The Economic Impact of the Seafood Sector: Union Hall

May 2025











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Foreword

The Economic Impact of the Seafood Sector: Union Hall

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 Union Hall hinterland, illustrating its continued significance to the local economy.

Union Hall, located in West Cork, is a key whitefish and shellfish port, with significant landings of Dublin Bay prawns (*Nephrops*) and whitefish. The port supports a strong processing industry, contributing substantially to employment and regional economic activity. While Union Hall benefits from good connectivity to nearby Skibbereen and Cork City, the region's coastal geography and reliance on primary industries present logistical challenges. Despite these factors, the seafood sector remains a key driver of local economic stability.

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 €35 million in turnover, supporting 245 direct jobs, with the fish processing sector remaining the primary driver. Direct GVA at the port is €22 million, while an additional €16 million is generated upstream. Alongside the 245 direct jobs, a further 205 jobs are supported in the wider economy. Direct wages total €6 million, with an additional €6 million generated through indirect effects.

Over the past five years, the seafood sector in Union Hall has seen significant declines. Direct GVA, employment, and wages have fallen by 35%, 28%, and 31%, respectively. The wider seafood economy has also contracted, with GVA declining by 19%, employment by 11%, and wages by 19%. The overall GVA multiplier effect has increased from 1.54 to 1.81, indicating a shift in economic dependencies and increased supply chain spending.

As part of the consultation process for this report, BIM engaged with seafood operators, fish processors, and other industry stakeholders in Union Hall to discuss sectoral trends, challenges, and future prospects. Stakeholders reported significant impacts from the Brexit related voluntary decommissioning scheme, which reduced the offshore fleet and led to a significant drop in landings. The inshore sector has seen increasing fishing effort in response to restrictions on other fisheries, raising concerns about stock sustainability. Crew shortages and rising operational costs, particularly for fuel and vessel maintenance, were also highlighted as major issues. The processing sector has faced supply constraints, increasing reliance on imported fish, while demand in the domestic foodservice sector has remained strong. Offshore Renewable Energy (ORE) developments in the region were seen as a growing concern, with potential exclusion zones posing challenges for the local fleet.

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 Union Hall.

Executive summary

The seafood sector at the port

The seafood sector makes an important contribution to the Union Hall economy. In 2023, we estimate that the sector directly generated $\[\in \]$ 54.7 million in turnover, supporting 245 direct jobs. Fish processing is the largest of the three seafood sub-sectors, generating an estimated $\[\in \]$ 35.1 million in turnover, followed by commercial fishing ($\[\in \]$ 15.9 million) and aquaculture ($\[\in \]$ 3.7 million). When translated into GVA, the seafood sector directly contributes an estimated $\[\in \]$ 21.9 million to the local port economy. $\[\in \]$

Our survey explores the characteristics of businesses operating in this sector. In general, they are typically well-established, having operated for more than 10 years. Seafood operators at Union Hall typically invest less in capital relative to the other ports included in the study and their workforce tends to originate from the local area. Furthermore, over one fifth of the local seafood produce is directly exported, with the EU being a dominant destination. In terms of performance, turnover tends to be relatively stable year-on-year, though the past year has brought a decrease in turnover for many businesses in the sector at Union Hall.

Analysing the survey results allows us to quantify the port seafood sector's value within the regional economy. Once the indirect and induced effects are calculated, we estimate that the total economic contribution of the seafood sector at Union Hall equated to $\ensuremath{\in} 38.2$ million of GVA across the South West economy in 2023. The port's seafood sector supported an estimated 445 jobs across the region and generated $\ensuremath{\in} 3.7$ in tax revenues. When compared to the results of the last study in 2018, we estimate Union Hall experienced a real terms decline in GVA, employment and gross wages of 19.4%, 11% and 18.7%,

€21.9m
Direct GVA in 2023
The seafood sector makes a significant contribution within the local port economy.



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

respectively. The indirect channel is the only channel which grew and offset any losses in the direct and induced channel. This is largely due to increased costs across the board for seafood operators which results in increased supply chain spending.

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

Ports seafood sector	South West					
	GVA (€m)	Employment	Gross wages (€m)			
Direct	21.9	245	6.3			
Indirect	12.9	175	5.0			
Induced	3.4	30	1.3			
Total	38.2	445	12.6			

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

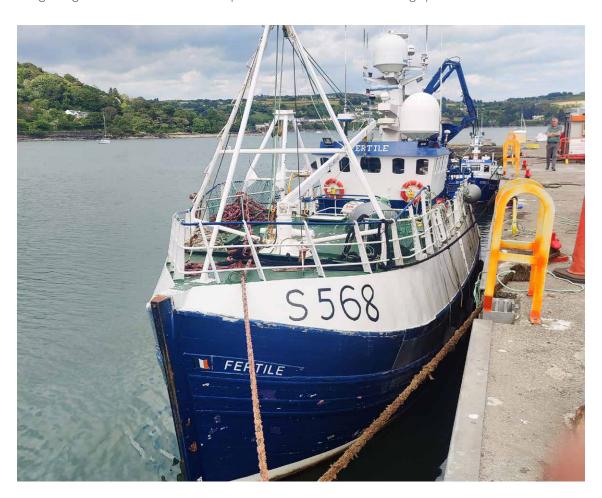
Our analysis of the seafood sector at the port produces the following headline findings throughout the region (which again will include the combined direct, indirect and induced impacts).²

- Activity in the commercial fishing sub-sector has been estimated to sustain 150 jobs, €4.0 million of gross wages and €12.7 million of GVA;
- Activity in the aquaculture sub-sector has been estimated to sustain 45 jobs, €1.1 million of gross wages and €3.2 million of GVA;
- The fish processing sub-sector has been estimated to sustain 260 jobs, €8.1 million of gross wages and €22.3 million of GVA.

Socio-economic characteristics

A slightly older population suggests that opportunities for new job creation are unlikely to emerge in the short term and that employers may have to look outside the local area for potential employees.

Furthermore, the educational profile within the area appears better matched with primary occupations. 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 our definition of the seafood sector (fishing, aquaculture and processing) will overestimate the indirect and induced impacts, and as a result, overall impacts. This is because the supply chain of the processing sub-sector will 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), we add all the three sub-sectors. However, for the indirect and induced totals, we sum those of the processing sub-sector 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 however relatively more important to coastal communities across the country given its concentration at Ireland's ports and the relatively lower level of alternative economic activity in these local economies. In addition, as employment growth is increasingly driven by office-based activity which favours urban areas, the seafood sector's role in providing labour market opportunities, gross 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

Union Hall is a small village with a significant seafood industry. Located on the Cork coast in the South West of Ireland, it is close to the town of Castletownshend. In this report we define the local port economy as the District Electoral Division (DED) of Myross and those surrounding it, which constitute its hinterland — informed by BIM and shown in the below figure.



