

OXFORD ECONOMICS

The economic impact of the UK Maritime Services Sector: Business Services

**A report for Maritime UK (draft)
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1 Executive summary

The UK maritime business services sector's economic impact

- This study focuses on the economic footprint of the UK maritime business services sector, here made up of shipbroking, insurance and related financial and legal services and the activities of classification societies.

Direct contribution to employment

- The maritime business services sector employs 10,200 people (on a headcount basis). The majority of these were in shipbroking (4,000) and insurance (3,710) which together accounted for over three quarters of total employment in the sector.
- This figure represented a 1% increase from estimates in 2011, which compares to a 3% rise in employment in the whole economy over the same period.
- The workers in the sector are highly productive. The sector's labour productivity is £156,800 per worker. This is more than three times the UK economy's average.

Direct contribution to GDP

- In 2013, the maritime business services sector made a £1.6 billion gross value added contribution to UK GDP. This comprises £890 million contributed through the output of shipping insurance activities and £388 million contributed through shipbroking. To give a sense of scale, the maritime business services sector's gross value added contribution to GDP is larger than taxi operation, cargo handling and freight air transport.
- Compared to 2011, the direct value added contribution of the UK maritime business services sector has increased by 20% in real terms.

Direct contribution to UK Exchequer

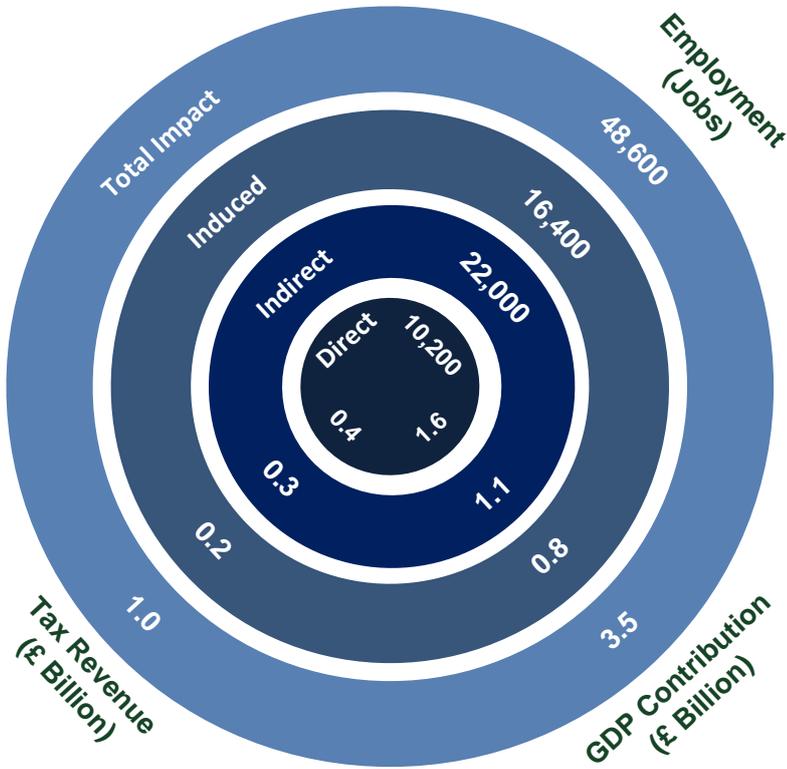
- The sector is estimated to have paid £403 million in tax, of which corporation tax represented nearly one third.

Multiplier effects

- The sector's expenditure on inputs of goods and services and payment of wages stimulates further economic activity and employment. Such effects are typically referred to as the 'indirect' and 'induced' impacts.
- After accounting for the indirect and induced impacts, the sector is estimated to have supported 48,600 jobs and a £3.5 billion gross value added contribution to UK GDP. This is equivalent to 0.2% of UK total GDP.
- Across the three types of impact, it is estimated that the maritime business services sector's supported an estimated £1.0 billion in tax receipts.

The total economic impact of the maritime business services sector – in terms of employment, GDP contribution and tax revenue generated for the Exchequer – is summarised by channel of impact in Figure 1.1.

Figure 1.1: Summary of the economic contribution of the UK maritime business services sector in 2013¹



The maritime business services sector is clustered in London

- It is estimated that in 2013 around 9 in every 10 people employed by the maritime business services sector are based in London, generating a gross value added contribution to the capital’s GDP of £1.5 billion, equivalent to 0.5% total.
- When including the wider economic impacts through the indirect and induced channels, the maritime business services sector makes a sizeable contribution to a number of the other UK’s nations and regions, such as South East and the North West, where the multiplier impacts of the sector account for over 3,500 jobs.

