The economic contribution of the UK ports industry

A report for Maritime UK

September 2017

Cebr

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London, September 2017

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Executive Summary

- The Centre for Economics and Business Research (Cebr) has been commissioned by Maritime UK to quantify the economic contribution of the ports industry. This report forms one of seven reports which also assess the contribution of the Maritime sector as a whole, at industry-level, in Scotland, and in the Solent LEP region.
- **In this context, the ports industry comprises all those activities undertaken in ports.** This report draws upon a combination of data sources, to quantify both the direct and aggregate economic impact of these activities in the UK economy in the years 2010 to 2015.
- The ports industry makes a substantive macroeconomic contribution to the UK through the key macroeconomic indicators: business turnover, Gross Value Added (GVA), employment and the compensation of employees. **It is estimated that in 2015 the ports industry directly contributed approximately £22.6 billion in business turnover, £7.6 billion in GVA and 101,000 jobs for UK employees in 2015.** This respectively equates to 57% of turnover, 52% of GVA and 50% of employment directly supported by the wider UK Maritime sector in 2015.
- **The direct contribution of the ports industry through turnover, GVA and employment in 2015 was higher than in 2010**, when turnover, GVA and employment are estimated to have been £20 billion, £7.4 billion and just over 99,600 jobs respectively.
- The ports industry also helps to raise millions of pounds each year to the UK Exchequer and makes a sizeable contribution to UK trade through exports of goods and services. **The industry contributed an estimated total of just under £1.5 billion in tax revenues in 2015,** spread across Corporation Tax, Income Tax, National Insurance Contributions (NICs) and Business Rates. The industry is also estimated to have exported £9.1 billion of goods and services in 2015.
- After quantifying the aggregate economic impacts through the industry supply chains and induced effects on expenditures, **it is estimated that the ports industry helped to support a total of £23.8 billion of GVA in 2015.** This implies that, for every £1 in GVA directly contributed by the ports industry, a further £2.15 in GVA is generated across the wider UK economy.
- These aggregate economic impacts associated with the ports industry also extend to turnover, employment and the compensation of employees. **It is estimated that the ports industry helped to support a total of £53.7 billion in turnover, 695,200 jobs and £8.4 billion through the compensation of employees in 2015.**
- **While the economic contribution of the industry is spread across all UK regions, London contributes the most to GVA and employment, both through direct and aggregate impacts.** In 2015, it is estimated that the industry in London directly contributed £2 billion of GVA (27.4 % of the industry's total direct contribution) and 20,000 jobs (19.8% of the direct contribution). After indirect and induced effects are considered, the aggregate impact of the industry in London rises to almost £6.0 billion of GVA and 195,300 jobs.

1 Introduction

Cebr is pleased to present this report to Maritime UK on the economic impact of the ports industry on the UK economy. For the purposes of this report, the ports industry is defined as comprising the activities undertaken in ports; in other words, the activities of the ports themselves, as well as shipping and shipbuilding activities.

This report forms one of seven reports on the economic contribution of the Maritime sector, which is defined as comprising the individual shipping, ports, marine and maritime business services industries, each comprising a wide range of component activities. The other reports focus on the economic contribution of the shipping, marine and maritime business services industries at the UK level; the economic contribution of the sector in Scotland, the Solent LEP, and the contribution of the Maritime sector at UK-level. It is therefore important to consider this report as part of the wider framework set out in the seven reports, which set out the impact of the Maritime sector both at a national and regional level.

Our examination spans the period from 2010 to 2015 (inclusive), with the latter being the latest year for which full data are available, and endeavours to capture the full economic 'footprint' of the ports industry. As such, our report is not confined to direct ongoing contributions to GDP and employment through the ports industry's operations and activities in the UK, but also provides assessments of the associated indirect and induced multiplier impacts (together yielding the aggregate impact of the industry).

1.1 About Maritime UK

Maritime UK is the promotional body for the UK's maritime sector, representing companies and partner organisations in the shipping, ports, marine and maritime business services industries. It acts to promote the sector, influence government and drive growth.

1.2 Purpose of this report

This study seeks to equip Maritime UK with statistics and figures on the value of the ports industry to the UK economy, within the context of the value of the wider Maritime sector. As such, Cebr has focused on the following key economic indicators: business turnover, employment, Gross Value Added (GVA), the compensation of employees, the Exchequer contribution (through tax revenues raised) and exports of goods and services. The study also seeks to identify the contribution of the ports industry at regional level (across the former Government Office Regions).

1.3 Overview of the study and methodology

Purpose of the study

This report provides a thorough and comprehensive examination of the role of the ports industry in the UK and its constituent sub-regional economies. It presents a range of analyses demonstrating different aspects of the value contributed by the industry, including direct contributions to GDP and employment, indirect and induced multiplier impacts and the ports industry's contribution to the UK Exchequer through tax revenues raised.

An important task has been to develop an in-depth understanding of the ports industry. To produce a robust study, it is necessary to interrogate the available data to ensure that it captures the full range of activities that should be included in establishing the total economic 'footprint' of the industry. Following the collation of the necessary data capturing these activities, the values of key economic indicators were established to demonstrate the impact of the industry. The key macroeconomic indicators include:

- The value of the turnover of the ports industry and, again, the turnover supported in the UK and regional economies through multiplier impacts.
- GVA[1] contributions to UK and regional GDP generated by the ports industry, directly and through indirect and induced multiplier impacts.
- Jobs supported by the industry, including direct, indirect and induced jobs through multiplier impacts.
- The value of employee compensation[2] generated by the ports industry, representing the total remuneration of employees operating in the industry.
- The contribution of the ports industry through revenues raised for the Exchequer.

The direct, indirect and induced economic impacts referred to above are defined later in this section: by way of background the latter two effects broadly refer to how the direct impacts of an industry propagate through the supply chains of that industry and through the broader economy as a whole, respectively.

Quantifying the direct economic impacts of the ports industry and data sources

In order to quantify the direct economic impacts of the ports industry, a number of different approaches have been taken which reflect the degree of alignment (or otherwise) for each activity within the ports industry against the National Accounts framework, and is summarised below. A more detailed description of sources used for each activity within the ports industry can be found in Section 2 of this report.

- The major source of data used to quantify the direct economic contribution of the ports industry is the Financial Accounts Made Easy (FAME) database, which provides business demography and financial accounts data for companies. The FAME database has been used to generate estimates for the business turnover, GVA, employment, the compensation of employees and industry profitability.
- This data has then been used by extension to quantify the contribution that the ports industry makes to the UK Exchequer, and the productivity of the industry in terms of GVA per job.
- Data for exports of services exports from the ports industry has been sourced from both the ONS Pink Book and the UK Chamber of Shipping's (UKCoS) Annual Sea Inquiry.

Quantifying the aggregate economic impacts of the ports industry

After collation and interrogation of the data, the direct economic impacts for the ports industry have then been embedded within Cebr's economic impacts models of the UK economy. For each activity group, the direct impacts are then combined with the bespoke economic multipliers to generate indirect, induced and by extension the aggregate impacts. These multipliers were calculated by Cebr using our input-output modelling approaches, as these activities are not 'standard' sectors reported in the ONS' input-output tables. Cebr's models establish the relationships between industries through supply chain linkages, as well as industries' linkages with government, capital investors and the rest of the world (through trade). The

[1] GVA, or gross value added, is a measure of the value from production in the national accounts and can be thought of as the value of industrial output less intermediate consumption. That is, the value of what is produced less the value of the intermediate goods and services used as inputs to produce it. GVA is also commonly known as income from production and is distributed in three directions – to employees, to shareholders and to government. GVA is linked as a measurement to GDP – both being a measure of economic output. That relationship is (GVA + Taxes on products - Subsidies on products = GDP). Because taxes and subsidies on individual product categories are only available at the whole economy level (rather than at the sectoral or regional level), GVA tends to be used for measuring things like gross regional domestic product and other measures of economic output of entities that are smaller than the whole economy.

[2] Compensation of employees is the total remuneration, in cash or in kind, payable by an employer to an employee in return for employers' social contributions, mainly consisting of employers' actual social contributions (excluding apprentices), employers' imputed social contributions (excluding apprentices) and employers' social contributions for apprentices.

models produce three types of impact for four indicators – turnover; GVA; employment; and the compensation of employees. The three types of impact are:

- **Direct**: the value generated and jobs supported directly by the economic activities of the ports industry.
- **Indirect**: the value generated and jobs supported in industries that supply inputs to the ports industry.
- **Induced**: this is the value generated and jobs supported in the UK economy when the direct and indirect employees of the ports industry spend their wages and salaries on final goods and services.

These three impacts are then combined to convey the aggregate economic impact associated with each activity, in terms of turnover, GVA, employment, and the compensation of employees.

1.4 Structure of the report

The remainder of the report is structured as follows:

- **Section 2** provides an overview of how the Maritime Sector has been defined, and in turn how the ports industry fits within this definition. Further information is also provided on how the key macroeconomic indicators have been captured or estimated;
- **Section 3** outlines the direct economic impacts of the ports industry. We consider the direct impacts through turnover; GVA; employment; the compensation of employees; exports; and the contribution to the UK Exchequer through tax revenues contributed by the ports industry.
- **Section 4** considers the multiplier impacts of the ports industry through the activities it stimulates in the local supply chain and in the wider economy when employees directly and indirectly employed by the ports industry spend their wages and salaries in the local and wider economy.
- **Section 5** examines the direct and multiplier (indirect and induced) impacts of the ports industry at regional level, as disaggregated by the twelve former Government Office Regions (GORS).

2 The Maritime sector and the ports industry

Here we set out how the Maritime sector has been defined for the purposes of the study, and how the ports industry is characterised within the sector. On a holistic level, the wider sector can be disaggregated into the shipping, ports, marine and maritime business services industries, which in themselves are formed of numerous individual and distinct activities, of which the ports industry is the focus of this report.

2.1 The definition of the Maritime sector and its constituent activities

Maritime UK have provided a list of activities which fall under the auspices of the Maritime sector; Cebr has subsequently undertaken a mapping exercise using this list to identify how each of these activities aligns with the national accounts. For most Maritime sector activities, a corresponding Standard Industrial Classification (SIC) code exists which enables the identification and quantification of the direct economic impacts using publicly-available data sources. A minority of activities do not map neatly against the SIC framework, necessitating the use of industry or local-level data for quantification purposes.

- **Shipping**
  - International transport of passengers;
  - Transport of passengers on inland waterways;
  - International transport of freight;
  - Transport of freight on inland waterways.
- **Ports**
  - Warehousing and storage;
  - Port activities and management;
  - Stevedores, cargo and passenger handling;
  - Border agency, HMRC and public sector employees operating in ports.
- **Marine**
  - Shipbuilding;
  - Boatbuilding (leisure marine vessels);
  - Marine renewable energy;
  - Marine support activities for offshore oil and gas, engineering and mining;
  - Recreational marine activities, marine finance and legal activities and general marine services;
  - Marine science and academic activities, including government vessels and technical consulting;
- **Maritime Business Services**
  - Shipbroking and other miscellaneous transport services;
  - Maritime insurance, finance and legal services; [3]
  - Ship surveying and classification;
  - Maritime Education;
  - Maritime Consultancy;
  - Maritime Accountancy.

Here we focus on what we term the ports industry, which in this context is defined as comprising all activities taking place in and around ports – shipping, shipbuilding and the activities of ports themselves. The remainder of this section sets out the approach by which the direct, aggregate and regional economic impacts of the ports industry have been estimated.

[3] These activities are distinct from those Insurance, Financial and Legal activities taking place within the Marine industry, and the contribution of these activities are treated and quantified separately as a result.

2.2 Quantifying the direct economic impacts of the industry at national level

Here we set out in further detail the approach taken to quantify the direct economic impact of the ports industry through its constituent activities. Table 1 below shows how activities for the ports industry have been identified, and the data sources used to capture and quantify the associated economic activity. As it is possible to separately identify shipping and shipbuilding activities using SIC codes (and for ports by assuming that activity taking place in a council ward with a port is ports-related), business demography data taken from the FAME database has been the major source of information used to generate UK-level estimates for the direct economic impacts of each activity.