Fig. 2. Map of port area

Box 1: Introducing economic impact analysis

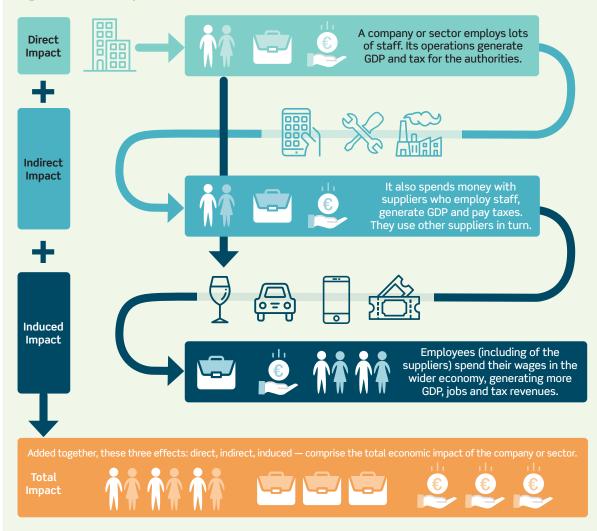
The economic impact of a sector is measured using a standard means of analysis called an economic impact assessment. The report quantifies the three 'core' channels of impact that comprise an organisation/sector's 'economic footprint':

- 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.

We analyse these channels of impact using three core metrics:

- **Employment**, measured on a Full-Time Equivalent (FTE) headcount basis. This is comprised 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 contribution to GDP;
- Tax receipts generated by the Irish activity and employment supported by the seafood sector.

Fig. 3. Economic impact assessment



To inform the analysis, a comprehensive seafood-related survey exercise was carried out across Ireland's main ports. We worked closely with BIM in order to 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.

In total there were 448 unique responses 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, we applied turnover and employment estimates which were informed by the survey responses of seafood businesses which shared the same characteristics. The study also draws on published data were available to better understand the sectoral composition of coastal areas within the country. Peripheral economies tend to face significant challenges from which Union Hall 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

In this paper we present our estimates of the size of the local seafood sector and how it impacts the regional economy. Our analysis therefore 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. We then estimate their wider impacts within the local NUTS3 region. 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 our methodology.

Our analysis is also 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. Our 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 South 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;
- Finally, we present the conclusions.

2. The seafood sector at the port

2.1 Characteristics of the seafood sector

Fig. 4. Headline direct economic contribution of the seafood sector, Union Hall, 2023

	Turnover (€m)	Jobs	Gross wages (€m)	Seafood operators
Commercial fishing	15.9	115	2.4	35
Aquaculture	3.7	35	0.6	8
Fish processing	35.1	95	3.3	7
Total	54.7	245	6.3	50

Source: Oxford Economics, Perceptive Insight, BIM

Note: May not sum due to rounding

To compare with our last study, we have inflated the previous results and presented our findings in 2023 prices (see Fig. 5).

Since the last study based on data in 2018, we find that commercial fishing turnover fell around 4.7% in real terms with similar falls recorded within employment with gross wages falling even further (33.9%). This is mostly due to a loss of commercial fishing seafood operators in the area (23.9%).

By contrast, the aquaculture sector experienced strong turnover growth of 88.8% with employment remaining stagnant and gross wages increasing by 59%. This is with the number of operators also decreasing by 38.5%. In the last study, of the 13 operators that existed in this sub-sector we only had one survey response. Of the eight we have this time, we managed to get seven survey responses. Therefore, any changes are likely down to improved accuracy.

For fish processing, turnover, employment and gross wages fell by an estimated 49.6%, 47.2% and 35.8% with the number of seafood operators remaining the same. This difference is simply down to vastly reduced turnover and employment estimates for some of the biggest operators in comparison to the last study. These operators have the largest impact on these results.

Overall, turnover, employment and gross wages are down 38%, 28% and 31.2%, respectively, while the number of operators has fallen by 24.2%.

Fig. 5. Headline direct economic contribution of the seafood sector (2023 prices), Union Hall, 2018

	Turnover (€m)	Jobs	Gross wages (€m)	Seafood operators
Commercial fishing	16.7	125	3.6	46
Aquaculture	1.9	35	0.4	13
Fish processing	69.5	180	5.1	7
Total	88.2	340	9.1	66

Source: Oxford Economics, Perceptive Insight, BIM

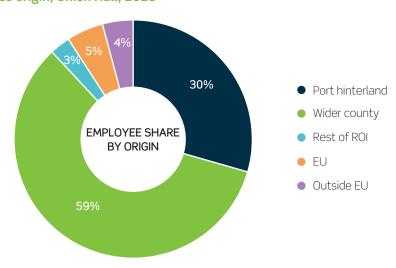
Note: May not sum due to rounding

From our survey of local businesses, we have gained additional insight into the composition and profile of local seafood operators. Drilling down into the Union Hall results some clear findings and implications emerge.

Seeking to better understand the role of Union Hall in the context of regional, national and wider economies our survey examined the employment supported by the seafood sector. Looking at where employees originate from, we found that nearly a third of seafood related jobs (30%) are taken by those originating in the port area and its hinterland. This reinforces the importance of the fisheries industry for local people and also indicates employment opportunities in Union Hall attract people from across the local port economy. Interestingly, roughly the same proportion (4%) of jobs are taken by migrants from outside the EU as from within the EU (5%). Whilst the share of jobs taken by those from other parts of Cork is 59%, with the remaining 3% taken from the rest of Ireland. Therefore, the survey suggests that only a small proportion of the seafood workforce, originate from outside the EU and Ireland.

Similarly, in the previous study, 34% of jobs were taken by those originating in the port are and its hinterland. However, around the same amount (35%) of jobs were taken by migrants from the EU in 2018 while 21% of those taking the jobs came from other parts of Ireland. The remaining 10% came from the wider county (7%) and outside the EU (3%).