¹ Figures may not sum due to rounding.

2 Introduction

This study analyses the contribution the maritime business services sector makes to the UK economy in 2013. Commissioned by Maritime UK, this report updates an earlier Oxford Economics study published in 2013 and concerned with the sector's impact in 2011². For comparability, this study continues to use the definition of the maritime business services sector used in the 2013 report; shipbroking, insurance, maritime-related financial and legal services and activities of classification societies are included. The sector excludes maritime-related education and other professional services such as accountancy, due to data constraints. Therefore, the estimates in this paper may be viewed as conservative. Due to the lack of available statistics Oxford Economics was heavily reliant on recent research conducted by the Baltic Exchange³.

This report was done in conjunction with economic contribution of the UK ports and shipping sectors. The results from this trio of sectors were then combined, so that the impacts are not 'double-counted', in order to generate an estimate of the economic impact of the overall UK maritime services sector.

2.1 The channels of economic impact

The maritime services sector supports gross value added, employment and tax receipts through three distinct channels. These channels are:

- **Direct** – the output and employment of the firms in the maritime services sector, which is comprised of shipbroking, ship financial services, associated legal and insurance activities and the activities of classification societies.
- **Indirect** – the output and employment supported through the maritime services sector's purchases of inputs of goods and services from its UK supply chain.
- **Induced** – the employment, output and tax receipts supported by the spending of those directly or indirectly employed in the UK ports sector spending their wages. This helps to support jobs in retail and leisure outlets, companies producing consumer goods and in a range of service industries.

² Oxford Economics (2013), 'The economic impact of the UK Maritime Business Services industry', February.

³ Wei, S, (2014) 'Updates on UK maritime professional services revenue and employment (figures for 2013)', the Baltic Exchange.

2.2 Report structure

The rest of this report proceeds as follows:

- **Section 3** quantifies the direct economic contribution of the UK maritime business services sector. This includes jobs, gross value added and tax receipts generated by the sector.
- **Section 4** presents the multiplier impacts of the UK maritime business services sector on the wider UK economy.
- **Section 5** details the national and regional breakdown.
- **Section 6** concludes.

3 Direct impact

This chapter analyses the economic contribution the maritime business services sector itself makes to the UK, through the metrics of employment, gross value added contribution to GDP and tax receipts. It relies heavily on information from recent research conducted by the Baltic Exchange. Here the sector is defined to include shipbrokerage, insurance, associated legal and financial services and maritime-related activity at classification societies (including Lloyd's Register).

KEY POINTS

- In 2013, the UK maritime business services sector **employed 10,200 people**.
- Moreover, in 2013 the sector made a gross value added contribution to UK GDP of **£1.6 billion**. Of this, over half (£890 million) is generated by shipping insurance, with another quarter (£388 million) due to shipbroking activities.
- The maritime business services sector **contributed £403 million in taxes** through corporation tax, income, indirect taxes and National Insurance contributions (both employee and employer).

3.1 Direct contribution to employment

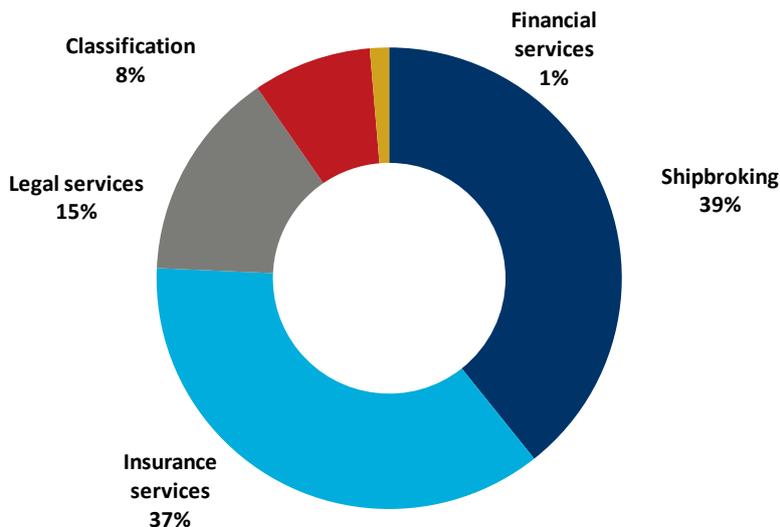
As official statistics on the number of jobs in the maritime business services sector do not exist⁴, Oxford Economics have relied heavily on the findings of a Baltic Exchange report⁵. This study employed a variety of methodological techniques, including an annual survey of Baltic Exchange members, interviews with major trade organisations or companies, discussion with industry experts, and reference to public information such as conference material, annual reports and industry yearbooks.