Table 1: Mapping of the ports industry by activity

GROUPING	ACTIVITY	MAPPING	SOURCE(S) USED
PORTS	Warehousing and Storage	Identified through SIC code 52101, "Operation of Warehousing and Storage Facilities for Water Transport activities". Activities are then mapped to council wards containing major and minor UK ports.	FAME, BRES
	Port Authority Management, Port Security and Marshals, Port Marine and Vessel Management Services, Marine Pilots, Port Harbour Support Vessels, and Engineering and Maintenance	Identified through SIC code 52220, "Service activities incidental to water transportation". Activities are then mapped to council wards containing major and minor UK ports.	FAME, BRES
	Stevedores, cargo and passenger handling including crane/vehicle/plant drivers/operators	Identified through SIC code 52241, "Cargo Handling for Water Transport Activities". Activities are then mapped to council wards containing major and minor UK ports.	FAME, BRES
	Border Agency, Home Office and HMRC staff operating in Ports	Identified as public sector employees operating in UK ports.	Institute for Government, Port Freight Statistics, Cebr analysis
SHIPPING	Transport of Passengers International / Sea Faring	Identified through SIC code 50100, "Sea and Coastal Passenger Water Transport".	FAME, BRES
	Transport of Passengers on Inland Waterways	Identified through SIC code 50300, "Inland Passenger Water Transport".	FAME, BRES
	Transport of Freight International/ Sea Faring	Identified through SIC codes 50200 and 77342, "Sea and coastal freight water transport", and "Renting and Leasing of Freight Water Transport Equipment".	FAME, BRES
	Transport of Freight on Inland Waterways	Identified through SIC code 50400, "Inland Freight Water Transport".	FAME, BRES
	Other Shipping activity not captured through SIC codes 50100 - 50400	Identified through of UKCoS statistics for shipping-related employment.	UKCoS Manpower Survey
SHIPBUILDING	Shipbuilding and Marine Engineering	Identified through SIC codes 3011 ("Building of ships and floating structures") and 3315 ("Repair and Maintenance of Ships and Boats")	FAME, BRES

Source: Maritime UK, Cebr analysis

2.3 Quantifying the direct economic impacts of the industry at regional level

Here we set out the approach taken to disaggregate the direct and aggregate economic impacts of the ports industry at regional level. A full set of estimates for the regional direct economic impacts are provided in Annex A. As it is possible to quantify the economic contribution at national level using SIC codes, by extension the approach taken involves using publicly-available statistics which can be disaggregated at regional level and combining these with the UK-level direct and aggregate impacts for the ports industry.

The first step of this approach involved determining the regional disaggregation of employment for each activity. The major source of employment data by region was the Business Register and Employment Survey (BRES)[4], as accessed through NOMIS. Employment data associated with each SIC code for the ports industry were gathered and an implied regional breakdown estimated after interpolating for some missing information. As BRES only provides coverage for Great Britain, employment data in Northern Ireland has been estimated using a combination of BRES and the ONS Annual Business Survey (ABS)[5], the latter providing the proportion of employment in Northern Ireland across the nearest industrial sector category. For the other key macroeconomic indicators – turnover, GVA, and the compensation of employees – ABS has been used alongside the regional employment estimates.

Other adjustments have been made to the regional disaggregation of the key macroeconomic indicators which represent the direct economic impacts of the ports industry, in order to reflect differences in economic performance across the regions. These are as follows:

- To account for regional differences in average productivity (GVA per employee), the breakdown of GVA has been adjusted using the ONS GVA per employee by region statistics.[6] For example, the average employee in London in 2015 was 46% more productive than the average UK employee, while the average employee in the North East was 10% less productive.
- To account for regional differences in wages and salaries, estimated wages and salaries paid to employees in the ports industry have been adjusted using differentials taken from ASHE.[7] For example, the average wage for an employee in the South East was 4% higher than the national average in 2015.
- To account for regional variation in the ratio of compensation of employees to GVA in different sectors, the compensation of employees for the industry have been adjusted using regional differentials implied by the closest industry, as sourced from the Annual Business Survey.

The regional disaggregation process can therefore be summarised as follows:

- Estimate the regional disaggregation of employment in the ports industry by combining the UK employment total with the BRES-implied split;
- Estimate the regional disaggregation of GVA by applying employment-to-GVA ratios, adjusting for regional productivity differentials, and constraining the regional totals to the UK total;
- Estimate the regional disaggregation of turnover by applying regional industry turnover-to-GVA ratios sourced from ABS, again constraining the regional totals to the UK total;
- Estimate the regional disaggregation of the compensation of employees (COE) by applying regional industry COE-to-GVA ratios sourced from ABS, again constraining the regional totals to the UK total.

[4] The Business Register and Employment Survey (BRES), produced by the ONS on an annual basis, is the official source of employee and employment estimates by detailed geography and industry within Great Britain.

[5] The Annual Business Survey is a census of production in the United Kingdom produced by the ONS.

[6] ONS, 2017. Subregional Productivity: Labour Productivity (GVA per hour worked and GVA per filled job) indices by UK NUTS2, NUTS3 subregions and City regions.

[7] Ibid.

Presented below are the resulting regional employment breakdowns using the approach described above.

Ports

Table 2 below shows the breakdown of employment in shipping as implied through BRES data. The regions with the largest shares of employment in ports themselves are the East of England, Yorkshire and the Humber and Scotland.

Table 2: The estimated regional breakdown of UK employment in ports activities as implied by BRES and ABS, 2010 to 2015

Employment – Ports activities	2010	2011	2012	2013	2014	2015
England	77.6%	77.7%	73.7%	74.4%	73.8%	74.0%
Scotland	15.3%	14.7%	19.8%	19.1%	18.2%	18.2%
Wales	6.1%	6.3%	5.4%	5.4%	6.9%	6.9%
Northern Ireland	1.1%	1.3%	1.1%	1.1%	1.1%	0.9%
East of England	31.5%	34.9%	32.2%	26.2%	27.4%	27.5%
East Midlands	0.3%	0.3%	0.2%	0.2%	0.3%	0.3%
London	0.8%	0.8%	0.8%	0.8%	1.5%	1.5%
North East	6.0%	4.4%	6.4%	10.2%	9.3%	9.3%
North West	5.1%	5.8%	5.3%	7.1%	5.5%	5.5%
South East	9.5%	9.1%	7.4%	8.3%	6.9%	6.9%
South West	5.8%	4.6%	5.2%	5.2%	4.5%	4.5%
West Midlands	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yorkshire and the Humber	18.6%	17.9%	16.1%	16.3%	18.4%	18.4%

Source: ONS, Cebr analysis

Shipping

Table 3 below shows the breakdown of employment in shipping as implied through BRES data. The regions with the largest shares of shipping activity employment are the South East, London and Scotland.

Table 3: The estimated regional breakdown of UK employment in shipping activities as implied by BRES and ABS, 2010 to 2015

Employment – Shipping activities	2010	2011	2012	2013	2014	2015
England	77.1%	73.6%	76.5%	76.2%	77.8%	79.8%
Scotland	13.0%	14.5%	14.3%	14.0%	15.2%	12.5%
Wales	7.3%	8.3%	5.9%	7.1%	4.6%	5.4%
Northern Ireland	2.6%	3.6%	3.2%	2.8%	2.4%	2.2%
East of England	7.2%	8.3%	5.7%	6.4%	7.3%	4.5%
East Midlands	1.7%	0.6%	0.3%	2.4%	6.6%	3.0%
London	18.8%	21.8%	19.3%	16.9%	21.6%	31.8%
North East	0.9%	1.0%	0.8%	0.7%	1.4%	1.8%
North West	6.9%	7.8%	6.2%	7.1%	7.6%	6.4%
South East	27.6%	25.6%	27.3%	30.2%	26.3%	20.9%
South West	6.7%	4.4%	10.2%	8.0%	3.7%	6.7%
West Midlands	3.5%	1.1%	0.8%	1.3%	2.3%	1.2%
Yorkshire and the Humber	3.8%	3.0%	5.8%	3.1%	1.1%	3.5%

Source: ONS, Cebr analysis

Shipbuilding

Finally, Table 4 below shows the breakdown of employment in shipbuilding activities as implied through BRES data. The regions with the largest shares of employment in shipbuilding are the North West, Scotland and the South West as of 2015.

Table 4: The estimated regional breakdown of UK employment in shipbuilding activities as implied by BRES and ABS, 2010 to 2015

Employment – Ports activities	2010	2011	2012	2013	2014	2015
England	68.8%	68.8%	67.6%	67.5%	64.7%	69.4%
Scotland	26.4%	26.0%	28.0%	27.4%	30.4%	25.1%
Wales	1.5%	1.7%	1.2%	1.4%	0.7%	1.3%
Northern Ireland	3.2%	3.5%	3.2%	3.7%	4.2%	4.2%
East of England	3.1%	1.3%	1.0%	2.1%	1.3%	1.9%
East Midlands	0.4%	0.7%	0.9%	0.7%	0.9%	0.2%
London	0.1%	0.1%	0.8%	0.0%	0.3%	0.2%
North East	4.4%	3.0%	2.3%	1.4%	1.0%	0.8%
North West	26.4%	26.0%	28.0%	27.4%	30.4%	37.7%
South East	11.0%	8.7%	10.5%	8.0%	3.9%	2.9%
South West	22.0%	26.0%	23.3%	27.4%	26.1%	25.1%
West Midlands	0.7%	0.4%	0.5%	0.2%	0.2%	0.2%
Yorkshire and the Humber	0.7%	2.6%	0.2%	0.2%	0.7%	0.4%

Source: ONS, Cebr analysis

The results of this regional analysis are shown in the final section of this report, which sets out the direct and aggregate economic impacts of the ports industry at regional-level. The next sections in this report set out the direct and aggregate economic impacts of the ports industry in the UK.

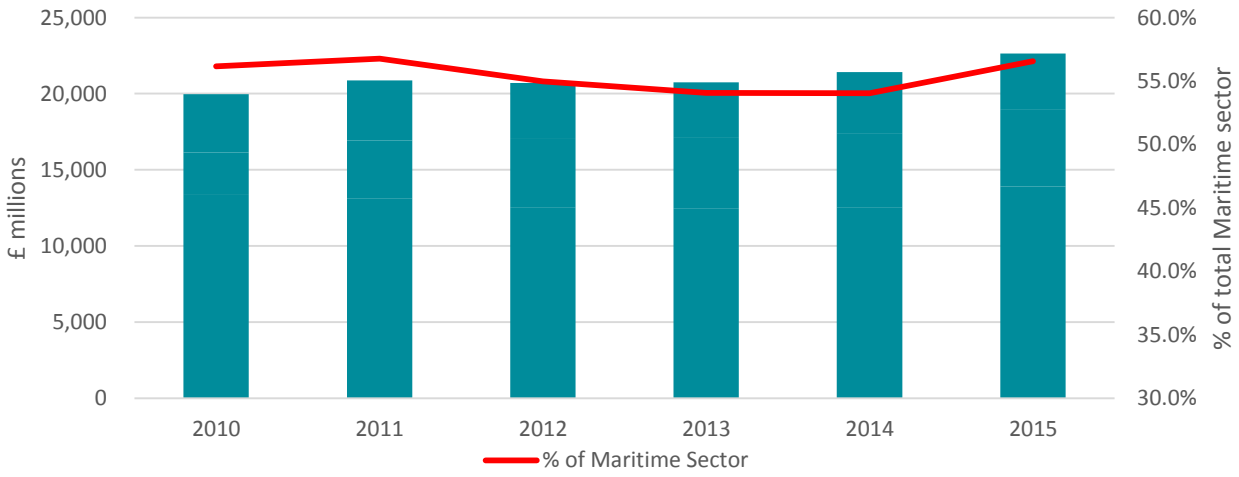
3 The direct economic impact of the ports industry

In this section we out estimates for the direct contribution of the ports industry to the following key macroeconomic indicators: turnover; GVA; employment; the compensation of employees; the exchequer contribution through tax revenues raised; and exports. After quantifying the direct contributions made through the first four of these activities, the aggregate economic impact that the ports industry has on the UK economy is then examined in the next section of the report.

3.1 The direct impact through turnover

This section examines the level of turnover which is directly supported by the ports industry. Figure 1 below illustrates the direct impact of the ports industry through turnover in the period 2010 - 2015, both in absolute levels and as a percentage of the total direct contribution from the UK Maritime sector.

Figure 1: The estimated turnover of the ports industry, and share of the Maritime sector's total turnover



Source: FAME, UKCoS, ONS, Cebr analysis

It is estimated that the total direct impact of the ports industry through turnover in 2015 was approximately £22.6 billion. This constitutes approximately 56.6% of the total direct impact of the Maritime sector through turnover. As illustrated, this direct turnover contribution has been fairly consistent from 2010 to 2015; increasing in most years and reaching its highest value in 2015.

Not only has turnover from the ports industry grown over the six year period, average profitability (as measured using the aggregated ratio of gross profits to turnover) in the ports industry is also estimated to have increased since 2010, and compares favourably to that of the overall UK Maritime sector. Table 5 shows trends in profitability: the overall profitability of the industry, which in 2010 was in alignment with the Maritime sector average, was just under 8ppt higher in 2015.

