The Economic Impact of the Seafood Sector: Ros an Mhíl

A Report for Bord Iascaigh Mhara

May 2025

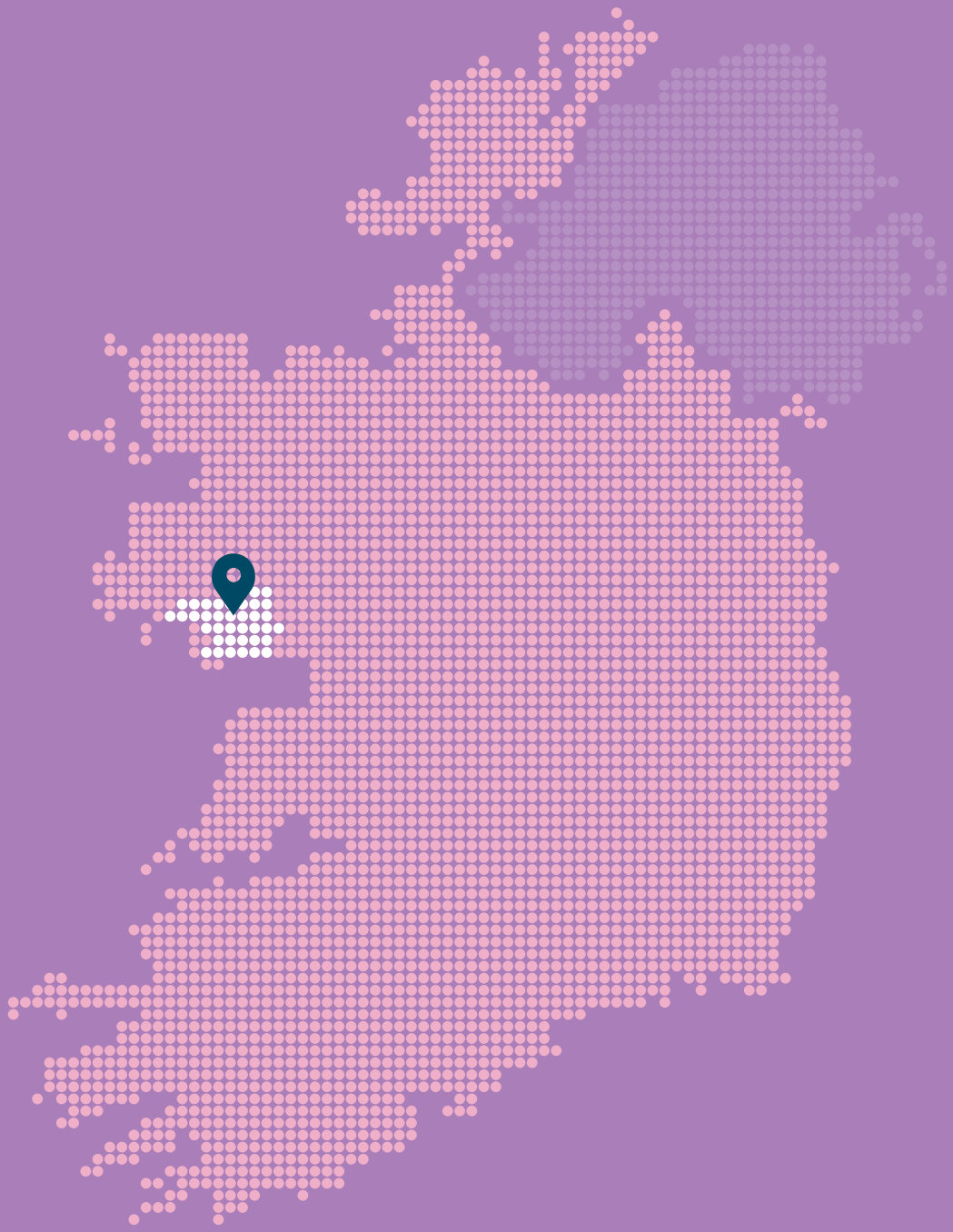

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Table of contents

Foreword

The Economic Impact of the Seafood Sector: Ros an Mhíl

In 2024, BIM completed its second evaluation of Ireland's top ten ports, providing a five-year comparative analysis of the economic contribution of the seafood sector. This report builds on the 2019 assessment, offering insights into the sector's evolving role at the port, regional, and national levels. It captures key economic trends and structural changes over this period, reflecting the challenges and opportunities faced by the industry. The study examines the direct, indirect, and induced effects of the seafood sector on the Ros an Mhíl hinterland, illustrating its continued significance to the local economy.

Ros an Mhíl, located in the west of Ireland, is a key whitefish and shellfish port, with high volumes of Dublin Bay prawns landed annually. The port plays a strategic role in the region's seafood economy and serves as a major gateway to the Aran Islands. The local economy is shaped by seafood, tourism, and agriculture, though logistical challenges remain due to the region's rugged geography, dispersed population, and distance from urban centres. Despite these factors, the seafood sector remains a key economic driver, supporting employment and business activity across the hinterland.

Findings from this report highlight the significant economic impact of the seafood sector, particularly in terms of Gross Value Added (GVA), employment, and wages. Direct seafood activity at the port generates over €81 million in turnover, supporting 420 direct jobs, with the fish processing sector remaining the primary driver. Direct GVA at the port is €28 million, while an additional €31 million is generated upstream. Alongside the 420 direct jobs, a further 400 jobs are supported in the wider economy. Direct wages total €12 million, with an additional €12 million generated through indirect effects.

Over the past five years, the seafood sector in Ros an Mhíl has seen mixed trends. Direct GVA has increased by 2%, while employment has declined by 5% and wages have grown by 26%. Across the wider seafood economy, GVA, employment, and wages have increased by 51%, 38%, and 51%, respectively, driven by higher supply chain spending and increased operator activity. The overall GVA multiplier effect has increased from 1.88 to 2.38, reflecting a stronger economic link between the sector and regional businesses.

As part of the consultation process for this report, BIM engaged with seafood operators, fish processors, and other industry stakeholders in Ros an Mhíl to discuss sectoral trends, challenges, and future prospects. Stakeholders noted a long-term decline in local fishing activity, exacerbated by quota reductions and crew shortages, with some vessels reportedly tied up due to a lack of crew. While the inshore fleet has increased its fishing effort, this has raised concerns about stock sustainability and price volatility. The processing sector remains stable, though rising costs and supply constraints are placing pressure on margins. Stakeholders also discussed the emergence of Offshore Renewable Energy (ORE) developments, which were viewed as both a challenge to fishing access and a potential opportunity for regional employment.

This report provides a detailed analysis of these economic trends, offering valuable insights to support industry stakeholders and inform policy discussions for the continued development of the seafood sector in Ros an Mhíl.

Executive summary

The seafood sector at the port

The seafood sector makes an important contribution to the Ros an Mhíl economy. In 2023, the sector directly generated an estimated €81 million in turnover, supporting nearly 420 direct jobs. Fish processing is the largest of the three seafood sub-sectors, generating an estimated €55 million in turnover, followed by commercial fishing (€16 million) and aquaculture (€10 million). When translated into GVA, the seafood sector directly contributed an estimated €27.7 million to the local port economy.[1]

The survey also identified the key characteristics of the local seafood industry and the business environment for those based at Ros an Mhíl. The industry is well established, with nine in ten firms established for at least five years. Turnover also appears to be stable or decreasing for most local businesses, while 35% of local seafood operators made capital investments in 2023. The port sits in the middle of the pack for average investment levels, reflecting a positive outlook for the future. Three quarters of sectoral employees (75%) originally hail from the port hinterland, while 20% are originally from overseas.

Analysis of the survey results allows the port seafood sector's value within the regional economy to be quantified. Once the indirect and induced effects are calculated, it is estimated that the total economic contribution of the seafood sector at Ros an Mhíl equated to €58.7 million of GVA across the West economy in 2023. The port's seafood sector supported an estimated 820 jobs across the region and generated €6.4 million in tax revenues. When compared to the results of the last study in 2018, it is estimated that Ros an Mhíl experienced a real terms increase in GVA, employment and gross wages of 50.5%, 37.8% and 51.1%, respectively. This growth is down to several factors. There has been a significant increase in the number of seafood operators. These operators have reported an increase in supply-chain spending in the survey, and this results in stronger impacts in the indirect channel. The impacts in the induced channel feed off the impacts from the direct and indirect, resulting in larger impacts in this channel also.

€27.7m

Direct GVA in 2023

The seafood sector makes a significant contribution within the local port economy.

€58.7m

Total GVA contribution to the West economy in 2023

The seafood sector makes any even larger contribution to the wider regional economy.

Table 1. The estimated benefits of the port seafood sector, West, 2023

Ports seafood sector	West		
	GVA (€m)	Employment	Gross wages (€m)
Direct	27.7	420	11.8
Indirect	24.2	340	9.2
Induced	6.9	60	2.5
Total	**58.7**	**820**	**23.6**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

1 Gross Value Added (GVA) is the difference between the value of goods and services produced by a business or a sector, and the cost of raw materials and other inputs which are used in production. It is essentially a measure of the value added to the services or products provided by a sector or firm.

The role of the individual seafood sub-sectors

The analysis of the seafood sector at the port produces the following headline findings throughout the region (which again include the combined direct, indirect and induced impacts).[2]

- Activity in the commercial fishing sub-sector has been estimated to sustain 280 jobs, €4.8 million of gross wages and €13.7 million of GVA;
- Activity in the aquaculture sub-sector has been estimated to sustain 115 jobs, €4.3 million of gross wages and €8.3 million of GVA;
- The processing sub-sector has been estimated to sustain 440 jobs, €15.3 million of gross wages and €38.9 million of GVA.

Socio-economic characteristics

Ros an Mhíl struggles with below-average qualification attainment and a lower working-age population share in comparison to the national average, while economic inactivity and unemployment rates are high.

While the local economy is more diversified than other coastal economies, there are some limitations to growth. Ros an Mhíl and its hinterland suffer from a demographic deficit and have an ageing population, with above-average share of those aged 45 and over. This may act as a barrier to development of new opportunities and job creation in the future, and may place reliance on the seafood sector to provide employment opportunities to the older cohort. The educational profile is notably weaker than the national average; 16% of residents identify as having only primary education or lower. The provision of lesser-skilled occupations in the agricultural, forestry and fishing sector is therefore an important source of employment for the sizeable population with lower qualification levels.

As a result, the seafood sector is likely to play a significant role in the local port economy through its provision of direct jobs, supply-chain spending in local businesses and the consumer spending it supports. Looking forward, a vibrant and growing local seafood sector will be important for the economic and demographic health of the local area.