Fig. 6. Workforce origin, Union Hall, 2023



Source: Oxford Economics, Perceptive Insight

Employment of those originating from the local port area was highest for fish processing (65%). This is in contrast to the commercial fisheries, were those originating from the port and its hinterland area only accounted for a fifth of its local workforce. The fish processing sub-sector also appears to have a relative strong cohort of its workforce originating from outside the EU (25% of the total). Aquaculture had the highest proportion of EU workers, representing close to a fifth of employees.

In comparison, in the previous study, these three sub-sectors had significant shares of EU workers in them which Fig. 7 demonstrates isn't the case anymore. Back in 2018, the EU employee share in commercial fishing was 61% which is down significantly. Similarly, fish processing had an EU employee share of 23% in the last study. The only sub-sector which has an EU employee share which is relatively similar to this study is aquaculture which was 28% in 2018.

Employee share by origin Commercial fishing Aquaculture Fish processing 0% 20% 40% 60% 80% 100% Port hinterland Outside EU Wider county Rest of ROI EU

Fig. 7. Workforce origin by sub-sector, Union Hall, 2023

Source: Oxford Economics, Perceptive Insight

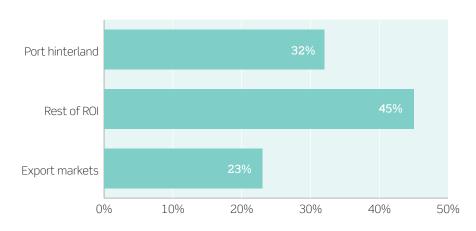
Of those employed in the Union Hall seafood industry, 47% lived in the hinterland area, almost half the rate observed across all the ports (78%). Most of the rest reside within the wider county with only 2% of workers commuting from outside the county to work at Union Hall, about average across the ten ports. Additionally, 9% of the fish processing workforce report as living outside the EU.

Whilst the hinterland remains a key location for the workforce the survey also explored the sector's key markets for sale of goods. Sales to the immediate hinterland made up 32% of total Union Hall sales, slightly above the tenport average (21%). The rest of Ireland was the largest market at 45% of sales, which was more than twice the ten-port average rate. This shows Union Hall's reliance on the domestic market, with only 23% of sales originating

from outside Ireland, the lowest figure of the ten ports.

Share of sales by destination

Fig. 8. Seafood sales by destination, Union Hall, 2023

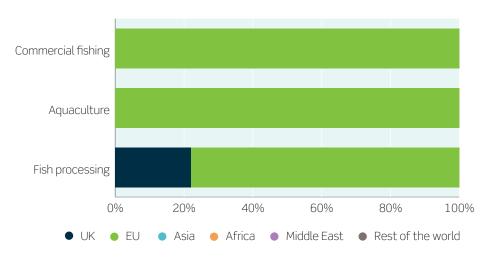


Source: Oxford Economics, Perceptive Insight

The export market is largest for aquaculture representing 46% of this sub-sector's sales in 2023. By far the largest destination for exports was the European Union with the vast majority of exports being sold here.

Fig. 9. Export sales by destination, Union Hall, 2023

Share of export sales by destination

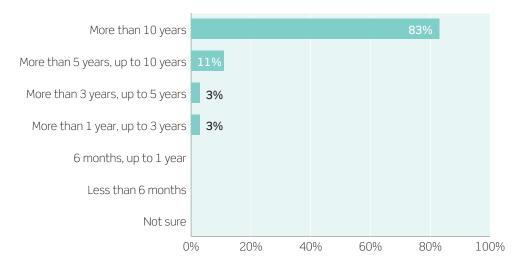


Source: Oxford Economics, Perceptive Insight

As well as analysing the current state of the seafood industry our survey looked to understand the profile of seafood related businesses that operated from the port. Business longevity is high in Union Hall with 83% of survey respondents reporting that their business has been operating for ten years or more, 14% had been established for at least three years, with the final 3% established for less than three years. This sits in line with the average across all ports in the study (83% ten years or more), reflecting the maturity and heritage of the seafood industry at Union Hall. Whilst the survey samples for Union Hall are small at the sectoral level, the results show that the maturity level is broadly the same across commercial fishing, processing and aquaculture industries.

Fig. 10. Seafood sector maturity, Union Hall, 2023

Share of port respondents



Source: Oxford Economics, Perceptive Insight

Turning our attention to the performance of these operating firms our survey addressed turnover and investment in the seafood industry. Overall, the industry appears to have faced challenging conditions at Union Hall; turnover was reported to have decreased over the last 12 months for 69% of respondents. Conversely, only 11% reported increases in turnover over the previous year. The remaining fifth of local respondent reported broadly stagnant sales growth over the same period. Among the seafood related sub-sectors the fish processors reported the strongest outturn with only 33% of respondents recording a decrease in sales over the year — compared to 77% in commercial fishing and 57% in aquaculture. Though the sample size is small these results can be taken as indicative of sectoral performance.

In comparison to the last study, turnover was reported to have neither increased nor decreased over the last 12 months for 78% of respondents in 2018. Additionally, 17% reported increases in turnover over the previous year. This leaves just 4% reporting a decrease in their turnover. Interestingly, only 7% of those in commercial fishing reported a decrease in their turnover with those operating in the aquaculture and fish processing sub-sectors reporting turnover staying the same or increasing in 2018.

Increased Stayed the same Decreased Not sure 0% 10% 20% 30% 40% 50% 60% 70% 80%

Fig. 11. Turnover in the past 12 month, Union Hall, 2023

Share of port respondents

Source: Oxford Economics, Perceptive Insight

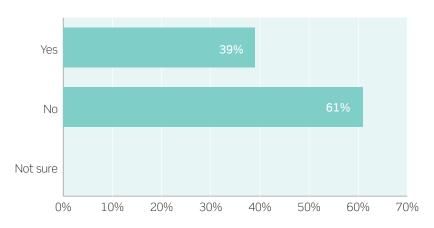
Looking forward we also asked respondents on their expectations regarding future sales growth. The outlook among Union Hall based respondents is broadly pessimistic. Most respondents (39%) expect turnover to decrease further, with 36% expecting it to stay the same over the next 12 months, whilst 17% percent believe it will grow, though, again, the sample sizes are small for these results. The consensus across the three seafood sub-sectors is that turnover will likely remain unchanged or decrease over the next year, though 43% of those in aquaculture expect increasing turnover.

In comparison, in the previous study we asked about future sales going into 2019. The outlook in Union Hall was broadly in line with historic turnover. The vast majority (83%) of respondents expected turnover to stay the same over the next 12 months, whilst 9% percent believe it will grow. The consensus across the three seafood subsectors is that turnover would likely remain unchanged over the next year.

