NI: Northern Ireland

OPEC: The Organization of the Petroleum Exporting Countries is an intergovernmental organisation of 14 nations, founded in 1960 in Baghdad by the first five members, and headquartered since 1965 in Vienna, Austria.

OPEC +: Comprised of the 14 OPEC nations as well as non-OPEC nations which export crude oil. The additional countries include: Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

Panamax: are Dry Bulk cargo vessels that travel through the Panama Canal, with a size of up to 52,500 DWT.

Product tankers: are used to transport petroleum based chemicals.

ROI: Republic of Ireland

Suezmax: Oil tanker vessels between 120,000 – 250,000 DWT in size.

TEU: Twenty Foot Equivalent Unit – used to measure containership and container capacity.

TCR: time charter rates are set for shipping vessels for a fixed period of time instead of a certain number of voyages. Rate averages allow comparisons between periodic changes in a shipping company's performance.

VLCC: Very Large Crude Carrier is an oil tanker between 150,000 – 320,000 DWT in size.

VLSFO: Very Low Sulphur Fuel Oil containing a maximum of 0.5 % sulphur.

Supramax: are Dry Bulk cargo vessels of between 50,000 – 60,000 DWT.

Traffic Modalities

Bulk Port Traffic: Refers to three market segments of port and shipping activity, Liquid, Dry, and Break Bulk which are explained below.

Break Bulk: Involves loose, non-containerised cargo stowed directly into a ship's hold. Commodities such as timber, steel products, machinery and general project cargo make up the majority of break bulk cargo. The main drivers in this segment's volumes are construction activities and the delivery of project cargo.

Dry Bulk: Commodities in this segment include animal feed, iron ore, coal, fertilizer, cement, bauxite and alumina. This market segment can be particularly affected by adverse or mild weather conditions during the course of a year.

Liquid Bulk: Is a commodity that ranges from petrol for cars to crude oil or liquefied natural gas. Due to their physical characteristics, these are not boxed, bagged or hand stowed, but are instead stored in large tank spaces, known as the holds, of a tanker.

LoLo (Lift-on Lift-off): LoLo involves a specific ship that engages in the transportation of freight that is loaded and unloaded with the use of different cranes or other lifting devices at a port. To describe the capacity of containership or container terminals, twenty-foot equivalent unit (TEU) is used to measure such parameters.

The **twenty-foot equivalent unit** (often TEU or teu) is a unit of cargo capacity often used to describe the capacity of container ships and container terminals.

RoPax: The sector that uses vessels capable of carrying passengers, passenger vehicles, and RoRo freight.

RoRo (Roll-on Roll-off): RoRo involves vessels designed to carry wheeled cargo, such as cars, trucks, semi-trailer trucks, trailers, etc., that can be driven on and off the ship on their own wheels, or using a platform vehicle, such as a self-propelled modular transporter.

Sources of Data:

The bulletin contains the results of quarterly and annual analysis of activity from Irish and Northern Irish ports, and the activity of shipping lines operating from those ports. The data collected is compiled from returns made by those Harbour Authorities, State Companies, County Councils and RoRo shipping lines on routes to and from the island of Ireland, as outlined below:

Irish Port Companies:

Drogheda Port Company
Dublin Port Company, including Dundalk Port Company
Dún Laoghaire Rathdown County Council[44]
Galway Port Company
Greenore Port Company
New Ross Port Company
Port of Cork, including Bantry Bay Port Company
Port of Waterford Company
Port of Youghal Company
Rosslare-Europort
Shannon Foynes Port Company
Wicklow County Council[45]

Northern Irish Port Companies:

Belfast Harbour Commissioners
Foyle Port
Port of Larne
Warrenpoint Harbour Authority

Roll on/Roll-off Shipping Operators:

Brittany Ferries
CLdN Cobelfret
Irish Ferries
P&O Ferries
Seatruck Ferries
Stena Line

Additional Sources of Data:

Bank of England, Central Bank of Ireland, Central Statistics Office, Clarksons' Shipping Intelligence, Economic and Social Research Institute, Eurostat, European Central Bank, European Commission, US Federal Reserve, International Monetary Fund, World Bank, Office for National Statistics, US Energy Information Administration.