2 Summing the benefits of all three elements within the definition of the seafood sector (fishing, aquaculture and processing) would overestimate the indirect and induced impacts, and as a result, overall impacts. This is because the supply chain of the processing sub-sector would likely contain a proportion of the port's fishing sub-sector and its supply chain. To get the direct totals (for employment, GVA and gross wages), all the three sub-sectors are added. However, for the indirect and induced totals, those of the processing sub-sector are summed with a proportionate share of the fishing and aquaculture (according to the proportion of sales not destined for local processors and informed by the interview process). The remainder of the fishing and aquaculture indirect and induced impacts will already be accounted for within that of the processors.

1. Introduction

1.1 About the study

The Irish seafood sector is an important component of the Irish economy. It is particularly important to coastal communities around the country given its concentration at Ireland's ports and the relatively low level of alternative economic activity in these local economies. In addition, as economic and employment growth is increasingly driven by office-based activity which favours urban areas, the seafood sector's role in providing labour market opportunities, wages and local demand in these local areas is arguably rising.

Against this backdrop, Bord Iascaigh Mhara (BIM) commissioned Oxford Economics and Perceptive Insight to estimate the economic contribution of the seafood sector in ten of Ireland's ports.

1.2 The port area

Ros an Mhíl is a fishing and ferry port on the Irish west coast. Located just along the coast from Galway city, the village is the key mainland terminal for the outlying islands. The local port economy is defined in this report as the District Electoral Division (DED) of Kilcummin and those surrounding it, which constitute its hinterland — informed by BIM and shown in Fig.1.

Fig. 1. Map of port area and hinterland

Box 1: Introducing economic impact analysis

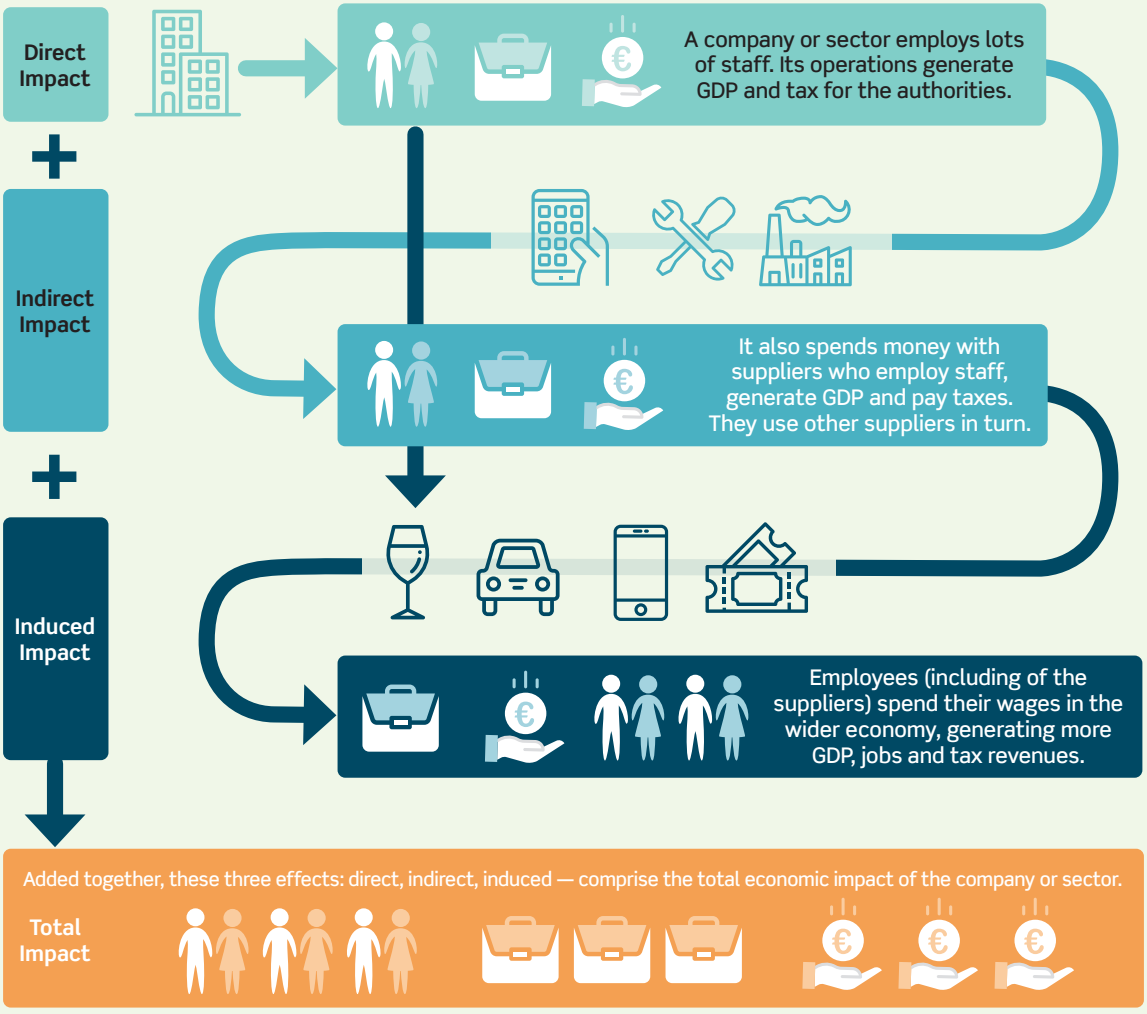
The economic impact of a sector is measured using a standard means of analysis called an economic impact assessment. The report quantifies the three 'core' channels of impact that comprise an organisation/sector's 'economic footprint':

- **Direct impact**, which is the economic activity the seafood sector generates because of its operations;
- **Indirect impact**, or supply-chain impact, that occurs because the sector buys inputs of goods and services from Irish businesses;
- **Induced impact**, which relates to the wider economic benefits that arise when employees of the local seafood sector and its supply chain spend their wages in the consumer economy, for example in local retail establishments.

Three core metrics are used to analyse these channels of impact:

- **Employment**, measured on a Full-Time Equivalent (FTE) headcount basis. This is composed of both full-time employment and a proportion of part-time working component — where two part-time roles equate to a full-time position;
- **Gross value added (GVA)** contribution to GDP;
- **Tax receipts** generated by the Irish activity and employment supported by the seafood sector.

Fig. 2. Economic impact assessment



To inform the analysis, a comprehensive seafood-related survey exercise was carried out across Ireland's main ports. Researchers worked closely with BIM in order to, firstly, understand the seafood population at each of the 10 ports. Following this, the market research firm Perceptive Insight collected information concerning the characteristics of the local seafood sector through both telephone and electronic surveys.

A total of 448 unique responses were recorded from seafood operators based in the 10 port areas — a response rate of around 50%, relative to the known seafood population. For seafood businesses that did not return a response, researchers relied on turnover and employment estimates based on survey responses from seafood businesses which shared similar characteristics. The study also drew on published data, where available, to better understand the socioeconomic environment of coastal areas within the country. Peripheral economies tend to face significant challenges from which Ros an Mhíl is not exempt. Appendix 1 of this report includes a summary discussion of the pertinent issues facing the local port economy.

1.3 The key elements of the local seafood sector

Estimates of the size of the local seafood sector and how it impacts the regional economy are presented in this paper. The analysis estimates the direct activity associated with the commercial fishing, aquaculture and fish processing sub-sectors at the port by drawing on the survey findings and information held by BIM. Their wider impacts within the local NUTS3 region are then estimated. These wider impacts include those associated with the seafood sector's supply chain and the consumer spending of those employed as a result of the direct and indirect activity — see Box 1 for more detail concerning the methodology.

The analysis is careful to identify where the three different seafood sub-sectors appear in the supply chains of the other sub-sectors. The most obvious example is commercial fishing appearing within the supply chain of fish processing. The analysis has isolated the benefits to avoid instances of double counting (see Appendix 2 for further information concerning the model approach).

1.4 Report structure

This report breaks down the characteristics of the collective seafood sector within the port area. It then goes on to show the economic impact this activity creates across the West economy.

The report takes the following structure:

- An analysis of the seafood sector within the local port economy;
- A breakdown of the economic benefits associated with the port's seafood sector across the regional economy;
- A summary of the overall benefit associated with the port's seafood sector at the regional level;
- The conclusions.

2. The seafood sector at the port

2.1 Characteristics of the seafood sector

At Ros an Mhíl, fish processing was the largest direct contributor to the local seafood industry. In 2023 this sector generated €16 million in GVA to the local economy, higher than both commercial fishing (€7.8 million) and aquaculture (€3.9 million).

However, commercial fishing made the largest contribution to employment, sustaining 230 full-time equivalent jobs across 170 different port operators. Fish processing was next, supporting 120 direct jobs across eight different firms. The disparity in average number of employees per operator reflects the economies of scale present in fish processing plants. Aquaculture added a further 70 direct jobs to the local port economy. Despite employing the fewest people, gross wages for aquaculture firms were similar to commercial fishing.

Table 2. Headline direct economic contribution of the seafood sector, Ros an Mhíl, 2023

	Turnover (€m)	Jobs	Gross wages (€m)	Seafood operators
Commercial fishing	15.6	230	2.6	170
Aquaculture	10.1	70	2.6	9
Fish processing	55.0	120	6.7	8
Total	**80.7**	**420**	**11.8**	**187**

Source: *Oxford Economics, Perceptive Insight, BIM*
Note: *May not sum due to rounding*

To allow comparison with the previous study in 2018, the results from that study have been inflated and are presented here in 2023 prices (see Table 3).

Commercial fishing turnover grew around 48.7% in real terms with similar growth recorded within employment (35.3%) and gross wages (40%). This was mostly due to a gain of seafood operators (65%) in the area.

By contrast, the aquaculture sub-sector experienced a large turnover decline of 65.4% due to a significant weakening in turnover reported by the largest operator in this sub-sector. However, this was slightly offset by salmon farming-related operations now being accounted for in the area. Employment (46.2%) and gross wages (49%) both had similar declines. This was all despite the number of operators growing by 80% (four operators). These additional operators were smaller businesses in turnover terms.

For fish processing, turnover and gross wages grew by an estimated 211.9% and 166.6%, while employment was down 14.3%. These varied results were down to one of the biggest operators showing impressive growth and another being included in this study for the first time.

Overall, turnover and gross wages grew by 40.9% and 25.7%, respectively, while employment decreased by 4.5%. The number of operators increased by 61.2%, mostly due to an increased number of operators in commercial fishing.

