

# OXFORD ECONOMICS

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## The economic impact of the UK Ports Industry

A report for Maritime UK  
May 2011



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ECONOMICS

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# 1 Executive summary

## **The UK ports industry has a significant economic impact...**

### **...in 2009 it directly employed 112,000 workers...**

- In 2009, the industry directly employed 112,000 people. This is 0.4% of total employment in the UK. Just over half (50.2% or 56,000 jobs) of those employed in the ports industry worked in either transport or a transport-related activity, with a further 14.3% (16,000 jobs) in construction and 11.9% (13,300 jobs) in cargo handling and storage.
- This figure was considerably below our 2007 estimate, reflecting the impact of the financial crisis, which sparked a dramatic collapse in global trade and a subsequent recession in the UK and its major trading partners.
- Labour productivity remains high relative to the UK average. Gross Value Added (GVA) per worker averaged £62,300, more than 35% higher than the UK economy-wide average of £44,900. It compares to £58,800 in 2007.

### **...contributed £6.9 billion to UK GDP...**

- We estimate that the ports industry made a £6.9 billion value-added contribution to UK GDP. This is 0.5% of total economic activity. To place this figure in context, it is larger than the value-added contribution of both hospital and human health activities and electricity generation in 2009, and only slightly less than the manufacture of computers, electronics and optical products.

### **...and generated £2.3 billion for the UK Exchequer...**

- Moreover, this activity generated £2.3 billion (or 0.5% of total government revenue) for the UK Exchequer, through a combination of taxes on labour and company profits, VAT and council tax receipts. Just under £1.2 billion was generated through taxes on labour with a further £480 million in corporation tax receipts.

### **...whilst generating large multiplier impacts**

- Ports source some of the goods and services that they procure from UK-based suppliers, which, in turn, have their own suppliers (some of whom will be based in the UK) and so on. In addition, people employed by the ports industry and its suppliers will spend their wages on other goods and services in the economy. Such effects are typically referred to as the indirect and induced impacts.
- Including direct, indirect and induced impacts, the ports industry is estimated to have supported just over 337,000 jobs in 2009. Moreover, once these multiplier effects are accounted for, the industry contributed £16.9 billion to UK GDP.
- Finally, inclusive of these multiplier impacts we calculate the ports industry's total contribution to the UK Exchequer was £5.7 billion

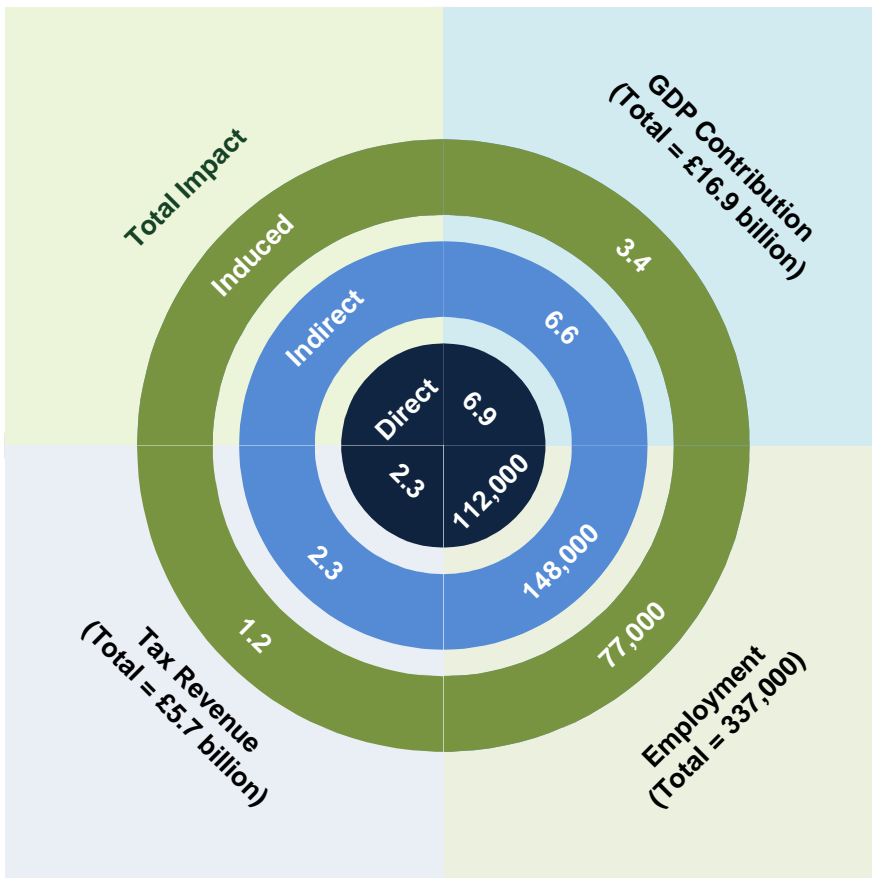
### **Moreover, the industry creates important catalytic effects**

- Alongside the economic impact discussed in the text above, the UK ports industry contributes in many other less quantifiable ways, creating so-called "catalytic" spillover effects.

- Ports enable a whole range of other industries to function, such as fishing and dredging and also supply the North Sea oil and gas extraction industry, which has been an important source of wealth creation for the UK economy over the past 30 years.
- The activities of industries, which are heavily reliant on the import/export of bulk raw materials are also crucially facilitated by UK ports.
- Facilitating recreational activity including water sports. We estimate that up to 3.1 million people (6.2% of the UK population) were engaged in some form of water sports in 2009.

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

**Figure 1.1: Summary of the economic contribution of the UK ports industry in 2009**



## 2 Introduction

This report, prepared by Oxford Economics, evaluates the economic contribution of the UK ports industry in 2009, providing an update on our previous report for 2007<sup>1</sup>.