According to this study, the maritime business services sector employed a total of 10,186 people in 2013. A breakdown of the headline figure shows that the largest numbers of jobs were in shipbroking (4,002) and ship insurance (3,709), which together accounted for over three quarters of jobs in the maritime business services sector. Chart 3.1 summarises the results.

⁴ Employment data is available for more aggregated sectors only such as financial services or insurance.

⁵ Wei, S, (2014) 'Updates on UK maritime professional services revenue and employment (figures for 2013)', the Baltic Exchange.

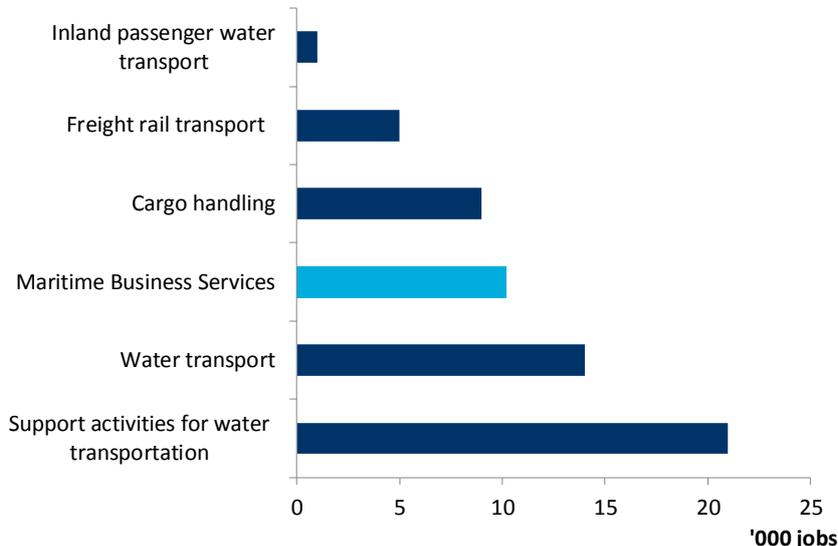
Chart 3.1: Direct employment by type of activity in 2013



Source : Baltic Exchange, Oxford Economics

To place these results in context it is useful to compare the headline figure to employment levels in other industries⁶. Doing so shows that more people work in maritime business services than in the cargo handling sector, in freight rail transport and inland water transport (Chart 3.2).

Chart 3.2: The employment created by the maritime business services sector compared to other industries in the UK in 2013



Source : ONS, Baltic Exchange, Oxford Economics

The sector’s 2013 employment contribution is 1% larger than estimated for 2011. This compares to a 3% rise in employment in the wider financial and insurance activities over the same period.

⁶ Data on employment in other industries is sourced from the ONS’ Annual Business Survey, 2012

3.2 Direct contribution to GDP

The contribution of any industry to a country's economic output is measured by its gross value added contribution to Gross Domestic Product (GDP). GDP is the main 'summary indicator' of economic activity and is used by economists to determine the rate of growth of the economy and when it enters recession. Gross value added is commonly calculated as the value of the output created by a sector less the cost of inputs, used up in its production. By adding the value added of all firms in the economy, one derives an estimate for the economy's GDP.⁷

To estimate gross value added, Oxford Economics sourced data on the average earnings of staff in each industry that composes the maritime business services sector from the ONS' Annual Survey of Hours and Earnings (ASHE)⁸ in 2013. The average wage for each sector was subsequently applied to Wei's (2014) employment data to generate an estimate of gross compensation of employees. This was combined with estimates of the profitability of each industry, estimated by applying the relationship between revenue and profits, sourced from the ONS' analytical input-output tables, to Wei's (2014) estimates of revenue for each industry⁹. The estimate of gross value added was created by summing the estimates of employee compensation and industry profits.