Table 3. Headline direct economic contribution of the seafood sector (2023 prices), Ros an Mhíl, 2018

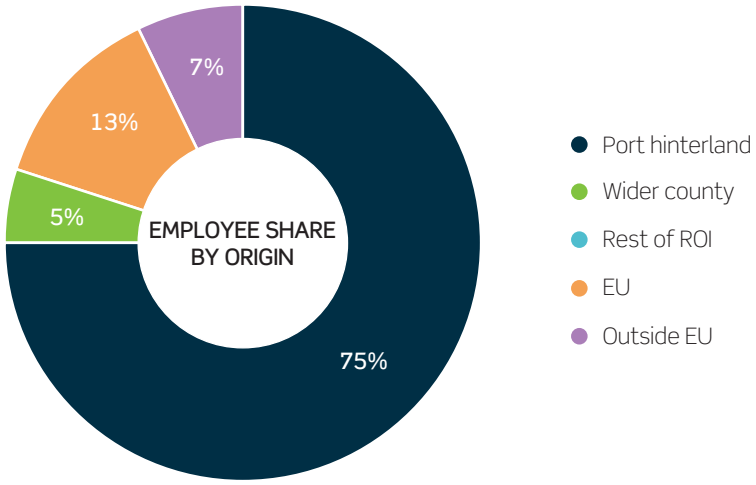
	Turnover (€m)	Jobs	Gross wages (€m)	Seafood operators
Commercial fishing	10.5	170	1.8	103
Aquaculture	29.1	130	5.1	5
Fish processing	17.6	140	2.5	8
Total	**57.2**	**440**	**9.4**	**116**

Source: *Oxford Economics, Perceptive Insight, BIM*
Note: *May not sum due to rounding*

The analysis also drew on a survey of the local seafood operators to quantify the business environment that Ros an Mhíl firms faced in 2023. To put employment in the context of the regional and national economies, researchers asked about the composition of the workforce at the port. The survey found that 75% of local employees originated from the port hinterland itself, 12 percentage points higher than the average across all ports. This suggests that the local seafood industry has a prominent employment role for the local community at Ros an Mhíl. Another 5% of workers came from elsewhere in the county while 13% were originally from elsewhere in the European Union.

The previous study found that, 72% of the local employees originated from the port hinterland itself. Another 12% of workers came from elsewhere in Ireland and one in ten were originally from elsewhere in the EU.

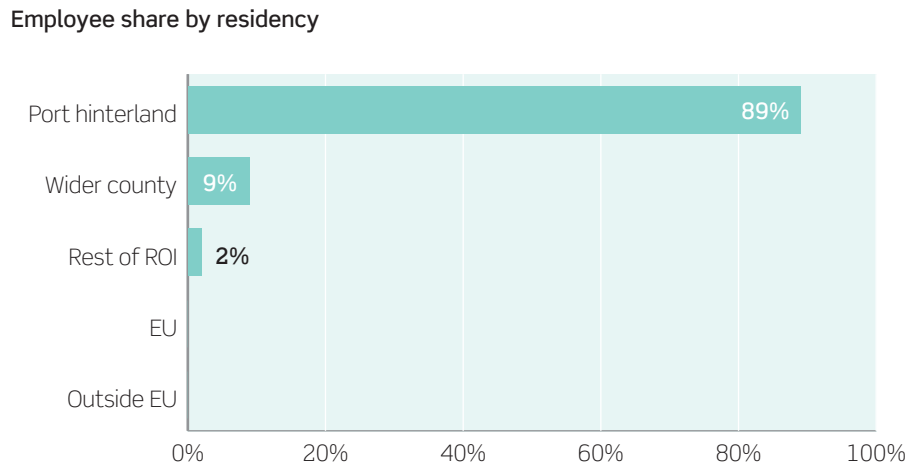
Fig. 3. Workforce origin, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

The international element to the seafood workforce was concentrated in commercial fishing crews and fish processing, which typically draw on a wider pool of labour. The aquaculture workforces were composed primarily of local workers from the port hinterland or the wider county. As the majority of employees originally come from the port hinterland, most also continue to live in the local area.

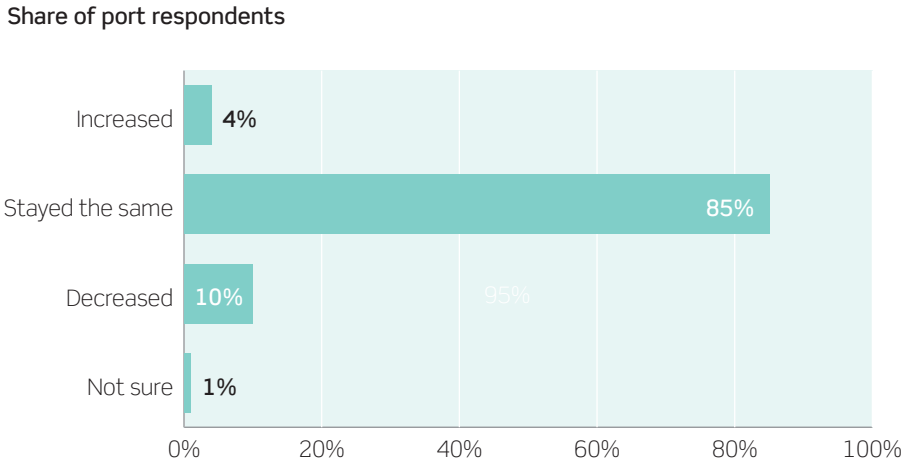
Fig. 4. Workforce residency, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

When questioned about the size of their workforce over the previous 12 months, 85% of respondents in Ros an Mhíl reported it had remained unchanged. A further 10% said that they had decreased their number of employees. This reflects the broad picture seen across most of the other ports in the sample, with the majority seeing stability in their workforce size in 2023.

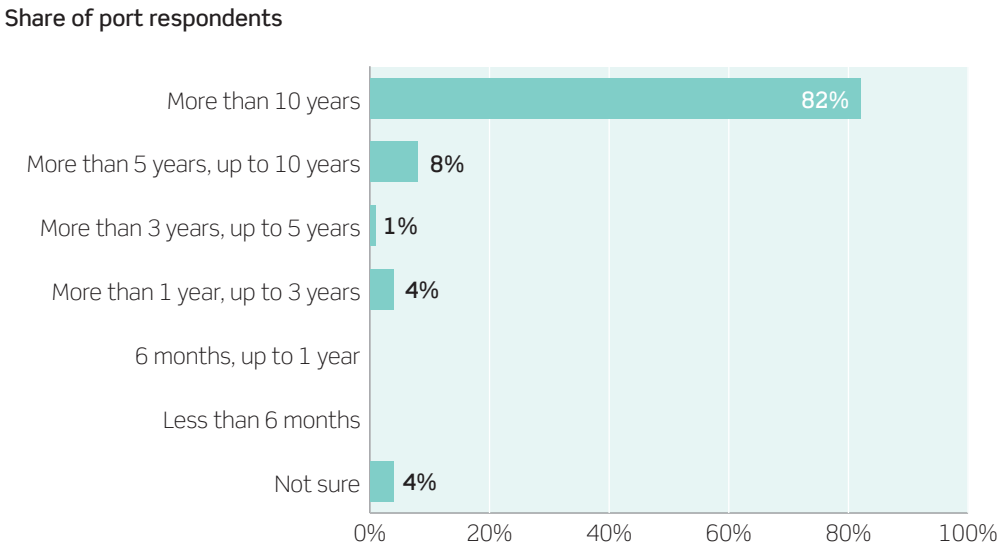
Fig. 5. Change in workforce size, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

With a high reliance on local workers, it is no surprise that the seafood industry at Ros an Mhíl is well established. In examining the current state of the seafood industry the survey looked at the maturity of firms operating from the port. Business longevity is high at Ros an Mhíl, with 82% of respondent firms established for at least ten years. A further 9% had been operating for at least three years as of 2023. The sample sizes when broken down to the sub-sectoral level are small, but they show a similar degree of maturity across all three industries with most of the new entrants joining the commercial fishing fleet.

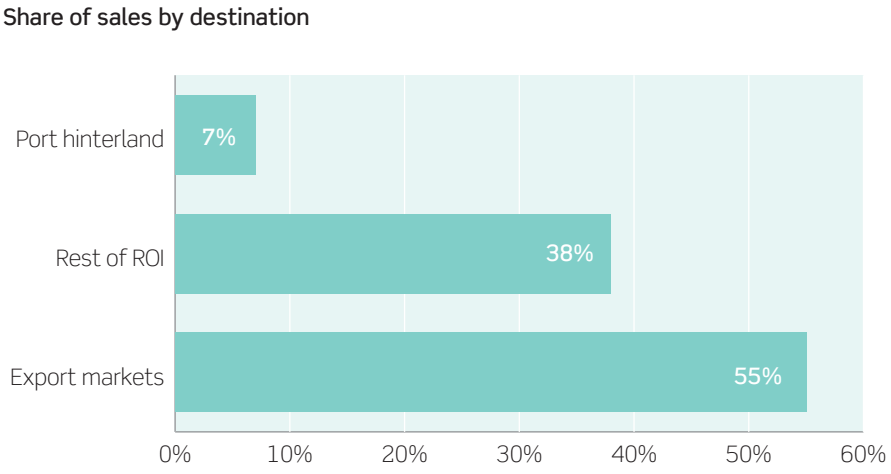
Fig. 6. Seafood sector maturity, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

While the hinterland remains the key location for the workforce, the survey also explored the key markets for sale of goods. Sales to the immediate hinterland made up 7% of total sales at Ros an Mhíl, below the average for all ports by 14 percentage points. The rest of Ireland accounted for over a third of the port's seafood-related sales in 2023, leaving 55% of seafood produce for the export market, in line with the average share across the ten-port sample.