[44] Dún Laoghaire Harbour Company was dissolved in October 2018 under Statutory Instrument 391/2018. The Harbour was transferred to Dún Laoghaire Rathdown County Council.
[45] Wicklow Port Company was dissolved in August 2016 under Statutory Instrument 462/2016. The Company was transferred to Wicklow County Council.

Technical Note

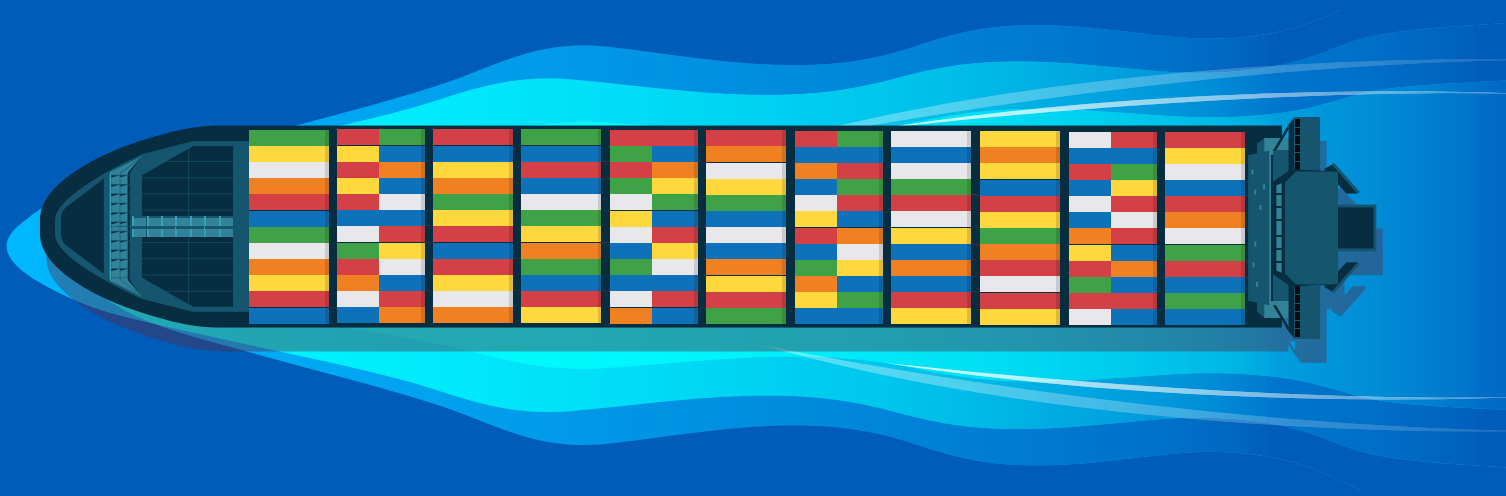
The IMDO's iShip Index is a weighed indicator comprised of five separate indices, representing the main maritime freight categories moving through ports in Ireland: Break Bulk, Dry Bulk, Liquid Bulk, LoLo and RoRo.

The LoLo Index comprises solely of laden traffic.

The following ports have been included in the iShip Index; Drogheda Port Company, Dublin Port Company, Dundalk Port Company, Galway Port Company, Greenore Port Company, New Ross Port Company, Port of Cork, Port of Waterford Company, Rosslare-Europort, Shannon Foynes Port Company, Wicklow County Council. Bantry Bay Port Company is excluded as its throughput is predominantly of a transhipment nature. Additionally, Dún Laoghaire Rathdown County Council is also excluded as at present, it does not handle any of the five categories that move through Irish ports.

All data is derived from the individual port companies and subject to a one-year revision period.

The case period is Quarter 1 2007, at which all indices equal 1,000.



THE IRISH MARITIME DEVELOPMENT OFFICE

Telephone: +353 1 775 3900

Email: info@imdo.ie

www.imdo.ie