Table 5: Estimated profitability (average gross profit ratio) of the ports industry and constituent activities

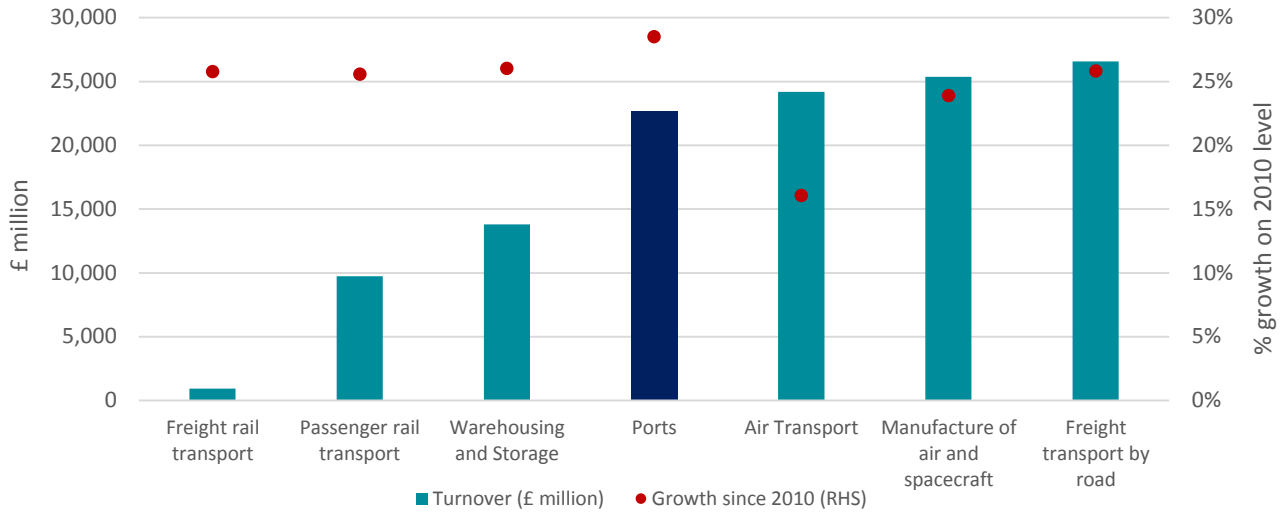
Profitability	2010	2011	2012	2013	2014	2015
UK Maritime sector	**18.4%**	**19.7%**	**21.4%**	**21.4%**	**23.0%**	**22.9%**
UK ports industry	18.9%	19.4%	20.7%	21.2%	23.6%	24.5%

Source: FAME, UKCoS, ONS, Cebr analysis

To place the direct contribution through turnover in context, Figure 2 below compares the port industry's direct contribution through turnover against that of comparable transport industry activities across air,

road and rail; nominal turnover growth against the 2010 level is also shown for each industry activity. Turnover data for the comparable industries has been sourced from the Annual Business Survey.

Figure 2. The estimated turnover of the ports industry against comparable industries in 2015, and growth against the 2010 level



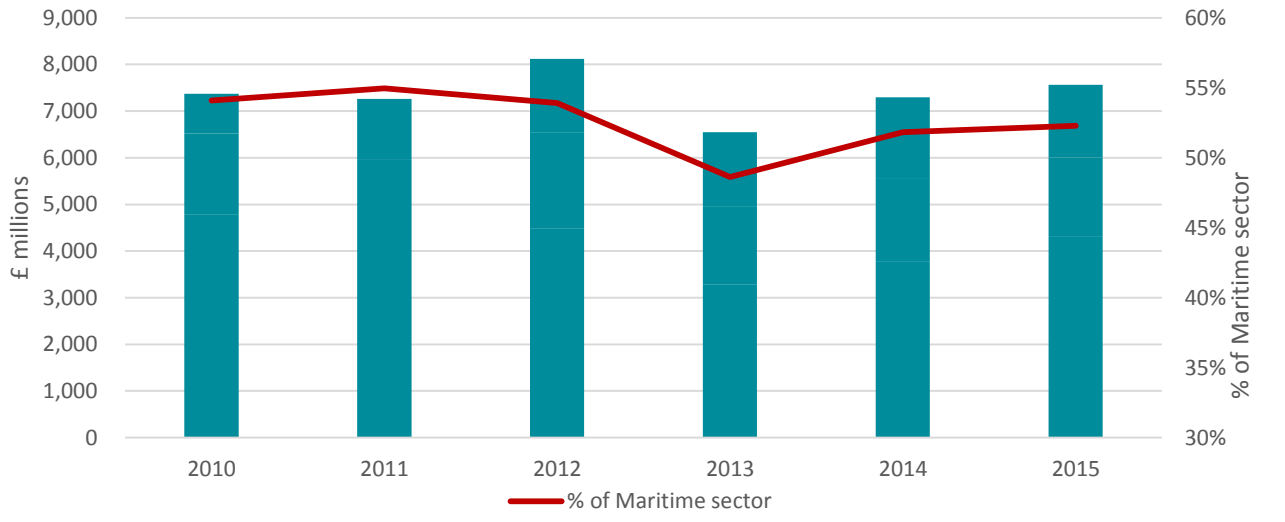
Source: FAME, UKCoS, ONS, Cebr analysis

Relative to the comparison activities, the ports industry experienced the largest growth between 2010 and 2015; at 29%. In contrast, Air Transport grew only 16% relative to its 2010 level. The estimated turnover of the ports industry therefore exceeded that of the wider Warehousing and Storage, Passenger Rail transport and Freight rail transport industries.

3.2 The direct impact through GVA

This subsection firstly illustrates the direct contributions in terms of the GVA from the ports industry to UK GDP. Figure 3 depicts this direct impact across the years 2010 to 2015; both in absolute levels (left axis) and as a percentage of the total Maritime sector turnover contribution (right axis). It is estimated that the ports industry directly contributed approximately £7.6 billion to GVA in 2015. This constitutes approximately 52% of the total direct GVA contribution from the UK Maritime sector in the same year. The direct contribution to GVA was highest in 2012 and lowest in 2013; with the 2015 estimate being the second highest value.

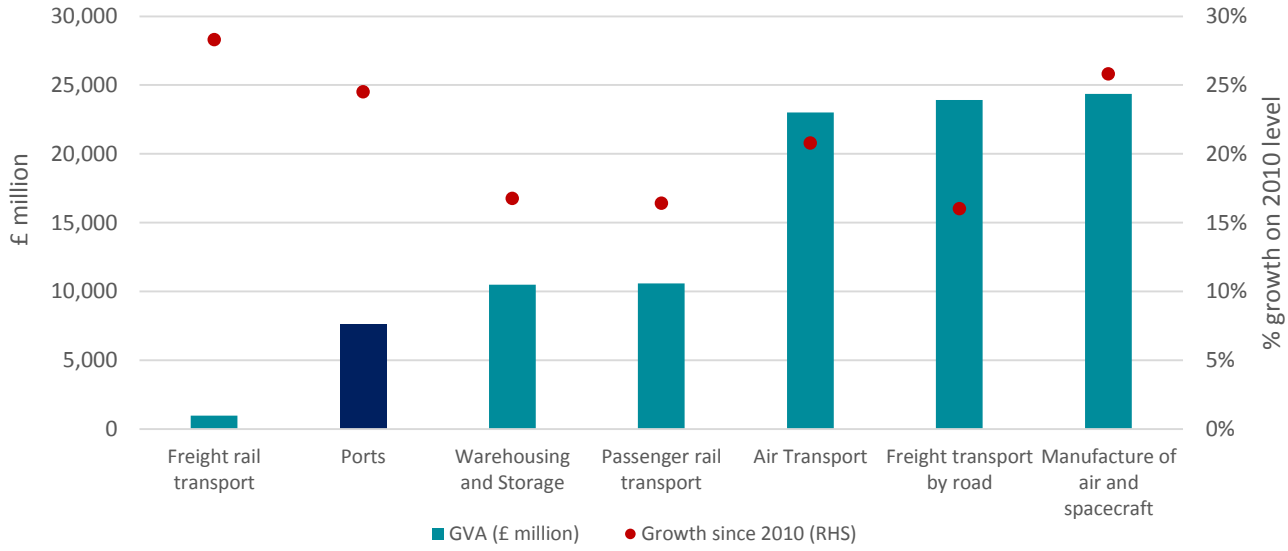
Figure 3. The direct contribution of the ports industry through GVA, and the industry's share of the Maritime sector's total direct contribution through GVA



Source: FAME, UKCoS, ONS, Cebr analysis

Following Figure 2, Figure 4 below compares GVA trends in the ports industry against those of comparable activities. In terms of the direct GVA contribution in 2015, the ports industry was larger than Freight rail transport, with £7.6 billion relative to £0.96 billion. The growth rate in the direct GVA of the ports industry since 2010 was 25%, which was exceeded only by Freight rail transport and the Manufacture of air and spacecraft.

Figure 4. The estimated GVA of the ports industry against comparable industries in 2015, and growth against the 2010 level

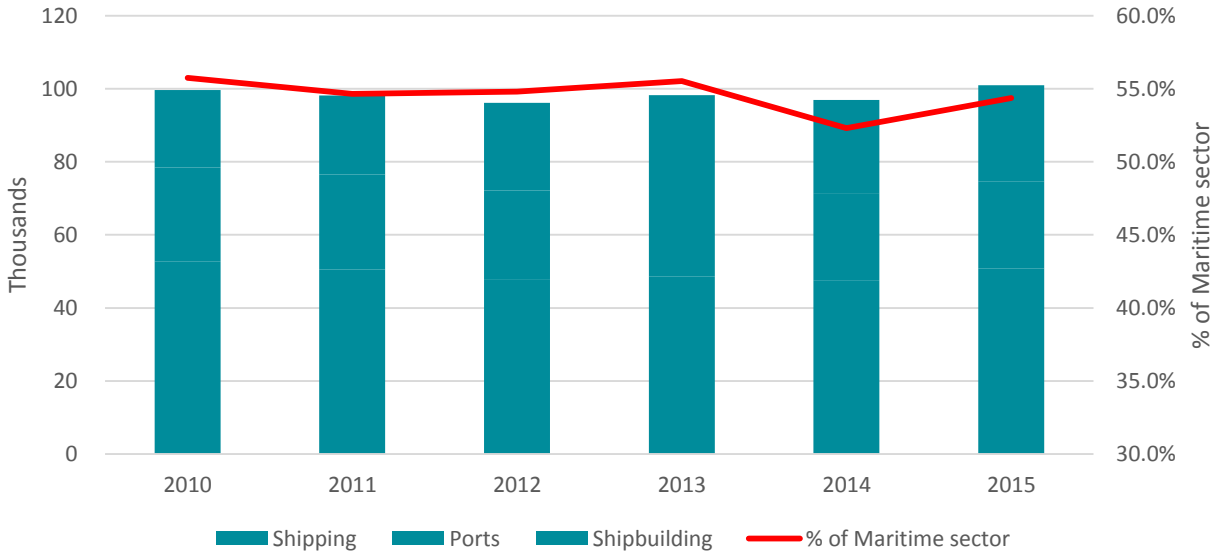


Source: FAME, UKCoS, ONS, Cebr analysis

3.3 The direct contribution through employment

This subsection outlines the direct employment impact from the ports industry to the UK economy. In addition to its contribution through GVA, the ports industry also directly supports a significant number of jobs. Figure 5 below shows the estimated direct employment impact for ports industry for each year from 2010 to 2015; both in absolute levels (left axis) and as a percentage of the total Maritime sector turnover contribution (right axis).

Figure 5. The direct contribution of the ports industry to UK employment, and the share of the total direct Maritime sector contribution to UK employment, 2010 to 2015.



Source: FAME, UKCoS, ONS, Cebr analysis

It is estimated that the ports industry directly contributed approximately 101,000 jobs in 2015. This constituted approximately 54% of the Maritime sector direct job contribution in that year. As illustrated, the direct contribution is relatively consistent across each year – both in absolute magnitude and as a percentage of the Maritime sector direct employment contribution.

Based on the trends in GVA and employment presented in Figure 3 and Figure 5, employees operating in the ports industry are highly productive, as measured by GVA per job. Table 6 below shows the estimated average productivity of the ports industry across the years 2010 to 2015, and compared against the average productivity level of the Maritime sector and the UK as a whole. The ports industry as a whole is slightly less productive than the broader Maritime sector but higher than the UK average; while the average industry job generated £74,900 in GVA in 2015, the average job in the UK economy only generated £50,800.