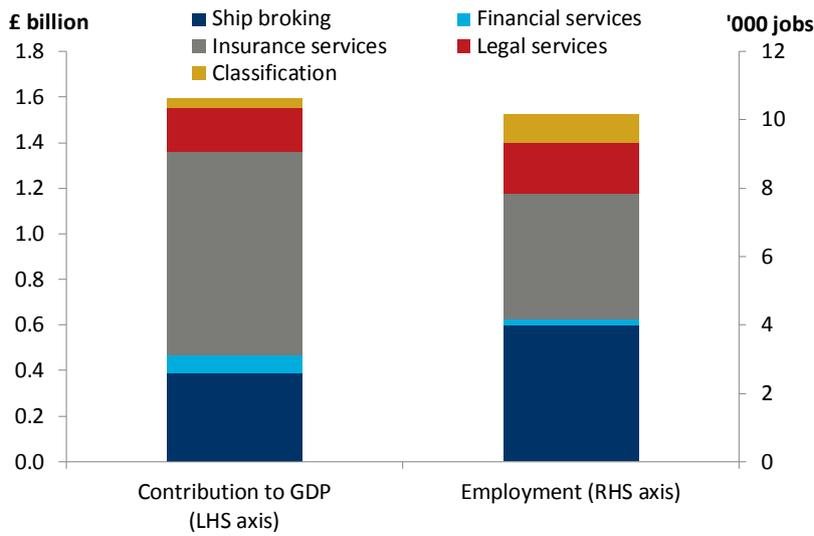
Oxford Economics' estimates suggest that in 2013 the maritime business services sector made a £1.6 billion gross value added contribution to UK GDP. Maritime insurance was again the largest contributing industry, accounting for over half of the output (£890 million), with shipbroking activities constituting a further 24% (£388 million). Compared to their share of employment, both financial and insurance services have a relatively large share, whilst shipbroking has a relatively low share (Chart 3.3). This is a reflection of higher average productivity in the financial and insurance sector – that is to say, each employee generates a higher level of gross value added per year. To put the maritime business services sector's productivity in context, it is more than three times as high as the UK whole economy average in 2013. On average, each employee generates nearly £156,800 in gross value added, that is up 6% in real terms since 2011.

⁷ Plus taxes on products less subsidies on products.

⁸ Where ASHE does not publish the information at the appropriate level of disaggregation, broader industry definitions are used to estimate average wages.

⁹ Using the ratio of Gross Operating Surplus to Gross Output for each industry. ONS (2014), 'Input-Output Supply and Use Tables, 2014 Edition', 31 October.

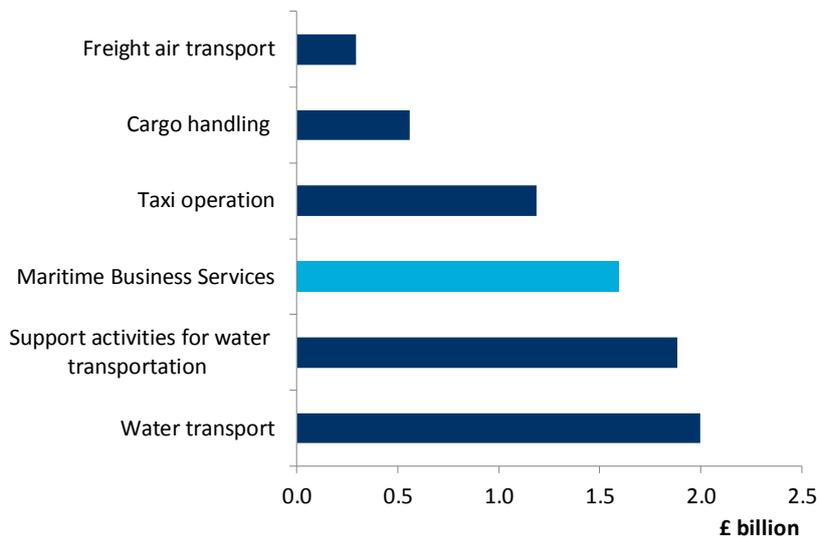
Chart 3.3: Comparison of direct contribution to gross value added and employment in 2013



Source : Baltic Exchange, ONS, Oxford Economics

Again, in order to provide context, it is useful to compare these results with the output of other industries¹⁰. This indicates that the maritime business services sector’s gross value added contribution to GDP is larger than taxi operation, cargo handling and freight air transport while only slightly smaller than support activities for water transportation and water transport. Chart 3.4 illustrates this inter-industry comparison.

Chart 3.4: The gross value added created by maritime business services sector compared to other industries in the UK in 2013



Source : ONS, Baltic Exchange, Oxford Economics

¹⁰ Data on other industries GVA contribution are sourced from the ONS’ Annual Business Survey, 2012.