### 2.1 The channels of economic impact

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

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

But there are also a number of additional economic catalytic impacts (“spillovers”) which result from the wider role of the ports industry, for example:

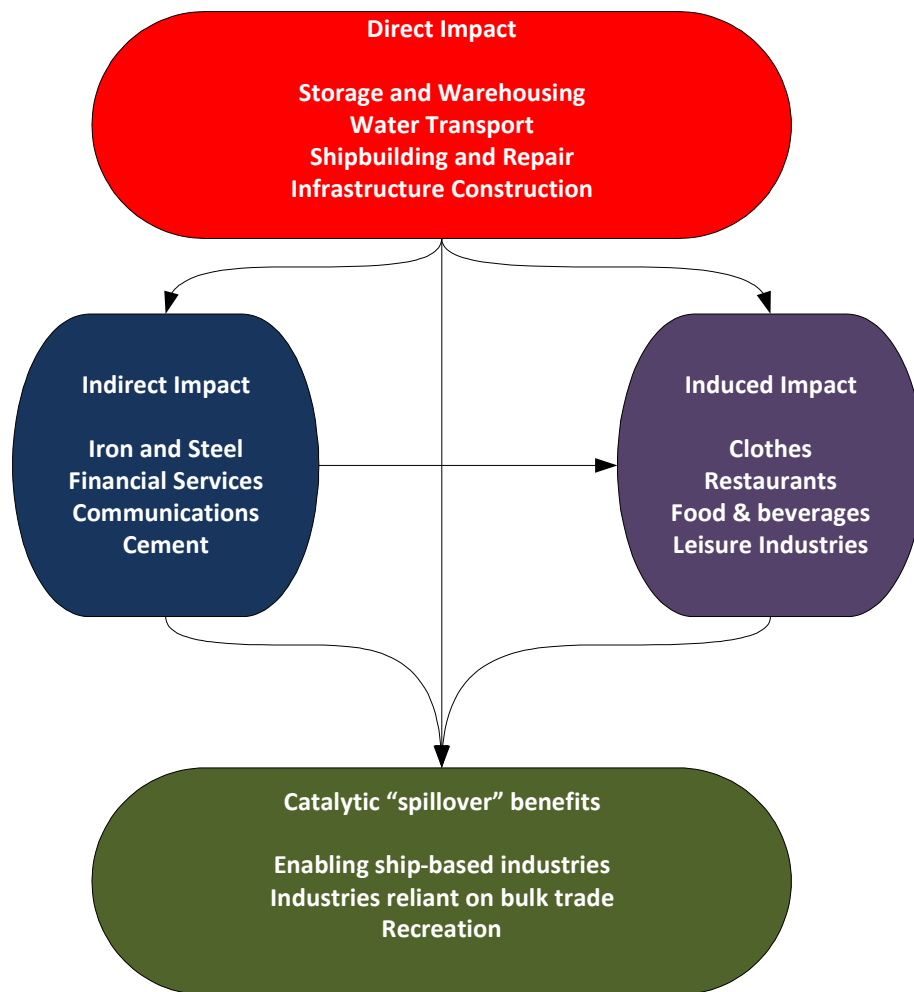
- Enabling a wide variety of industries to function including fishing, dredging and those reliant on the import/export of bulk raw materials.
- Providing a source of recreation by facilitating sea-based watersports, many of which begin in ports.
- Supporting coastal communities, many of which rely on ports to attract visitors which contribute to the continued prosperity of the retail and leisure sectors.

The economic value of the direct, indirect and induced impacts is related to the total revenues of the UK ports industry, while the catalytic impacts are “spillover” benefits for other industries, consumers and the economy more generally (as shown in Figure 2.1 below).

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<sup>1</sup> Oxford Economics, (2009), ‘The economic contribution of the UK ports industry’, February.

Figure 2.1: The UK ports industry and its economic impacts



## 2.2 Report structure

The rest of this report is structured as follows:

- Chapter 3 focuses on the direct impact of the UK ports industry in terms of employment, GDP and tax receipts generated for the Exchequer.
- Chapter 4 discusses the multiplier impacts of the UK ports industry – the so-called indirect and induced impacts.
- Chapter 5 assesses the economic value of spillover effects.
- Chapter 6 concludes.

## 3 Direct impact – employment and GDP

This chapter details the employment and GDP generated by the UK ports industry, here defined to include a range of activities such as shipbuilding and repair, infrastructure-related construction, transport services and warehousing and storage. It also quantifies the direct contribution of companies and employees in the UK ports industry to the Exchequer through income and other taxes.

### KEY POINTS

- In 2009, the ports industry directly employed **112,000 people**. This is **0.4% of total employment in the UK**. Of these, just over half (50.2%) were in either transport or transport-related activities. This total implied that the ports industry was a larger employer than the justice and judicial sector and the furniture, lighting and other household goods retailing industry.
- That activity made a **direct value-added contribution to UK GDP of £6.9 billion**, equivalent to 0.5% of UK economic output. This is a larger contribution than made by the hospitals and other human health activities and electricity generating sector.
- In total, these activities **generated £2.3 billion for the UK Exchequer** or 0.5% of total government revenues in direct and indirect taxes.

### 3.1 Direct contribution to employment

In line with our 2009 study we adopt a hybrid approach to estimating the contribution to employment of the UK ports industry. Using the ONS Business Register and Employment Survey (BRES) we have selected SIC codes that reflect the type of activities that occur in ports<sup>2</sup>. This was mapped to wards containing ports as shown by maps on the website of major port groups and in hard copy. This enabled us to estimate employment at 18 of the largest UK ports<sup>3</sup>. Details on these ports' freight and passenger volumes in 2009 are summarized in Table 3.1 below. In order to account for the remainder of UK ports we then grossed up this total by their share of all freight passing through UK ports. This gives a scaling factor of 1.22<sup>4</sup>. This is a small grossing factor, which should lead to a relatively accurate estimate for the total industry.

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<sup>2</sup> The BRES covers all UK businesses registered for Value Added Tax (VAT) and/or Pay As you Earn (PAYE). Focusing on employment and financial information its data is disaggregated by industry and geography.

<sup>3</sup> The data collected from the BRES are for ports which deal with in excess of 10 million tonnes of freight or 1 million international sea passengers in 2007.

<sup>4</sup> The scaling factor was calculated by dividing total freight tonnage in the UK taken from the Department for Transport's Maritime Statistics for 2009 by the total freight tonnage delivered through these ports in 2009.