Fig. 7. Sales by destination, Ros an Mhíl, 2023

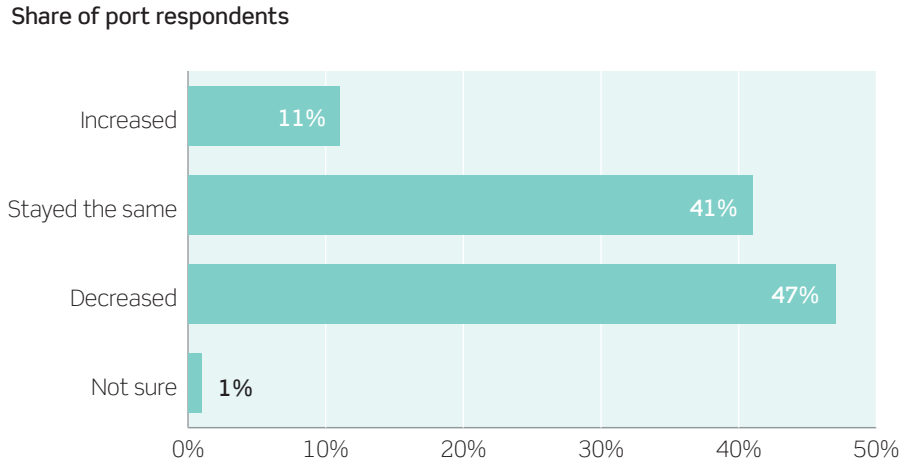


Source: *Oxford Economics, Perceptive Insight*

Looking at the performance of these operating firms, the survey addressed turnover and investment in the seafood industry. Overall, respondents typically reported that their sales either decreased (47%) or stayed flat (41%) over the preceding 12-month period. Just 11% of seafood operators reported an increase in their turnover, below the average rate for all ports in the survey. The sample sizes at the sub-sectoral level are too small to report but broadly indicate a consistent recent track record across the local seafood industry.

In contrast, Ros an Mhíl's turnover in 2018 remained flat for 88% of respondents. The remainder was made up of 7% who reported an increase in turnover and 6% who reported a decrease in turnover.

Fig. 8. Turnover in the past 12 months, Ros an Mhíl, 2023

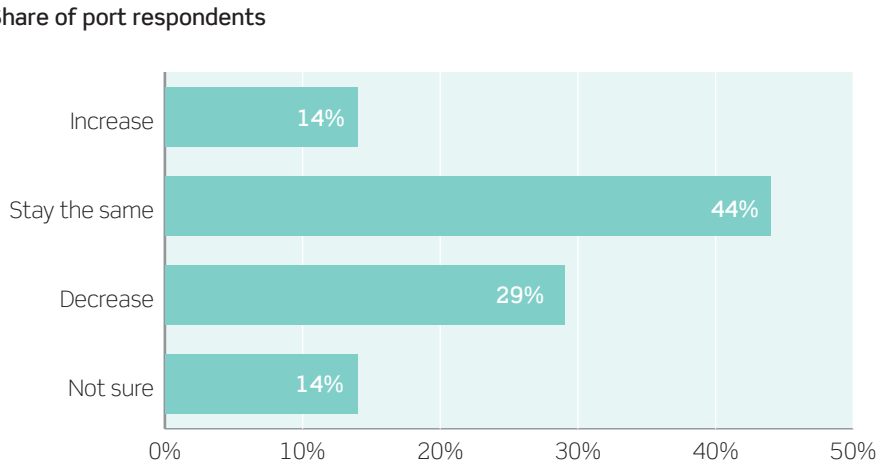


Source: *Oxford Economics, Perceptive Insight*

Looking ahead to what businesses perceived (past tense) the future to hold, the survey asked about turnover expectations for the next 12 months. Almost half of businesses believed their turnover would stay about the same over the next year and 29% thought it would decrease. While the sample sizes are small when broken down at the sub-sectoral level, the results indicate expectations mirrored latest turnover patterns.

In the last study, nine out of ten respondents believed their turnover would stay around the same while 5% thought it would increase.

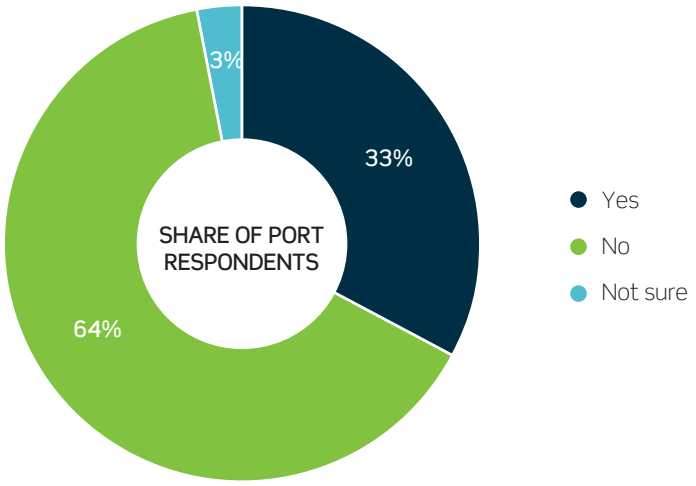
Fig. 9. Turnover expectations for next 12 months, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

Increases in turnover are often linked to business investment: increased productivity and turnover often result from improvements to the stock of capital at a firm's disposal. However, investment can either reflect a positive outlook for future growth or the deterioration of existing capital stock which requires additional spending. The survey results suggest the latter is the bigger factor in investment decision making. Despite only 14% of respondents expecting turnover to increase, 33% had spent money on capital investment in the previous financial year. Annual capital investment averaged €109,300 for Ros an Mhíl seafood operators who invested in capital within the survey sample.

Fig. 10. Capital investment, Ros an Mhíl, 2023



Source: *Oxford Economics, Perceptive Insight*

2.2 Conclusion

The survey also identified the key characteristics of the local seafood industry and the business environment for those based at Ros an Mhíl. The industry is well established, with nine in ten firms established for at least five years. Turnover appears to be stable or decreasing for most local businesses, and 33% of operators invested in capital in 2023. The port sits in the middle of the pack for average investment levels, reflecting a positive outlook for the future. Three quarters of the sector's workforce (75%) originally hail from the port hinterland, while 20% are originally from overseas.

3. The impact of the seafood's sub-sectors

The wider economic footprint of Ros an Mhíl's seafood sector on the regional economy is estimated in this section.

3.1 Commercial fishing

Commercial fishing operations at Ros an Mhíl contributed €13.7 million in GVA to the West economy in 2023; of which €7.8 million was a direct impact on the sector itself. This direct impact represented just under 30% of seafood direct total within the local port economy. Commercial fishing generated an additional €4.4 million in GVA through supply-chain links, with an extra €1.5 million generated via consumer spending arising from the employment that is supported by the direct activity across the West.

Commercial fishing is estimated to have supported 280 jobs across the region, with 84% of these belonging to the direct fishing activity itself. An additional 35 jobs were generated along the supply chain throughout the region. These supply-chain jobs appear to take place in more highly productive roles, generating over three times as much GVA per worker as the direct fishing-related jobs at the port. The commercial fishing sub-sector had an employment multiplier of 1.21 which means that for every five direct jobs created in commercial fishing, one additional job was created. In the last study, the commercial fishing sub-sector had the exact same multiplier of 1.21.

Table 4. Benefits of the commercial fishing sub-sector, West, 2023

Port commercial fishing	West		
	GVA (€m)	Employment	Gross wages (€m)
Direct	7.8	230	2.6
Indirect	4.4	35	1.7
Induced	1.5	15	0.5
Total	**13.7**	**280**	**4.8**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

The agriculture, forestry and fishing sector accounted for just under two thirds of total GVA generated by commercial fishing activities, equivalent to €8.1 million in 2023. This sectoral GVA contribution represents an additional €0.3 million on the direct contribution to the sector, implying that the broader agriculture and fishing sector enjoyed relatively few of fishing's indirect and/or induced benefits. However, it remains the main beneficiary in employment terms, supporting 240 jobs in 2023, or 85% of the regional total.

Of the impact of commercial fishing on other sectors, wholesale and retail received the largest GVA contribution (€2 million) — primarily as a result of the induced consumer spending — while manufacturing (€1.4 million) received the next largest contribution, as a result of its role in the commercial fishing supply chain.

Table 5. Total benefits by sector, West, 2023

Port commercial fishing	West		
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	8.1	240	2.6
Mining and quarrying	0.0	0	0.0
Manufacturing	1.4	<5	0.4
Electricity, gas, steam and air conditioning supply	0.1	0	0.0
Construction	0.0	0	0.0
Wholesale and retail trade; repair of motor vehicles	2.0	20	1.0
Transportation and storage	0.2	5	0.1
Accommodation and food service activities	0.1	5	0.1
Information and communication	0.1	0	0.0
Financial and insurance activities	0.3	<5	0.1
Real estate activities	0.7	0	0.0
Other business services	0.4	5	0.2
Public administration and defence	0.0	0	0.0
Education	0.1	<5	0.1
Human health and social work activities	0.3	5	0.2
Arts, entertainment and recreation & other services	0.1	<5	0.0
Total	**13.7**	**280**	**4.8**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not add due to rounding*

3.2 Aquaculture

Aquaculture was the smallest seafood-related sub-sector at Ros an Mhíl, adding an estimated €8.3 million in value added to the regional economy. Once again, the majority of this total GVA impact belonged to the direct aquaculture activity taking place within the port area (€3.9 million). Furthermore, aquaculture directly supported an estimated 70 direct jobs within the port area. Taking into account both the indirect and induced impacts, this sub-sector went on to support a total of 115 jobs across the West region, generating €4.3 million in gross wages across a range of sectors. The aquaculture sub-sector had an employment multiplier of 1.66 within the West region. In the last study, the employment multiplier for the aquaculture sub-sector was 1.92.

Table 6. Benefits of the aquaculture sub-sector, West, 2023

Port aquaculture	West		
	GVA (€m)	Employment	Gross wages (€m)
Direct	3.9	70	2.6
Indirect	3.1	35	1.2
Induced	1.3	10	0.5
Total	**8.3**	**115**	**4.3**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

A significant proportion of the total employment benefit is focused within the agriculture, forestry and fishing sector with 90 jobs sustained in 2023. This accounted for 75% of the jobs total supported across the region. The remaining employment benefits were more widely spread, with wholesale and retail (five jobs), human health and social activities (five jobs) and transport and storage (five jobs) all gaining some benefit. Unsurprisingly, the agriculture, forestry and fishing sector also gained most of the total value added resulting from aquaculture activity, supporting an estimated €4.6 million in GVA, €0.7 million over and above aquaculture's direct impact.

Table 7. Total benefits by sector, West, 2023

Port aquaculture	West		
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	4.6	90	2.9
Mining and quarrying	0.0	0	0.0
Manufacturing	1.0	<5	0.3
Electricity, gas, steam and air conditioning supply	0.1	0	0.0
Construction	0.0	0	0.0
Wholesale and retail trade; repair of motor vehicles	0.7	5	0.3
Transportation and storage	0.5	5	0.3
Accommodation and food service activities	0.1	<5	0.1
Information and communication	0.1	0	0.0
Financial and insurance activities	0.2	<5	0.1
Real estate activities	0.5	0	0.0
Other business services	0.3	<5	0.1
Public administration and defence	0.0	0	0.0
Education	0.1	<5	0.0
Human health and social work activities	0.2	5	0.2
Arts, entertainment and recreation & other services	0.0	<5	0.0
Total	**8.3**	**115**	**4.3**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not add due to rounding*

3.3 Fish processing

The fish processing sub-sector at Ros an Mhíl supported a total of 440 jobs, €38.9 million of GVA and €15.3 million in gross wages across the West in 2023. Direct fish processing employment represented 120 jobs of this employment total, with an additional 285 being supported along the supply chain; a further 40 were the result of spending supported by this employment. Likewise, processing's direct GVA contribution of €16 million supported a further €22.9 million across the region through the subsequent supply chain and induced consumer spending impacts. This created a GVA multiplier of 2.43 within the West region. This means that every €1 generated due to the activities in the fish processing sub-sector, generated €1.43 elsewhere in the economy.