3.3 Direct contribution to Exchequer revenue

The maritime business services sector substantially contributes towards the UK public finances through tax revenues generated. Maritime business services companies pay corporation tax on their profits and, through their payment of wages to their employees, also contribute through income tax (paid by their employees) and National Insurance Contributions (NICs - paid by both employer and employees). Their staff also contribute through other indirect taxes, such as VAT on their general consumption of goods and services in the wider economy.

The corporation tax estimates are constructed by estimating the profitability of each industry of the maritime business services sector by applying the relevant ratio of profits to gross value added from ONS analytical input-output tables¹¹, to the industry estimates of gross value added, and then applying the 2012/13 average tax rate applicable to that industry, based on statistics published by HMRC¹². To estimate the amount of employment taxes (income and employee/employer NICs) contributed by UK maritime business services, data on the average gross earnings of employees in each industry in the sector in 2013 have been sourced from the ONS' Annual Survey of Hours and Earnings (ASHE). This is combined with income tax and NIC allowances and tax bands for 2013/14, sourced from HMRC. In addition, the ONS has estimated the proportion of disposable income paid in indirect taxes by UK households in 2012/13 by quintile¹³. Using this, VAT contributions and other indirect taxes are calculated by matching sector's workers' disposable income to the relevant average tax rate.

The results imply that the maritime business services sector generated approximately £403 million of tax revenues. That is £6 per every man, woman and child in the UK. The sector contributed £128 million through corporation tax with income tax accounting for a further £108 million (Table 3.5).

Table 3.5: Direct contribution to the Exchequer from the maritime business services sector by type of tax in 2013

Direct Tax (£mns)	2013
Income Tax	108
NICs	101
Corporation	128
Indirect	65
Total	403

Source : ONS, HMRC, Oxford Economics

¹¹ ONS (2014), 'Input-Output Supply and Use Tables, 2014 Edition', 31 October.

¹² HRMC (2014), 'Corporation Tax Statistics', August.

¹³ ONS (2014), 'The Effects of Taxes and Benefits on Household Income, 2012/13'. June

4 Multiplier effects - indirect and induced impacts

In order to produce its outputs, the maritime business services sector purchases inputs of goods and services. This stimulates economic activity in the sector's supply chain. In addition, the maritime business services sector, as well as the firms in its supply chain, pay their staff wages which are spent at retail outlets, restaurants, and on a range of personal services. The remainder of this chapter will summarise the key findings focusing on the same three metrics: employment, gross value added and tax receipts.

KEY POINTS

- Across its direct, indirect and induced channels, the maritime business services sector **supported 48,600 people in employment** in 2013.
- In 2013, through its direct, indirect and induced impacts, the maritime business services sector **supported £3.5 billion in gross value added**. The sector has a gross value added multiplier of 2.2, so for every £1 in economic activity it generates, it creates another £1.2 in its supply chain and through wage consumption impacts.
- The maritime business services sector is estimated to **support £1.0 billion contribution to tax receipts** in 2013.

4.1 Indirect and induced impact on employment

To estimate the impact of the maritime business services sector's expenditure on inputs of goods and services the analysis uses an Input-Output table¹⁴. This describes how an industry uses the output of other industries as inputs in the production of its output, they describe its full supply chain – its direct suppliers, those industries that supply its direct suppliers, and so on. This is known as the indirect impact. Using similar methods as that used to derive the indirect component, the Input-Output table can also be used to estimate how much spending on completed goods (known as final domestic consumption) is supported through the employees of the industry and its full supply chain. This is reported as the induced impact.

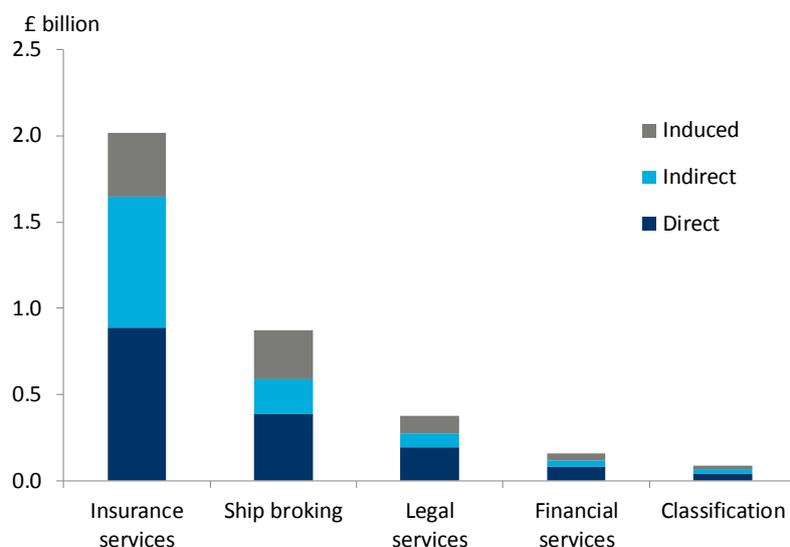
In 2013, the sector's purchases of inputs of goods and services are estimated to support 22,000 jobs, with a further 16,400 supported through wage-financed consumption. Therefore, aggregating across the direct, indirect and induced effects, the maritime business services sector is estimated to support 48,600 jobs. This is equivalent to 1 in every 664 jobs in the UK.