**Table 3.1: Freight and passenger data from the 18 largest (by freight volume) ports in the UK in 2009**

<b>Summary of the freight and passenger volumes at UK ports in 2009</b>					
	<b>Port</b>	<b>Freight (thousand tonnes)</b>	<b>Share of total</b>	<b>International sea passengers and cruises (thousands)</b>	<b>Share of total</b>
1	<b>Grimsby &amp; Immingham</b>	54,708	10.9%	71	0.3%
2	<b>London</b>	45,442	9.1%	8	0.0%
3	<b>Milford Haven</b>	39,293	7.8%	315	1.4%
4	<b>Tees and Hartlepool</b>	39,163	7.8%	0	0.0%
5	<b>Southampton</b>	37,228	7.4%	925	4.0%
6	<b>Forth</b>	36,690	7.3%	31	0.1%
7	<b>Liverpool</b>	29,936	6.0%	171	0.7%
8	<b>Dover</b>	25,087	5.0%	13,265	57.6%
9	<b>Felixstowe</b>	24,267	4.8%	9	0.0%
10	<b>Medway</b>	13,150	2.6%	0	0.0%
11	<b>Clyde</b>	12,552	2.5%	0	0.0%
12	<b>Belfast</b>	12,050	2.4%	0	0.0%
13	<b>Sullom Voe</b>	11,217	2.2%	0	0.0%
14	<b>Hull</b>	9,771	2.0%	936	4.1%
15	<b>Bristol</b>	8,999	1.8%	0	0.0%
16	<b>Portsmouth</b>	3,954	0.8%	2,139	9.3%
17	<b>Orkney</b>	3,241	0.6%	0	0.0%
18	<b>Holyhead</b>	2,852	0.6%	1,942	8.4%
	<b>Total of 18 ports</b>	<b>409,600</b>	<b>81.8%</b>	<b>19,811</b>	<b>86.0%</b>
	<b>UK</b>	<b>500,863</b>	<b>100.0%</b>	<b>23,028</b>	<b>100.0%</b>

Source: Department of Transport (2010a)<sup>5</sup> and Oxford Economics

Grossing up the total for the UK ports sector from a sample of large ports has one potential disadvantage. It may misrepresent the non-sampled ports if there are marked differences in the type of activities that large and small ports undertake. This may be the case if large ports focus on freight and passenger services, while smaller ones focus more on recreation and maintaining smaller scale but nonetheless important services such as ferry links to island communities.

For some of the public sector occupations in ports it is possible to obtain more accurate information from other government sources. The National Audit Office (2008) reports that HM Revenue and Customs (HMRC) had 4,500 staff working for the UK Border Agency on detection.<sup>6</sup> We assign a share of this total to ports using the share of imports (in volume terms) to the UK that arrive via ports. This suggests that there were 3,375 people working as custom officers at UK ports in 2007. Moreover, the Border & Immigration Agency (2007) reports a total of 8,700 full time equivalent staff were employed in Border Control and Migration.<sup>7</sup> ONS (2010) shows just under 15% of foreign visitors to the UK arrived by sea.<sup>8</sup> Using this proportion, we estimate that just over 1,500 of the UK Border Agency's staff are employed in ports. The figures for 2007 have been scaled to 2009 by the percentage change in employment in the SIC codes covering these two categories.

<sup>5</sup> Department for Transport, (2010a), 'Transport statistics report: Maritime statistics 2009', 23 September.

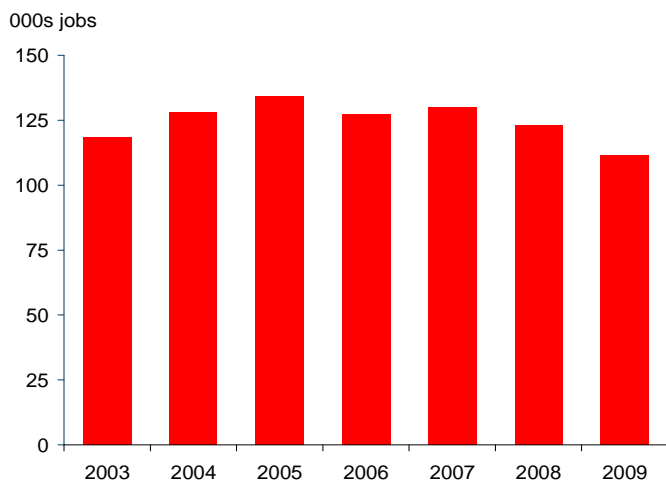
<sup>6</sup> National Audit Office, (2008), 'HM Revenue & Customs: The control and facilitation of imports', 7 November.

<sup>7</sup> Border & Immigration Agency, (2007), 'Business plan for transition year April 2007 – March 2008', Home Office.

<sup>8</sup> ONS, (2010), 'Travel trends 2009', 13 July.

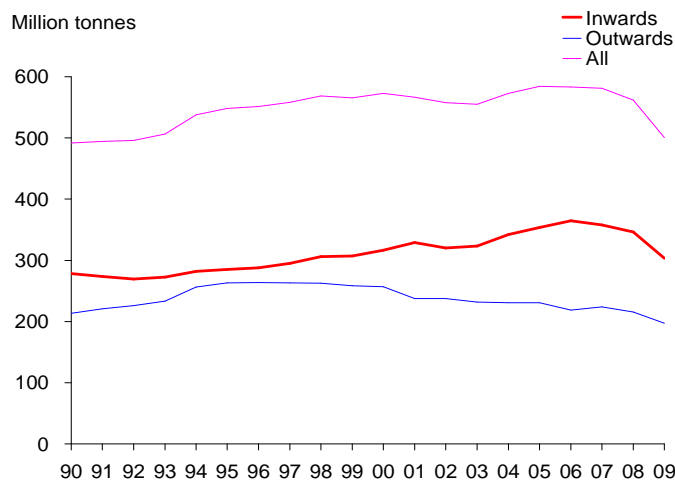
Using this approach, we estimate that in 2009 the ports industry directly employed 112,000 people. To give a sense of scale, this is 0.4% of total employment in the UK. The employment estimate for 2009 is 11.6% below its level in 2008. This compares to a 10.9% decline in freight traffic (Chart 3.2) and 0.1% decline in international passenger volumes in 2009 recorded by Department for Transport (2010b). The greater loss of employment than freight volume reflects significant labour shedding in maritime insurance (3,600) activities and non-water transport (3,100) located on the port site in 2009 as a result of the recession

**Chart 3.1: Direct employment in the UK ports industry**



Source : Oxford Economics

**Chart 3.2: All UK ports freight traffic**



Source : Department for Transport (2010)