Improving turnover is often linked with investment: improving the quality and/or quantity of capital available to the workforce can enable improved productivity and therefore sales. On the one hand, the willingness of firms to engage in capital investment may signal a positive outlook for the future; on the other, it may reflect the deterioration of existing capital stocks. Our survey results suggest the latter predominates investment decision making. Despite only 17% of respondents expecting turnover to increase, 39% have already spent money on capital investment in the last financial year.

Fig. 12. Capital investment taken place over the last year, Union Hall, 2023

Share of port respondents



Source: Oxford Economics, Perceptive Insight

In all, 87% of this investment was spent within Ireland with nearly half (48%) spent in the local area. The 13% of firms that spent overseas were concentrated in the aquaculture and commercial fishing sectors. However, average annual investment per respondent who indicated that they carried out capital investment in the Union Hall seafood sector sat at &56,100 over the previous 12 months, among the lower levels of average investment of all ports.

2.2 Conclusion

Our survey of the local seafood industry has helped to identify some of the key characteristics of the port's seafood environment. The sector is well established at Union Hall, with the majority of firms operating for at least ten years. Firms have experienced a fall in turnover, and this pattern is likely to continue or stagnate in the next year.

The workforce tends to be predominately Irish (92%) from Cork (89%), with around one in ten workers originating outside the state, split evenly from EU and non-EU countries. Meanwhile only 23% of sales are sold abroad; primary export markets are in the EU and some in the UK, showing the importance of the local and domestic market for the industry in Union Hall.

3. The impact of seafood's sub-sectors

In this section we estimate the wider economic footprint of Union Hall's seafood sector on the regional economy.

3.1 Commercial fishing

The commercial fishing sub-sector at Union Hall generated $\[\le \]$ 14.2 million of GVA across the South West economy in 2023. Almost a third of this GVA total ($\[\le \]$ 4.0 million) was separate from the direct commercial fishing activity taking place at the port; $\[\le \]$ 2.8 million of which was associated with economic activity supported throughout its regional supply chain and a further $\[\le \]$ 1.2 million was derived from the wider consumer spending the direct activity supports.

Commercial fishing directly supported an estimated 115 jobs, alongside $\[\in \]$ 2.4 million of associated gross wages. However, this rises to 150 jobs and $\[\in \]$ 4.0 million of gross wages when we account for the indirect and induced activity it supports in the wider regional economy. The indirect and induced effects tend to occur in relatively higher value-added sectors, generating more GVA per worker on average than the direct activities at the port. This sub-sector enjoys a GVA multiplier of 1.39, the weakest of the three seafood sub-sectors, meaning that every $\[\in \]$ 1 of direct value added generates an additional $\[\in \]$ 0.39 elsewhere within the regional economy. In the previous study, the GVA multiplier for commercial fishing was 1.58.

Fig. 13. Benefits of the commercial fishing sub-sector, South West, 2023

Port commercial fishing	South-West					
	GVA (€m)	Employment	Gross wages (€m)			
Direct	10.3	115	2.4			
Indirect	2.8	25	1.1			
Induced	1.2	10	0.5			
Total	14.2	150	4.0			

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not sum due to rounding

The agriculture, forestry and fishing sector enjoys the largest share of commercial fishing's total GVA benefits. Port based fishing generated $\in 10.5$ million of value added within this sector alone (almost three-quarters of the total throughout the South West). However, the sector enjoys relatively little of the multiplier impacts, given that the direct fishing activity is responsible for $\in 10.3$ million (98%) of the sector total. Likewise, this sector receives the majority of the employment impacts, supporting over 125 jobs through the region, or over three quarters of the overall total. However, the sector is estimated to only account for 63% of the total gross wages benefits — a consequence of relatively lower average gross wages in comparison to the jobs sustained throughout the wider supply chain.

The wholesale & retail sector enjoyed the next largest benefit from commercial fishing, representing $\[\in \]$ 1.4 million in GVA and 15 jobs. These impacts are the result of fishing's wider procurement spend and the consumer spending it supports. Manufacturing and real estate also experience GVA benefits of $\[\in \]$ 0.7 million and $\[\in \]$ 0.5 million respectively.

Fig. 14. Total benefits by sector, South West, 2023

Port commercial fishing		South-West	
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	10.5	125	2.5
Mining and quarrying	0.0	0	0.0
Manufacturing	0.7	<5	0.2
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	1.4	15	0.7
Transportation and storage	0.2	<5	0.1
Accommodation and food service activities	0.1	<5	0.0
Information and communication	0.1	0	0.0
Financial and insurance activities	0.1	<5	0.1
Real estate activities	0.5	0	0.0
Other business services	0.2	<5	0.1
Public administration and defence	0.0	0	0.0
Education	0.0	<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	14.2	150	4.0

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not add due to rounding

3.2 Aquaculture

Union Hall's aquaculture sector is the smallest of the three seafood elements at the port. However, its activities still contributed a total of \in 3.2 million in GVA to the South West economy in 2023. Two thirds of this total was directly supported by aquaculture producers within the port area, while a further \in 1.3 million was generated through the resulting indirect and induced impacts. This direct activity was enough to sustain 35 jobs across the region. These roles generated \in 0.6 million in gross wages. Whilst only a few additional jobs were created in the supply chain these tend to be in higher value-added sectors, thereby providing higher output and gross wages per worker relative to the direct activity. Despite this, the employment multiplier within the South West for aquaculture was 1.35. In the previous study, the employment multiplier for aquaculture in Union Hall was 1.13.

Fig. 15. Benefits of the aquaculture sub-sector, South West, 2023

Port aquaculture	South West				
	GVA (€m)	Gross wages (€m)			
Direct	1.9	35	0.6		
Indirect	1.0	10	0.4		
Induced	0.3	5	0.1		
Total	3.2	45	1.1		

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not sum due to rounding

Similarly to commercial fishing, the majority of aquaculture impacts are seen in the agriculture, forestry and fishing sector. This sector accounts for around 80% of the resulting employment impacts throughout the region, generating a wage contribution of 0.6 million and supporting 2 million of GVA. Outside of this, the majority of the remaining benefits are found in the wholesale & retail sector, accounting for 0.3 million of the GVA benefits and supporting three jobs throughout the region.