In comparison, the processing sub-sector in Ros an Mhíl had a GVA multiplier of 1.54 in the last study. This large increase was due to increased costs within seafood spend in the supply chain among survey respondents, which resulted in larger impacts in the indirect channel. This is more pronounced in a large firm which was included in the study for the first time.

Table 8. Benefits of the fish processing sub-sector, West, 2023

Fish processing	West		
	GVA (€m)	Employment	Gross wages (€m)
Direct	16.0	120	6.7
Indirect	18.3	285	6.9
Induced	4.6	40	1.7
Total	**38.9**	**440**	**15.3**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

The manufacturing sector (of which fish processing forms a part), was the largest beneficiary of processing's direct activity, receiving a €19.2 million boost to GVA and 125 full-time equivalent jobs. These employees received €7.7 million in gross wages in 2023. The agriculture, forestry and fishing sector received the next largest slice of the total economic benefits, accounting for 22% of total GVA impact (€8.7 million) and supporting 215 jobs. The wholesale and retail sector experienced the next most significant benefit — supporting €2.9 million in GVA and €1.4 million in gross wages across the region.

Table 9. Total benefits by sector, West, 2023

Ports processing	West		
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	8.7	215	3.2
Mining and quarrying	0.0	0	0.0
Manufacturing	19.2	125	7.7
Electricity, gas, steam and air conditioning supply	0.4	5	0.1
Construction	0.0	0	0.0
Wholesale and retail trade; repair of motor vehicles	2.9	30	1.4
Transportation and storage	1.2	15	0.6
Accommodation and food service activities	0.3	10	0.2
Information and communication	0.3	<5	0.1
Financial and insurance activities	1.0	5	0.4
Real estate activities	2.1	<5	0.1
Other business services	1.5	10	0.5
Public administration and defence	0.0	0	0.0
Education	0.2	5	0.2
Human health and social work activities	0.8	15	0.7
Arts, entertainment and recreation & other services	0.2	5	0.1
Total	**38.9**	**440**	**15.3**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

3.4 Conclusion

In conclusion, Ros an Mhíl's fish processing sector had the largest economic footprint of the three-seafood related sub-sectors. It is estimated to have supported 440 jobs, €15.3 million in gross wages and over €38.9 million in GVA throughout the West economy in 2023.

4. Total impact of the overall Port seafood sector

4.1 Seafood sector activity at the port

This section takes the estimates presented in the preceding sections of the report and calculates the total economic impact resulting from the activities of the seafood sector within the port area.

However, simply summing the respective benefits of all three elements (commercial fishing, aquaculture and fish processing) would inevitably overestimate the indirect, induced and, as a result, total impacts. This is because the supply chains of the fish processing element contain a proportion of the commercial fishing/aquaculture sub-sectors and their supply chains. Therefore, adding everything together would result in double counting some of the impacts. See Appendix 2 for further detail on our approach.

The authors have therefore laid out the following approach to calculate total impacts for GVA, employment, gross wages and tax:

Direct impacts

- Calculated by summing the direct impacts from the three elements of the seafood sector for GVA, employment, gross wages and tax.

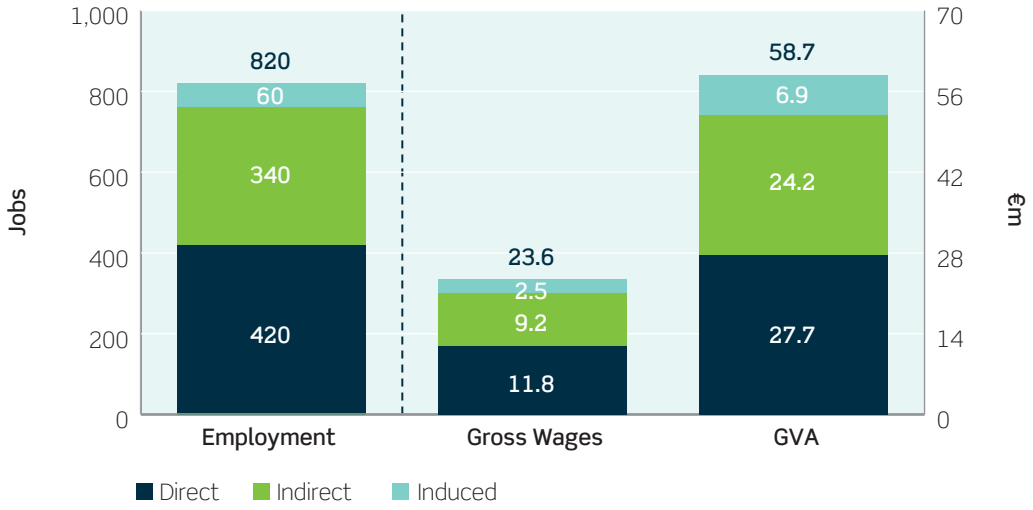
Indirect and induced impacts

For GVA, employment, gross wages and taxes, the total indirect and induced impacts are calculated by summing the indirect and induced impacts of fish processing and a 91% and 70% share of the indirect and induced impacts from the respective aquaculture and commercial fishing sub-sectors; information from the survey interviewees suggests that exports and domestic sales outside the port area's own processors account for 91% and 70% of the respective aquaculture and fishing production. The remainder of the commercial fishing/aquaculture sub-sectors' indirect and induced impacts will already be accounted for in the indirect and induced impacts from the fish processing sub-sector.

4.2 Regional estimates

Overall, it is estimated that the Ros an Mhíl seafood industry generated €58.7 million in GVA for the West regional economy in 2023. This activity supported 820 jobs across a range of sectors and generated €23.6 million in gross wages to employees.

Fig. 11. Benefits of the seafood sector, West, 2023



Source: *Oxford Economics, Perceptive Insight, CSO*

Most of the impacts from the industry were realised directly, with €27.7 million in direct GVA representing 47% of total GVA impact across the West economy. The remaining 53% were actualised via supply-chain links or induced spending impacts, adding an extra €31.1 million in regional GVA and 400 jobs in 2023. Half of wage benefits came directly from the local seafood industry, representing €11.8 million of total regional gross wage benefits (€23.6 million). Overall, this resulted in an employment multiplier of 1.95 in Ros an Mhíl across the West region. In comparison, that same multiplier was 1.35 in the last study.

Table 10. Total seafood sector benefits, West, 2023

Ports seafood sector	West		
	GVA (€m)	Employment	Gross wages (€m)
Direct	27.7	420	11.8
Indirect	24.2	340	9.2
Induced	6.9	60	2.5
Total	**58.7**	**820**	**23.6**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

The agriculture, forestry and fishing sector was the largest beneficiary from the seafood sector at Ros an Mhíl. With 535 full-time equivalent jobs, it accounted for 65% of the total employment benefits. It also accounted for €21.2 million in GVA in 2023 and €8.6 million in gross wages. Given the size of the fish processing industry within the port economy the manufacturing sector received the second largest contribution to value added. In 2023, it accounted for €21.1 million of regional value added, and benefited from 125 full-time jobs (15% of the seafood supported total) and 35% of the resulting gross wages (€8.2 million).

Wholesale and retail is the next largest beneficiary in GVA terms (€4.9 million), supporting an estimated 55 jobs; it was followed by real estate (€3 million) which benefited from consumer spending in the local area from employees linked or directly employed in the seafood sector.

Table 11. Total benefits by sector, West, 2023

Local seafood sector	West		
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	21.2	535	8.6
Mining and quarrying	0.0	0	0.0
Manufacturing	21.1	125	8.2
Electricity, gas, steam and air conditioning supply	0.5	5	0.2
Construction	0.0	<5	0.0
Wholesale and retail trade; repair of motor vehicles	4.9	55	2.4
Transportation and storage	1.8	25	0.9
Accommodation and food service activities	0.4	15	0.3
Information and communication	0.5	<5	0.1
Financial and insurance activities	1.4	10	0.6
Real estate activities	3.0	<5	0.1
Other business services	2.0	15	0.7
Public administration and defence	0.0	0	0.0
Education	0.3	5	0.2
Human health and social work activities	1.2	20	1.0
Arts, entertainment and recreation & other services	0.3	5	0.1
Total	**58.7**	**820**	**23.6**

Source: *Oxford Economics, Perceptive Insight, CSO*
Note: *May not sum due to rounding*

4.3 Taxation estimates

Seafood activity at the port provides further benefits through the generation of tax revenues to the Revenue Commissioners. These fiscal impacts can again be split into their direct, indirect and induced components depending on the channel of activity from which they arise. It is estimated that the port seafood sector's direct tax contribution was a net fiscal surplus of €4.6 million in 2023, consisting of the labour-based tax paid by the sector's employees (income tax, PRSI etc.), corporation tax receipts and sectoral taxation on production less subsidies.

The indirect fiscal benefits represent the same taxation components as above but are generated within the sector's wider supply chain, in addition to net taxes on input purchases. Combined, these represented a fiscal net deficit of €2.6 million, As those employed in the sector and within its supply chain spend their wages, this supports further jobs and activity within the Irish economy. It is estimated that this induced activity supported a further €4.4 million in tax revenue.