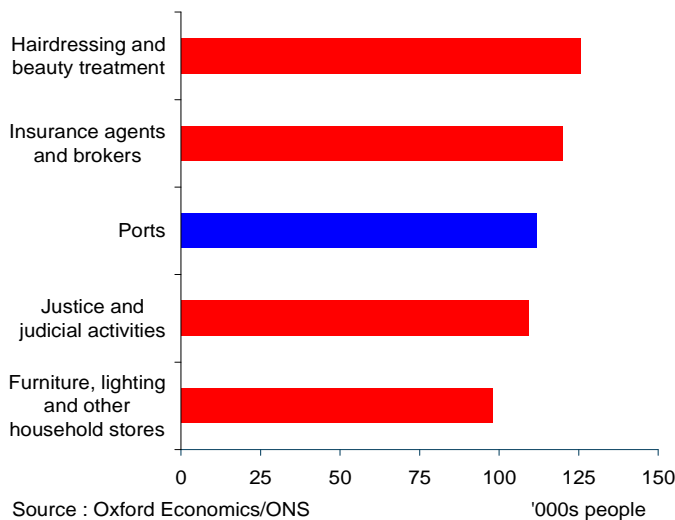
The estimate is significantly above the Department for Transport’s (2010b)<sup>9</sup> estimate for port employment in 2009/10. This stands at 37,000 full time equivalent employees (FTEs) employed in jobs directly related to commercial port operations and based on the port estate. (The DfT study also estimated a further 21,000 were employed in directly related jobs based off port estates, and a further 12,000 were employed on port estates but in jobs which were, in the terms of the study, only partly, or unrelated, to the port operations). Our estimate is larger as the selection of industries included was significantly wider than the Department for Transport study, which focussed on jobs ‘directly related’ to port operations (i.e. the mode switch process of moving freight or passengers between land and water, but including the administrative and regulatory jobs as well as operational ones), and only included other employment on port estates (such as ship repair, other industry, or supporting services such as catering) as ‘indirectly related’, ‘partially related’ or ‘unrelated’ activities. There are also significant geographical differences reflecting our use of ONS BRES council ward data to represent proximity to ports. Also, this study calculates employment on a headcount rather than on the FTE basis of the DfT study.

To place these results in context it is useful to compare the headline figure to employment levels in other industries. This shows that the ports industry employed more people than the justice system and specialist retailers of furniture, lighting and other household equipment in 2009

<sup>9</sup> Department for Transport (2010b), ‘Transport statistics bulletin: Port employment and accident rates 2009/10’, October.

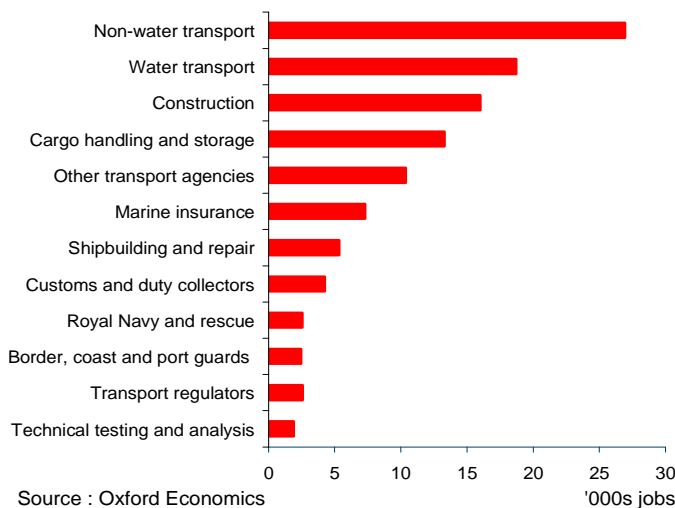
(Chart 3.3). The industry employed slightly less than the hairdressing and other beauty treatments and insurance agents and broking sectors.

**Chart 3.3: Comparison of employment contribution to other industries in 2009**



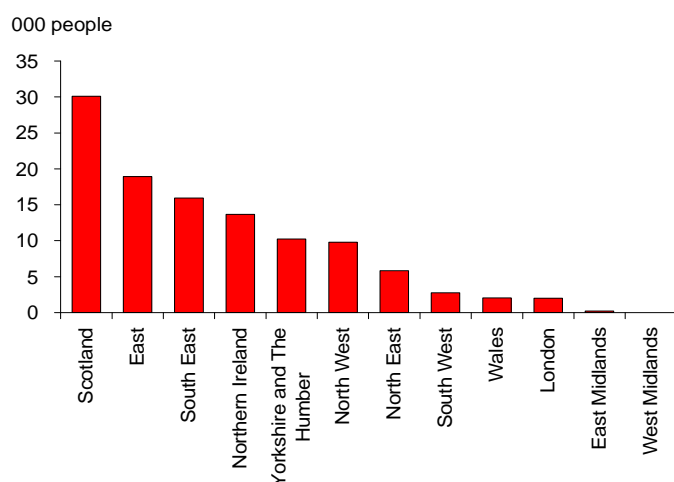
The breakdown of jobs within the ports industry reveals that just under half (50.2% or 56,000) of all jobs are either in transport or transport-related activities. Apart from these, industries such as construction (16,000 or 14.3%) and cargo handling and storage (13,300 or 11.9% of the total) are larger employers.

**Chart 3.4: Employment in ports by industry in 2009**



Another way the employment in ports can be disaggregated is by the countries and regions. Scotland is estimated to have the most port employment at 30,100 people (Chart 3.5). It is followed by the East of England (18,900), South East (16,000) and Northern Ireland (13,700). There is very little port employment in the East and West Midlands.

**Chart 3.5: Employment in ports by countries and regions in 2009**



Source : Oxford Economics

### 3.2 Direct contribution to GDP

Gross Domestic Product (GDP) is the main measure of the level of economic activity in a region or country in a given time period. It is the indicator used by economists to determine the rate of growth of the economy and when it enters recession. It is commonly estimated using the “output approach” which measures the sum of the gross value added (GVA) created through the production of goods and services within the economy. GVA refers to the difference between an industry’s total pre-tax revenues and total brought-in costs (i.e. costs excluding wages and salaries) adjusted for any changes in stocks.

To calculate the GVA contributed by the ports sector to the UK economy, we have multiplied the number of employees in each industry operating within the ports sector by the average productivity of employees working in that industry. The calculation is undertaken at the 4 digit<sup>10</sup> Standard Industrial Classification level.<sup>11</sup> The labour productivity estimates are sourced from the ONS Annual Business Survey (ABS) results for Great Britain, dividing gross value added by employment for each industry.

