The UK's Global Maritime Professional Services: Contribution and Trends

RESEARCH REPORT
PUBLISHED BY THE CITY OF LONDON CORPORATION

CITY OF LONDON

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Contents

Foreword

The maritime industry is truly global in scope and scale. In enabling the delivery of the vast majority of the world's goods and transport services, the industry supports the success of economies internationally. The UK sits at the heart of this, providing a depth and breadth of expertise in maritime business services that underpins the functioning of global trade. This includes areas such as shipbroking, law, and insurance, alongside the specialist education and training essential in developing the business and technical skills needed.

Yet, while the UK and London are widely recognised as playing a lead role internationally, new markets are emerging, and other centres are developing their offer. This report offers a wealth of new data and insights to aid understanding of the UK's maritime business services sector – the contribution it makes to the UK economy, the role it plays globally, and the challenges and opportunities it faces.

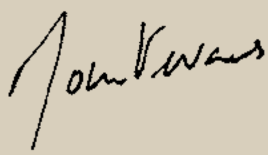
Domestically, this report demonstrates how significant the sector is to the UK economy, generating approximately £4.4 billion per annum and directly employing over 10,000 people. It attracts business from all around the world, with over 80% of sales coming from outside of the UK, and many of the largest firms in shipbroking and law having their headquarters here.

Beyond this key role in the domestic economy, the sector is vital in the global arena. The report findings highlight that the UK remains the undisputed global leader in maritime business services, across sectors such as complex maritime insurance, legal services and arbitration, maritime education and shipbroking – particularly in the dry bulk, tanker and sale and purchase segments. That the UK's global leadership persists, in spite of a shift of physical shipping activity towards Asia, is testament to the depth and breadth of expertise that can be found here.

As an industry, however, we must not be complacent. The capacity of other maritime hubs to compete for specialised business services continues to grow – in many cases, supported by the international growth of UK firms in these markets. Some subsectors also face particular challenges, including regulatory requirements and falling charter rates. The UK must therefore continue to innovate to maintain its market leading position.

The findings of this report complement and reinforce the messages in the 2015 report, *Maritime Growth Study: keeping the UK competitive in a global market*, where I encouraged the industry to come together, with government support, to protect and enhance one of the UK's great strengths. Education plays a central role and supports the clustering of our expertise; it enables us both to develop the skills that are fundamental to the industry here, and to foster talent around the world.

In my year as Lord Mayor, the promotion of the UK as the leading maritime centre is a core part of my programme as global ambassador for the UK's financial and professional services. This is underpinned by the evidence and expert insight that research such as this can offer. I would hence like to express my thanks to the individuals and organisations who contributed their views and data. It is only through the generous level of support and engagement of industry experts that this report has been made possible.



The Rt Hon the Lord Mayor of the City of London, Alderman the Lord Mountevans

April 2016

Scope of study

The maritime business services sector plays a significant role in the UK's economy and is a major UK export to international markets. PricewaterhouseCoopers LLP (PwC) was commissioned by the City of London Corporation to conduct this study into the maritime business services industry (specifically the sectors outlined below). The sectors covered in this study are:

- Accounting
- Consulting
- Education
- Finance
- Insurance
- Law
- Shipbroking

The business services sector was chosen due to its importance to the UK economy and the relative lack of data available on the sector. While the scope of this study covers the whole of the UK, the concentration of these sectors in London means that much of the commentary in this document is focused on London.

This study does not explore maritime technical services (including ship management, marine classification, ship building, technical consulting and crewing) and maritime operations (e.g. vessel ownership and operations) as these areas were outside the scope of work.

We note that marine classification, ship management and technical consulting[1] are often defined as business services. While they are undoubtedly important parts of the UK's maritime cluster and make sizable contributions to the UK economy, they also involve a significant technical component.

The primary focus of the study has been on quantifying the size of the relevant sectors, their contribution to the UK (in terms of Gross Value Added (GVA)) and the trends that have been affecting these sectors. In addition, the study addresses questions regarding the relative position of the UK in comparison to other key international maritime hubs, such as Singapore, Dubai, Hong Kong and Shanghai, as well as highlighting the key opportunities and challenges the UK faces as a centre for maritime business services.

This study has utilised a range of primary financial data, a survey of companies from each of the segments, interviews with senior participants in each sector (both in the UK and internationally) and existing literature. This research presents new data, drawn from survey responses and interview feedback.