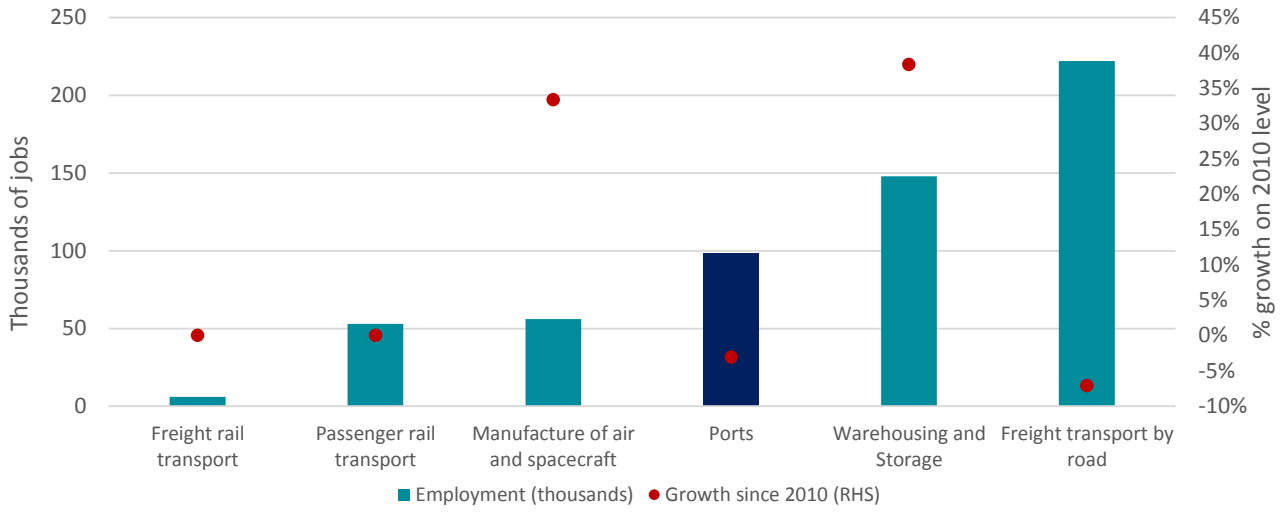
Table 6: Average productivity (GVA per job) in the ports industry in comparison to the Maritime sector and UK economy

GVA per employee	2010	2011	2012	2013	2014	2015
UK economy	**£45,734**	**£46,652**	**£47,735**	**£49,009**	**£50,205**	**£50,830**
UK Maritime sector	**£76,273**	**£73,557**	**£85,822**	**£76,130**	**£75,917**	**£77,897**
UK ports industry	£74,023	£73,979	£84,427	£66,687	£75,244	£74,911

Source: FAME, UKCoS, ONS, Cebr analysis

Figure 6 below compares the direct contribution that the ports industry made through UK employment in 2014 against comparable industries and activities. Employment in the ports industry exceeded aggregate employment in the Manufacture of air and spacecraft; Passenger rail transport and Freight rail transport.

Figure 6. The estimated employment of the ports industry against comparable industries in 2014, and growth relative to 2010.

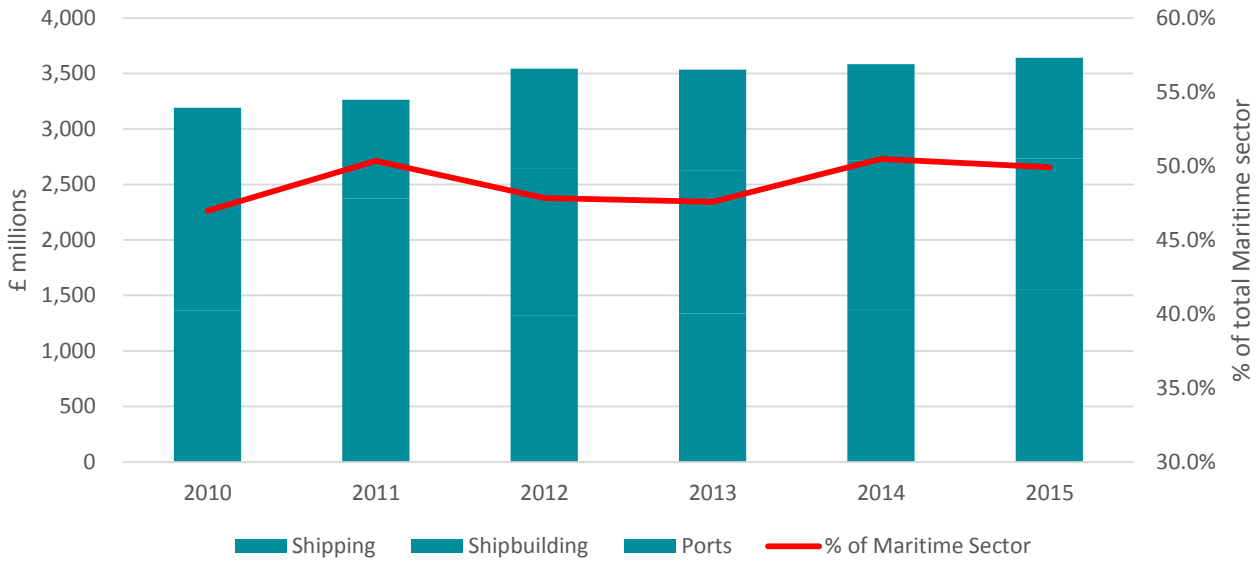


Source: FAME, UKCoS, ONS, Cebr analysis

3.4 The direct impact through the compensation of employees

This section considers the compensation of employees which is directly supported by the ports industry. Figure 7 below depicts the direct impact of the ports industry to employee compensation for each of the years 2010 to 2015; both in absolute terms and as a percentage of the total Maritime sector contribution.

Figure 7. The direct contribution of the ports industry to the compensation of employees, and the share of the total contribution from the UK Maritime sector, 2010 to 2015



Source: FAME, UKCoS, ONS, Cebr analysis

It is estimated that the direct employee compensation of the ports industry in 2015 was £3.6 billion. This constitutes approximately 50% of the total Maritime sector total in the same year. In absolute terms, the direct impact of employee compensation increased each year considered, with the exception of 2013.

3.5 The direct Exchequer contribution

Here we examine the contribution of the ports industry to the UK Exchequer, through tax revenues raised from its activities. In order to capture the incidence of taxation through the direct activities (rather than indirect and induced), Cebr has measured the direct contribution through the revenues raised from the tax heads listed below. It has been assumed that the ports industry does not generated Value-Added Tax (VAT) revenues for the UK Exchequer, with zero-rating applying to shipping services and shipbuilding.[8]

- Income Tax;
- National Insurance Contributions (NICs) – from both Employer and Employee contributions;
- Corporation Tax;
- National Non-Domestic Rates (Business Rates)

For the personal taxes listed above, Income Tax and NICs revenues have been calculated by applying tax rates to the estimated wages and salaries paid to employees operating in the ports industry; rates and thresholds have been sourced from HMRC for the years 2010 to 2015. Wages and salaries for employees have been sourced from the Annual Survey for Hours and Earnings (ASHE)[9]. For the business taxes listed above, Corporation Tax revenues have been estimated by applying HMRC estimates for Average Effective

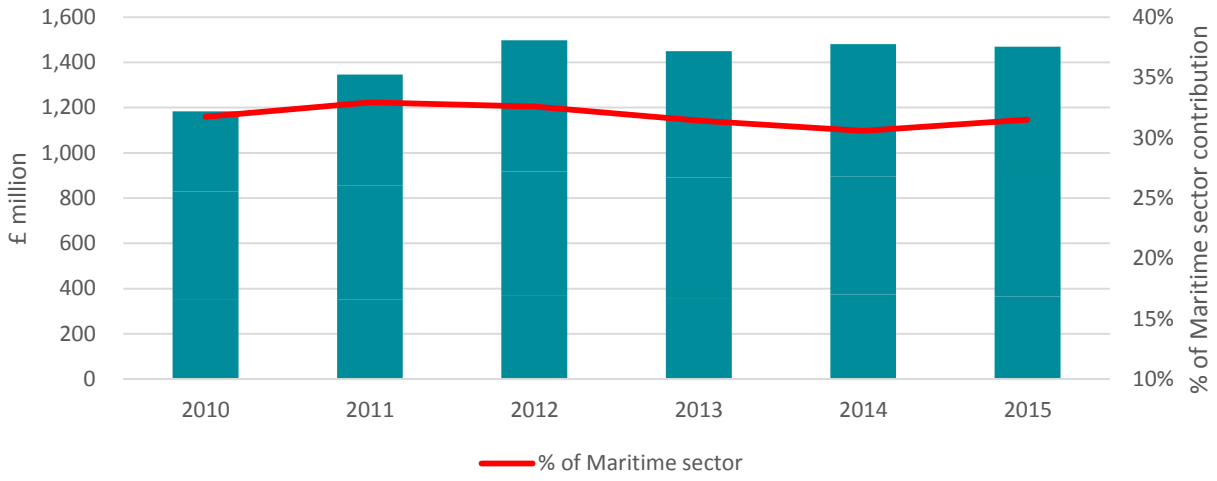
[8] The following services are zero-rated by HMRC: Passenger transport in a vehicle, boat or aircraft that carries not less than ten passengers; International freight transport that takes place in the UK and its territorial waters; Domestic leg of freight transport to or from a place outside the EU; Ship repairs and maintenance. Further information on the list of zero-rated and VAT-exempt goods and services can be found here: https://www.gov.uk/guidance/rates-of-vat-on-different-goods-and-services#transport-freight-travel-and-vehicles

[9] The Annual Survey of Hours and Earnings (ASHE) provides data on the levels, distribution and make-up of earnings and hours worked for UK employees by sex and full-time or part-time status in all industries and occupations.

Tax Rates (AETRs) to the estimated Gross Profit of each industry activity. Business Rates have been estimated using the average level of Business Rates paid as a proportion of Maritime sector GVA, drawing upon the ONS Annual Business Survey (ABS).

Figure 8 below shows the direct contribution of the ports industry to the UK Exchequer in the years 2010 to 2015. The total Exchequer contribution is estimated to have been £1.47 billion in 2015. As illustrated, this direct contribution is estimated to have peaked in 2012 at £1.5 billion (slightly higher than in 2015).

Figure 8. The direct contribution of the ports industry to the UK Exchequer, £ million, 2010 to 2015, and as a share of the Maritime sector's total contribution to the UK Exchequer

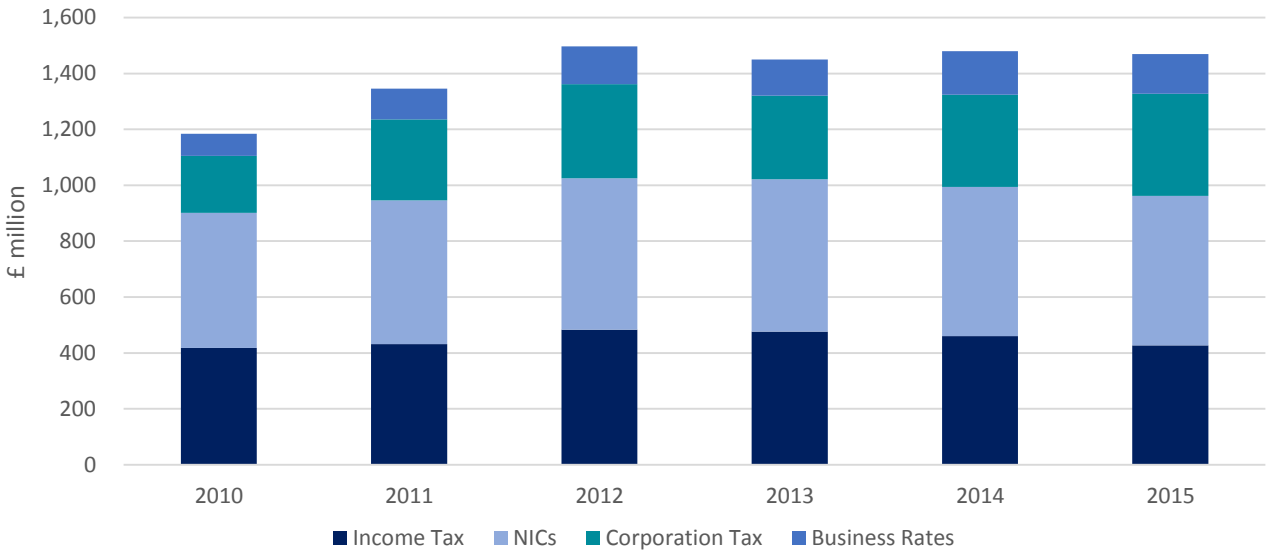


Source: FAME, UKCoS, ONS, Cebr analysis

The ports industry makes a significant contribution to the UK Maritime sector's overall Exchequer contribution, typically around 31% in most years.

Figure 9 below disaggregates the direct contribution by tax head across the years 2010 to 2015. In each of the years, there is a clear ordering: NICs and Income Tax contribute the largest share (in that order), followed by Corporation Tax and then Business Rates. In 2015 the shares were as follows: 36% for NICs; 29% for Income Tax; 25% for Corporation Tax; and 10% for Business Rates.

