

OXFORD ECONOMICS

The economic impact of the UK's Maritime Services Sector

**A Report prepared for Maritime UK
April 2011**



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1 Executive summary

The UK maritime services sector ...

- This report, prepared on behalf of Maritime UK¹, assesses the economic impact of the UK maritime services sector, here defined to include the ports, shipping and maritime services sectors. It therefore excludes sectors such as North Sea oil and gas extraction, the manufacture of marine equipment and the naval defence industry².

...directly creates 227,000 jobs...

- We estimate that the maritime services sector creates 227,000 jobs or 0.8% of total UK employment. This figure implies that the industry was a larger employer than, for example, either the accountancy or general medical practice industries.

...contributes £13.1 billion to UK GDP...

- On this basis, we estimate that the maritime services sector made a direct £13.1 billion value-added contribution to GDP or 0.9% of the UK total. Therefore, the maritime services sector made a larger contribution to UK GDP than both the civil engineering and electricity distribution industries.

...and generates £3.1 billion for the UK Exchequer

- And, in addition, the maritime services sector directly generates over £3.1 billion (or 0.6% of total government revenue) for the UK Exchequer, through a combination of taxes paid by both employees and firms in the industry.

The industry also supports considerable activity in other sectors...

- Service providers will source goods and services from UK-based suppliers, which, in turn, have their own suppliers (some of whom will be based in the UK) and so on. In addition, people employed by the maritime services sector and its suppliers will spend their wages on other goods and services in the UK economy. Such effects are typically referred to as the indirect and induced impacts.

...in total, including indirect and induced effects, it supported 531,000 jobs and contributed £26.5 billion to UK GDP...

- Including direct, indirect and induced impacts, the maritime services sector is estimated to support 531,000 jobs or 1.8% of total employment. Moreover, once these multiplier effects are accounted for, the sector makes a value added contribution of £26.5 billion (1.9% of total) to UK GDP.

...and generated £7.8 billion for the UK Exchequer

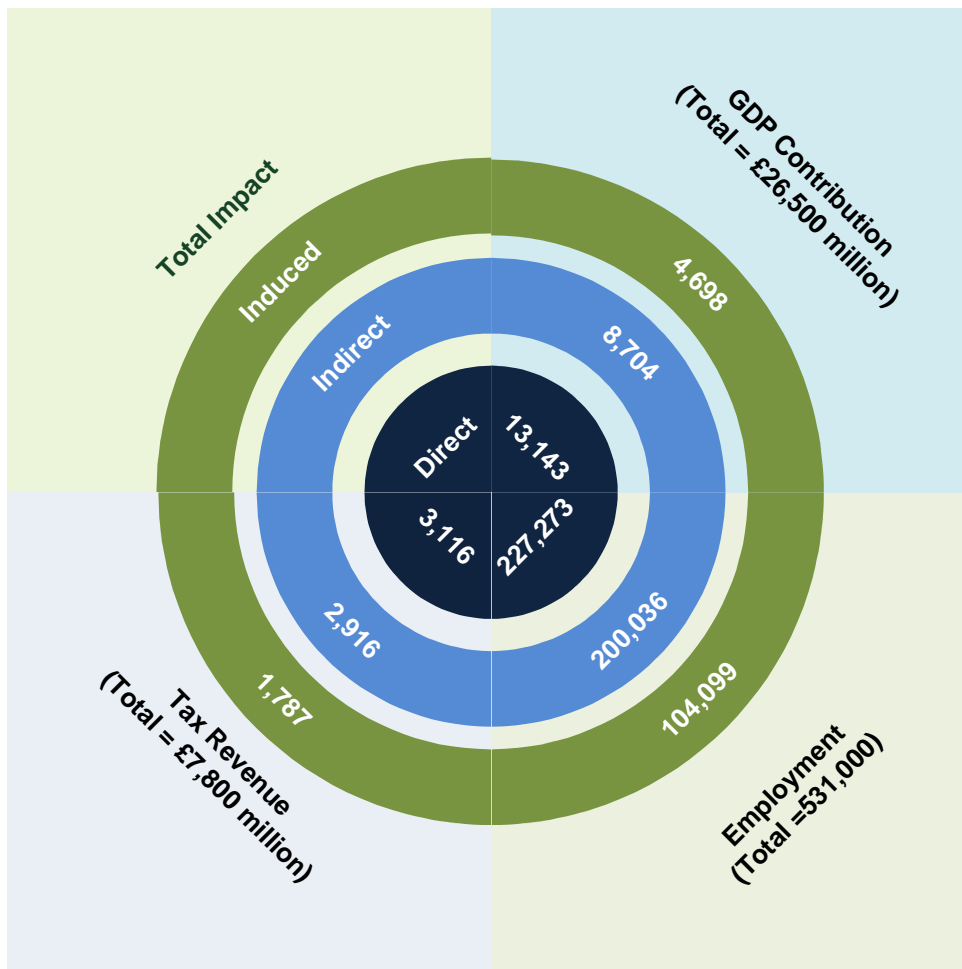
¹ Maritime UK is an overarching body comprising the Baltic Exchange, the British Ports Association, the Chamber of Shipping, the Institute of Chartered Shipbrokers, Maritime London, the Passenger Shipping Association and the UK Major Ports Group.