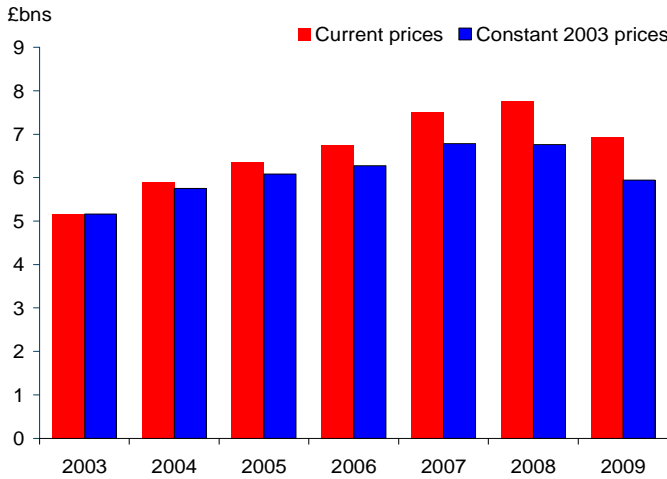
The results suggest that in 2009 the UK ports industry contributed £6.9 billion to UK GDP (Chart 3.6). This is 0.5% of the UK economy’s economic output. In real terms, the contribution to GDP in 2009 was 12.1% below its level in the previous year. This compares to the economy wide contraction in GDP of 4.9% in 2009.<sup>12</sup>

<sup>10</sup> Where the ONS does not publish the information required to calculate productivity at the 4 digit SIC code level in the ABS, we use the appropriate 3 digit code.

<sup>11</sup> The Standard Industrial Classification of Economic Activities (SIC) is used by the Office for National Statistics to classify businesses by the type of economic activity in which they are engaged. It provides a framework for the collection, tabulation, presentation and analysis of data.

<sup>12</sup> ONS, (2010), ‘Quarterly national accounts: 3<sup>rd</sup> quarter 2010’, 22 December.

**Chart 3.6: Direct contribution to GDP of UK ports industry**

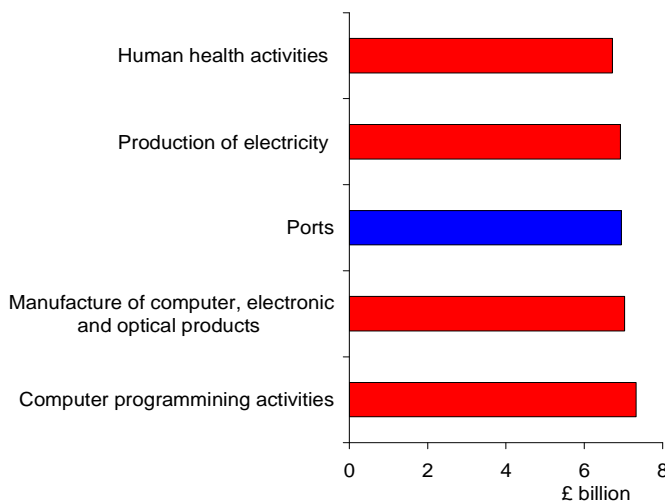


Source : Oxford Economics

The recession induced contraction in ports' contribution to GDP is in sharp contrast to the growth in the preceding years. In the five years between 2003 and 2008, ports contribution to GDP increased by an average of 5.6% each year in real terms (Chart 3.5). This compares to an average growth in economy wide GDP of 2.1% a year over the same time period.

Again, in order to provide context, it is useful to compare these results with the value-added output of other UK industries. This indicates that, in 2009, the ports industry's contribution to GDP was larger than the human health activities and electricity generation and only slightly smaller than the manufacture of computer, electronics and optical products and computer programming (Chart 3.7).

**Chart 3.7: Comparison of GDP contribution to other Industries in 2009**



Source : Oxford Economics/ONS

### 3.3 Direct contribution to Exchequer revenue

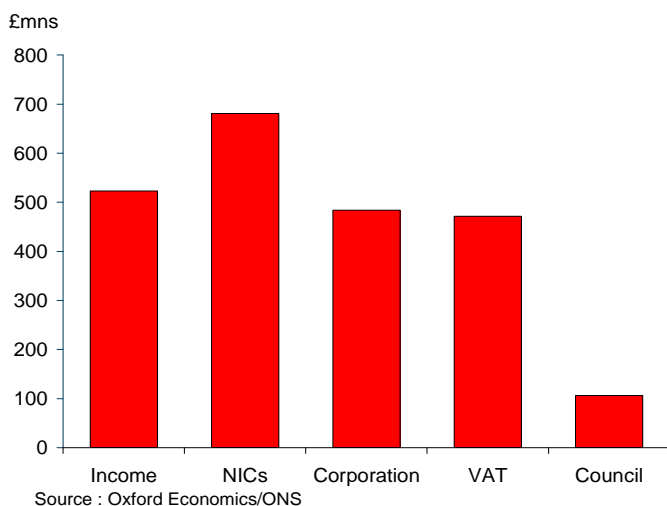
The ports sector pays a number of different types of taxes to the Exchequer. It directly pays corporation tax on its profits and Council tax on the buildings within the port estate. Through its

payment of wages to its staff, it directly contributes income tax and National Insurance Contributions (NICs). While port employed staff pay VAT and other indirect taxes when they spend their wages and Council tax on any domestic property they may own or rent.

To estimate of the amount of employment taxes (income and employee/employer contributions to National Insurance) ports pay, data on average gross earnings employees receive in each industry in the ports sector (Chart 3-4) in 2009 have been sourced from the ONS' Annual Survey of Hours and Earnings (ASHE)<sup>13</sup>. This is combined with income tax and National Insurance Contribution allowances and rates for 2009 from HMRC. Barnard (2010) has estimated the burden of taxation for a variety of types of taxes as a proportion of gross income.<sup>14</sup> We calculate VAT and other indirect taxes and workers' Council tax payments by matching port workers' gross earnings to these average tax rates. The corporation tax estimates are constructed by estimating the profitability of each sector of the ports industry by applying the relevant ratio of profits to GVA from the 2008 Input Output table to our sector estimates of GVA<sup>15</sup>, and then apply the 2009 corporation tax rate to this total.

The results show that, in 2009, the ports industry generated £2.3 billion of tax revenue for the Exchequer. The highest component was National Insurance Contributions (over £680 million), followed by income tax receipts which totalled £520 million – the majority of the remainder came from VAT and corporation tax receipts. Chart 3.8 illustrates the direct tax contribution to the Exchequer by type of tax.

**Chart 3.8: Direct contribution to the Exchequer broken down by type of tax**



<sup>13</sup> In some cases the ASHE data for 2009 was suppressed, in this instance we grew forward the value in 2008 with average weekly earnings growth in the relevant sector of the UK (be it construction, services or manufacturing).

<sup>14</sup> Barnard, A, (2010), 'The effects of taxes and benefits on household income, 2008/9', Office for National Statistics, June.

<sup>15</sup> For simplicity we assume that half of firms are eligible for the lower rate and half for the higher rate of corporation tax. An adjustment was also made to account for depreciation.