Fig. 16. Total benefits by sector, South West, 2023

Port aquaculture	South-West				
	GVA (€m)	Employment	Gross wages (€m)		
Agriculture, forestry and fishing	2.0	40	0.6		
Mining and quarrying	0.0	0	0.0		
Manufacturing	0.3	0	0.1		
Electricity, gas, steam and air conditioning supply	0.0	0	0.0		
Construction	0.0	0	0.0		
Wholesale and retail trade; repair of motor vehicles	0.3	5	0.1		
Transportation and storage	0.1	<5	0.0		
Accommodation and food service activities	0.0	<5	0.0		
Information and communication	0.0	0	0.0		
Financial and insurance activities	0.1	<5	0.0		
Real estate activities	0.1	0	0.0		
Other business services	0.1	<5	0.1		
Public administration and defence	0.0	0	0.0		
Education	0.0	0	0.0		
Human health and social work activities	0.1	<5	0.1		
Arts, entertainment and recreation & other services	0.0	0	0.0		
Total	3.2	45	1.1		

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not add due to rounding

3.3 Fish processing

The fish processing sector was the largest overall of the seafood elements at the port, directly contributing €9.8 million of GVA within the South West economy. This increased to €22.3 million when we included the additional activity it supports throughout its regional supply chain and via induced consumer spending. The sub-sector directly supported 95 jobs within the local port economy. However, this employment benefit increases to 260 jobs after we consider the multiplier effects across the wider region. We estimate this employment was enough to support €8.1 million in total earnings. Fish processing therefore recorded the strongest employment multiplier (2.78) of the three seafood sub-sectors present within the port economy. We estimate that every direct fish processing job supported 1.78 additional jobs elsewhere in the regional economy.

In the previous study, the fish processing sub-sector had an employment multiplier of 1.68 within the South-West. This change is due to direct employment falling by around half alongside those in the direct channel having increased costs which means their supply chain impacts rise and therefore have increased impacts in the indirect channel.

Fig. 17. Benefits of the fish processing sub-sector, South West, 2023

Fish processing	South-West				
	GVA (€m) Employment		Gross wages (€m)		
Direct	9.8	95	3.3		
Indirect	10.2	150	3.9		
Induced	2.3	20	0.9		
Total	22.3	260	8.1		

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not sum due to rounding

Unlike the other seafood sub-sectors, the biggest sectoral winner associated with local fish processing is manufacturing. It benefited from &11.6 million in GVA, 95 jobs and &3.9 million in associated gross wages in 2023. The manufacturing sector accounts for a higher proportion of the total GVA impact in comparison to that of employment, reflecting relatively stronger productivity within the sector. However, the agriculture, forestry and fishing sector also enjoys a significant share of the overall benefits — mainly as a result of its prominent position within the supply chain. As a result, we estimate that this sector benefited to the tune of &4.4 million in GVA and 108 jobs. Wholesale & retail and transportation & storage sectors are the next biggest winners from fish processing, with GVA of &1.8 million and &0.8 million respectively in 2023.

Fig. 18. Total benefits by sector, South West, 2023

Port processing		South-West	
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	4.4	108	1.6
Mining and quarrying	0.0	0	0.0
Manufacturing	11.6	95	3.9
Electricity, gas, steam and air conditioning supply	0.2	2	0.1
Construction	0.0	0	0.0
Wholesale and retail trade; repair of motor vehicles	1.8	19	0.9
Transportation and storage	0.8	10	0.4
Accommodation and food service activities	0.1	4	0.1
Information and communication	0.2	0	0.0
Financial and insurance activities	0.6	4	0.3
Real estate activities	1.0	1	0.0
Other business services	0.8	4	0.3
Public administration and defence	0.0	0	0.0
Education	0.1	2	0.1
Human health and social work activities	0.4	8	0.4
Arts, entertainment and recreation & other services	0.1	3	0.1
Total	22.3	260	8.1

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not sum due to rounding

3.4 Conclusion

In conclusion, Union Hall's fish processing sector has the largest economic footprint of the three-seafood related sub-sectors. We estimate that it supported 260 jobs, \in 8.1 million in gross wages and over \in 22.3 million in GVA throughout the South West economy in 2023.

4. Total impact of the seafood sector at Union Hall

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) will 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 subsectors 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.

We 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 99% and 62% share of the indirect and induced impacts from the respective aquaculture and commercial fishing sub-sectors (as information from the survey interviewees suggest that exports and domestic sales outside the port areas own processors account for 99% and 62% 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, we estimate that the Union Hall seafood industry generated €38.2 million in GVA for the South West regional economy in 2023. This activity supported 445 jobs across a range of sectors and generated €12.6 million in gross wages for employees.

500 50 445 38.2 400 40 175 300 30 12.9 Jobs 200 20 12.6 245 21.9 100 10 6.3 0 \cap **Employment Gross Wages GVA** Direct Indirect Induced

Fig. 19. Benefits of the seafood sector, South West, 2023

Source: Oxford Economics, Perceptive Insight, CSO

Whilst the bulk of the local seafood sector's economic benefits resulted from the direct activities within the port area, 43% of the total GVA benefit was generated via indirect supply chain impacts or induced spending. Equally, the local seafood sector is estimated to support 445 jobs throughout the regional economy — with almost half of this total resulting from multiplier impacts. Union Hall's seafood sector is estimated to have an employment multiplier of 1.82, meaning every direct job helps to support nearly one additional job within the regional economy. We estimate this employment total was enough to sustain €12.6 million in earnings in 2023.

For comparison, Union Hall had an employment multiplier of 1.46 in the seafood sector in 2018.

Fig. 20. Total seafood sector benefits, South West, 2023

Port seafood sector	South West					
	GVA (€m)	Employment	Gross wages (€m)			
Direct	21.9	245	6.3			
Indirect	12.9	175	5.0			
Induced	3.4	30	1.3			
Total	38.2	445	12.6			

Source: Oxford Economics, Perceptive Insight, CSO

Note: May not sum due to rounding

In GVA terms, the agricultural, forestry and fishing sector is the largest benefactor from Union Hall's seafood industry. It generates just under half of the resulting total GVA impacts (€16.8 million) and supports 265 FTE jobs, along with €4.7 million in gross wages. Together, manufacturing and agriculture, forestry and fishing account for 77% of the total GVA benefits. With the former employing 95 jobs and €4.1 million in gross wages.

Wholesale & retail received the next largest impact, with supporting 30 jobs and €3.0 million in GVA (8% of total) contributed to the regional economy. The real estate sector also benefited from €1.4 million in GVA mainly due to the impact of spending on housing via induced effects.