² All figures presented refer to calendar year 2009. Not all figures may sum due to rounding effects.

- Finally, inclusive of these multiplier impacts, we calculate the maritime service industry's total contribution to the UK Exchequer was £7.8 billion or 1.6% of total government revenue.

The full economic impact of the maritime services sector, in terms of employment, GDP and revenue generated for the Exchequer, through each channel of effect, is summarised in Figure 1.1 below:

Figure 1.1: Summary of the economic contribution of the UK maritime services sector



2 Introduction

This report, prepared by Oxford Economics, evaluates the economic contribution of the UK maritime services sector, providing an update on a previous report³. Here “maritime” refers to the combination of the ports, shipping and maritime services industries, whose economic contribution is analysed individually in a separate set of reports.

2.1 The channels of economic impact

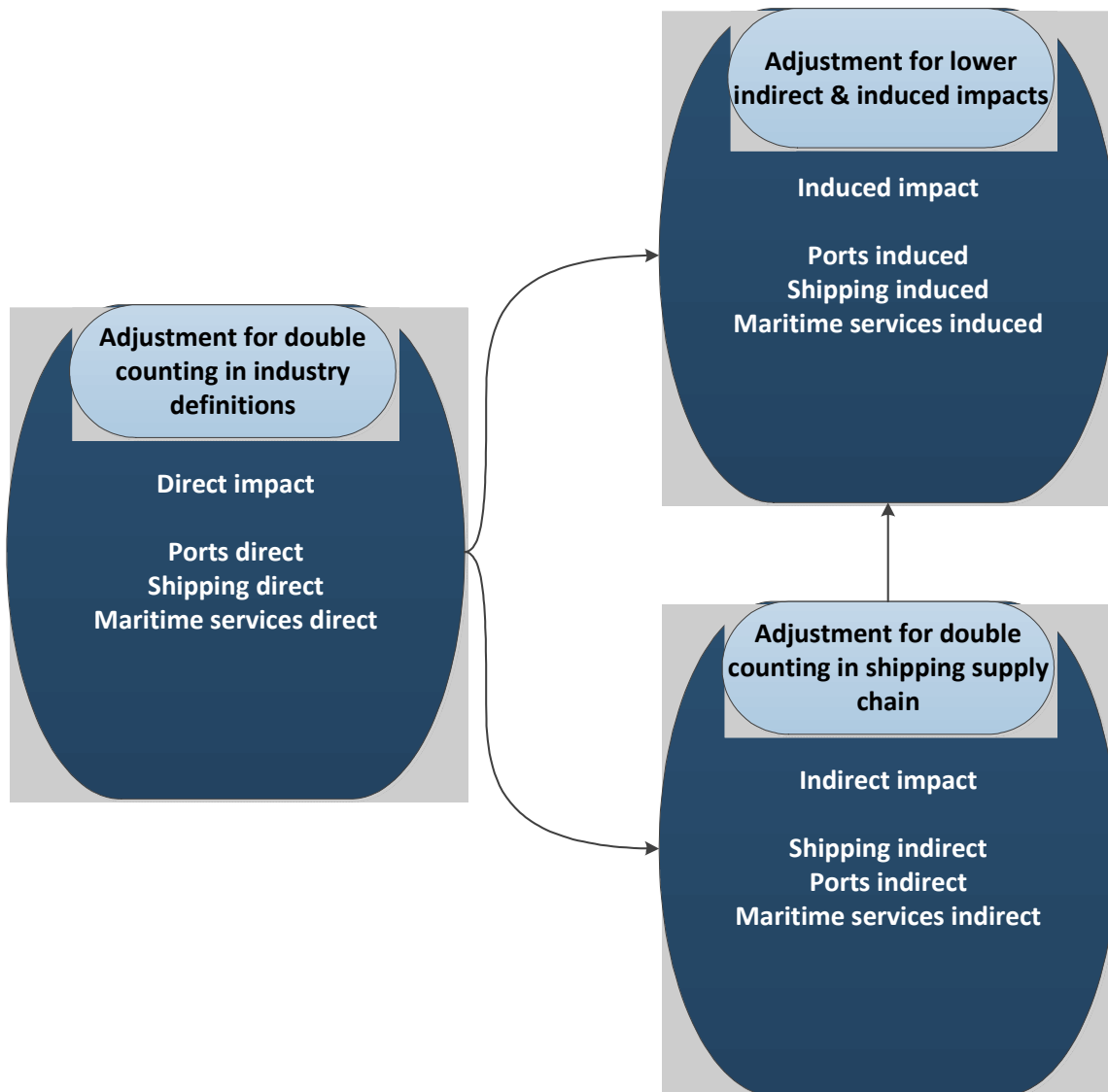
There are many channels through which the UK ports industry makes a contribution to the UK economy. This contribution includes the following standard economic impacts:

- **Direct impacts** – employment and activity in the UK maritime services sector itself, including the ports, shipping and maritime business services sectors.
- **Indirect impacts** – employment and activity supported down the supply chain as a result of UK maritime services companies purchasing goods and services from UK suppliers. This includes, for example, jobs supported through the demand for iron and steel and other raw materials; shipping services; communications; and a wide variety of activity in the business services sector (accountancy, IT etc).