Our GVA calculations split out each sector's contribution in terms of:

Direct effects – the contribution of each sector in terms of employee costs, profit (before depreciation) and tax contributions

Indirect effects – the effect of the sector's activity on its supply chain in the UK

Induced effects – the effect of the spending of employees (directly and indirectly) employed in the sector

1 Technical consulting covers consultancy in engineering, naval architecture, navigation, surveying and marine science.

We would like to thank the following companies and organisations for their participation and assistance:

Lloyd's Market Association
Watson Farley & Williams
scottish maritime academy
The LMAA The London Maritime Arbitrators Association
Middlesex University London
UCL
IUMI International Union of Marine Insurance
Maritime London
The Baltic Exchange
CTS Container Trades Statistics
Oxford Economics
Norton Rose Fulbright
London Stock Exchange
Waltons & Morse LLP

Southampton Solent University
NL Associates Ltd
Newcastle University
Swansea University Prifysgol Abertawe
Lowestoft College
UK Chamber of Shipping
Bank of Ireland
DNB
RBS
MSI
The Standard
B&FC Blackpool and the Fylde College
SSM
wamlaw

Viking
Eggar Forrester
Affinity
Sterling Shipping Services Ltd
holman fenwick willan hfw
Ince & Co
Lax & Co Solicitors
West of England
Braemar ACM Shipbroking
Eversheds
HESA Higher Education Statistics Agency
MFE Center
University of Hull

Key findings

Maritime business services…

Contribute
£4.4bn
to the UK economy

Employ over
10,000
people in the UK, mostly in highly skilled, highly paid jobs

Are a major source of exports with over
80%
of sales coming from outside the UK

The UK is the **undisputed global leader** in maritime business services…

35%
share of global marine insurance premiums

26%
of global shipbroking revenue

25%
of maritime legal partners practice in the UK

…and has a number of **sustainable competitive advantages** that should be enhanced and protected:

Unrivalled **depth and quality** of expertise

A clustering of **mutually beneficial** services

The presence of a number of **iconic and influential** global maritime institutions

English Law is the **preferred jurisdiction** worldwide for commercial and shipping contracts

Section 1

Overview

1.1 Maritime business services contribute c.£4.4 billion p.a. towards the UK economy and directly support the employment of c.10,000-11,000 people

FIGURE 1 overleaf
Direct, Indirect and Induced contribution to UK GVA from maritime business services

The maritime business services industry is a significant contributor to the UK economy. The largest contributor is the marine insurance segment which accounts for c.65% of total maritime business services GVA.

The industry is concentrated in London, with insurance, law, shipbroking and finance focused in the capital. However, it is also an important contributor to the rest of the UK. Many cities, including Southampton, Hull, Newcastle, Liverpool, Glasgow and Aberdeen, have sizable maritime services industries of their own:

- Southampton has particular strength in education and consulting as well as related technical services such as marine classification
- Glasgow is particularly strong in cadet training as well as ship management
- Liverpool has a more general spread of maritime services
- Aberdeen has a global position in the offshore sector

We estimate that the sector supports around 10,000-11,000 jobs, c.60% of which are in insurance.

FIGURE 2 overleaf
Maritime business services contribution to UK jobs

FIGURE 1

Direct, Indirect and Induced contribution to UK GVA from maritime business services