## 4 Multiplier effects – indirect and induced impacts

As well as the direct contribution of the UK ports industry to the UK economy, there are indirect impacts on employment and output via the supply chain, and induced impacts from those directly and indirectly employed by the industry using their wages to buy consumer goods and services. The remainder of this chapter will summarize the key findings focusing on the same three metrics: employment; GDP and tax receipts.

### KEY POINTS

- We estimate that an additional 148,000 jobs are supported indirectly via the supply chain, and a further 77,000 generated by the induced spending of employees. Therefore, including direct, indirect and induced impacts, the ports industry supported over **337,000 jobs in 2009**.
- In terms of these ‘multiplier’ effects on GDP, our estimates show that the activity of the ports industry generated an additional £6.6 billion of GDP indirectly via the supply chain, with a further £3.4 billion created by the spending of those employed directly and indirectly as a result of industry activity. This implies that the total economic impact, including the direct effect, on **GDP is almost £16.9 billion**.
- The indirect activity generated an additional £2.3 billion for the Exchequer while the additional induced demand created a further £1.2 billion in tax revenues. In total, the ports industry, including direct, indirect and induced effects, **contributed £5.7 billion to the Exchequer in 2009**.

### 4.1 Indirect and induced impact on employment

To calculate the size of the indirect effects we multiply the direct GDP of each industry in the port sector by a supply chain (or Type I) multiplier derived from a 2008 Input Output (IO) table sourced from the ONS.<sup>16</sup> Where there is not a direct match between a multiplier and an industrial sector, the nearest broader industry multiplier has been used. The results for all these individual industries are then aggregated to estimate the value added contribution to GDP that the ports sector’s purchases of inputs generates in its UK supply chain. To calculate the number of people employed in the ports’ supply chain we divide the estimate of indirect GDP by a figure for average whole economy productivity (£44,300 per person in 2009) sourced from ONS data. Meanwhile, the induced impact was calculated using Type II multipliers derived from the 2008 IO table, in a similar procedure to that used to calculate the indirect impact<sup>17</sup>.

The results of our analysis show that over 148,000 jobs are supported indirectly in ports’ supply chain. An additional 77,000 jobs are supported by the induced spending of employees and those employed in the ports industry’s supply-chain. Therefore, in total the ports industry supported over 337,000 jobs in 2009 or 1.2% of total UK employment.

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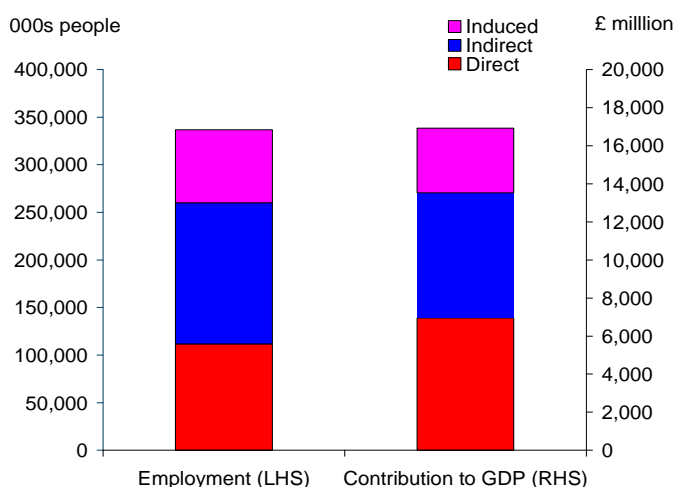
<sup>16</sup> A Type I multiplier shows the activity generated by the sectors spending on inputs of goods and services. It measures the size of the direct and indirect effects divided by direct effects.

<sup>17</sup> A Type II multiplier shows the activity generated by spending on inputs of goods and services and by the spending of households. It measures the size of the direct, indirect and induced effects divided by direct effects.

## 4.2 Indirect and induced impact on GDP

In terms of the multiplier effects on GDP, our estimates show that the activity of the ports industry generated an additional £6.6 billion of GDP indirectly via the supply chain, with a further £3.4 billion generated by the spending of those employed directly and indirectly as a result of industry's activity. This implies that the total economic impact on GDP is almost £16.9 billion or 1.2% of total UK GDP. Chart 4.1 compares the breakdown of the port industry's total economic impact on both GDP and jobs. The fact that the ports industry has a proportionately larger impact on GDP indicates that it is a relatively productive industry. Indeed, the average contribution to GVA of each worker in the ports industry was £62,300, over 35% higher than the economy-wide average in 2009.

**Chart 4.1: Total economic impact of the ports industry in 2009**



Source : Oxford Economics

## 4.3 Indirect and induced contribution to the Exchequer

A further benefit of these indirect and induced impacts is that they generate additional revenues for the Government. In general we utilised the same methodology employed to estimate direct tax revenues. However, for income tax we used the results of the Barnard (2010) study which estimated the proportion of gross income which households paid in income tax in 2009<sup>18</sup>, whilst for national insurance contributions, we estimated revenue raised per worker and then multiplied this by total employment<sup>19</sup>. These ratios were applied to our estimate of gross earnings by those employed indirectly by the ports industry. The results indicated that:

- generated £2.3 billion for the Exchequer indirectly, and;
- generated a further £1.2 billion in tax revenues via the induced channel of impact.

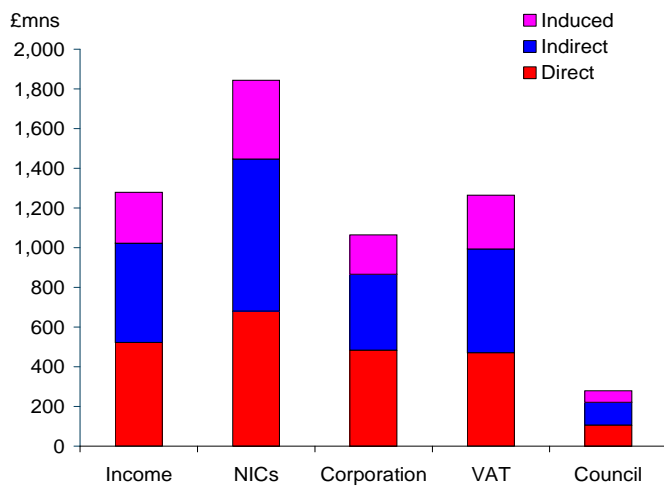
<sup>18</sup> The reason for the use of an alternative methodology was that as opposed to the direct impact the indirect and induced employment figures were not disaggregated at a sectoral level.