- **Induced impacts** – employment and activity supported by those directly or indirectly employed in the UK maritime services industry, spending their incomes on goods and services in the wider UK economy. This helps to support jobs in the industries that supply these purchases, and includes jobs in retail outlets, companies producing consumer goods and in a range of service industries.

When dealing with a single firm/sector the total economic impact of its activities would be defined simply as the sum of these three individual effects. However, due to the interconnections between the three sectors under consideration it was important that we made adjustments to avoid the possibility of “double counting”. This issue is explored in more depth in Chapter 4. Figure 2.1 illustrates the process graphically.

³ “The economic contribution of the UK ports industry, *Oxford Economics*, Winter 2007

Figure 2.1: The UK maritime services sector and its economic impacts



2.2 Report structure

The rest of this report is structured as follows:

- Chapter 3 outlines the economic impact of each of the three industries in isolation, in terms of contribution to GDP, employment and revenue raised for the Exchequer.
- Chapter 4 examines their combined economic impact, focusing on the same three metrics.
- Chapter 5 concludes.

3 The Economic Impact of Each Individual Sector

This chapter details the economic impact of each of the three separate sectors (ports, shipping and maritime business services) focusing on three key metrics (jobs, GVA and contribution to the Exchequer). For more detail on any of these sectors, consult the separate individual reports which were produced as part of this study.