Sources: PwC Survey, PwC Interviews, PwC Analysis

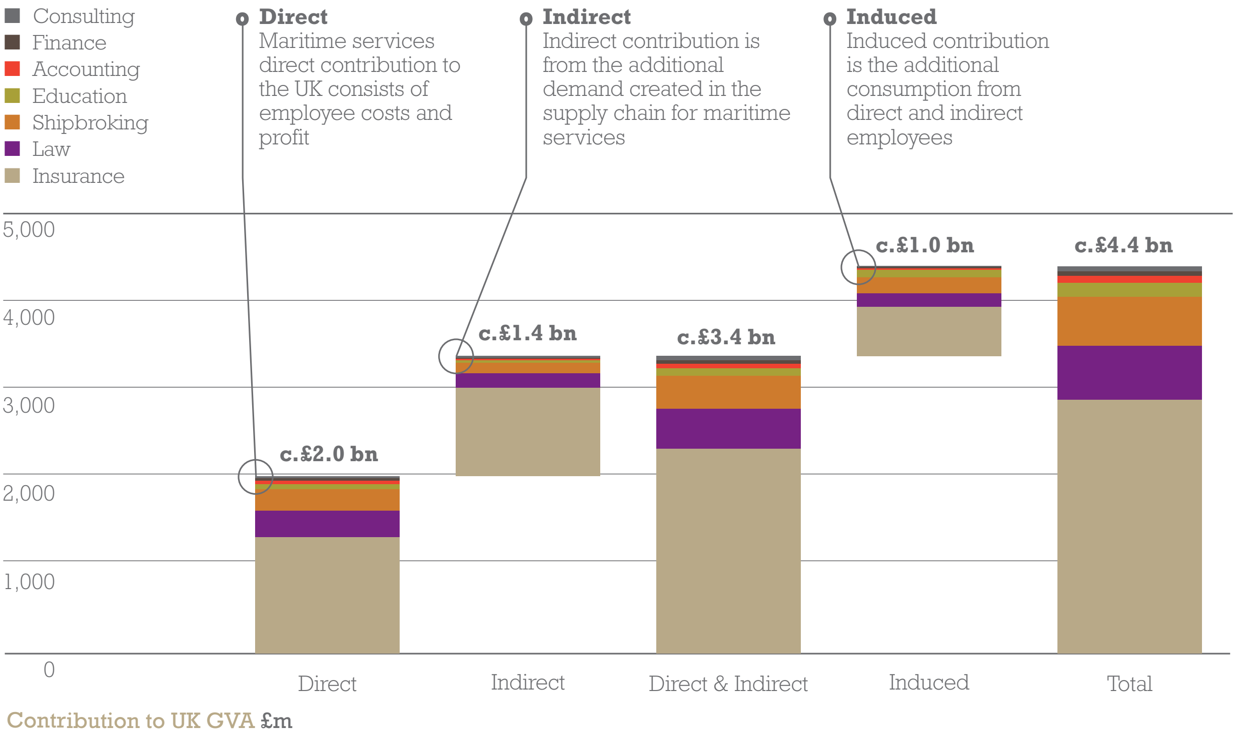
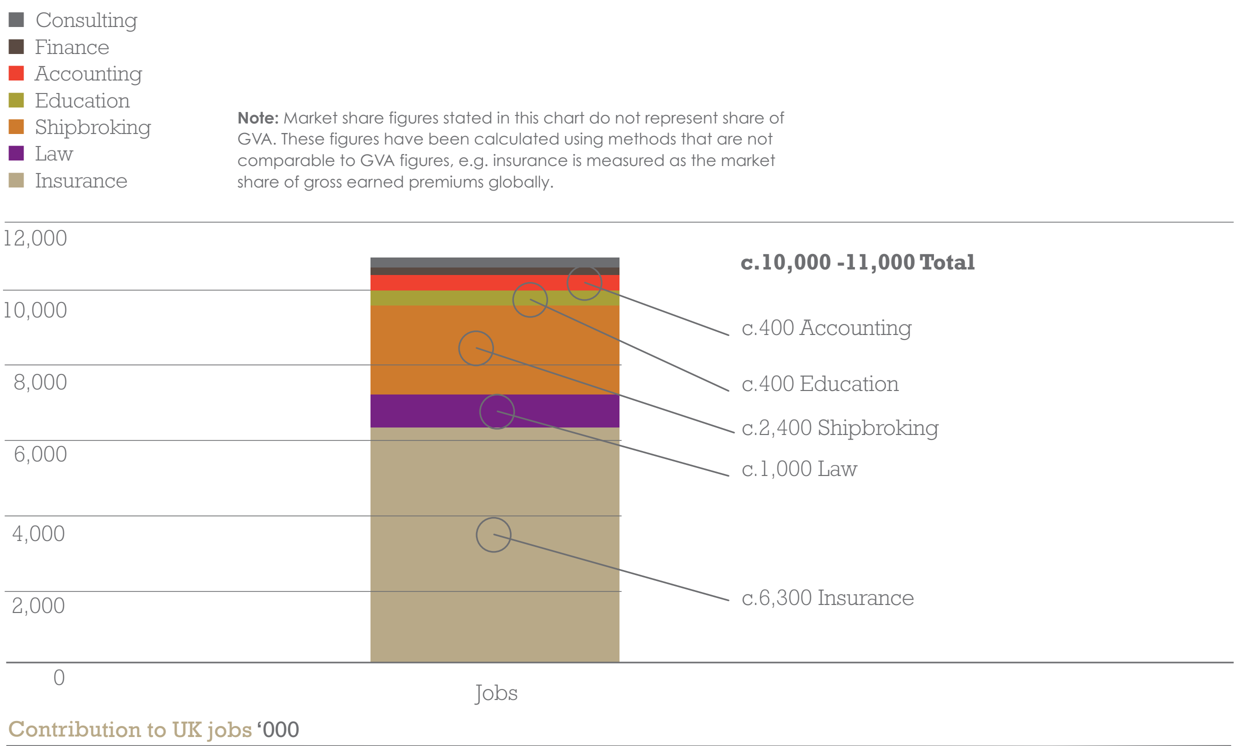


FIGURE 2

Maritime business services contribution to UK jobs

Sources: PwC Survey, PwC Interviews, PwC Analysis



1.2
The UK is the largest centre for maritime business services globally. The UK's share varies by sector but there is particular strength in insurance, law, shipbroking and education

FIGURE 3
Estimated UK market share of different maritime services globally

In four of the seven sectors we have assessed, the UK has a larger share of business than any other maritime centre. Accounting and consulting are usually located in close proximity to the end customers that they serve. As a result the UK has a relatively small share as other hubs have more active ship operations.

The UK is still an important hub for maritime finance activity but has lost share as UK and European banks have retrenched from the sector, unlike Asian competitors who have grown in importance. However, anecdotally, foreign banks in London have taken up a significant percentage of that shortfall.