Fig. 21. Total benefits by sector, South West, 2023

Local seafood sector		South-West	
	GVA (€m)	Employment	Gross wages (€m)
Agriculture, forestry and fishing	16.8	265	4.7
Mining and quarrying	0.0	0	0.0
Manufacturing	12.4	95	4.1
Electricity, gas, steam and air conditioning supply	0.3	<5	0.1
Construction	0.0	0	0.0
Wholesale and retail trade; repair of motor vehicles	3.0	30	1.5
Transportation and storage	1.0	15	0.5
Accommodation and food service activities	0.2	5	0.2
Information and communication	0.3	0	0.1
Financial and insurance activities	0.8	5	0.3
Real estate activities	1.4	<5	0.0
Other business services	1.1	5	0.4
Public administration and defence	0.0	0	0.0
Education	0.1	5	0.1
Human health and social work activities	0.6	10	0.5
Arts, entertainment and recreation & other services	0.1	5	0.1
Total	38.2	445	12.6

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 what channel of activity they originate from. We estimate that the port seafood sector's direct tax contribution is a net fiscal surplus of €2.6 million in 2023, consisting of both 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 represent a net fiscal deficit of \in 1.1 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. We estimate this induced activity supported a further \in 2.2 million in tax revenue.

Therefore, in total (i.e. direct, indirect and induced), the Union Hall seafood sector is estimated to have a fiscal surplus of \in 3.7 million in 2023. This total was made up of \in 4.2 million in employment/labour related tax, \in 1.3 million in corporation tax, \in 1.3 million in taxation associated with the spending of wages, and a net tax deficit of \in 3.6 million through taxation on inputs and production.³

³ Net tax position refers to taxes less subsidies.

In comparison, we estimated that the Union Hall seafood sector generated \in 4.0 million in taxes in 2018. This is made up of \in 5.6 million in employment/labour related tax, \in 1.4 million in corporation tax, \in 2.3 million in taxation associated with the spending of wages, and a net tax deficit of \in 5.3 million through taxation on inputs and production.⁴

Fig. 22. 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	1.3	0.5	-3.8	0.3	0.0
Mining and quarrying	0.0	0.0	0.0	0.0	0.0
Manufacturing	1.5	0.4	0.0	0.1	1.1
Electricity, gas, steam and air conditioning supply	0.0	0.0	0.1	0.0	0.0
Construction	0.0	0.0	0.0	0.0	0.0
Wholesale and retail trade; repair of motor vehicles	0.4	0.1	0.0	0.0	0.0
Transportation and storage	0.2	0.0	0.1	0.0	0.0
Accommodation and food service activities	0.1	0.0	0.0	0.0	0.1
Information and communication	0.0	0.0	0.0	0.0	0.1
Financial and insurance activities	0.2	0.0	0.0	0.0	0.0
Real estate activities	0.0	0.1	0.1	0.0	0.0
Other business services	0.2	0.0	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	0.2	0.0	0.0	0.0	0.0
Arts, entertainment and recreation & other services	0.0	0.0	0.0	0.0	0.0
Total	4.2	1.3	-3.6	0.6	1.3

Source: Oxford Economics, Perceptive Insight, CSO

4.4 Growth since 2018

Over the period 2018 to 2023, in real terms, Union Hall had mixed results across all channels in GVA, employment and gross wages. In the direct channel, GVA, employment and gross wages fell by 34.7%, 27.9% and 31.2%. In the indirect channel, GVA, employment and gross wages increased by 36.4%, 59.1% and 17.2%. In the induced channel, GVA, employment and gross wages also fell by 23.2%, 40% and 37.2%.

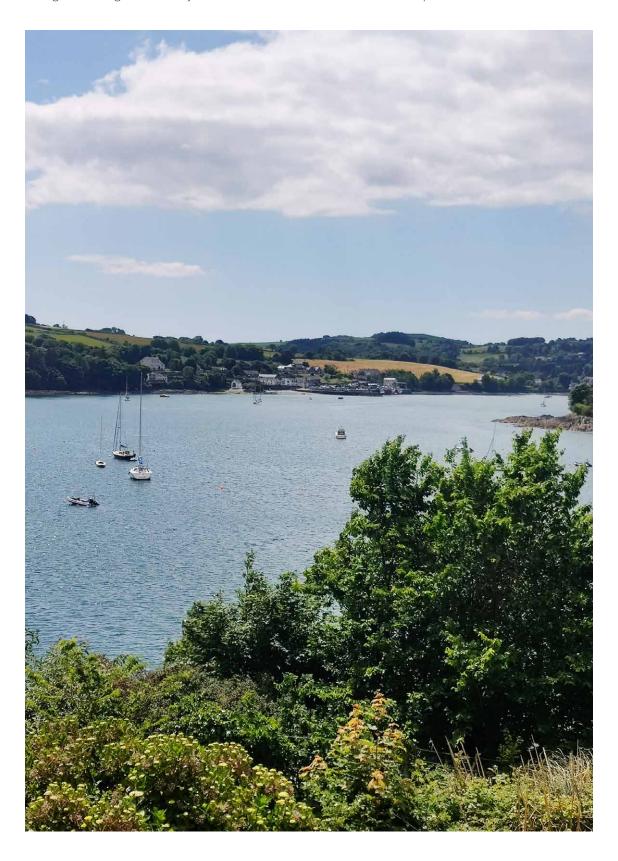
Overall, we estimate Union Hall experienced a real terms decline in GVA, employment and gross wages of 19.4%, 11% and 18.7%, respectively. The indirect channel is the only channel which grew and offset any losses in the direct and induced channel. This is largely due to increased costs across the board for seafood operators which results in increased supply chain spending.

⁴ Tax figures related to the 2018 study are in 2023 prices.

4.5 Conclusion

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

Therefore, our analysis shows the Union Hall's overall seafood sector supports 445 jobs and \in 38.2 million in GVA throughout the regional economy. Furthermore, the sector has a \in 3.7 million surplus in terms of tax.



5. Conclusions

5.1 The seafood sector in Union Hall

The seafood sector makes an important contribution to the Union Hall economy. In 2023, the direct seafood sector at the port generated an estimated $\[\le 54.7 \]$ million in turnover, supporting over 245 direct jobs. Fish processing is the largest seafood related activity at the port, generating $\[\le 35.1 \]$ million in turnover, followed by commercial fishing ($\[\le 15.9 \]$ million) and aquaculture ($\[\le 3.7 \]$ million). When translated into GVA, the seafood sector directly contributes $\[\le 21.9 \]$ million to the local port economy.