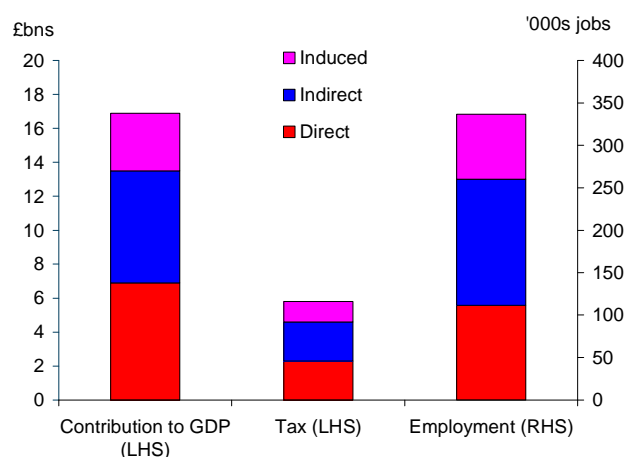
KEY POINTS

- Despite suffering from the impact of the recession, the UK ports industry has continued to make a valuable contribution to the UK economy. In total, the industry contributes just under **£16.9 billion to UK GDP**; activity which supported **337,000 jobs** and raised **over £5.7 billion for the UK Exchequer**.
- The UK shipping industry has, in general, enjoyed buoyant growth over the past decade, following the introduction of the tonnage tax in 2000. In total, the shipping industry contributes **almost £12.9 billion to UK GDP**, supports **268,000 jobs** and generated over **£3.7 billion for the UK Exchequer**.
- Although significantly smaller than either the ports or the shipping industries, the maritime business services sector, centered in the City of London, still makes a valuable contribution to the UK economy. In 2009, including both indirect and induced effects, the sector **contributes £3.8 billion to UK GDP**, supports **64,000 jobs** and raises **£1.4 billion in tax revenue**

3.1 Economic impact of the ports industry

Despite suffering from the impact of the recession, the UK ports industry continued to make a valuable contribution to the UK economy in 2009, employing 112,000 people and contributing over £6.9 billion to UK GDP; this was more than the judicial sector and motor vehicle manufacturing industries respectively. Moreover, this activity generated £2.3 billion for the UK Exchequer. In addition, the industry produces significant spillover benefits in the form of both indirect and induced effects. These helped to raise the industry's overall contribution to GDP to just under £16.9 billion, activity which supported almost 337,000 jobs and raised over £5.7 billion for the UK Exchequer.

Chart 3.1: Summary of the total economic impact of the ports industry

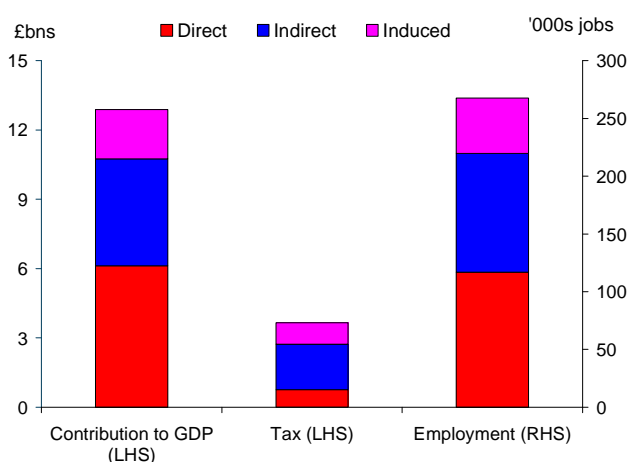


Source: Oxford Economics

3.2 Economic impact of the shipping industry

The UK shipping industry has, in general, enjoyed rapid growth over the past decade following the introduction of the tonnage tax in 2000. In 2009, the industry directly employed 117,000 workers, who generated over £6.1 billion to UK GDP; this activity helped to raise almost £760 million for the UK Exchequer. In total (including indirect and induced impacts) the shipping industry contributed almost £12.9 billion to UK GDP, supported 268,000 jobs and generated over £3.6 billion in tax revenue.