¹⁴ ONS (2014), 'Input-Output Analytical Tables, 2014 Edition' 31 October.

4.2 Indirect and induced impact on GDP contribution

Using detailed impact models of the UK economy, it is estimated the maritime business services sector's procurement of inputs of goods and services supported a £1.1 billion gross value added contribution to UK GDP in 2013. A further £820 million was supported through wage-financed consumption. This implies that the maritime business services sector supported a total gross value added contribution to UK GDP of £3.5 billion, equivalent to £1 in every £458 of economic output produced in the UK. Chart 4.1 compares the breakdown of the contribution to GDP for each industry within the sector, illustrating the large scale of the maritime insurance industry relative to the other components of the maritime business services sector.

Chart 4.1: GDP of the maritime business services sector in 2013

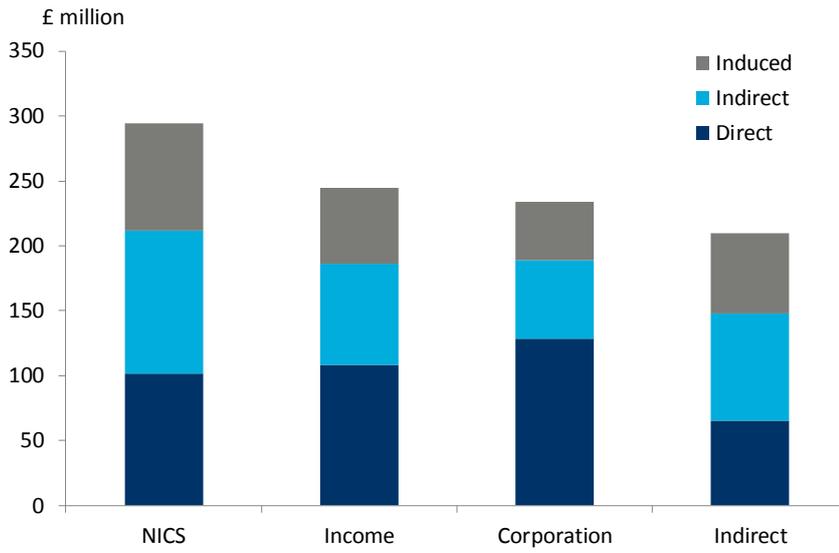


Source : Baltic Exchange, ONS, Oxford Economics

4.3 Indirect and induced contribution to the Exchequer

A further benefit of these indirect and induced expenditure impacts is that they generate additional tax revenues for the Government. Using a similar methodology to that employed for the direct tax impact, it is estimated the maritime business service sector's spend on inputs of goods and services earned the Exchequer £332 million in tax receipts. Its payment of wages stimulated economic activity which earned £248 million in tax revenues in 2013. Taking the direct, indirect and induced impacts together, the total impact of the maritime business services sector amounted to £1.0 billion in tax revenues in 2013.

Chart 4.2: Breakdown of total impact on tax revenues in 2013



Source: ONS, HMRC, Oxford Economics

5 Regional impact of the maritime business services sector

This chapter investigates the breakdown of the maritime business services sector's employment and gross value added contribution to GDP across the UK's nations and regions. It also presents the findings in terms of the direct, indirect and induced effects.

KEY POINTS

- The maritime business services sector is predominantly located in London. Approximately **9,000 people employed by the maritime business sector work in the capital**, generating an estimated gross value added contribution to **GDP of £1.5 billion in 2013**, equivalent to 0.5% of the region's economic output.
- When including the wider multiplier effects of the indirect and induced impacts, the maritime business services sector supports a total contribution of **over £1.9 billion and nearly 19,000 jobs in London**.
- The sector also makes a sizable contribution in a number of the UK's other nations and regions, such as the South East, South West and North West of England. In the South East, the maritime business services sector supports in **excess of £300 million in gross value added and over 6,000 jobs**.