In law and shipbroking, the UK is headquarters to many of the largest global firms in these sectors. These firms have been instrumental in driving the internationalisation of the sector by opening offices globally, but for most the UK remains their largest office.

The UK's dominant position in insurance is supported by the combined expertise of the Lloyd's market and the International Underwriting Association of London (IUA) making the UK the destination of choice for complex risk insurance.

In Figure 4 we highlight a number of major maritime hubs globally that are both major trading partners and competitors for the UK.

FIGURE 4
Overview of selected maritime hubs overleaf

FIGURE 3
Estimated UK market share of different maritime services globally

Sources: PwC Survey, PwC Interviews, PwC Analysis

Note: Market share figures stated in the chart below do not represent share of GVA. These figures have been calculated using methods that are not comparable to GVA figures: insurance – the market share represents the share of gross earned premiums globally; law – the market share represents the share of maritime focused partners; broking – the market share represents the share of brokers in each city for major ship brokers. Interviews and available data indicate that the UK is a clear global leader in the education sector, but it is not possible to give a specific figure.

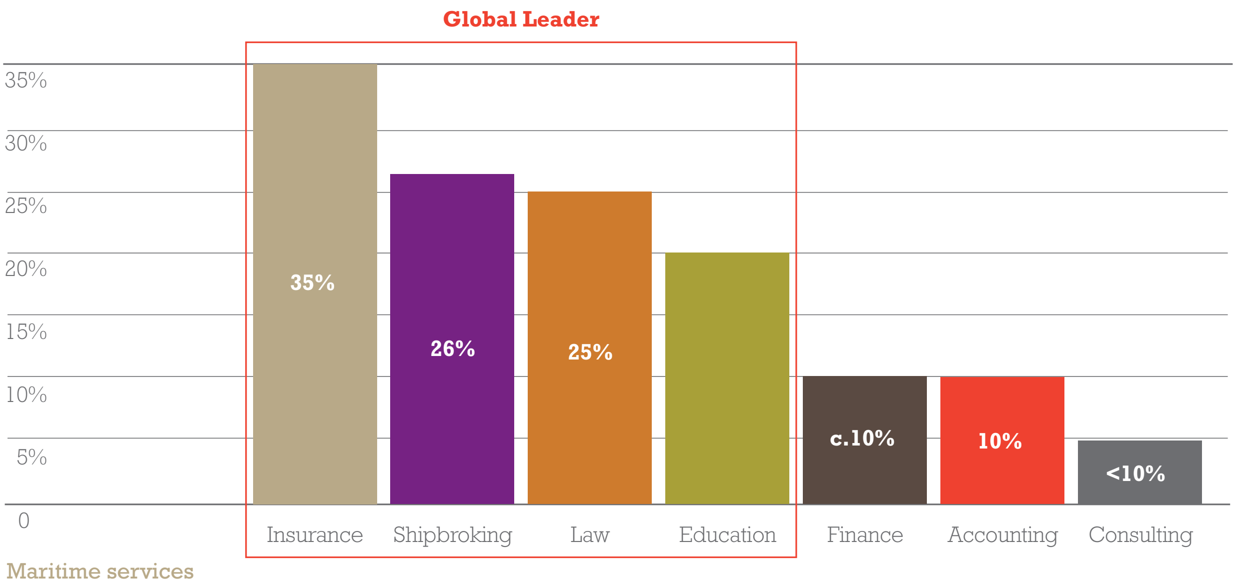


FIGURE 4

Overview of selected maritime hubs

Note: Examples of each business services, technical services and shipping operations are given on page 5. Figure 4 is illustrative and not exhaustive. Other notable maritime centres include Japan, Houston, Australia and Brazil

Source: PwC Interviews

Athens/Piraeus

- One of the largest owner communities globally
- Expertise in technical services
- Presence in most business services segments

Dubai

- Growing hub for ship operations

Singapore

- Very large maritime hub with strengths in ports, operators, technical services and business services
- Supportive government with ambition to be the global leader in all segments
- Smaller in business services segment than London

Hong Kong

- Very strong in port operations
- Has lost position in business services and technical services to Singapore and Shanghai
- Large ship owning base

Shanghai

- Headquarters for largest Chinese ship operators
- Strategy has historically focused on port operations and ship owners/ operators more than maritime services, but is increasingly developing a wider offer

1.3 The UK has a number of advantages as a hub for maritime services. The most significant of these is a concentration of skills and expertise that enables a high quality service provision

Concentration of skillsets and expertise

The UK's history as a global centre for shipping has led to a concentration of institutions and private companies that is unrivalled globally. The UK is home to the largest and oldest specialist maritime law companies, ship brokers and insurers.

This is supported by strong maritime education institutions that have traditionally maintained a pipeline of high quality graduates into the services industry.

While other shipping centres have grown their expertise in maritime services, the depth and scale of the UK's talent pool remains unrivalled.

The cluster effect

The existence of distinct but complementary maritime business services in the UK has a self-reinforcing and multiplying effect.