Chart 3.2: Summary of the total economic impact of the shipping industry



Source: Oxford Economics

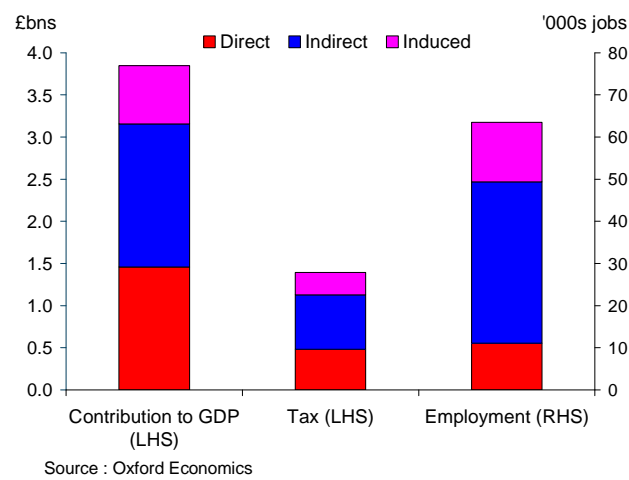
3.3 Economic impact of the maritime business services sector

Although significantly smaller than the ports and shipping industries, the maritime business services sector, centred in the City of London, still makes a valuable contribution to the UK economy. Our estimates, which lean heavily on intelligence gathered by Wei (2010)⁴ on behalf of the Baltic Exchange, suggest that the industry directly employed 11,100 people in 2009, helping to generate over £1.5 billion in GVA and raising £495 million for the UK Exchequer. Since workers in the industry are on average very productive⁵, this activity creates proportionately large multiplier effects, with over 38,000 jobs created indirectly via the supply chain. In total we estimate that the maritime business services sector supported 64,000 jobs, made a value added contribution to UK GDP of £3.8 billion and generated £1.4 billion for the UK Exchequer. The results are summarised in Chart 3.3.

⁴ Wei, S, (2010) 'UK shipping professional services 2009: Development trends', the Baltic Exchange.

⁵ Each employee generated over £134,000 of GVA on average compared to an economy-wide average of just over £44,000.

Chart 3.3: Summary of the total economic impact of the maritime business services sector



4 The Combined Economic Impact of the Ports, Shipping and Maritime Business Services Sectors

When combining the results of our three individual impact studies, we had to deal with issues of “double counting”, which are explored in detail in this chapter. We then present the results of our combined estimates in terms of contribution to GVA, employment and revenue raised for the Exchequer.

KEY POINTS

- Overall, we estimate that the maritime services sector supported 200,000 jobs indirectly via its supply chain with a further 104,000 created due to the spending of those employed directly and indirectly in the industry. Therefore, in total, we estimate that the maritime services sector supported **531,000 jobs**.
- In terms of GVA, we estimate that the maritime services sector contributed over £8.7 billion to UK GDP via the supply chain and a further £4.7 billion due to induced effects. In total, the industry contributed around **£26.5 billion to UK GDP**.
- Moreover, this activity helped to generate £2.9 billion for the Exchequer indirectly and almost £1.8 billion via the induced impact. Therefore, in total the maritime services sector contributed over **£7.8 billion to the Exchequer**.

4.1 Issues with “double counting”

In order to combine the economic impacts of the three sectors together there were two key issues that needed to be addressed:

- first, our definitions of the sectors were not mutually exclusive, implying that simply summing the three direct impacts would lead to an over-estimation; and
- second, it is evident that, particularly in the case of shipping, the supply-chain effects (identified as part of our indirect impact) would have already been counted as part of our direct estimates. For example, some workers in UK ports and in the ship broking industry would already be captured as part of the shipping industry’s supply chain. Therefore, we needed to identify the proportion of the shipping industry’s supply chain that would have been accounted for by the ports and maritime services sector, and to adjust accordingly. Lower direct and indirect effects would in turn feed through to a lower induced impact.

4.2 The combined direct economic impact

As outlined above, when assessing the combined direct economic impact, consideration had to be given to the fact that our three definitions of the individual sectors were not mutually exclusive. Indeed, parts of the ports industry were included in both the shipping and maritime business services sector as defined in this paper, as illustrated by Table 4.1. We thus

subtracted the employment and GVA attributed to those sectors from our direct estimate of the ports industry and adjusted the tax figures to take account of the lower number of jobs created, profits etc.