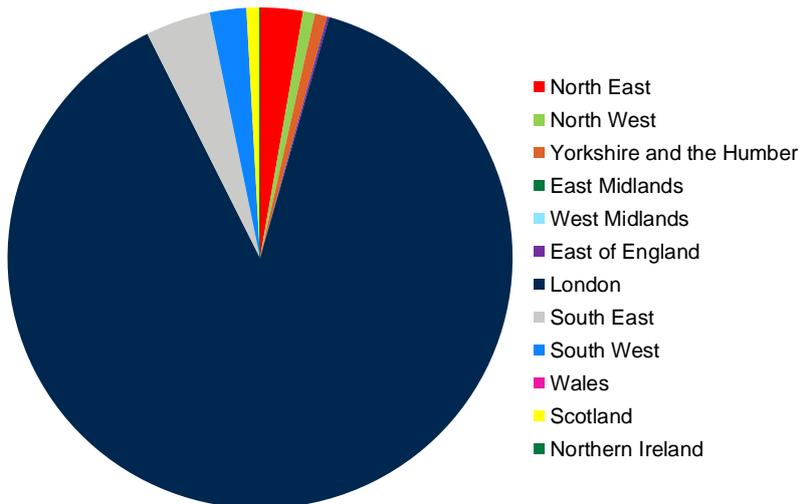
5.1 Direct impact on regional employment and GDP

In the absence of official statistics, Oxford Economics again relied heavily of the research of Wei (2014) to estimate the maritime business services sector's impact on the labour market in the UK's nations and regions¹⁵. Based on Wei's (2014) calculations, results indicate that 88% of the jobs in the maritime business services sector are based in London (Chart 5.1). Other nations and regions with some employment include the North East, with a small presence of staff in the insurance, legal and classification industries, and the South East, where some staff are employed in the insurance and classification industries, in particular following the relocation of Lloyd's Register's headquarters to Southampton¹⁶.

¹⁵ Wei, S, (2014) 'Updates on UK maritime professional services revenue and employment', the Baltic Exchange.

¹⁶ In absence of more reliable data, employment in industries such as the in provision Legal services have been attributed according to the location of the head office. Discussions with Maritime UK suggest that there is a large community of maritime lawyers operating in law firms with offices in Scotland. As such, it has not been possible to account for this level of geographical disaggregation.

Chart 5.1: Regional distribution of employment in 2013



Source: Baltic Exchange, Oxford Economics

The contribution of the maritime business services sector to gross value added in the UK's nations and regions was estimated by using the distribution of employment and applying it to the direct gross value added impact of the sector on the UK. The results suggest that, as with employment, the maritime business services cluster in London contributed an estimated £1.5 billion in economic impact to the capital in 2013, equivalent to 0.5% of its total output.

5.2 Multiplier impacts on the UK's nations and regions

The UK's nations and regions also benefit from the activity of the maritime business services sector through the indirect and induced impacts. The first step in estimating the geographical breakdown of the indirect impact was to split the total indirect contribution of the maritime business services sector, calculated in Section 4.2, between the 5 industry components; insurance services, shipbroking, legal services, financial services and the activities of classification societies (illustrated in Chart 4.1). Each component's gross value added impact was subsequently split further into broad industrial sectors according to the breakdown of intermediate consumption of the relevant industries that together comprise the maritime business services sector as defined by this report, according to ONS analytical input-output tables¹⁷. This was combined with a geographical breakdown of gross value added by broad industrial sector, sourced from the ONS' Annual Business Survey (ABS).