FIGURE 5:
Connections in the maritime business services cluster

The impact of the cluster is not uniform, with some sub-segments having less interaction with the overall cluster.

There are a number of pillars on which other sub-segments rely including maritime education, the use of English law and finance. Maritime education generates a steady flow of knowledge and people into the other sub-segments, most importantly into law. The importance and trust placed in the English legal system brings business to the UK benefitting all sectors (in particular insurance). Similarly, the other sub-segments, such as shipbroking and law, provide services which are intertwined with maritime finance (e.g. sales & purchase and legal work in shipping finance) thus it is important that the UK remains a centre for ship finance, whether that be from local or international banks.

In addition to the sectors themselves, there are other maritime institutions in the UK that also contribute to the overall cluster such as the International Maritime Organisation (IMO), Baltic Exchange, Lloyd's of London and the Institute of Chartered Shipbrokers. These organisations have a significant influence on the global maritime ecosystem. The presence of these institutions help maintain the UK's global reputation and influence as a high quality hub for maritime services. They also attract maritime talent and the operations of maritime companies who benefit from proximity to these services.

The attraction of the cluster is also important to customers, who value being able to find all of their required business services in one place. This is a critical reason why many international shipping companies establish offices in the UK.

London as a place to live and visit

Although the UK does not have a large population of domestic ship owners, London is home to a sizable expatriate population of foreign owners (particularly the Greek community). These form a core of customers for many of the maritime business services in London.

There are no estimates for the size of the Greek ship owning community in London. However, interview feedback identified this community as being an important source of custom for many maritime services businesses.

There are many reasons why foreign owners choose to base themselves in London, including:

- Easy access to shipping services that enable them to run the commercial side of their business from London
- Historically, non-domiciliary tax rules have made the UK comparatively attractive compared to some other jurisdictions. Current uncertainty regarding the non-domiciliary status poses a challenge given the importance of personal tax status
- London's position as one of the cultural capitals of the world with a high quality of life

For many of the same reasons, foreign owners are also more inclined to visit London and remain likely to use UK maritime services even when not based locally. The importance of non-resident customers is evident from the results of our survey which illustrates that only c.20% of the business for UK law firms is from clients based in the UK.

Legal framework

English law remains the global standard for maritime business. This is particularly important for the legal segment, with shipping companies having to procure legal services from providers who are trained in English law.

While there is undoubtedly expertise in English law in all maritime hubs, the UK has a major advantage in terms of the volume of legal trainees and depth of existing expertise.

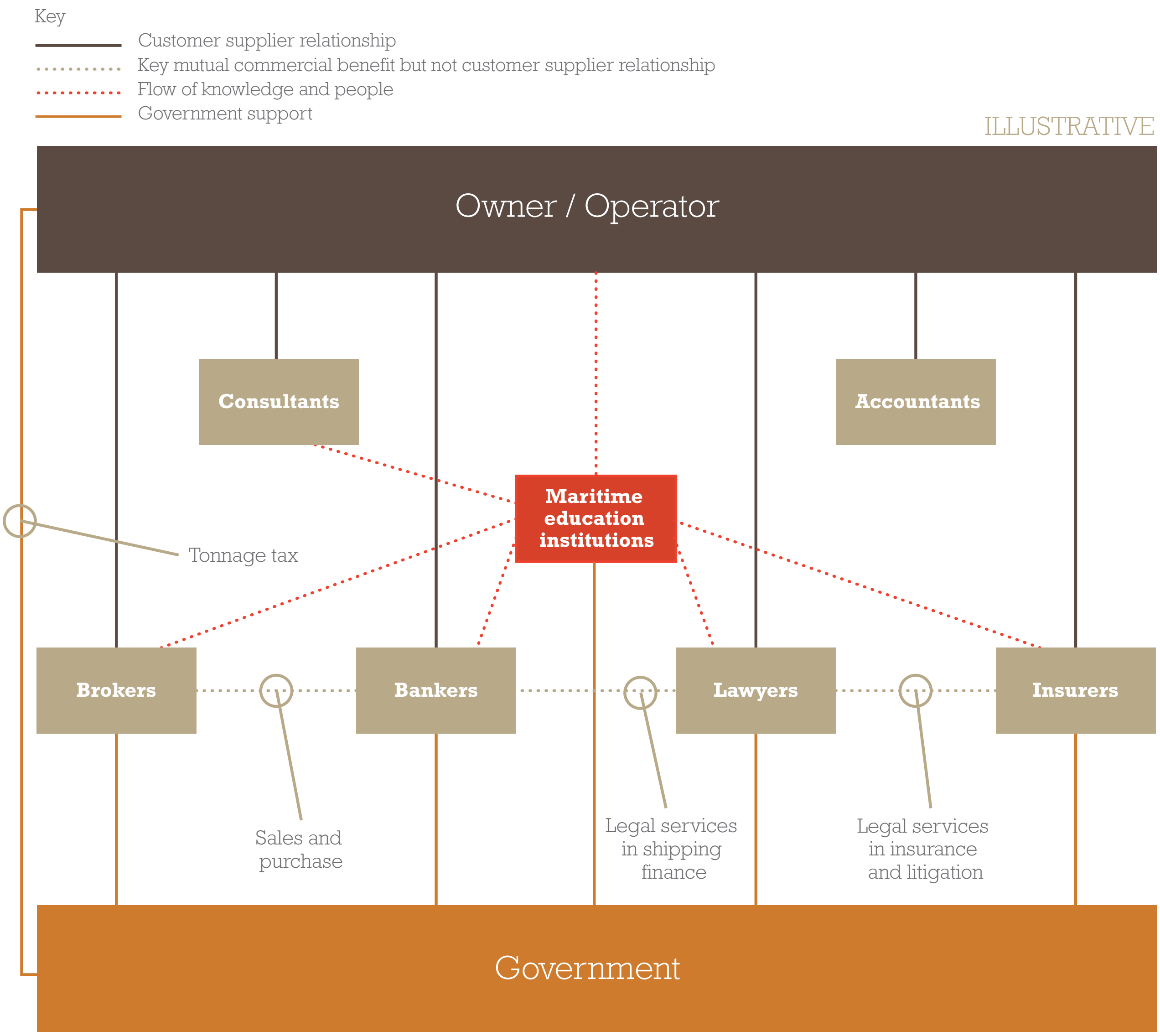
Stable business environment, language and geography