Table 4.1: Potential areas of overlap in definitions of the ports, shipping and maritime business services sectors.

Areas of Overlap in Definitions of Individual Sectors			
4-Digit SIC Code	Description	Included in Shipping	Included in Maritime Services
3511	Building and repairing of ships	Yes	Yes
3512	Building and repairing of pleasure and sporting boats		
4521	General construction of buildings and civil engineering works		
4534	Construction of water projects		
6010	Transport via railways		
6024	Freight transport by road		
6030	Transport via pipelines		
6110	Sea and coastal water transport		
6120	Inland water transport		
6311	Cargo handling		
6312	Storage and warehousing		
6321	Other supporting land transport activities		
6322	Other supporting water transport activities		
6340	Activities of other transport agencies		
6603	Non-life insurance		
6720	Activities auxiliary to insurance and pension funding		
7122	Renting of water transport equipment		
7430	Technical testing and analysis		
7511	General (overall) public service activities		
7513	Regulation of and contribution to more efficient operation of business		
7522	Defence activities		
7524	Public security, law and order activities		

The results are summarised in Table 4.2, which compares the direct economic impact of each sector in terms of the three standard metrics in isolation and then in aggregate. Due to the adjustments to avoid double counting, the direct contribution to GDP of the ports sector falls from £6.9 billion to £5.6 billion, with a consequent fall in jobs created to 99,000 and revenue generated for the Exchequer to £1.9 billion. In total, this implies that, in 2009, the aggregate contribution to GDP of the maritime services sector was £13.1 billion (0.9% of UK GDP), helping to create 227,000 jobs (0.8% of UK employment) and raising £3.1 billion for the UK Exchequer (0.7% of government revenue).

Table 4.2: Comparison of the direct economic impact of each sector in isolation versus in aggregate

Summary of Direct Aggregate Economic Impact of the Maritime Industry						
Industry	In Isolation			In Aggregate		
	GVA (£mns)	Employment ('000s)	Tax Revenue (£mns)	GVA (£mns)	Employment ('000s)	Tax Revenue (£mns)
Ports	6,946	112	2,265	5,561	99	1,874
Shipping	6,126	117	759	6,126	117	759
Maritime Business Services	1,456	11	483	1,456	11	483
Maritime Services	14,528	240	3,507	13,143	227	3,116

To place these figures into context, in 2009 the maritime services sector supported more jobs than the accountancy and IT consultancy industries, and slightly less than the legal industry and those employed in the construction of buildings. Meanwhile, the maritime services sector's contribution to GVA was larger than the accountancy, electricity distribution and civil engineering industries', and slightly lower than the contribution from the renting and operating of real estate and the wholesale of household goods. These comparisons are illustrated graphically in Charts 4.1 and 4.2.

Chart 4.1: Maritime service sector's contribution to employment versus other industries