Figure 9. The direct contribution of the ports industry to the UK Exchequer by tax head, £ million, 2010 to 2015.

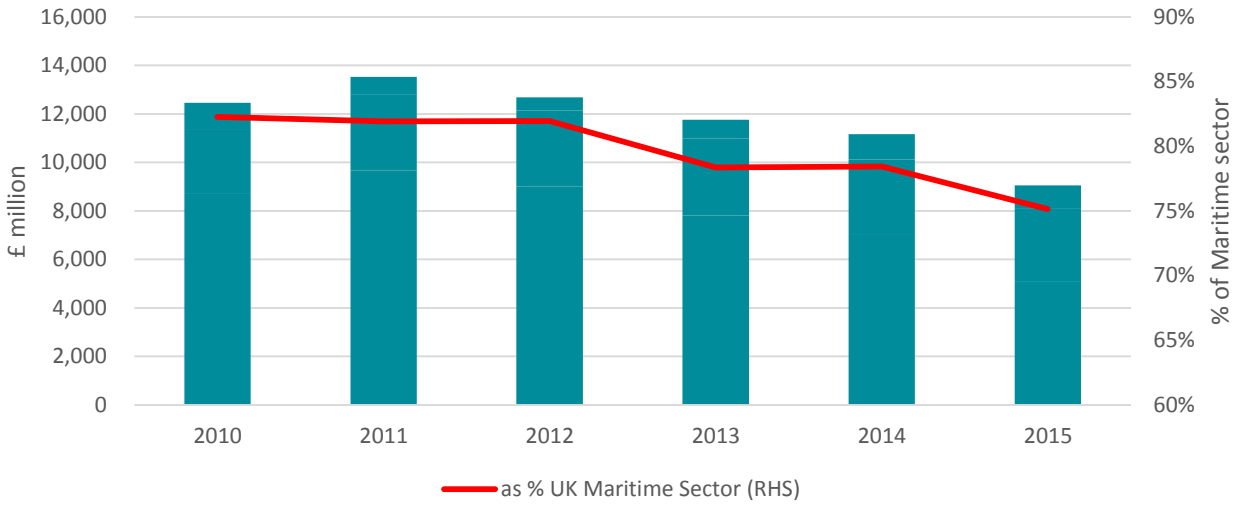


Source: ONS, FAME, Cebr analysis

3.6 The direct contribution through the exports of goods and services

This section demonstrates the direct contribution that the ports industry makes through the exports of goods and services. Figure 10 below shows the estimated value of exports between 2010 and 2015, both in absolute terms and as a percentage of the total Maritime sector contribution.

Figure 10. Exports of goods and services from the ports industry, 2010 to 2015, £ million

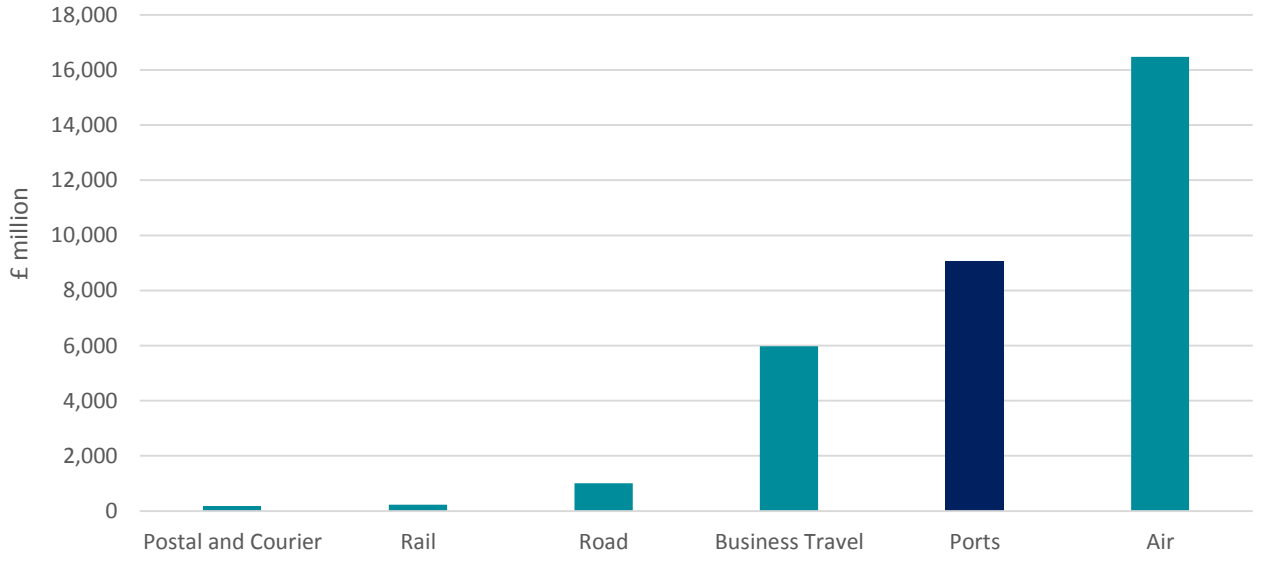


Source: UKCoS, ONS, Cebr analysis

A total value of approximately £9 billion in goods and services was exported by the ports industry in 2015, equating to 75.1% of total Maritime sector exports that year.

Figure 11 compares exports from the ports industry against those from other transportation activities. We observe that the value of exports of services from the ports industry was significantly in excess of that of Road, Rail and Postal and Courier activities, although below that of the Air Transport industry (16.5 billion) in 2015.

Figure 11: Exports of services from the ports industry in 2015 against comparable transportation activities, £ million



Source: ONS, Cebr analysis

In the next section we examine how the direct contribution that the ports industry makes through business turnover, GVA, employment and the compensation of employees translates into aggregate economic impacts, through the addition of indirect and induced effects.

4 The aggregate economic impact of the ports industry

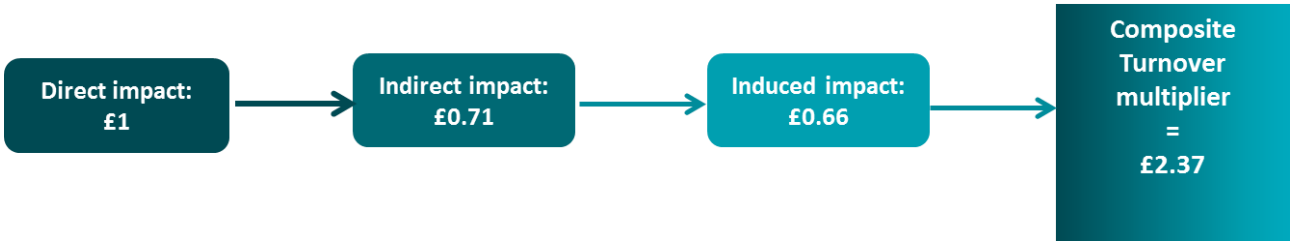
This section sets out the aggregate economic impacts of the ports industry, by taking into account the indirect (or supply chain) and induced (employee spending) impacts that arise from the activities of firms within this industry. The four macroeconomic indicators for which the aggregate economic impact have been calculated are as follows: turnover; GVA; employment; and the compensation of employees. Multipliers have been generated using Cebr's economic impact model for the UK.

4.1 The aggregate economic impact through turnover

This section sets out the aggregate economic impact of the ports industry through turnover. Figure 12 below illustrates the direct, indirect and induced turnover impacts associated with the ports industry. Here the interpretation is that for, every £1 of turnover directly supported by the ports industry, £0.71 worth of turnover is stimulated in the supply chains and £0.66 worth of turnover in the wider economy when direct and indirect (supply chain) employees spend their earnings.

Therefore, for every £1 turnover directly contributed by the ports industry in 2015, a total of £2.37 was supported across the economy.

Figure 12. Turnover multiplier impacts of the ports industry, 2015



Source: FAME, UKCoS, ONS, Cebr analysis

Table 7 below disaggregates the direct, indirect, induced and aggregate impacts on turnover. The ports industry directly contributed £22.6 billion in turnover in 2015 (see previous section); once the indirect and induced economic channels are taken into consideration the ports industry contributed an aggregate economic impact of £53.7 billion in turnover.

Table 7: Turnover impact of the ports industry in 2015, £ million

Turnover in 2015	Direct Impact	Indirect Impact	Induced Impact	Aggregate Impact
Ports industry	22,648	16,113	14,982	53,743

Source: FAME, UKCoS, ONS, Cebr analysis

Table 8 below shows how the total turnover of the ports industry is estimated to have evolved since 2010. The aggregate turnover impact reached its highest level in 2015, at £53.7 billion. This increase *relative* to other years (2010 to 2014) was largely driven through the higher direct impact, as the composite turnover multiplier is marginally lower in 2015 (2.37) than in all other years (2.38).

Table 8: Turnover impact of the ports industry, 2010 to 2015, £ million

	Direct Impact	Composite multiplier	Aggregate turnover impact
2010	19,974	2.38	47,637
2011	20,874	2.38	49,754
2012	20,700	2.38	49,204
2013	20,756	2.38	49,334
2014	21,409	2.38	51,015
2015	22,648	2.37	53,743

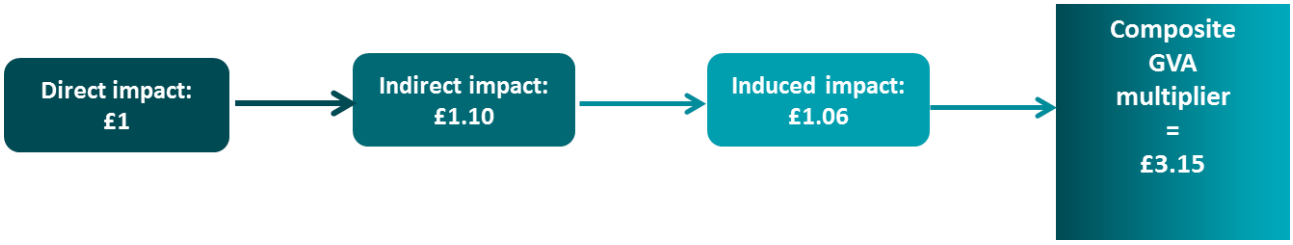
Source: FAME, UKCoS, ONS, Cebr analysis

4.2 The aggregate economic impacts through GVA

Figure 13 below illustrates the GVA multipliers for the ports industry. Here the interpretation is that, for every £1 of GVA directly supported by the ports industry, £1.10 worth of turnover is stimulated in the supply chains and £1.06 worth of GVA in the wider economy when direct and indirect (supply chain) employees spend their earnings.

Therefore, for every £1 of GVA initially contributed by the ports industry in 2015, the UK economy as a whole experienced an increase in GVA of £3.15.

Figure 13. GVA Multiplier impacts for the ports industry, 2015



Source: FAME, UKCoS, ONS, Cebr analysis

Table 9 shows the estimated aggregate GVA impacts from the ports industry. The ports industry directly contributed just under £7.6 billion to the UK economy's GDP in 2015. Once the indirect and induced economic channels are taken into consideration the ports industry contributed approximately £23.8 billion to GDP.

Table 9: GVA impact of the ports industry in 2015, £ million

GVA in 2015	Direct Impact	Indirect Impact	Induced Impact	Aggregate Impact
Ports industry	**7,562**	**8,283**	**7,985**	**23,830**

Source: FAME, UKCoS, ONS, Cebr analysis

Table 10 below shows the estimated direct and aggregate GVA impacts of the ports industry across the years 2010 to 2015. The GVA multiplier was highest 2010 at 3.22; whilst the aggregate GVA impact was highest in 2012 (due to the high direct impact in that year). The aggregate GVA impact across the years ranges from 20,421 in 2013 to 23,830 in 2015.