The UK has a stable and well respected business environment compared to perceived weaknesses for some other maritime hubs. It is generally considered a low risk destination for companies to procure services or to choose as a location for operations. This stability is critical in attracting businesses to the UK.

FIGURE 5

Connections in the maritime business services cluster

Sources: PwC Survey, PwC Analysis, Company Websites



English is the lingua franca of shipping, thus providing the UK an advantage over non-English speaking maritime hubs. This is especially true in international trades, where English is often the common language between two foreign parties. English is also the primary language of a number of other maritime hubs such as Singapore and Hong Kong.

The UK's position as a provider to global customers is enhanced by having a time zone where the business day overlaps with the Americas, Europe and Asia. It is generally more difficult to conduct business between the East Coast of the US and East Asia.

1.4
The UK faces a number of challenges that present a threat to maintaining its prominence as a leader in maritime services

More limited local ownership and shipping activity than other major maritime hubs

The UK has not been a major centre for ship owners or physical shipping activity for some while.

Other European countries have maintained sizable owned fleets including Greece, Germany and Norway, while the share of the global fleet owned by UK companies stands below 2%. There has also been a gradual shift in ship ownership eastwards, particularly to China – although Greece has also grown its share of the fleet over the last 5 years and a significant number of Greek ship owners reside in London.

The UK also lacks a major hub port unlike most other maritime centres. Felixstowe, Southampton and London Gateway are major destination ports, but none is a regional hub that compares to Rotterdam, Hamburg, Singapore or Shanghai.

Other participants in the physical shipping market – ship operators, charterers and freight forwarders – are also less present in the UK than in many competing maritime hubs. There has been a significant shift eastwards for these operators – a significant number of commodities traders now have their chartering desk in Singapore.

This places the UK at a disadvantage as, for many services, customers will procure locally where possible due to advantages of time zone, language and sometimes price.

It should be noted that these are not new disadvantages as the UK has not been considered a major centre for physical shipping activity for many years now. Where there is a clear quality differential or key relationships are held in the UK, customers are often willing to procure internationally. For example, in law, c.80% of the customers for UK-based offices are non-UK and c.50% are from outside Western Europe. Therefore the impact of the shipping activity moving further towards Asia should not be overstated. The UK's ability to maintain its pre-eminence in maritime business services in spite of a lack of shipping activity is testament to its strength and international orientation.

Tax and regulatory requirements

While the UK has a transparent tax system and a competitive corporation tax rate in comparison to most other European maritime centres, it is less competitive when compared to other international destinations. The UK's tonnage tax makes it attractive for ship owners, although there are no comparable tax advantages for maritime business services. Singapore has a discounted 10% corporation tax rate for shipping services companies; Hong Kong and Dubai have low general corporation tax rates of 16.5% and 0% respectively; and other low tax destinations such as Monaco, Bermuda and Switzerland have been successful in attracting shipping businesses with negligible or zero corporation tax rates.

Personal tax rates are also uncompetitive with many comparable maritime hubs (e.g. Singapore, Hong Kong and Dubai). This makes staff retention a challenge when businesses compete with other hubs for talent.

UK and European regulation is often regarded as 'gold plated', placing requirements on UK firms that make them less competitive compared to Asian or US competitors.

UK visa regulations have also been reported as a challenge as hiring staff from outside the EU is often complicated by stringent visa requirements.