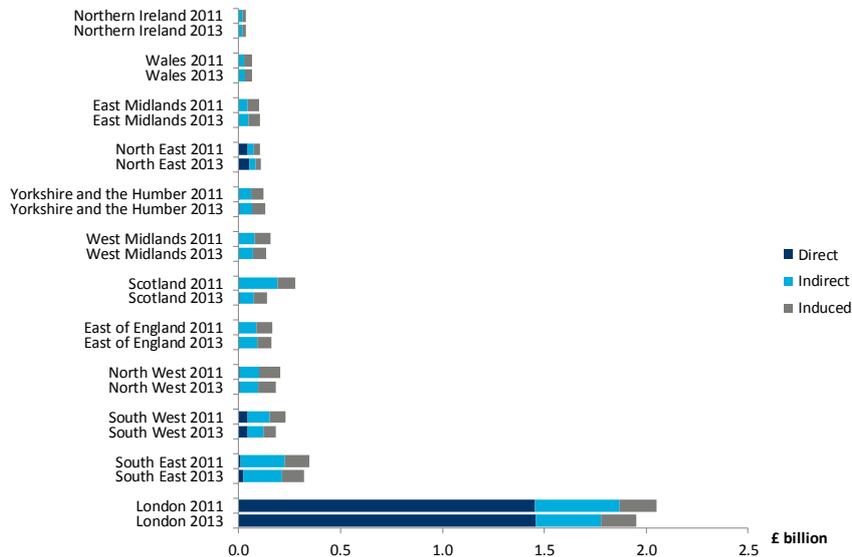
A similar method was used to estimate the regional induced impacts, but rather than intermediate consumption, the distribution of households' consumer expenditure was used to calculate the induced contribution to gross value added of the maritime business services sector to the UK's nations and regions, again sourced from ONS analytical input-output tables. The

¹⁷ ONS (2014), 'Input-Output Supply and Use Tables, 2014 Edition', 31 October.

level of supported employment in each of the nations and regions as a consequence of this activity was subsequently estimated by dividing the indirect and induced contribution to gross value added by data on the average level of productivity in the UK economy in 2013.

The results show that, when including the wider multiplier impacts London accounts for over half of the total gross value added contribution to GDP of the maritime business services sector. There are however, notable contributions in other nations and regions, and primarily through the multiplier impacts. The indirect and induced impacts help to support economic activity worth over £300 million in the South East and nearly £200 million in the South and North West. The multiplier impacts help to support over 6,000 jobs in the South East – representing around 13% of total employment - suggesting that a large proportion of the UK maritime services sector’s supply chain is located there. In comparison, total employment supported in London was approaching 18,800 people in 2013 (39% of total employment).

Chart 5.2: The maritime business sectors gross value added contribution to GDP in the UK’s nations and regions in 2011 and 2013 (2013 prices)



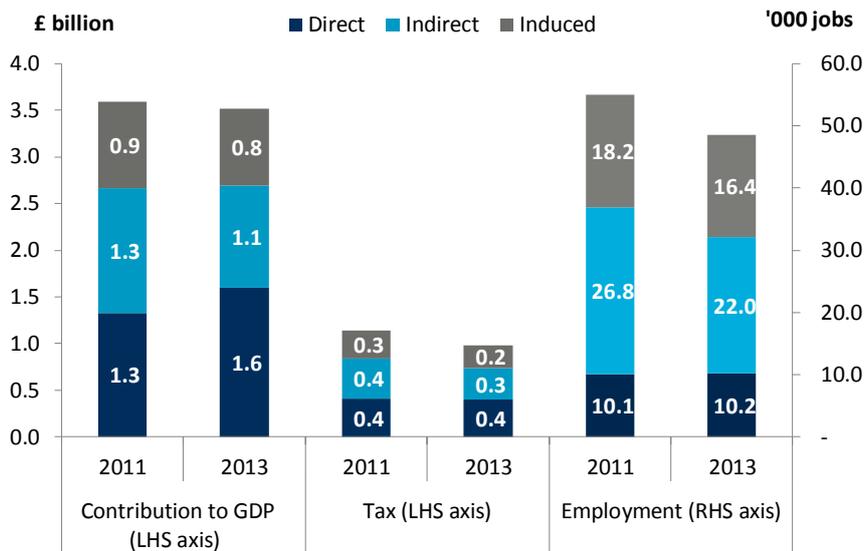
Source : Baltic Exchange, ONS, Oxford Economics

6 Conclusion

This study has described and quantified three expenditure channels through which the maritime business services sector generates important economic benefits for the UK economy. This sector is here defined to include shipbroking, insurance, maritime-related legal and financial services and the activities of classification societies (including Lloyd’s Register). Results are presented in terms of three standard metrics (jobs, gross value added contribution to GDP and tax receipts). The headline results of the study are summarised in Chart 6.1. The sector is found to support 48,600 jobs, £3.5 billion in gross value added and £1.0 billion in tax receipts.

The report also looks at the regional impact of maritime business services’ activity in the UK. The economic contribution is predominantly concentrated in London, accounting for over 55% of total gross value added and 39% of total employment supported by the sector. There were other four regions of England that each accounted for more than 3,000 people employed by the industry: the South East, the North West, the East of England and the South West.

Chart 6.1: The contribution of the maritime business services sector to the UK economy in 2013 and 2011 (2013 prices)



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