<sup>19</sup> In order to calculate revenue raised per worker we assumed that employees were paid an average (mean) wage (in 2009 this was £26,450), and then applied the relevant 2009 threshold level and rates.



Therefore, in total the ports industry, including direct, indirect and induced effects, contributed £5.7 billion to the Exchequer in 2009. Chart 4.2 summarises the results.

**Chart 4.2: Breakdown of total impact on tax revenues in 2009**



Source : Oxford Economics/ONS

## 5 Catalytic Impacts

The overall impact of ports on the UK economy extends far beyond the direct, indirect and induced contributions to GDP, employment and tax revenues that we discussed in previous chapters. In this chapter, we explore the way port-dependent industries are affected by ports. We then go on to investigate ports and their relationship to national leisure and recreational activities.

### KEY POINTS

- Many industries are dependent on ports for their existence. These include the fishing, marine dredging and North Sea oil and gas servicing industries. The first two employ over 13,000 people, generating a £1,960 million contribution to GDP.
- Ports enable industries heavily reliant on the import of bulk raw materials or export of finished goods. In estimate, these employ 45,000 people on the port estate and contribute £6.9 billion to GDP.
- Ports also play a significant role in leisure and recreation. In 2009, approximately 3.1 million people (or 6.2% of the population) participated in sea-based watersports.
- In 2009, nearly 3,000 people were employed in museums, 36,000 in restaurants and 27,000 in bars in ports and harbours. Ports play an important role in sustaining the UK tourist and hospitality industries.

### 5.1 Industries enabled by ports

Many industries rely on ports to be able to operate; without ports, these sectors would not function. The industries ports enable can be split into three broad types. First, there are the industries which use ships to access the sea, or ships to service their facilities at sea. Second, there are those industries which rely heavily on imports of bulky raw materials or exports of finished goods. Lastly, there are those which depend on the natural or historic heritage associated with the coastline, ports or shipping.

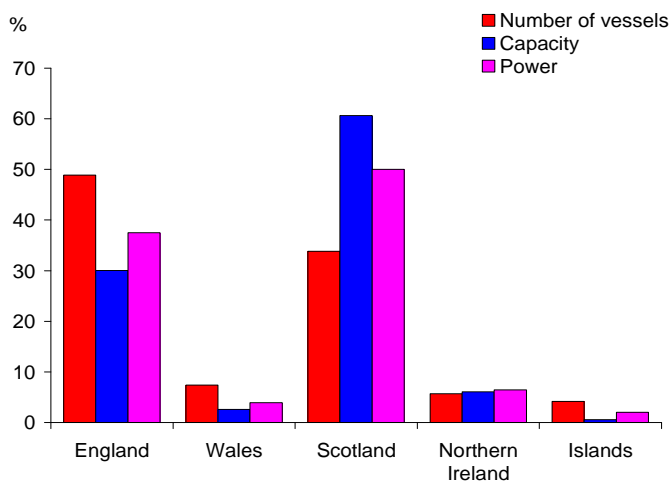
However, this should be considered a slightly narrow selection. Each year, roughly 95% of imports and exports by volume (and 75% by value) pass through the UK's ports. In 2009, 30% of all the goods and services consumed in the country were imported, and just over a quarter (27%) of all domestically produced goods and services were sold outside the UK respectively. To a certain extent, therefore, any industry that imports or exports goods will be dependent on ports to some degree. Moreover, if ports were not there to facilitate the import of foreign food and consumer goods, consumer choice in retail outlets would be significantly reduced.

### 5.2 Ship-based industries

In 2009, the Marine Management Organisation estimated that there were approximately 12,200

fishermen in the UK.<sup>20</sup> They work in a fishing fleet that numbers some 6,500 fishing vessels. Of these ships, 3,169 (or 49%) work out of ports in England, 2,193 (34%) in Scotland, 481 (7%) in Wales, 370 (6%) in Northern Ireland and 270 (6%) in the Islands (Chart 5-1). Of these countries, vessels working out of Scottish ports have the highest share of capacity and power<sup>21</sup>. The three largest ports by value of fish landed in 2009 are Peterhead (£101.4 million), Lerwick (£51.0 million) and Fraserburgh (£47.6 million) – all of which are located in Scotland. In total, the fishing industry contributed £259 million to GDP in 2009. With an extra 17,000 people employed in the fishing processing industry, £1,843 million was contributed to GDP that year.

**Chart 5.1: Share of the UK fishing fleet in 2009 by country of administration**



Source : Marine Management Organisation (2010)

Ports are also used by the UK marine aggregate dredging fleet. This industry produces sand and gravel dredged from the sea bed. In 2009, the British Marine Aggregate Producers Association (2010) reported that 20.1 million tonnes of marine aggregate was extracted. Of this 10.03 million tonnes was landed in Great Britain for the aggregates market, 5.66 million tonnes was delivered to the European aggregate market and 4.5 million tonnes used for beach replenishment.<sup>22</sup> In total, the industry employed 547 people as ships crew and in office-based roles. According to The Crown Estate (2008), each year the dredging fleet generates roughly £114 million towards UK GDP.<sup>23</sup>

Ports play a vital role in servicing the North Sea energy industry. This role is difficult to quantify in terms of size, however. In 2009, the extraction of oil and gas contributed £18.6 billion to UK GDP. According to Oil & Gas UK (2010), approximately 207,000 people were employed in the North Sea oil and gas industries' wider supply chain. An additional 100,000 are employed due to the oil workers induced spending. Of these employees, some will be located in ports - particularly in places such as Aberdeen and those ports which are closely linked to the oil and

<sup>20</sup> Marine Management Organisation, (2010), 'UK sea fisheries statistics 2009'.

<sup>21</sup> Here capacity is defined as the physical dimension of vessels measured in terms of gross tonnage whilst power refers to the power of a vessel's engine and is measured in Kilowatts.

<sup>22</sup> British Marine Aggregate Producers Association, (2010), 'Strength from the depths: Fourth sustainable development report for the British marine aggregate industry', December.

<sup>23</sup> The Crown Estate, (2008), 'Socio-economic indicators of marine-related activities in the UK economy'.