Cost of doing business

London remains one of the most expensive cities in the world for doing business (although many key competitors in maritime business services are also high cost locations):

- The average salary is £870[2] per week in London while in Shanghai and Singapore the average salary is c.£200[3] and c.£450[4] per week respectively
- London is the 4th most expensive city to rent high-rise offices and is also seeing the fastest rental growth in office space globally[5]

This makes London a more costly place for maritime services companies to be based, compared to some competing hubs. It is therefore most feasible for high margin businesses to be based in London.

This has meant that some maritime services have relocated and thrived in other parts of the UK, including more technical consulting, education and some less complex legal services. For example Lloyd's Register moved from London to Southampton in 2014 to be closer to Southampton University.

The relative cost position of London internationally has remained comparatively constant over the last few decades and is therefore not something new that will lead to immediate change. Other maritime hubs are also increasing in relative cost position more quickly than London. It is also worth noting that the cost of placing expatriate employees in hubs such as Singapore is very high, decreasing the impact of the cost differential with London.

2 Source: ONS

3 Source: Zhilian Recruiting

4 Source: Ministry of Manpower Singapore

5 Source: "Global cities – the 2016 report", Knight Frank

Incentives from other hubs

Some competing maritime hubs have pursued intensive and proactive strategies to attract maritime business services:

- This is particularly true of Singapore, where tax incentives for ship operators and shipping services companies provide a highly competitive environment for the maritime industry. The Maritime and Port Authority (MPA) is active in promoting the industry, establishing the Maritime Cluster Fund in 2002 to invest in strengthening maritime industries and hosting a Maritime Week once a year. Singapore has also actively targeted specific institutions which it perceives as strategically important to the industry and has offered incentives for them to relocate. Singapore also actively assists in providing grants for training for businesses. Singapore has been successful in growing its maritime services industry and is now the second largest maritime services hub after London.
- Shanghai, while less advanced in its development than Singapore, is also making maritime, including business services, a priority. It is placing greater focus on shipping operators, in the belief that maritime services will follow and is focusing on the provision of free trade zones to encourage private enterprise. Based on the "2030 China Shipping Development Outlook", China hopes to capture 17% of the global total shipping volume and double its shipping capacity compared to 2015 so as to account for 15% of the world total by 2030.
- Hong Kong, which has lost share of maritime trade to Singapore and Shanghai, has recently developed a strategy for growing its maritime industries. It recommended establishing a new body to promote the maritime industry and requested additional support from the government. It is too early to say how many of the recommendations will be adopted and with what success.

A number of EU wide strategies have been developed to engage maritime activity in the EU. These include a common maritime transport policy and strategy for marine and maritime research. However, government support in the UK and Europe has not been comparable to that seen in some other hubs (particularly Singapore).

1.5
In general, the UK has lost share over the last 5 years, although this has been primarily due to the high growth of other regions (supported by UK firms expanding overseas) rather than a decline in activity in the UK

FIGURE 6
Historical trends of the maritime sub sectors

Sources: PwC Survey, PwC Analysis, Company Websites

Key
Change in global share and absolute size
↗ Increase
↘ Decrease
→ No change

Insurance
Share ↗ Absolute →

The UK maintains a reputation as the best place to write complex insurance products due to the presence of both Lloyd's of London and the London Market Group. Shipping operators are facing increasingly complex issues (e.g. larger vessels, new routes and piracy) which appears to have benefitted the UK's share, which has grown over the last 5 years. Overall market size has declined due to price decreases.

Law
Share ↘ Absolute ↗

Although the maritime law sector in the UK has grown in absolute terms, there has been a loss of share as other regions have grown more rapidly. This share loss has occurred as a result of the movement of shipping activity towards Asia and growth in legal capabilities in Asia. Much of this growth has come from UK firms expanding internationally. The UK maintains its leading position in arbitration.

Shipbroking
Share ↘ Absolute ↘

The UK remains the global centre for shipbroking. It retains certain advantages including the presence of the Baltic Exchange and the headquarters of many of the leading ship brokers. However, the UK has lost share due to growth of capabilities in emerging markets (particularly Singapore) which are able to serve the Asian markets with greater immediacy. The overall market has declined due to falling charter rates.

Finance
Share ↘ Absolute ↘

Ship finance in the UK has been negatively impacted by both financial and maritime trends. Regulation has made European banks less competitive than Asian or US banks while, at the same time, the prolonged downturn in shipping markets has led many European banks to reduce or cease shipping activity.

Education
Share ↗ Absolute ↗

UK universities appear to have grown their share of global students by establishing international campuses, enabling a targeting of local students who would not otherwise travel to the UK for an education. On the other hand, UK technical training appears to have lost share to international institutions. This has been primarily price driven.

Accounting
Share → Absolute →

The UK has a relatively small share of accounting services. Accountancy is generally provided in the country of operation and therefore the UK's share generally responds to the number of maritime companies operating in the UK.