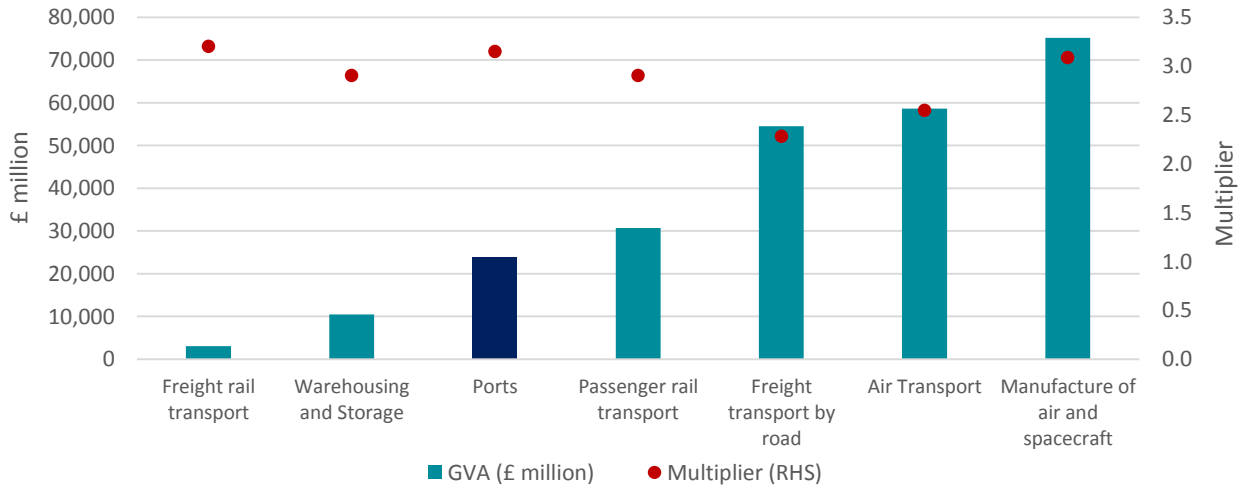
Table 10: Direct and aggregate GVA impact of ports industry, 2010 to 2015, £ million

	Direct Impact	Composite GVA multiplier	Aggregate GVA impact
2010	7,375	3.22	23,726
2011	7,259	3.17	23,035
2012	8,119	3.16	25,645
2013	6,551	3.12	20,421
2014	7,296	3.13	22,802
2015	7,562	3.15	23,830

Source: FAME, UKCoS, ONS, Cebr analysis

To place these results in context, Figure 14 below compares the aggregate GVA impact of the ports industry against the comparable transport activities identified in the previous section. In addition, the GVA multipliers associated with each activity are also presented.

Figure 14. The aggregate GVA impact and GVA multiplier of the ports industry against comparable industries in 2015.



Source: FAME, UKCoS, ONS, Cebr analysis

The aggregate GVA impact of the ports industry exceeds that for Freight rail transport and Warehousing and Storage, and the GVA multiplier for the ports industry is exceeded only by that of Freight rail transport. So whilst the ports industry has a lower aggregate GVA impact than industries such as Air Transport and Freight transport by road, the associated GVA multiplier is considerably higher. In other words, while Air Transport of passengers generated an aggregate GVA impact of £58.6 billion in 2015, its GVA multiplier was 2.55. This means that for each additional £1 of GVA initially generated through this activity, a total of £2.55 in GVA was generated in the UK economy – compared to £3.15 for the ports industry.

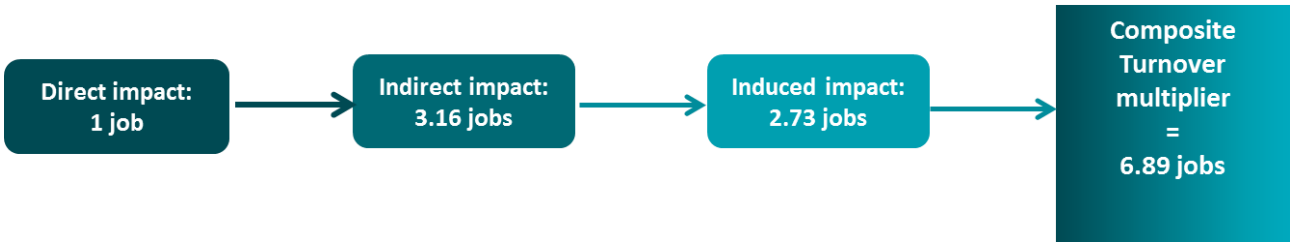
4.3 The aggregate economic impacts through employment

In this section, we consider the aggregate economic impact that the ports industry makes through employment. As identified earlier in this report, the ports industry is already estimated to make a significant direct contribution to employment.

Figure 15 below illustrates the direct, indirect and induced employment impact multipliers associated with the ports industry. Here the interpretation is that for every job directly supported by the ports industry, 3.16 jobs are stimulated in the industry's supply chains and a further 2.78 jobs are supported in the wider economy when direct and indirect (supply chain) employees spend their earnings.

Therefore, for every 1 job direct supported by the ports industry in 2015, a total of 6.89 were supported in the broader UK economy.

Figure 15. Employment multiplier impacts of the ports industry, 2015



Source: FAME, UKCoS, ONS, Cebr analysis

Table 11 below shows the estimated aggregate employment impacts from the ports industry. The ports industry directly supported around 101,000 jobs in the UK in 2015. Once the indirect and induced economic channels are taken into consideration the ports industry supported a total of 695,000 jobs in 2015. As illustrated, shipping is the by far largest contributor to employment in the ports industry.

Table 11: Employment impact of the Marine industry in 2015, in thousands of jobs

Employment in 2015	Direct Impact	Indirect Impact	Induced Impact	Aggregate Impact
Ports industry	101	319	276	695

Source: FAME, UKCoS, ONS, Cebr analysis

Table 12 shows how the aggregate employment impact of the ports industry is estimated to have evolved since 2010. As illustrated, the direct impact from employment was fairly consistent across the years, ranging from 98,000 (in 2012 and 2014) to 102,000 in 2015. The composite employment multiplier was highest in 2010 at 7.03 and less than 6.9 in all subsequent years: consequently, the aggregate employment impact was highest in 2010.

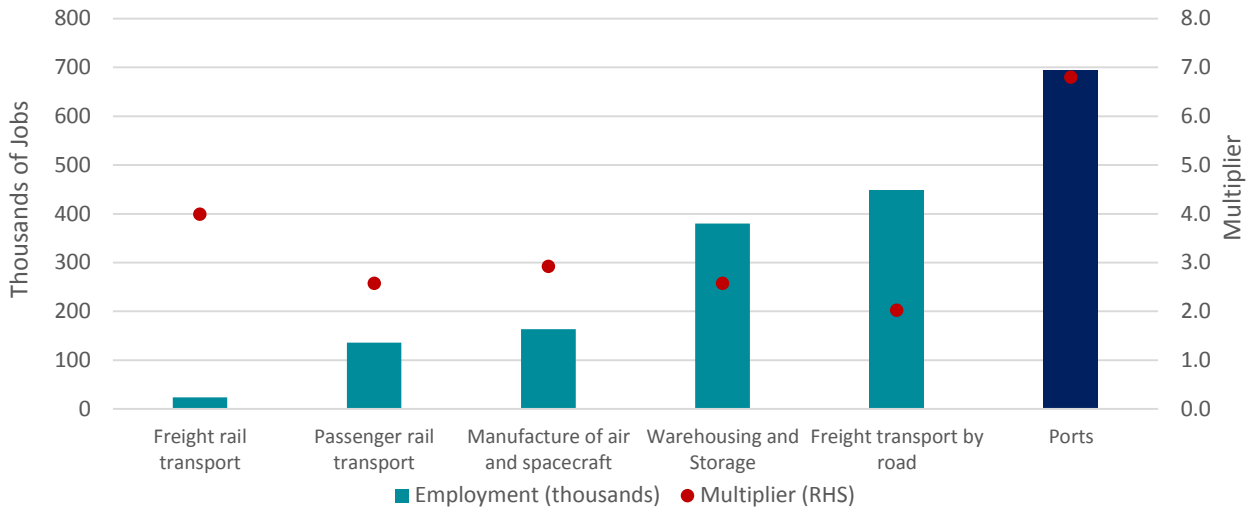
Table 12: Direct and aggregate employment impact of the ports industry, 2010 to 2015, thousands of jobs

	Direct Impact	Composite multiplier	Aggregate impact
2010	100	7.03	711
2011	98	6.87	685
2012	96	6.68	654
2013	98	6.68	667
2014	97	6.67	654
2015	101	6.80	693

Source: ONS, UKCoS, FAME, Cebr analysis

To place these results in context, Figure 16 below compares the aggregate employment impact of the ports industry in 2014 against the comparable transport activities identified in the previous section. In addition, the employment multipliers associated with each activity are also presented.

Figure 16: The aggregate employment impact and multiplier of the ports industry against comparable industries in 2014



Source: FAME, UKCoS, ONS, Cebr analysis

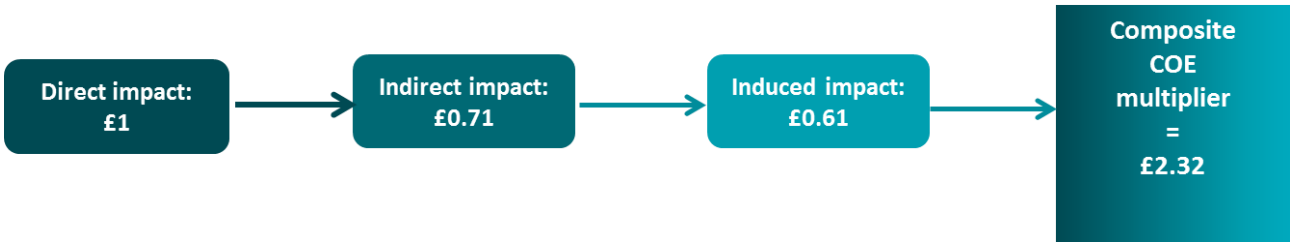
As is clearly depicted, the ports industry contributes significantly more to employment than all other industries included in the comparison: i.e., significantly more than Freight transport by road; warehousing and storage; and manufacture of air and spacecraft. Furthermore, the GVA composite employment multiplier for the ports industry is substantially higher than for the other comparison industries: 6.80 for the ports industry relative to the next highest of 3.98 for Freight rail transport.

4.4 The aggregate economic impact through the compensation of employees

This subsection sets out the aggregate economic impact of the ports industry through the compensation of employees. Figure 17 below illustrates the direct, indirect and induced compensation of employee multiplier impacts associated with the ports industry. Here the interpretation is that, for every £1 of employee compensation directly supported by the ports industry, £0.71 of employee compensation was stimulated through the supply chain and an additional £0.61 of employee compensation was stimulated through spending in the wider economy when direct and indirect (supply chain) employees spend their earnings.

Therefore, for every £1 of employee compensation directly contributed by the ports industry in 2015, a total of £2.32 was supported across the economy.

Figure 17. Employee compensation multiplier impacts of the ports industry, 2015



Source: FAME, UKCoS, ONS, Cebr analysis

Table 13 presents the direct, indirect, induced and aggregate impacts on the compensation of employees for the ports industry in 2015. It is estimated that the ports industry supported a total of approximately £8.5 billion in employee compensation in 2015.

Table 13: Impact through the compensation of employees in the ports industry in 2015, £ million

Compensation of Employees in 2015	Direct Impact	Indirect Impact	Induced Impact	Aggregate Impact
Ports industry	3,641	2,599	2,203	8,443

Source: ONS, UKCoS, FAME, Cebr analysis

Table 14 shows how the total employee compensation of the ports industry is estimated to have evolved since 2010. As illustrated, the direct impact increased in each year with the exception of 2013. Similarly, the aggregate employee compensation impacts increased in each year.

Table 14: Direct and aggregate impacts through the compensation of employees from the ports industry, 2010 to 2015, £ million

	Direct Impact	Composite multiplier	Aggregate employee compensation impact
2010	3,191	2.28	7,289
2011	3,265	2.28	7,446
2012	3,543	2.27	8,037
2013	3,534	2.27	8,014
2014	3,584	2.28	8,159
2015	3,641	2.32	8,443

Source: FAME, UKCoS, ONS, Cebr analysis

Having estimated the direct and aggregate economic impact of the ports industry at UK-level, in the final section of the report we examine these economic impacts at regional-level.