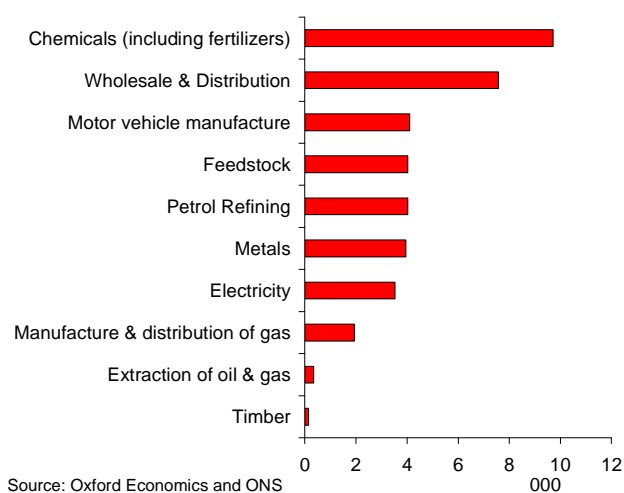
gas industries.

### 5.3 Industries reliant on bulk imports or exports

A range of other industries are facilitated by ports as they are reliant on imports of bulky raw materials by sea. Alternatively, industries may be dependent on ports to export finished manufactures. Typically, these industries locate their plants on the port estate or very close to it. To investigate which these are, a number of interviews were undertaken with the representative of major ports during the 2009 study. Interviewees were asked which of the industries located on the port estate were enabled by the ports presence. As with the estimation of the direct effects, we take the same approach to quantifying their size. In other words, we download employment data from the BRES for the industries selected in wards within the largest 18 ports. This figure is then grossed-up on the basis of their share of tonnage to calculate a figure for all UK ports.

In total, we estimate a further 45,000 jobs were reliant on the bulk importation of raw materials or export of finished goods in 2009. The breakdown is shown in Chart 5.2. The three largest employers were chemicals manufacturers (including fertilizer) which employed 13,000 on UK ports' estate, wholesale and distribution (7,000) and motor vehicle manufacturers (6,000). Multiplying by the average productivity of workers in each industry suggests these sections contributed £6.9 billion to GDP. This high figure reflects the capital intensive nature of many of the industries.

**Chart 5.2: Employment in industries enabled by ports in 2009**



### 5.4 Ports as places for recreational activities

Ports, particularly the smaller ones, play a significant role in providing leisure and recreational opportunities for the UK population. These come in various guises.

Smaller ports facilitate watersports. We estimate that up to 3.1 million people (or 6.2% of the

population) participated in sea-based watersports in 2009. A breakdown between different types of watersport is provided in Table 5.1. This figure is a maximum as some of the sports activities can also be undertaken on inland water. Moreover, the same individual may participate in more than one activity. It is difficult to quantify the employment or GDP contribution from watersport activities; this partially reflects the aggregated nature of ONS statistics. We have included boat building in ports in the direct effects as it is not broken down by type of boat.

**Table 5.1: Participation in sea-based watersports in 2009**

<b>Overview of Watersports Participation Rates</b>		
<b>Sporting Activity</b>	<b>Average % of UK Population</b>	<b>Maximum Number of Adults</b>
<b>Small sail boat activities</b>	1.8	870,000
<b>Power boating</b>	1.2	570,000
<b>Small sail boat racing</b>	1.1	555,000
<b>Yacht cruising</b>	0.8	384,000
<b>Water ski-ing</b>	0.6	315,000
<b>Windsurfing</b>	0.5	264,000
<b>Yacht racing</b>	0.2	99,000
<b>Total</b>	6.2	3,057,000

Source: The Watersports & Leisure Participation 2009 survey

In terms of tourism, ports are connected with the UK maritime heritage. Over the centuries, ports have played a pivotal role in naval warfare and the movements of goods, people and ideas. As Van Hooydonk (2006) highlights, London and Liverpool ports were once like “gateways to the British Empire”<sup>24</sup> and so historically relevant. He stresses the importance of the architecture associated with the port authority, industrial waterfronts and monuments in port cities which derive their historic prosperity from ports.

While it is relatively difficult to quantify the number of tourists that visit ports, especially when they are not required to purchase a ticket to gain access to the waterfront, we can measure the number of people employed in museums, the preservation of historical sites and buildings on the port estate. This is achieved by using the BRES employment data along with the same methodology used for direct effects. On this basis, we estimate that over 1,800 people were employed in museums in ports in 2009; the majority of which are employed in Liverpool, London and Portsmouth. Liverpool has a number of museums that emphasize its role as a major port in the British Empire and highlight the UK’s historic trade ties with the United States. Similarly, museums in Portsmouth contain a number of famous ships which have played a part in naval

<sup>24</sup> Van Hooydonk, E, (2006), “Soft values of seaports: A plea for soft values management by port authorities”, University of Antwerp.

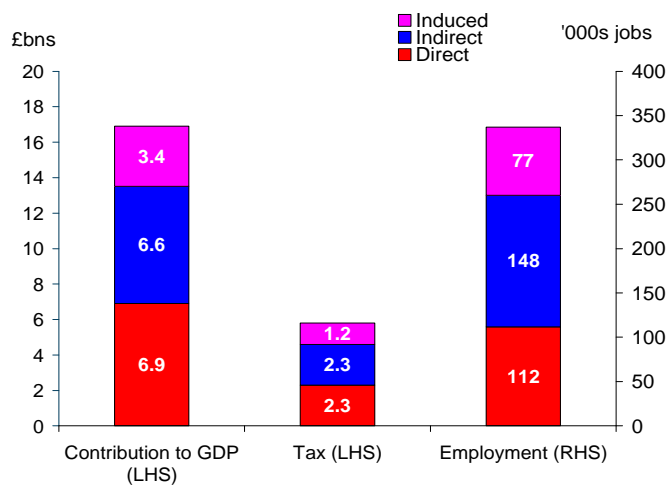
history including the HMS Victory, the Mary Rose, HMS Warrior, and HMS Trafalgar, as well as the Royal Dockyards.

More generally, ports – particularly some of the smaller ones – are desirable places to wander around. Tourists are attracted to the waterfront. This generates employment in bars, restaurants and shops on or close to ports and harbours. There are 35,000 people employed in restaurants and 20,000 in bars and pubs in ports, which contributes £780 million to the UK's GDP.

## 6 Conclusion

This report has evaluated the economic impact of the UK ports industry in 2009, providing an update on a previous report produced by Oxford Economics. Results are presented in terms of three standard metrics (jobs, GVA and contribution to the Exchequer) and consideration is also paid to the less tangible “catalytic” benefits of the shipping industry. The headline results of the study are summarised in Chart 6.1. This study was done in conjunction with economic impact assessments of the UK shipping and maritimes services industries. The results from this trio of sectors were then combined, with adjustments made to eliminate the risk of “double counting”, in order to generate an estimate of the economic impact of the UK maritime sector.

**Chart 6.1: Summary of the economic impact of the ports industry in 2009**



Source: Oxford Economics

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