Our survey of the local seafood industry also identified the key characteristics of the business environment. The sector is well established at Union Hall, with the majority of firms operating for at least ten years. On the back of a challenging year for the industry, turnover appears to be decreasing or stable for most. Though average capital investment levels are lower here than for other ports, annual capital outlays still averaged €60,600 in the commercial fishing sector in 2023.

The workforce tends to be quite homogeneous with roughly 89% originating from Cork, with roughly a third of those from the port hinterland. The workforce in the sector is 91% Irish, with the remaining 9% split between EU and non-EU nationals. Meanwhile 77% of sales are sold domestically and 23% abroad; the primary export market accounting for exports is the EU, with only a small minority of the port's exports sold in the UK from the fish processing operators.

5.2 The fish processing sub-sector is the main contributor

The fish processing sub-sector makes the strongest contribution to the South West economy. In 2023, it alone generated $\ensuremath{\in} 22.3$ million of GVA, of which $\ensuremath{\in} 12.5$ million is linked to indirect ($\ensuremath{\in} 10.2$ million) and induced ($\ensuremath{\in} 2.3$ million) effects. The fish processing sector also enjoys the strongest employment multiplier of the three seafood sub-sectors, with every direct job supporting a further 1.8 jobs within the South West region. The fish processing sub-sector is estimated to provide benefits of the following size:

- 95 direct jobs and €3.3 million of gross wages, producing €9.8 million of GVA;
- 150 indirect jobs and €3.9 million of gross wages, producing €10.2 million of GVA;
- 20 induced jobs and €0.9 million of gross wages, producing €2.3 million of GVA.



5.3 Though the other components remain significant

Although the commercial fishing sub-sector's economic footprint is smaller than that of the fish processing sector, its economic multipliers remain significant. Accordingly, our analysis shows the economic impact of commercial fishing was of the following size in 2023:

- 115 direct jobs and €2.4 million of gross wages, producing €10.3 million of GVA;
- 25 indirect jobs and €1.1 million of gross wages, producing €2.8 million of GVA;
- 10 induced jobs and €0.5 million of gross wages, producing €1.2 million of GVA.

GVA
Direct +9% since 2018
Total -5% since 2018



Employment

Direct -8% since 2018 **Total** -14% since 2018



Wages

Direct -33% since 2018 **Total** -32% since 2018

Furthermore, our analysis shows that the economic impact of the port's aquaculture sector equates to the following benefits across the South West economy:

- 35 direct jobs and €0.6 million of gross wages, producing €1.9 million of GVA;
- 10 indirect jobs and €0.4 million of gross wages, producing €1 million of GVA;
- Less than five induced jobs and €0.1 million of gross wages, producing €0.3 million of GVA.

GVA
Direct +60% since 2018
Total +88% since 2018



Employment

Direct 0% since 2018 **Total** +14% since 2018



Wages

Direct +50% since 2018 **Total** +95% since 2018

Therefore, we estimate that the port's collective seafood sector supported 445 jobs, €12.6 million in gross wages and €38.2 million in GVA within the regional economy in 2023. This activity generated a €3.7 million tax surplus. In comparison, once the results from the last study are converted to 2023 prices, there is a decline in GVA, employment and gross wages of 21.9%, 13% and 21.7%, respectively. The indirect channel is the only channel which grew and offset any losses in the direct and induced channel. This is largely due to increased costs across the board for seafood operators which results in increased supply chain spending.

5.4 Seafood supporting peripheral economies

A slightly older population suggests that opportunities for new job creation are unlikely to emerge in the short term and that employers may have to look outside the local area for potential employees.

Furthermore, the educational profile within the area appears better matched with primary occupations. 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.

Overall Seafood Sector



GVA

Direct -35% since 2018 **Total** -19% since 2018



Employment

Direct -28% since 2018 **Total** -11% since 2018



Wages

Direct -31% since 2018 **Total** -19% since 2018

Appendix 1: Union Hall's economic challenges

Economic activity and structure

The latest available data indicates that Union Hall's labour market performance has been relatively mixed. On one hand the local unemployment rate within the local port economy was relatively low at 6.9% in 2022.⁵ This compares to unemployment rates in the South-West region and Ireland overall of 7.3% and 8.3% respectively in the same year. However, the resident employment rate of 53% was lower than both regional and national averages (see Fig. 23). Census data reveals that the economic inactivity rate⁶ among those residents aged 15 and over stood at an above average 43.1%. Local inactivity was therefore higher than both the regional (40.1%) and the national (38.8%) averages and may represent unused potential within the local economy outside of the older population.

Fig. 23. Headline economic indicator comparisons, 2022

	Unemployment rate	Employment rate	Economic inactivity
Union Hall	6.9%	53.0%	43.1%
South-West	7.3%	55.5%	40.1%
Ireland	8.3%	56.1%	38.8%

Source: CSO

Demographics

The port area and hinterland population grew by a relatively strong 8.9% in the six years between 2016 and 2022. Recent population growth has therefore been stronger than both the South-West (6.6%) and Ireland (8.1%) averages. Growth in the working age population was strong also, growing by 7.7%, over the period. Despite this, the overall share of residents aged 15 to 64 was relatively low at 59.9%, 5.4 percentage points below the national average.

Fig. 24. Population indicators, 2022

	Growth (2016-2022)		2022	
	Population	Working age	Population	Working age share
Union Hall	8.9%	7.7%	11,400	59.9%
South-West	6.6%	5.2%	728,100	64.4%
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 port area population by age cohort highlights a skewed distribution towards older age groups relative to the national picture. Older working age people (aged 45-64) and those aged 65 and over were both over-represented within the local population. Whereas those aged 25-44 accounted for just 23% of all residents, five percentage points below the national average in 2022.

Small relative to Age 65+ national average Age 45-64 Age 25-44 Age 15-24 Large relative to national average -0.4 Age 0-14 -2 0 2 4 6 -6 -4 8

Fig. 25. Age group comparisons, Port area vs Ireland, 2022

Percentage point difference in shares

Source: CSO Ireland

Qualification attainment levels in the Union Hall area tends to be relatively weak — especially against the broader Cork County average. Higher level educational attainment among residents was lower than both the national and County averages. Those educated to degree level or above accounted for 31% of those aged 15 and over in Union Hall, compared to 33% and 34% across Cork County and Ireland, respectively. Similarly, those with no formal qualifications or at most primary level education represented 9% of residents aged 15 and over in 2022, the same rate as the Cork County average (9%) and slightly below the national average (10%). This is likely reflective of the older population trends.