5 The regional economic impact of the ports industry

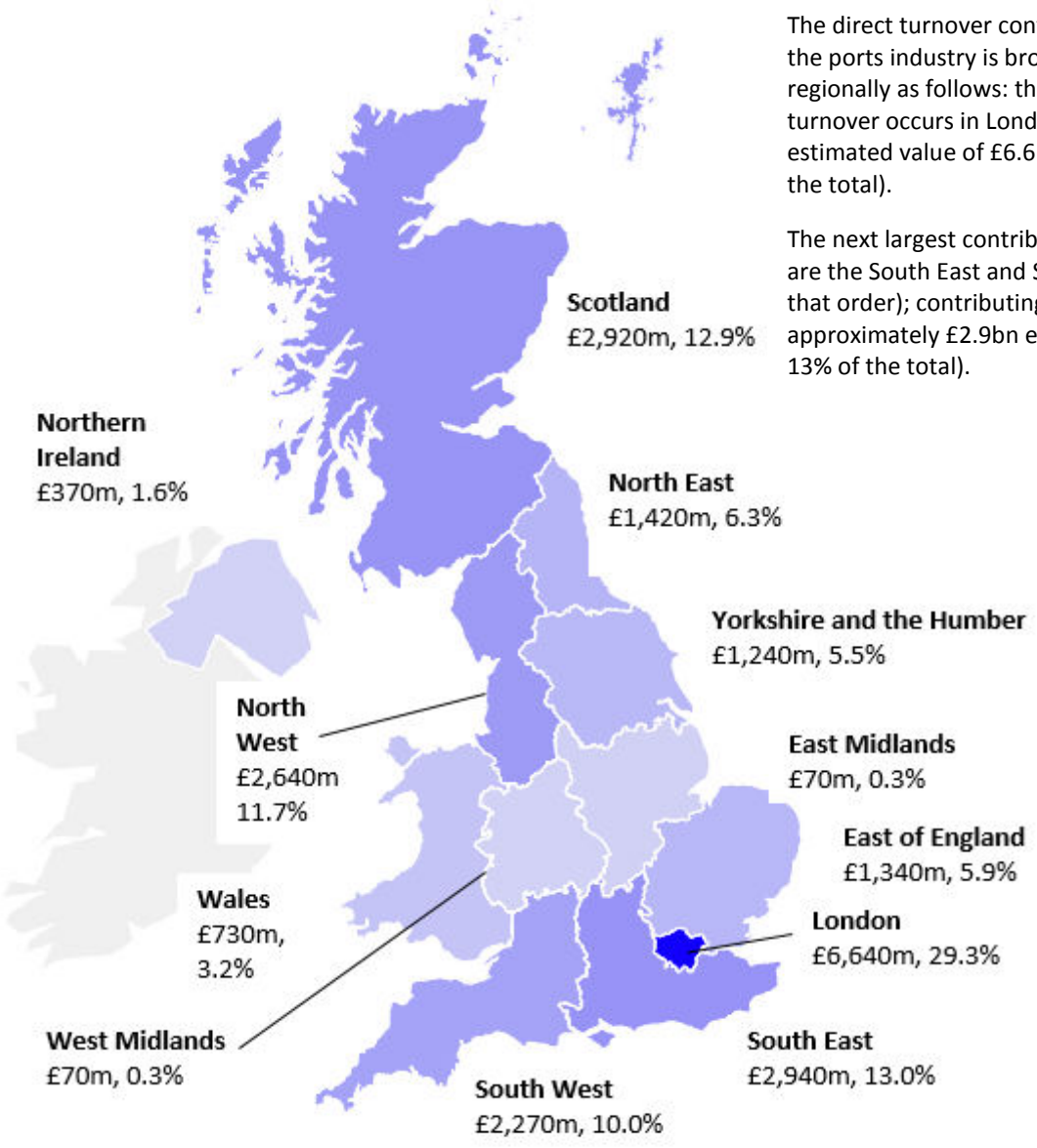
In this final section we examine the economic contribution of the ports industry across the different UK regions, following the approach set out earlier in section 2 of this report. A full set of regional direct economic impacts for each year over the period 2010 to 2015 can be found in Annex A.

5.1 The direct economic impact of the ports industry by UK region

Business Turnover and GVA

Figure 18 and Figure 19 below show the estimated regional breakdown of business turnover and GVA directly supported by the ports industry in 2015.

Figure 18. Regional breakdown of turnover directly contributed by the ports industry in 2015

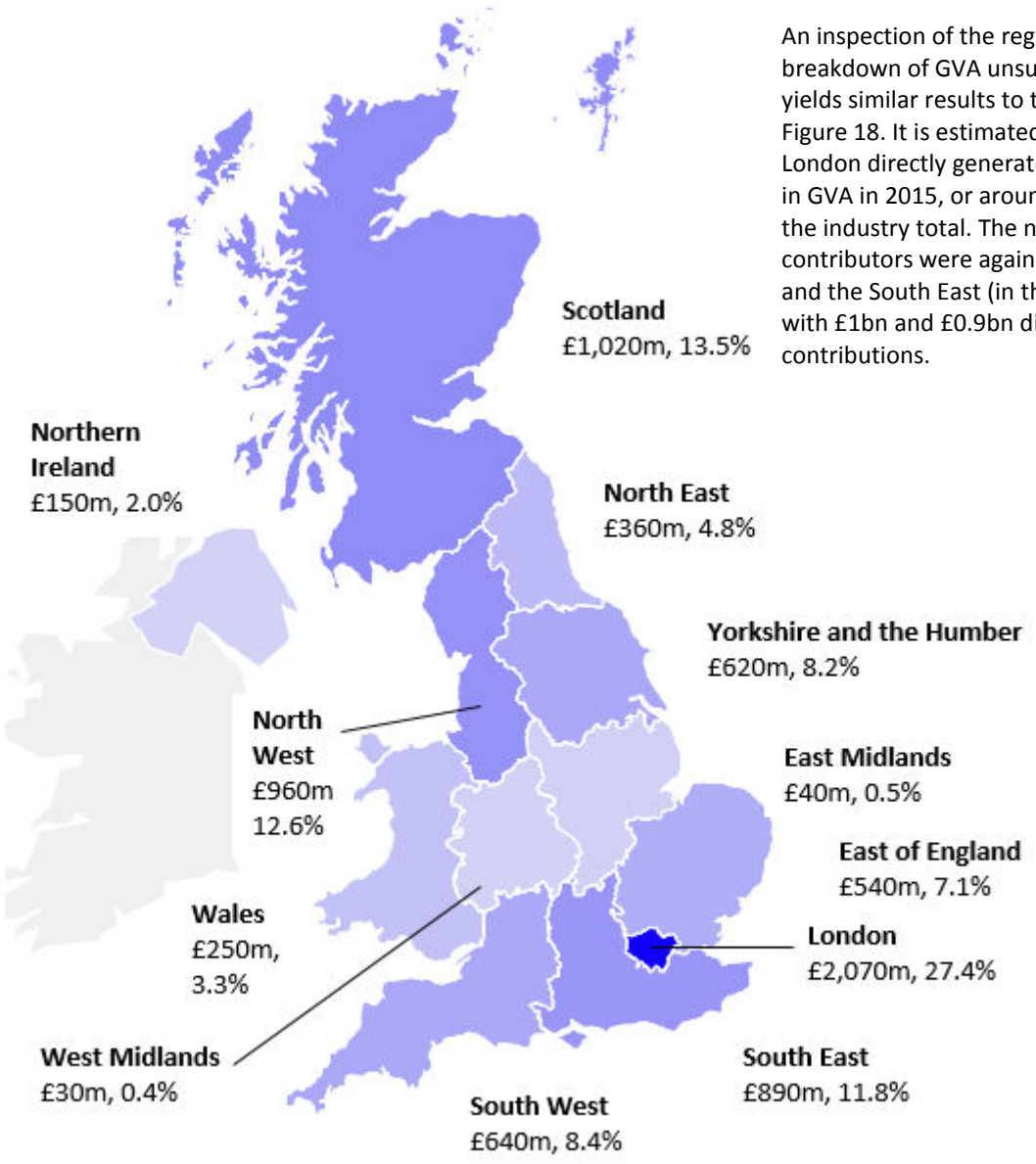


The direct turnover contribution of the ports industry is broken down regionally as follows: the majority of turnover occurs in London, with an estimated value of £6.6bn (or 29% of the total).

The next largest contributing regions are the South East and Scotland (in that order); contributing approximately £2.9bn each (around 13% of the total).

Note: Figures subject to rounding to nearest £10 million. Source: FAME, UKCoS, ONS, Cebr analysis

Figure 19. Regional breakdown of GVA directly contributed by the ports industry in 2015



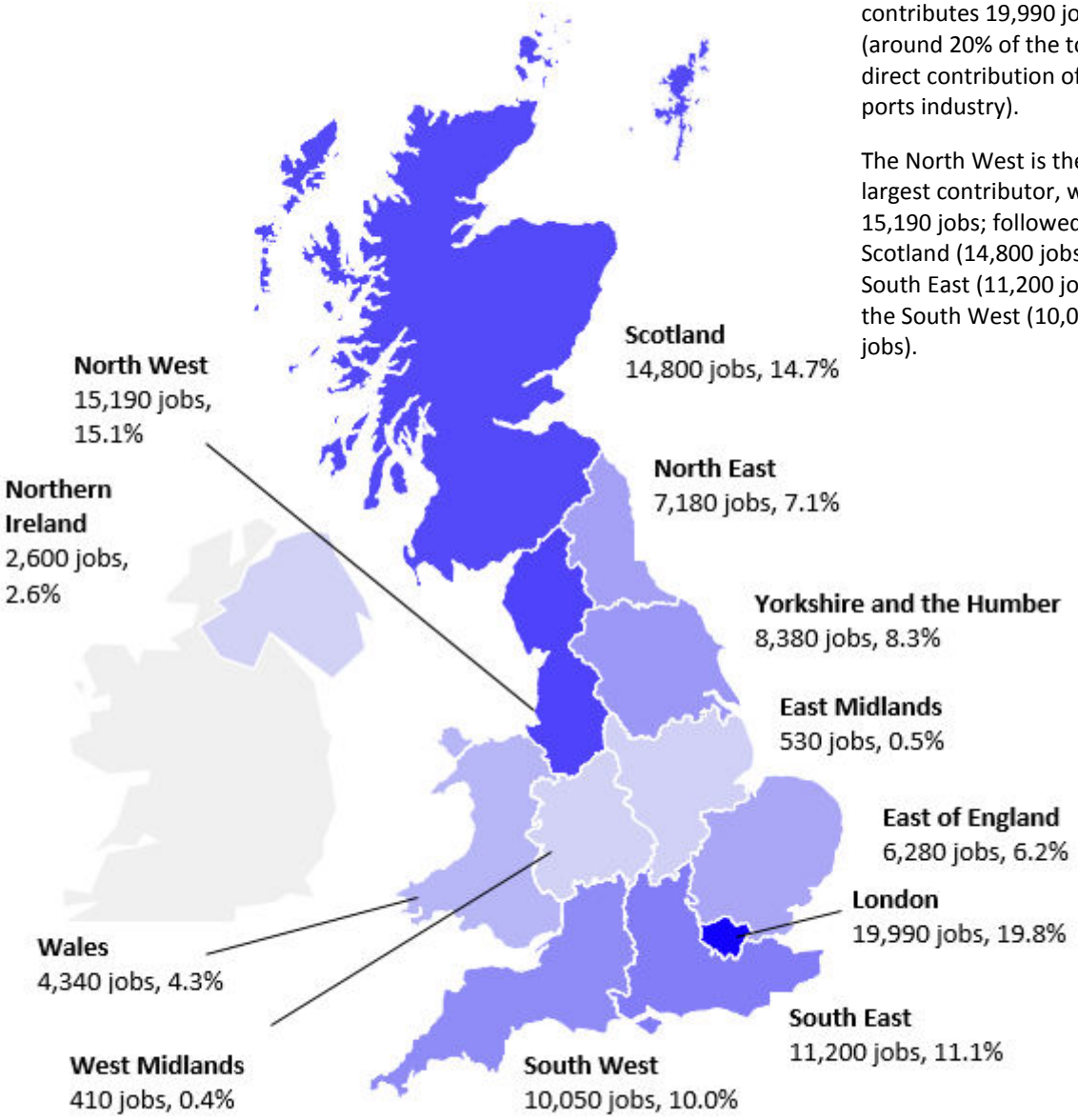
An inspection of the regional breakdown of GVA unsurprisingly yields similar results to those in Figure 18. It is estimated that London directly generated £2 billion in GVA in 2015, or around 27% of the industry total. The next largest contributors were again Scotland and the South East (in that order), with £1bn and £0.9bn direct GVA contributions.

Note: Figures subject to rounding to nearest £10 million. Source: FAME, UKCoS, ONS, Cebr analysis

Employment and the Compensation of Employees

Figure 20 and Figure 21 overleaf show the estimated regional breakdown of employment and the compensation of employees directly supported by the ports industry in 2015. Once again, the lion's share of the direct contribution is concentrated in London, with an estimated 9,200 in jobs and £600 million through the compensation of employees.

Figure 20: Regional breakdown of employment directly contributed by the ports industry in 2015



The London region directly contributes 19,990 jobs (around 20% of the total direct contribution of the ports industry).

The North West is the next largest contributor, with 15,190 jobs; followed by Scotland (14,800 jobs); the South East (11,200 jobs) and the South West (10,050 jobs).

Note: Figures subject to rounding to the nearest 10 jobs. Source: FAME, UKCoS, ONS, Cebr analysis

Figure 21: Regional breakdown of the direct contribution through the compensation of employees by the ports industry in 2015

The direct compensation of employees by the ports industry is broken down regionally as follows: London is the largest contributor with £730m (20%); followed by Scotland with £560m (15.4); and then the North West, South West and South East regions.

Note: Figures subject to rounding to nearest £10 million. Source: FAME, UKCoS, ONS, Cebr analysis

5.2 The aggregate economic impact of the ports industry by UK region

This final subsection examines the aggregate economic impact of the ports industry across each region for the four macroeconomic indicators covered in the previous subsection.