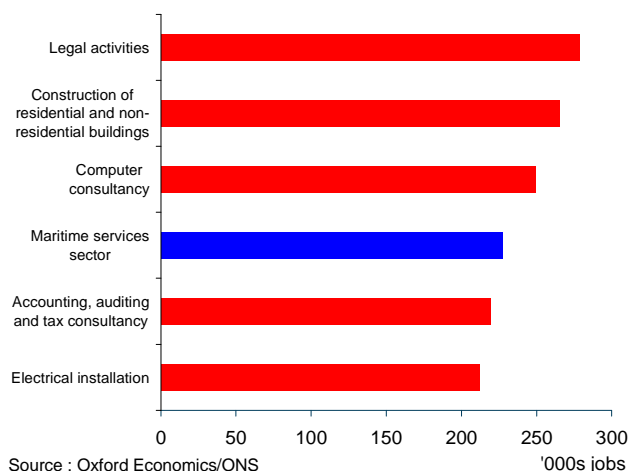
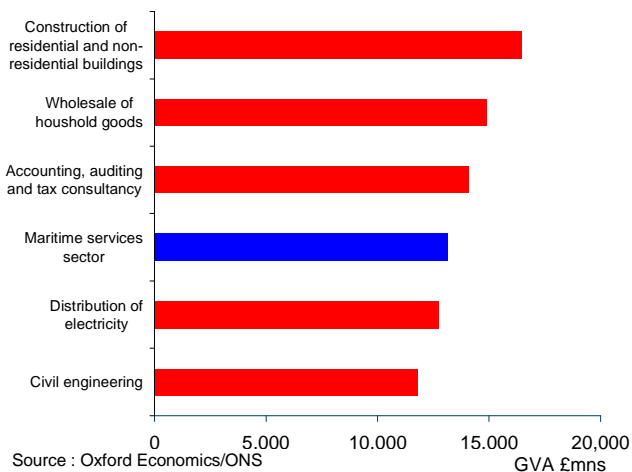
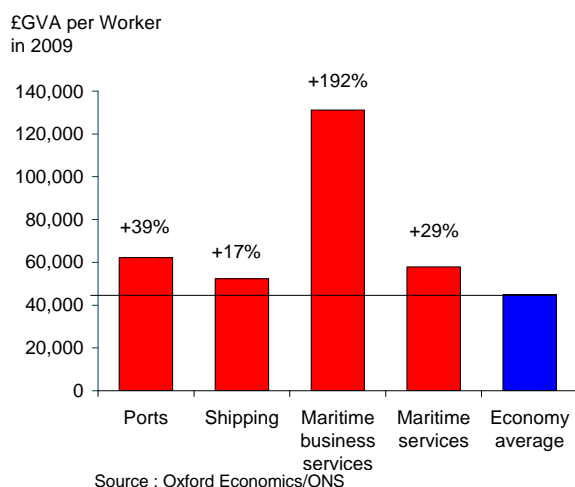


Chart 4.2: Maritime service sector's contribution to GDP versus other industries



It is also notable that the maritime services sector is relatively productive. Chart 4.3 compares GVA per worker for the ports, shipping, maritime business services and overall maritime services sectors and compares this to the economy-wide average (£44,900 in 2009). This shows that the maritime services sector is almost 30% more productive than the rest of the economy. The maritime business services sector is particularly productive, a result of its high levels of average pay and profitability.

Chart 4.3: GVA per worker of maritime services sector versus economy average



4.3 The combined total economic impact

In order to calculate the total impact (i.e. including indirect and induced effects) of the maritime services sector, we needed to account for the fact that part of the indirect impact (via the supply chain) of the shipping industry would have already been included in our definition of the direct ports and maritime services industries. Making use of the 2008 Supply and Use table from the ONS we estimated that just under 65% of the shipping industry's supply chain was in sectors which we had already defined as part of the ports or maritime business services sectors. Therefore, we scaled down our estimates of GVA and employment appropriately. We then adjusted our estimates for revenue generated for the Exchequer according to the new assumptions about jobs created etc. In addition, we had to scale down our estimate of the indirect contribution of the ports industry, based on the fact that its direct contribution was now assumed to be lower. Finally, we scaled down our estimates of the induced impact of the ports and shipping industries by the proportionate change in the direct and indirect impacts.

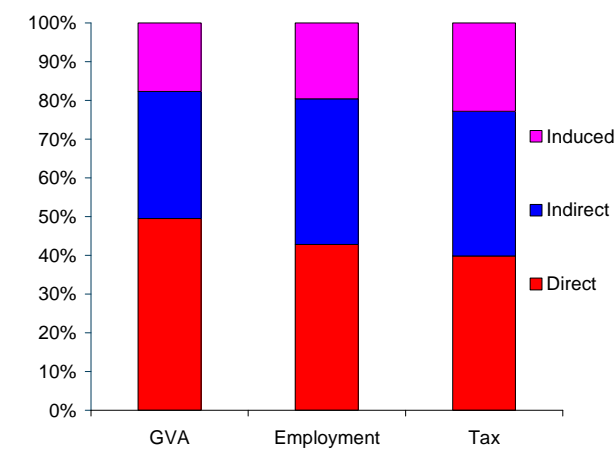
The results imply that the maritime services sector supported an additional 200,000 jobs via its supply chain, contributing £8.7 billion to UK GDP and helping to raise £2.9 billion for the UK Exchequer. Moreover, the spending of those employed directly and indirectly in the maritime services sector contributed a further £4.7 billion in GDP, supporting an additional 104,000 jobs and generating over £1.8 billion for the UK government. In total, the maritime services sector contributed £26.5 billion to UK GDP in 2009. This helped to support over 531,000 jobs and generated £7.8 billion for the UK Exchequer. The results are summarised in Table 4.3 which compares the impact.