Therefore, in total (i.e. direct, indirect and induced), the Ros an Mhíl seafood sector is estimated to have had a fiscal surplus of €6.4 million in 2023. This total was made up of €8 million in employment/labour-related tax, €2.1 million in corporation tax, €2.5 million in taxation associated with the spending of wages, and a net tax deficit of €6.2 million through taxation on inputs and production.[3]

By comparison, it was estimated that the Ros an Mhíl seafood sector generated €4.9 million in taxes in 2018. This was made up of €4.8 million in employment/labour-related tax, €0.9 million in corporation tax, €1.5 million in taxation associated with the spending of wages, and a net tax deficit of €2.3 million through taxation on inputs and production.[4]

3 Net tax position refers to taxes less subsidies.
4 Tax figures related to the 2018 study are in 2023 prices.

Table 12. Fiscal impacts by taxation type, Ireland, 2023

Ports seafood sector	Total tax estimates (€m)				
	Labour tax	Corporation tax	Production tax	Input purchases tax	Tax on consumption
Agriculture, forestry and fishing	2.3	0.7	-7.8	0.7	0.0
Mining and quarrying	0.0	0.0	0.0	0.0	0.0
Manufacturing	3.1	0.7	0.1	0.2	2.1
Electricity, gas, steam and air conditioning supply	0.1	0.0	0.1	0.0	0.0
Construction	0.0	0.0	0.0	0.0	0.1
Wholesale and retail trade; repair of motor vehicles	0.7	0.2	0.0	0.0	0.0
Transportation and storage	0.4	0.1	0.1	0.1	0.0
Accommodation and food service activities	0.1	0.0	0.0	0.0	0.3
Information and communication	0.1	0.0	0.0	0.0	0.1
Financial and insurance activities	0.3	0.1	0.0	0.0	0.0
Real estate activities	0.0	0.1	0.2	0.0	0.0
Other business services	0.3	0.1	0.0	0.0	0.0
Public administration and defence	0.0	0.0	0.0	0.0	0.0
Education	0.1	0.0	0.0	0.0	-0.1
Human health and social work activities	0.4	0.1	0.0	0.0	-0.1
Arts, entertainment and recreation & other services	0.0	0.0	0.0	0.0	0.0
Total	**8.0**	**2.1**	**-7.3**	**1.1**	**2.5**

Source: *Oxford Economics, Perceptive Insight, CSO*

4.4 Growth since 2018

Over the period 2018 to 2023, in real terms, Ros an Mhíl had mixed results across all channels in GVA, employment and gross wages. In the direct channel, GVA and gross wages grew by 2% and 25.7% while employment fell by 4.5%. In the indirect channel, GVA increased by 202.2%, employment by 209.1%, and gross wages by 120.9%. In the induced channel, GVA grew by 76.8%, and alongside employment and gross wages increased by 33.3% and 25.1%.

Overall, it is estimated that Ros an Mhíl experienced a real terms increase in GVA, employment and gross wages of 50.5%, 37.8% and 51.1%, respectively. This growth is down to several factors. There has been a significant increase in the number of seafood operators. These operators have reported an increase in supply-chain spending and this resulted in stronger impacts in the indirect channel. The impacts in the induced channel feed off the impacts from the direct and indirect, resulting in larger impacts in this channel also.

4.5 Conclusion

In calculating the overall impact of the local seafood sector, the authors considered the degree to which output from aquaculture and commercial fishing can appear in the supply chain of local fish processors.

Therefore, the analysis shows the Ros an Mhíl's overall seafood sector supported 820 jobs and €58.7 million in GVA throughout the regional economy. Furthermore, the sector generated €6.4 million in tax revenues for the public purse.

5. Conclusions

5.1 The seafood sector in Ros an Mhíl

The seafood sector makes an important contribution to the Ros an Mhíl economy. In 2023, the direct seafood sector at the port generated an estimated €80.7 million in turnover, supporting nearly 420 direct jobs. Fish processing is the largest seafood-related activity at the port, generating €55 million in turnover; it is followed by commercial fishing (€15.6 million) and aquaculture (€10.1 million). When translated into GVA, the seafood sector directly contributed €27.7 million to the local port economy.

The survey also identified the key characteristics of the local seafood industry and the business environment for those based at Ros an Mhíl. The industry is well established, with nine in ten firms established for at least five years. Turnover also appears to be stable or decreasing for most local businesses, and 33% of operators invested in capital in 2023. The port sits in the middle of the pack for average investment levels, reflecting a positive outlook for the future. Three quarters of sectoral employees (75%) originally hail from the port hinterland, while 20% were from overseas.

5.2 The fish processing sub-sector is the main contributor

The fish processing sub-sector makes the strongest contribution to the West economy. In 2023, it directly generated €16 million of GVA. It generated an additional €22.9 million linked to indirect (€18.3 million) and induced (€4.6 million) effects. These large results are down to increased supply-chain spending across the fish processing sub-sector in comparison to the last study. This is further amplified by the introduction of a large firm to Ros an Mhíl in this study which had a large share of its costs. The fish processing sub-sector also enjoyed the strongest employment multiplier of the three seafood sub-sectors, with every direct job supporting a further 2.7 jobs within the West region. The fish processing sub-sector is estimated to have provided benefits of the following size:

- 120 direct jobs and €6.7 million of gross wages, producing €16.0 million of GVA;
- 285 indirect jobs and €6.9 million of gross wages, producing €18.3 million of GVA;
- 40 induced jobs and €1.7 million of gross wages, producing €4.6 million of GVA.

Fish Processing

GVA
Direct +101% since 2018
Total +218% since 2018

Employment
Direct -14% since 2018
Total +120% since 2018

Wages
Direct +168% since 2018
Total +220% since 2018

5.3 Though the other components remain significant

Our analysis shows the economic impact of commercial fishing was of the following size in 2023:

- 230 direct jobs and €2.6 million of gross wages, producing €7.8 million of GVA;
- 35 indirect jobs and €1.7 million of gross wages, producing €4.4 million of GVA;
- 15 induced jobs and €0.5 million of gross wages, producing €1.5 million of GVA.

Fishing

GVA
Direct +46% since 2018
Total +56% since 2018

Employment
Direct +35% since 2018
Total +38% since 2018

Wages
Direct +44% since 2018
Total +42% since 2018

The analysis shows that the economic impact of the port's aquaculture sector equated to the following benefits across the West's economy:

- 70 direct jobs and €2.6 million of gross wages, producing €3.9 million of GVA;
- 35 indirect jobs and €1.2 million of gross wages, producing €3.1 million of GVA;
- 10 induced jobs and €0.5 million of gross wages, producing €1.3 million of GVA.

Aquaculture

GVA
Direct -72% since 2018
Total -63% since 2018

Employment
Direct -46% since 2018
Total -53% since 2018

Wages
Direct -49% since 2018
Total -56% since 2018

Therefore, it is estimated that the port's collective seafood sector supported 820 jobs, €23.6 million in gross wages and €58.7 million in GVA within the regional economy in 2023. This activity was enough to sustain €6.4 million in tax revenues towards the public accounts. In comparison, once the results from the last study are converted to 2023 prices, it is estimated that Ros an Mhíl experienced a real terms increase in GVA, employment and gross wages of 50.5%, 37.8% and 51.1%, respectively. This growth is attributed to several factors. There was a significant increase in the number of seafood operators. These operators reported an increase in supply-chain spending in the survey and this resulted in stronger impacts in the indirect channel. The impacts in the induced channel feed off the impacts from the direct and indirect, resulting in larger impacts in this channel also.

Overall Seafood Sector

GVA
Direct +2% since 2018
Total +51% since 2018

Employment
Direct -5% since 2018
Total +38% since 2018

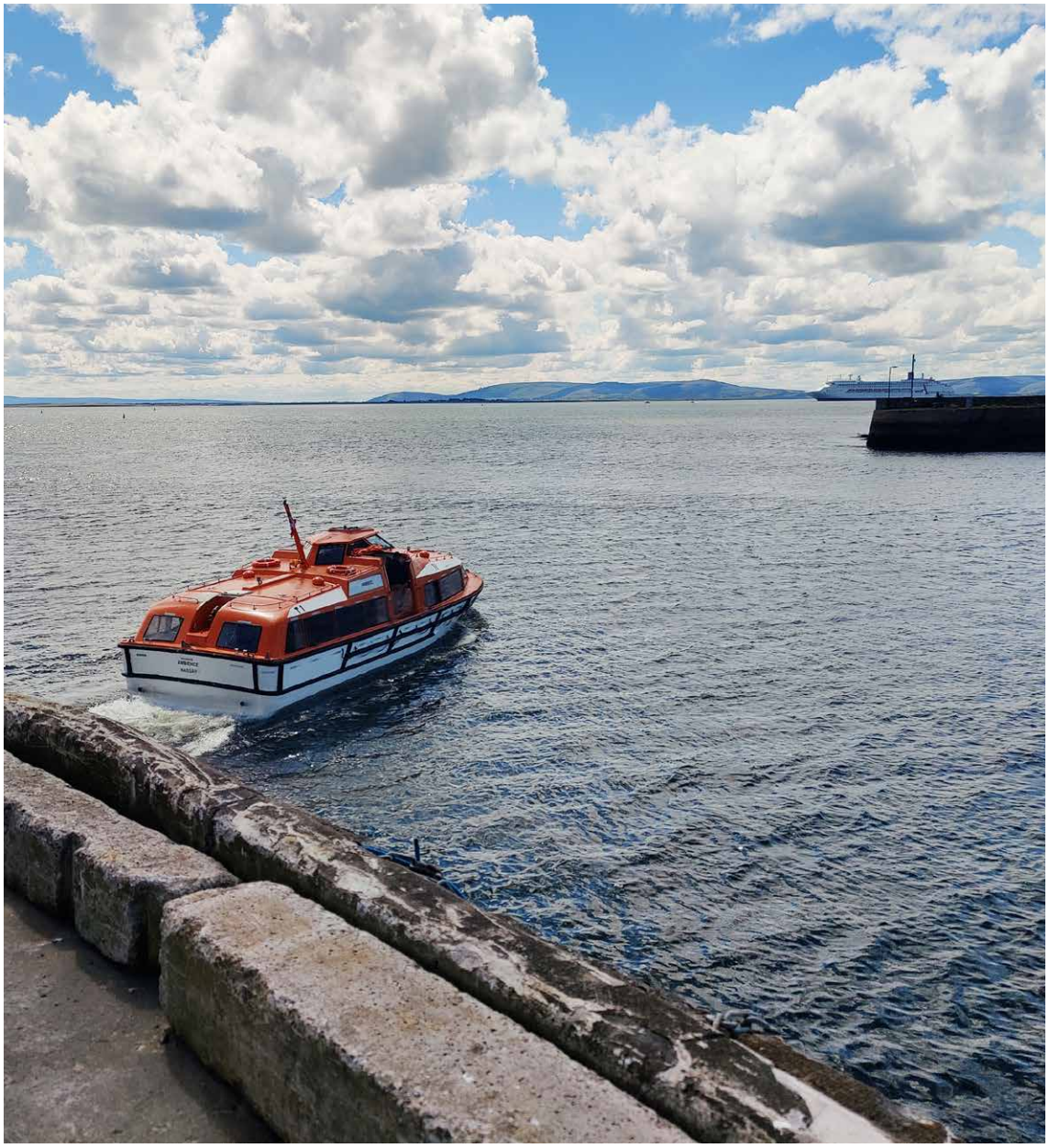
Wages
Direct +26% since 2018
Total +51% since 2018

5.4 Seafood supporting peripheral economies

Ros an Mhíl struggles with below-average qualification attainment and a lower working-age population share in comparison to the national average, while economic inactivity and unemployment rates are high.