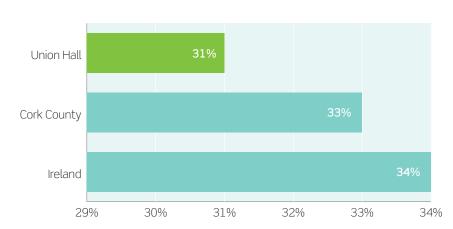


Fig. 26. Third level degree or above attainment, 2022

Share of residents over the age of 15 $\,$

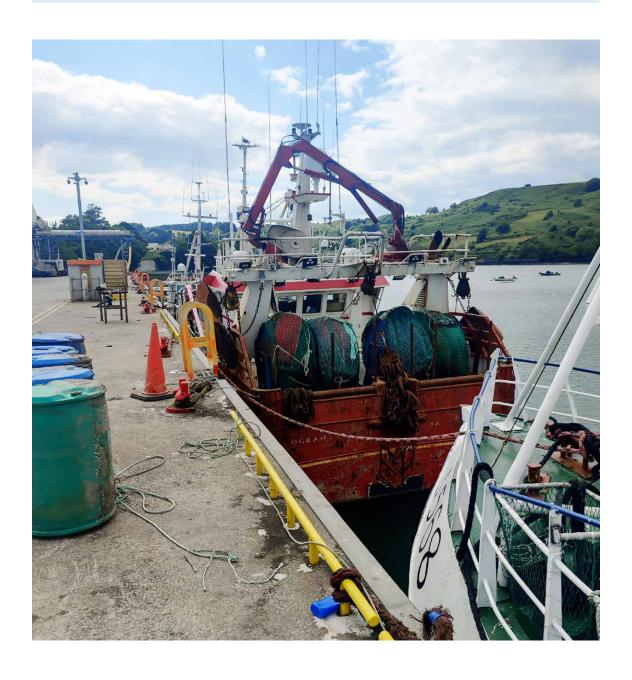
Source: CSO

Summary

A slightly older population suggests that opportunities for new job creation are unlikely to emerge in the short term and that employers may have to look outside the local area for potential employees.

Furthermore, the educational profile within the area appears better matched with primary occupations. 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 previous study, the unemployment rate in Union Hall fell from 10.3% in 2016 to 6.9% in 2022 whilst the employment rate grew from 51.3% in 2016 to 53.0% in 2022. The working age share also fell from 60.6% in 2016 to 59.9% in 2022. The age group breakdowns in 2022 compared to the national average is very similar to that completed in 2016 also. Finally, educational attainment has improved in Union Hall with 31% of the population having a third level degree or above in 2022 compared to 25% in 2016.

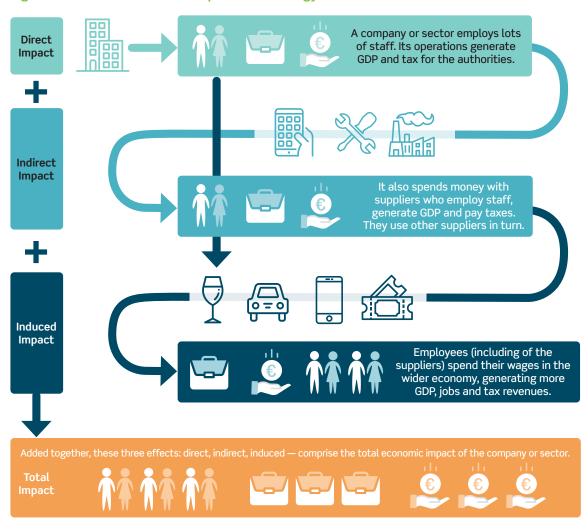


Appendix 2: Model approach

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 gross 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. 27. Overview of economic impact methodology



Our report uses three main metrics to quantify each of the channels by which the seafood sector could contribute to the regional⁷ and national economy:

- **Gross value-added** contribution to Gross Domestic Product (GDP)⁸: This measured the value of goods & 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 alongside.

All the data used was either provided by the 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 we will use published sources for comparator geographies as a proxy estimates were 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, we were able to apply the average ratio of jobs to turnover level in that sector and apply average sectoral gross wages, etc. In other words, we 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 is then split into the different sectors of the economy ('Agri, forestry & 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 we estimated the direct sectoral GVA contributions to GDP in the local economy. Both direct employment and gross wages paid within the local port seafood sector are again informed by the survey findings and grossed to the population total based on shared characteristics.

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

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

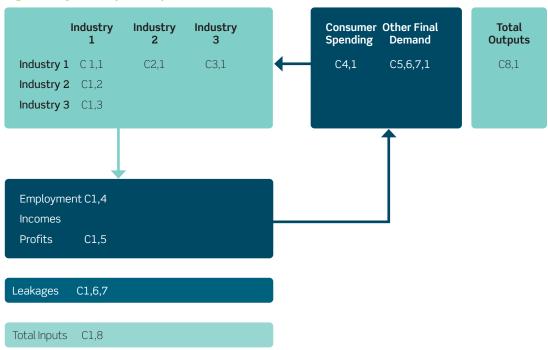
⁸ GDP is the main summary indicator of economic activity in Ireland. GDP can be defined as GVA plus taxes on products less subsidies on products. References to economic growth (or when the economy enters recession) typically relate to the rate of change of GDP. All references in this report relate to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

To estimate the indirect and induced impacts we have built an Input-Output model. Fig. 29 presents a stylised version (showing just three sectors for presentation purposes) of our 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. 28. Stylised input-output model



We have used the latest Irish input-output tables for the analysis, but have adjusted these 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. 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, we have used information gathered from the survey to further isolate the procurement spend locally, thereby strengthening the overall modelling assumptions.



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

We then used the impact model to estimate all the **rounds of supply chain or indirect spending** of the local seafood sector. The input-output tables provide us with an estimate of indirect output by sector. We then convert this output back into sectoral GVA and into sectoral jobs to provide a range of sectoral impact measurements. Applying average sectoral salaries allowed us to estimate the income effect.

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, our Input-Output model were 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 will 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 some of the impacts.

We have therefore 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 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 subsectors (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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