Table 4.3: Comparison of the total economic impact of each sector in isolation versus in aggregate

Summary of the Total Aggregate Economic Impact of the Maritime Services Sector						
Type of Impact	In Isolation			In Aggregate		
	GVA (£mns)	Employment ('000s)	Tax Revenue (£mns)	GVA (£mns)	Employment ('000s)	Tax Revenue (£mns)
Direct	14,528	240	3,507	13,143	227	3,116
Indirect	12,900	290	4,893	8,704	200	2,916
Induced	6,242	139	2,373	4,698	104	1,787
Total	33,669	668	10,774	26,546	531	7,818

Chart 4.3 shows the share of each metric by type of economic impact. The fact that the direct share of GVA (50%) is higher than employment (43%) illustrates that the maritime services sector is relatively productive in that GVA per worker is higher than the economy-wide average. Moreover, the direct impact's shares of both GVA and employment are higher than the tax share (40%). This reflects the fact that tax revenues raised directly by the shipping industry were depressed by the fact that many employees are not based in the UK for a sufficient length of time to make them liable to pay income tax.

Chart 4.3: Shares of GVA, employment and tax by type of impact



Source : Oxford Economics/ONS

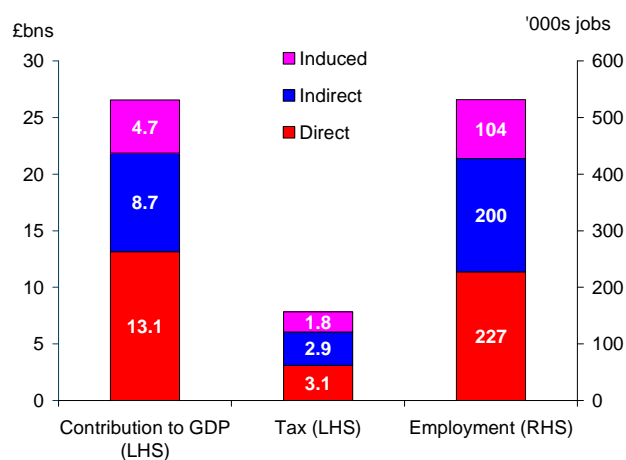
5 Conclusion

This report has examined the economic impact of the maritime services sector, here defined to include the ports, shipping and maritime business services sectors. Each of these sectors was assessed in more details in three individual studies, conducted in conjunction with this paper. When aggregating these results together to form a combined industry impact, it was important to avoid double counting, an issue which is explored in more depth in chapter 4.

The results imply that the sector's economic impact in 2009 was considerable. In total it created over 227,000 jobs (0.8% of total employment), made a £13.1 billion value-added contribution to GDP (0.9% of total), and generated over £3.1 billion for the UK Exchequer (0.6% of government revenue).

Moreover, this activity generates spillover benefits both via the supply chain (indirect effects) and due to the additional spending of those employed directly and indirectly by those employed by the industry (induced effects). Having accounted for these, we estimate that, in total, the maritime services sector supported over 531,000 jobs, made a value-added contribution to GDP of £26.5 billion and generated £7.8 billion for the UK Exchequer. The results are summarised in Chart 5.1.

Chart 5.1: Summary of total economic impact of the maritime services sector



Source: Oxford Economics

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