While the local economy is more diversified than other coastal economies, there are some limitations to growth. Ros an Mhíl and its hinterland suffer from a demographic deficit and have an ageing population, with an above-average share of those aged 45 and over. This may act as a barrier to development of new opportunities and job creation in the future, and may place reliance on the seafood sector to provide employment opportunities to the older cohort. The educational profile is notably weaker than the national average; 16% of residents identify as having only primary education or lower. The provision of accessible occupations in the agricultural, forestry and fishing sector is therefore an important source of employment for the sizeable population with lower qualification levels.

As a result, the seafood sector is likely to play a significant role in the local port economy through its provision of direct jobs, supply-chain spending in local businesses and the consumer spending it supports. Looking forward, a vibrant and growing local seafood sector will be important for the economic and demographic health of the local area.



Appendix 1: Ros an Mhíl's economic challenges

Economic activity and structure

The latest available data indicates that Ros an Mhíl's labour market is underperforming relative to both the West region and the national picture. The local unemployment rate stood at 11.2% in 2022.[5] By comparison, the equivalent unemployment rate throughout the West and Ireland overall was 8.2% and 8.3% respectively.

Furthermore, the local employment rate was also relatively weak (49.2%) compared to the regional and national averages (see Table 13). Linked to this, the census data reveals that the economic inactivity rate[6] among those residents aged 15 and over stood at 44.6%, again, well above the West (40.7%) and Ireland (38.8%) averages. Relatively high economic inactivity can represent a significant drag to the productive capacity of any local economy.

Table 13. Headline economic indicator comparisons, 2022

	Unemployment rate	Employment rate	Economic inactivity
Ros an Mhíl	11.2%	49.2%	44.6%
West	8.2%	54.5%	40.7%
Ireland	**8.3%**	**56.1%**	**38.8%**

Source: *CSO*

Demographics

The population of the local port economy grew by 8% in the six years between 2016 and 2022, growing more strongly than the West region overall (6.9%) but slightly more slowly than the national average (8.1%). Over the same period, the working-age population grew by 5.3% — weaker than that experienced across the region and nation on average. As a result, the port area's working-age population share fell below that observed regionally and throughout Ireland as a whole.

Table 14. Population indicators, 2022

	Growth (2016-2022)		2022	
	Population	Working age	Population	Working age share
Ros an Mhíl	8.0%	5.3%	18,500	60.9%
West	6.9%	5.9%	476,900	63.5%
Ireland	**8.1%**	**7.8%**	**5,149,100**	**65.3%**

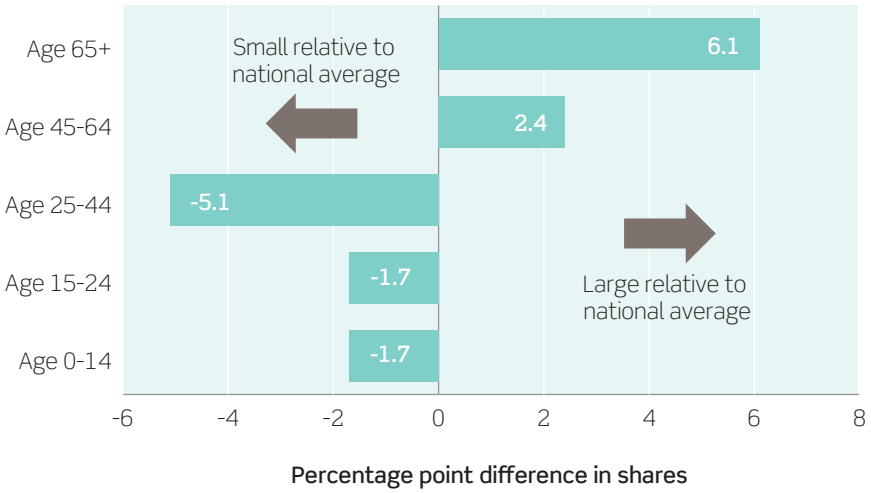
Source: *CSO*
Note: *Working age is defined as those aged between 15 and 64*

5 Defined as a share of the labour force aged 15 years and over.

6 Economic inactivity represents the share of the population aged 15 and over who were neither employed nor looking for employment.

An analysis of the port area's population by age cohort relative to the national picture shows that the distribution is skewed more strongly towards the older end. Those aged 65 and over accounted for 21% of all residents — six percentage points above the national average share in 2022. All younger aged groups (under 45 years old) were under-represented within the local population relative to the national average.

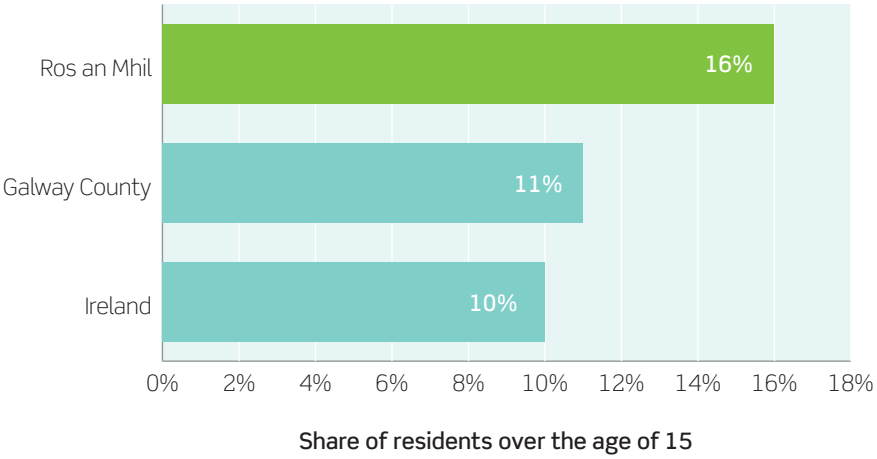
Fig. 12. Age group comparisons, Port area vs Ireland, 2022



Source: *CSO Ireland*

Qualification attainment within the port area tends to be slightly weaker than observed at the national level. Those with a third-level degree or above represented 32% of residents aged 15 and over, compared to 34% across Ireland. Similarly, lower-level attainment among the port hinterland's residents was much higher than the national average. Those with no formal, or at most, primary education as their highest achieved, accounted for 16% of those aged 15 and over in Ros an Mhíl, compared to 10% on average across Ireland.

Fig. 13. No formal, or at most primary level attainment, 2022



Source: *CSO*

Summary

Ros an Mhíl struggles with below-average qualification attainment and a lower working-age population share than the national average, while economic inactivity and unemployment rates are high.

While the local economy is more diversified than other coastal economies, there are some limitations to growth. Ros an Mhíl and its hinterland suffer from a demographic deficit and have an ageing population, with an above-average share of those aged 45 and over. This may act as a barrier to development of new opportunities and job creation in the future, and may place reliance on the seafood sector to provide employment opportunities to the older cohort. The educational profile is notably weaker than the national average, 16% of residents identify as having only primary education or lower. The provision of more accessible occupations in the agricultural, forestry and fishing sector is therefore an important source of employment for the sizeable population with lower qualification levels.

As a result, the seafood sector is likely to play a significant role in the local port economy through its provision of direct jobs, supply-chain spending in local businesses and the consumer spending it supports. Looking forward, a vibrant and growing local seafood sector will be important for the economic and demographic health of the local area.

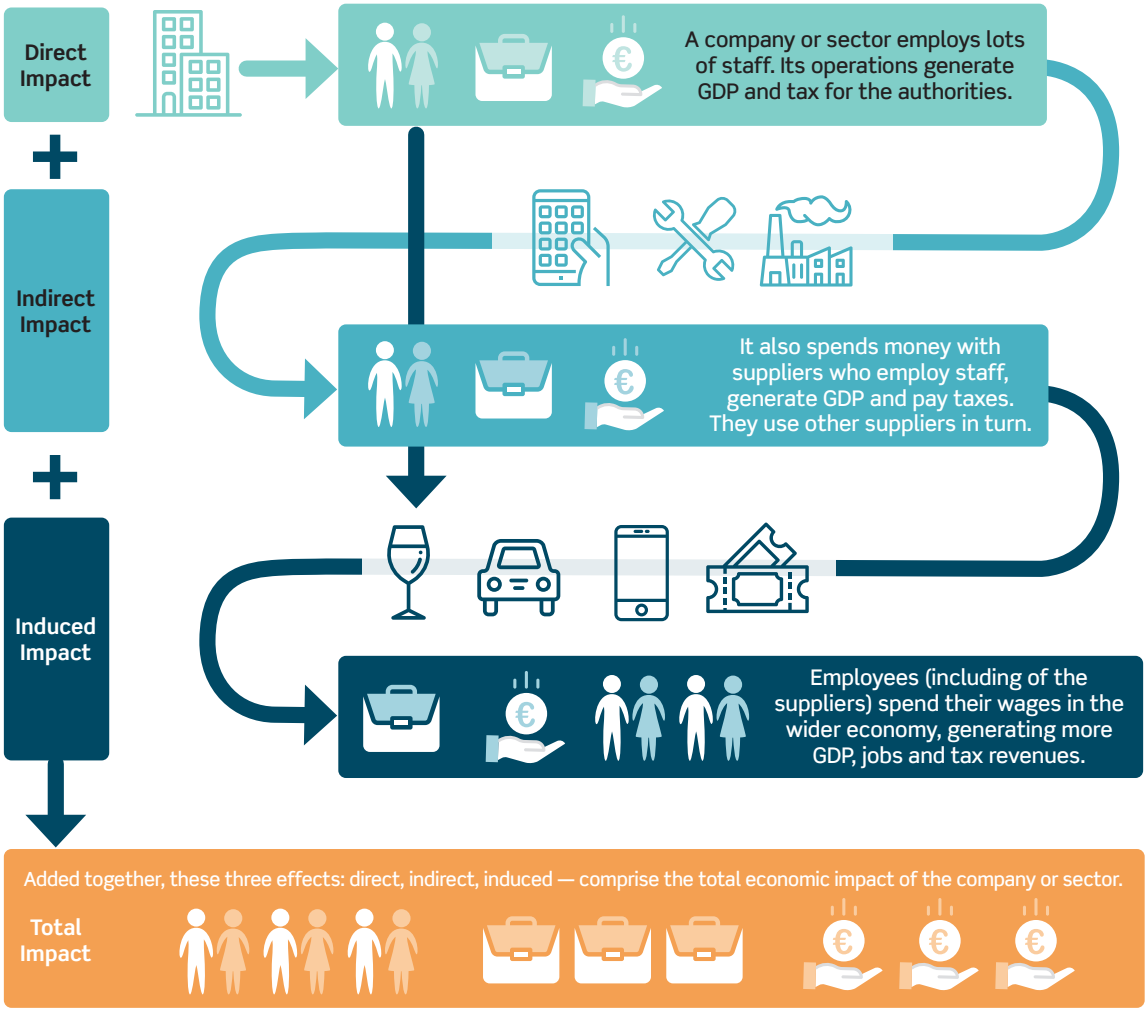
In comparison to the last study, educational attainment has improved in Ros an Mhíl. In 2016, those with primary level education or lower made up 21% of the local population compared to 16% in 2022. Age group comparisons with the national averages remain very similar between 2016 and 2022. The working-age share dropped from 62.4% in 2016 to 60.9% in 2022. Interestingly, the unemployment rate dropped in the local area from 19.6% in 2016 to 11.2% in 2022 while the employment rate rose from 45.1% in 2016 to 49.2% in 2022.