In order to estimate the aggregate economic impact of the industry at regional level, the direct economic impacts as already estimated were combined with Cebr's suite of regional economic impact models, within which the activities of the ports industry were separately identified and isolated. It should be noted that the economic impact multipliers as estimated for each region are necessarily lower than the equivalent multiplier for the ports industry as a whole, reflecting the leakage of impacts when the activity of the industry in a particular region imports inputs from elsewhere in the UK outside that region.

The aggregate economic impacts for business turnover and GVA by region

Table 15 shows the breakdown of direct and aggregate economic impacts for business turnover and GVA in 2015, alongside the composite industry multiplier for each region. For turnover, the highest regional industry multipliers are found in the East of England (2.48); North East (2.49) and Yorkshire and the Humber (2.42). The highest aggregate impact is concentrated in London: this is driven largely through the high direct impact. Turning to GVA, the highest regional multipliers are in Yorkshire and the Humber (17.49); the North East (11.76) and London (10.95).

Table 15: Regional breakdown of the direct and aggregate impacts through turnover and GVA by the ports industry in 2015, £ million

	Turnover			GVA		
Region	Direct Impact	Industry Multiplier	Aggregate Impact	Direct Impact	Industry Multiplier	Aggregate Impact
Scotland	2,920	2.21	6,454	2,936	0.98	2,874
Wales	727	2.22	1,616	92	7.87	721
Northern Ireland	371	2.22	821	77	5.66	433
East of England	1,337	2.48	3,313	458	3.74	1,714
East Midlands	74	2.17	160	147	0.73	107
London	6,639	2.05	13,612	541	10.95	5,925
North East	1,418	2.49	3,536	94	11.76	1,101
North West	2,644	2.20	5,824	754	3.33	2,512
South East	2,936	2.34	6,875	717	4.13	2,961
South West	2,266	2.17	4,928	1,092	1.55	1,691
West Midlands	72	2.18	158	156	0.51	79
Yorkshire and the Humber	1,244	2.42	3,015	106	17.49	1,846

Source: FAME, UKCoS, ONS, Cebr analysis

Finally, Table 16 below shows the breakdown of the direct and aggregate economic impacts for employment and the compensation of employees in 2015, alongside the composite industry multiplier for each region. The industry in London is estimated to have supported around 195,300 jobs and £1.7 billion through the compensation of employees across the UK economy in 2015. For employment, the highest industry multiplier is in the South East region; whilst for the compensation of employees the highest industry multipliers are in the South East and London regions.

Table 16: Regional breakdown of the direct and aggregate impacts through employment and the compensation of employees by the ports industry in 2015, thousands of jobs and £ million

	Employment			Compensation of Employees		
Region	Direct Impact	Industry Multiplier	Aggregate Impact	Direct Impact	Industry Multiplier	Aggregate Impact
Scotland	14.8	5.34	79.0	560.9	2.03	1,135.9
Wales	4.3	6.21	27.0	153.5	2.23	341.8
Northern Ireland	2.6	5.93	15.4	62.8	1.82	114.3
East of England	6.3	5.49	34.5	229.6	2.25	517.3
East Midlands	0.5	9.59	5.1	10.8	2.22	23.8
London	20.0	9.77	195.3	726.6	2.44	1,771.2
North East	7.2	2.43	17.5	289.1	2.13	614.3
North West	15.2	4.49	68.3	472.5	1.82	859.1
South East	11.2	10.61	118.9	396.0	2.45	970.6
South West	10.1	4.56	45.8	481.1	1.79	858.9
West Midlands	0.4	9.81	4.0	10.1	2.21	22.3
Yorkshire and the Humber	8.4	3.27	27.4	247.9	2.15	533.1

Source: FAME, UKCoS, ONS, Cebr analysis

Annex A: Full set of direct economic impacts by region

Table A.1: Direct economic impact of the ports industry through turnover, 2010 to 2015, £ million

TURNOVER	2010	2011	2012	2013	2014	2015
England	16,788	16,870	16,482	16,441	17,147	18,630
Scotland	1,990	2,572	2,966	3,505	3,342	2,920
Wales	651	920	806	491	544	727
Northern Ireland	545	513	446	319	375	371
East of England	2,190	2,536	1,991	1,660	1,616	1,337
East Midlands	126	63	98	165	630	74
London	4,242	5,267	4,764	3,706	4,661	6,639
North East	869	711	831	1,236	1,478	1,418
North West	2,086	1,996	2,025	2,273	2,238	2,644
South East	4,136	3,141	3,618	3,781	3,229	2,936
South West	1,195	1,409	1,779	2,288	2,007	2,266
West Midlands	218	73	43	113	239	72
Yorkshire and the Humber	1,726	1,677	1,334	1,218	1,050	1,244

Source: FAME, UKCoS, ONS, Cebr analysis

Table A.2: Direct economic impact of the ports industry through GVA, 2010 to 2015, £ million

GVA	2010	2011	2012	2013	2014	2015
England	6,104	5,856	6,432	5,207	5,729	6,139
Scotland	864	938	1,261	1,001	1,216	1,024
Wales	260	277	235	194	191	247
Northern Ireland	147	188	190	148	160	153
East of England	768	736	795	561	629	538
East Midlands	74	22	32	46	204	36
London	1,711	1,761	1,663	1,167	1,428	2,072
North East	295	216	234	296	364	364
North West	631	745	805	788	897	955
South East	1,297	1,123	1,359	1,090	973	893
South West	460	527	751	674	620	638
West Midlands	134	34	20	28	76	26
Yorkshire and the Humber	734	692	773	556	537	616

Source: FAME, UKCoS, ONS, Cebr analysis

Table A.3: Direct economic impact of the ports industry through employment, 2010 to 2015, jobs

EMPLOYMENT	2010	2011	2012	2013	2014	2015
England	78,457	75,529	74,042	75,076	73,664	79,207
Scotland	14,170	14,375	15,876	16,363	17,109	14,802
Wales	4,562	5,258	3,540	4,091	3,566	4,338
Northern Ireland	2,440	2,958	2,706	2,699	2,620	2,603
East of England	9,588	9,912	7,792	6,629	7,232	6,272
East Midlands	1,034	354	426	789	3,021	530
London	13,836	15,330	13,030	11,836	13,509	19,988
North East	6,019	5,234	5,552	7,020	6,634	7,178
North West	10,932	11,403	11,154	12,290	12,949	15,194
South East	16,516	14,453	15,277	16,573	13,097	11,202
South West	8,253	8,267	10,446	10,963	8,915	10,054
West Midlands	1,905	518	321	486	1,150	409
Yorkshire and the Humber	10,375	10,058	10,044	8,491	7,159	8,381

Source: FAME, UKCoS, ONS, Cebr analysis

Table A.4: Direct economic impact of the ports industry through the compensation of employees, 2010 to 2015, £ million

COMPENSATION OF EMPLOYEES	2010	2011	2012	2013	2014	2015
England	2,465	2,436	2,624	2,640	2,729	2,864
Scotland	462	505	634	716	673	561
Wales	179	216	173	114	113	153
Northern Ireland	85	107	112	63	69	63
East of England	345	374	306	268	242	230
East Midlands	16	11	20	26	64	11
London	433	515	503	429	524	727
North East	216	178	196	249	267	289
North West	409	318	401	364	431	472
South East	512	418	526	514	439	396
South West	242	332	400	511	510	481
West Midlands	20	12	11	16	24	10
Yorkshire and the Humber	272	277	261	263	228	248

Source: FAME, UKCoS, ONS, Cebr analysis

Annex B: List of major and minor UK ports

Table B.1: List of major and minor UK ports featured in the analysis

Port	GORS region	Port	GORS region
Aberdeen	Scotland	Littlehampton	South East
Able Humber Port	Yorkshire and the Humber	Liverpool	North West
Anglesey	Wales	Llandulas	Wales
Appledore	South East	Lochaline	Scotland
Ardrishaig	Scotland	Lochboisdale	Scotland
Ayr	Scotland	Lochinver	Scotland
Bangor	Wales	Lochmaddy	Scotland
Barnstaple	South West	London	London
Barra Castlebay	Scotland	London Gateway	London
Barrow	North West	Londonderry	Northern Ireland
Barry	Wales	Lossiemouth	Scotland
Belfast	Northern Ireland	Lowestoft	East of England
Berwick	North East	Macduff	Scotland
Bideford	South West	Magheramorne	Northern Ireland
Bird Port	Wales	Maldon	East of England
Birkenhead	North West	Manchester	North West
Blyth	North East	Marine Resource Centre	Scotland
Boston	East Midlands	Medway	South East
Bridgwater	South West	Methil	Scotland
Brightlingsea	East of England	Milford Haven	Wales
Bristol	South West	Mistley	East of England
Buckie	Scotland	Montrose	Scotland
Burghead	Scotland	Mostyn	Wales
Burntisland	Scotland	Neath	Wales
Burry Port	Wales	Newhaven	South East
Caernarfon	Wales	Newlyn	South West
Cairnryan	Scotland	Newport	Wales
Cardiff	Wales	Newport, Isle of Wight	South East
Carrickfergus	Northern Ireland	Oban	Scotland
Castlebay	Scotland	Orkney Islands Council	Scotland
Charlestown	South West	Padstow	South West
Chatham	South East	Par	South West
Chichester	South East	Penarth	Wales
Clyde	Scotland	Penryn	South West
Coleraine	Northern Ireland	Penzance	South West
Corpach	Scotland	Perth Harbour	Scotland
Cowes	South East	Peterhead	Scotland
Craignure	Scotland	Plymouth	South West
Cromarty Firth	Scotland	Poole	South West
Cullivoe (Yell)	Scotland	Port Askaig	Scotland
Dartmouth	South West	Port Penrhyn	Wales
Douglas	Isle of Man	Port Talbot	Wales
Dover	South East	Port William	Scotland
Dundee	Scotland	Porthoustock	South West
Exmouth	South West	Portland	South West
Fairlie Quay	Scotland	Portree	Scotland

Port	GORS region	Port	GORS region
Falmouth	South West	Portrush	Northern Ireland
Felixstowe	East of England	Portsmouth	South East
Fishguard	Wales	Preston	North West
Fleetwood	North West	Ramsgate	South East
Folkestone	South East	Red Bay	Northern Ireland
Forth	Scotland	River Trent	Yorkshire and the Humber
Fosdyke	East Midlands	Rosyth	Scotland
Fowey Harbour	South West	Rye	South East
Fraserburgh Harbour	Scotland	Sandwich	South East
Gairloch	Scotland	Scalloway	Scotland
Garlieston	Scotland	Scrabster	Scotland
Garston	North West	Seaham	North East
Gill's Bay Scotland	Scotland	Sharpness	South West
Girvan	Scotland	Sheerness	South East
Glensanda	Scotland	Shoreham	South East
Goole	Yorkshire and the Humber	Shotton	Wales
Grangemouth	Scotland	Silloth	North West
Great Yarmouth	East of England	Southampton	South East
Grimsby	Yorkshire and the Humber	Stornoway	Scotland
Gweek	South West	Stranraer West Pier	Scotland
Hartlepool	North East	Sullom Voe	Scotland
Harwich	East of England	Sunderland	North East
Helmsdale	Scotland	Sutton Bridge	East Midlands
Heysham	North West	Swansea	Wales
Holyhead	Wales	Tarbert	Scotland
Howden	Yorkshire and the Humber	Tayport	Scotland
Hughtown (St Mary's)	South West	Teesport	North East
Hull	Yorkshire and the Humber	Teignmouth	South West
Immingham	Yorkshire and the Humber	Tilbury	East of England
Inverkeithing	Scotland	Torquay	South West
Inverness	Scotland	Troon	Scotland
Ipswich	East of England	Truro	South West
Irvine	Scotland	Tyne	North East
Isle of Whithorn	Scotland	Uig	Scotland
Keadby	Yorkshire and the Humber	Wallasea	East of England
Killyleagh	Northern Ireland	Warkworth	East of England
Kilroot	Northern Ireland	Warrenpoint Port	Northern Ireland
King's Lynn	East of England	Watchet	South West
Kinlochbervie	Scotland	Wells	South West
Kirkcaldy	Scotland	Weymouth & Portland	South West
Kirkcudbright	Scotland	Whitby	Yorkshire and the Humber
Kishorn Quay	Scotland	Whitehaven	North West
Kyle of Lochalsh	Scotland	Whitehills Harbour	Scotland
Lancaster	North West	Whitstable	South East
Larne	Northern Ireland	Wick	Scotland
Larne Bank Quays	Northern Ireland	Wick Harbour	Scotland
Leith	Scotland	Wisbech	East of England
Lerwick	Scotland	Workington	North West

Source: Department for Transport, Cebr analysis