Appendix 2: Model approach

Understanding economic impact assessments

An economic impact assessment quantifies the total economic benefit created by a sector through a range of different channels. For the seafood sector at the ports, this arises in four main ways. The first three are the standard channels through which economic impact is usually quantified: direct operational effects, supply-chain effects, and the impact of employees spending their wages in the wider consumer economy. The fourth channel, known as 'catalytic' or 'dynamic' benefits represent the wider benefits that society and/or other industries derive from the original economic activity.

Fig.14. Overview of economic impact methodology



The report uses three main metrics to quantify each of the channels by which the seafood sector could contribute to the regional[7] and national economy:

- **Gross value-added (GVA)** contribution to Gross Domestic Product (GDP)[8]: This measures the value of goods and services produced in an area, industry or sector of an economy and is equal to output minus intermediate consumption;
- **Employment:** Employment is presented in terms of persons in employment as defined in the report, the combination of workplace employment by full-time and part-time status;
- **Gross wages** is the total value of salary, bonus and benefits offered to the workers associated with the local seafood sector.

All the data used was either provided by BIM (for example, recent seafood operator registrations/industry data), the seafood sector survey carried out by Perceptive Insight, or published government website data and industry standards from the likes of CSO Ireland and Oxford's own economic databases. Finally, in the absence of data, reasonable assumptions based on best judgement are clearly rationalised in the study. For example, in the absence of port-specific data, published sources for comparator geographies were used as proxy estimates where appropriate.

Estimating the direct economic contribution

The first step was to understand the direct activity associated with the local seafood sector at each of the 10 ports in 2023.

The survey

The seafood survey was designed to provide the evidence base from which to estimate the local seafood sector's contribution to the regional/national economy. Responses from the sector were analysed according to common characteristics (sub-sector, turnover band, main port area etc.) and cross-referenced with the most recent full snapshot of the local seafood sector population.[9]

Sample estimates were then 'grossed' up to that of the total population. This was done by drawing on the BIM database of the seafood sector population in each port which contained fields on sector and turnover band. Knowing indicative turnover levels for firms not captured in the survey, allowed the authors to apply the average ratio of jobs to turnover level in that sector, and apply average sectoral gross wages, etc. In other words, the authors utilised knowledge of the sectors and turnover of the missing companies and applied the ratios and averages of those covered in the survey to estimate their activity. The resulting total seafood-related turnover estimate was then split into the different sectors of the economy ('Agri, forestry and fishing' and 'Manufacture of food products').

This turnover figure is essentially the value of output within the local seafood sector and encompasses intermediary demand, gross wages and profits. Using the sectoral ratios of output to GVA in the Irish input-output tables, the direct sectoral GVA contributions to GDP in the local economy were estimated. Both direct employment and gross wages paid within the local port seafood sector were again informed by the survey findings and grossed to the population total based on shared characteristics.

With an estimate of direct gross wages, income tax rates were then applied and the income tax that will be collected by the Revenue Commissioners was calculated.

7 Ideally, the impacts of the seafood sector on the port hinterlands, would be quantified, but there is not enough published sectoral employment, GDP and wage data. Sufficient data is only available at regional level to produce sub-national impacts.

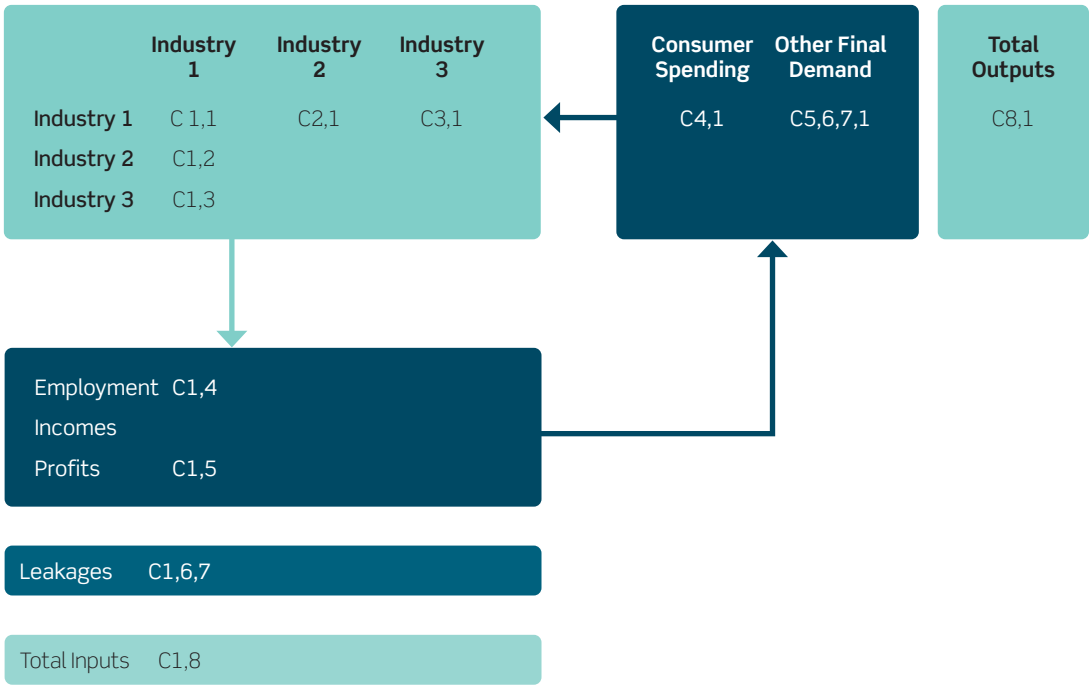
8 GDP is the main summary indicator of economic activity in Ireland. GDP can be defined as GVA plus taxes on products less subsidies on products. References to economic growth (or when the economy enters recession) typically relate to the rate of change of GDP. All references in this report relate to GVA; also known as GDP at 'basic prices'; and they exclude taxes and subsidies.

9 Provided by the client and informed by the most recent fishery registrations and activity listings in the aquaculture and processing sectors. Turnover bands were also assigned to the local seafood population based on returns when available, and when not, estimated by BIM based on shared characteristics.

Estimating indirect and induced impacts

An input-output model was built to estimate the indirect and induced impacts. Fig. 15 presents a stylised version (showing just three sectors for presentation purposes) of the input-output model which is a model that traces how economic activity flows through an economy as one sector makes purchases from another sector.

Fig. 15. Stylised input-output model



The latest input-output tables were used for the analysis but were adjusted in line with academic guidelines (Flegg, A. T. and Tohmo, T. (2013) "Regional input-output tables and the FLQ formula: A case study of Finland") to account for the size and structure of the local economy.[10] The technique involves constructing sub-national input-output models by applying Location Quotients (LQs) and sub-national size adjustments to the standard Ireland Input-Output tables. The result is that geographies with higher concentrations of industries receiving procurement or household expenditure have larger impacts. In addition, information gathered from the survey was used to further isolate the procurement spend locally, thereby strengthening the overall modelling assumptions.

MODELLING SUPPLY CHAIN IMPACTS

The survey provided information on the size of supply-chain spending relative to turnover, its allocation to specific parts of the economy/goods/services and its location (local/national/international). Using this information, the authors were able to construct a more detailed picture of the first round of supply-chain spending than the published input-output tables would otherwise provide.

10 Due to data availability, the local seafood sector's economic impact can only be localised to the regional level (NUTS 3).

The impact model was then used to estimate all the **rounds of supply-chain or indirect spending** of the local seafood sector. The input-output tables provide an estimate of indirect output by sector. This output was then converted back into sectoral GVA and into sectoral jobs to provide a range of sectoral impact measurements. The application of average sectoral salaries allowed the income effect to be estimated.

The induced impact is economic activity and employment supported by those directly or indirectly employed spending their income on goods and services in the wider economy. This helps to support jobs in the industries that supply these purchases, and typically includes jobs in retail and leisure outlets, companies producing consumer goods and in a range of service industries. Again, the input-output model was used to estimate the induced impacts.

Overcoming double-counting

Throughout the analysis, the impact estimates are presented for the core elements of the seafood sector — commercial fishing, aquaculture and processing. However, when estimating the total impact of the overall port seafood sector, simply summing the respective benefits of all three elements would inevitably over-estimate the indirect and induced and, as a result, total impacts. This is because the supply chains of the processing element contain a proportion of the fishing/aquaculture sub-sectors and their supply chains. Therefore, adding everything together would result in the double-counting of some of the impacts.

To avoid this double-counting, the following approach has been taken to calculate total impacts for GVA, employment, gross wages and tax:

Direct impacts:

- Calculated by summing the direct impacts from the three elements of the seafood sector for GVA, employment and gross wages.

Indirect impacts:

- For GVA, employment and gross wages, total indirect impacts are calculated by summing the indirect impacts of processing and a share of the indirect impacts from the fishing and aquaculture sub-sectors (as indicated by survey responses showing the extent to which local processors account for their total sales). The remainder of the fishing/aquaculture sub-sectors' indirect impacts will already be accounted for in the indirect impacts from the processing sub-sector. Furthermore, at this stage a proportional share of fishing and aquaculture direct impacts were also removed as they fall within the local processing supply chain.

Induced impacts:

- For GVA, employment and gross wages, total induced impacts are calculated by summing the induced impacts of the local processing sector and a share of the induced impacts from the fishing and aquaculture sub-sectors (as indicated by survey responses showing the extent to which local processors account for their total sales). The remainder of the fishing and aquaculture sub-sectors' induced impacts will already be accounted for within the induced impacts from the processing sub-sector.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