Consulting
Share → Absolute →

Like accounting, many consultancy services tend to be based close to the customer. This is particularly true of business consulting and also relates to technical consulting. For information providers (where the UK is particularly strong) location is less important and share in this segment is thought to have been relatively stable.

1.6 The UK has strong links internationally with most other maritime hubs, although there are opportunities to develop closer links with China

FIGURE 7

UK maritime business services revenue by customer country for surveyed firms

We estimate that c.80-85% of business for UK maritime services companies comes from outside the UK. This is testament to the international reputation of UK firms and demonstrates the importance of the sector as a UK export.

Based on interview feedback and survey responses, UK businesses seem to have particularly strong links with Western Europe, Hong Kong, Singapore and North America. Links with these geographies are strong for a number of reasons:

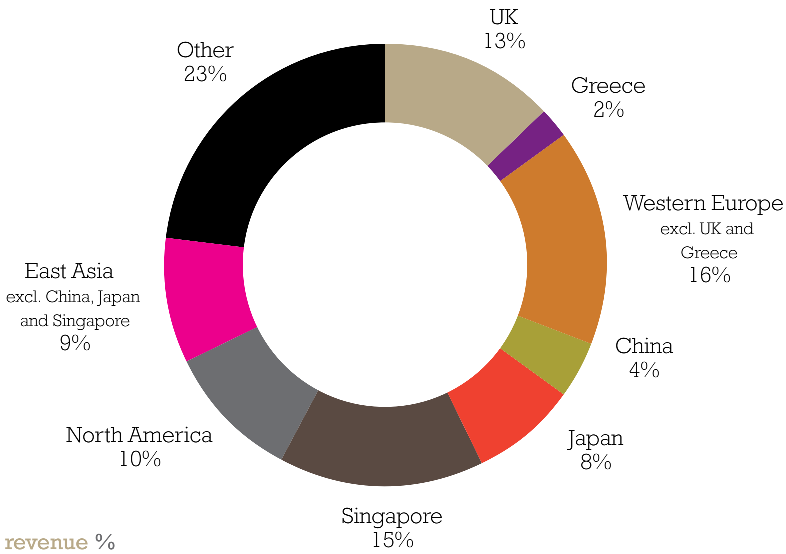
- Proximity to the UK – although shipping activity has declined in Western Europe it remains a core market for the UK due to time zone and ease of travel
- English language – English is the language of business in most of Western Europe, Hong Kong, Singapore and the US unlike mainland China
- Presence of UK companies – the most common territories for the second largest offices of UK law firms after London are Hong Kong and Singapore

The UK has weaker links with mainland China. There is an opportunity for the UK to grow links with China in particular. Chinese companies are becoming increasingly international in outlook (including growing outward M&A). The UK should seek to attract Chinese maritime investment by emphasising its importance as a services hub and encouraging mutually beneficial trade.

FIGURE 7

UK maritime business services revenue by customer country for surveyed firms

Sources: PwC Survey, PwC Analysis
Note: Based on data from surveyed firms – not representative of overall market



Services revenue %

1.7
Recommendations

We make four high level recommendations:

Maintain and enhance the UK's reputation and capability as a high quality provider in maritime law, insurance, shipbroking, finance and education

- The UK government should support the maritime education sector to **encourage growth** in the supply of high quality graduates into maritime services
- UK companies need to **invest in their people** and training in recognition that quality is their key differentiator
- Focus should be placed on ensuring that there is an **adequate pipeline of British officers and crew** who have traditionally come ashore to fill maritime business service roles providing maritime expertise
- The UK needs to stay at the **forefront** on emerging industry issues to maintain a quality advantage. Example issues mentioned in interviews include:
  - Cyber security and data security
  - Emergence of new routes
  - International terrorism and piracy

Promote the UK as a destination for maritime business in general (as per the Maritime Growth Study recommendations)

- Maritime business services will benefit from any increase in general maritime activity. Therefore, adoption of the recommendations of the Maritime Growth Study would go a long way to helping the service sector

Maintain a global outlook and grow links with emerging hubs

- The shift eastwards in shipping is unlikely to reverse and therefore the UK should seek to **grow business** with the fastest growing hubs
  - In particular, there is an opportunity to improve links with mainland China
  - The UK should also seek to attract inbound Chinese investment
- UK companies have been at the forefront of **internationalisation** by opening offices globally. This will benefit the UK in the long run by maintaining links with emerging hubs

Maintain and protect the existing pillars of the UK's maritime services cluster

The UK should work to ensure the survival of a number of **key pillars** to the UK maritime cluster, some of which are under threat:

- Institutions such as the Baltic Exchange and the IMO could operate anywhere globally and other hubs, such as Singapore, have tried to attract them
- London's Greek shipping community are core customers for UK maritime services but are very mobile and many have left due to uncertainty over tax
- London's maritime finance ecosystem is in decline and supports the wider cluster in a way that is not represented in its relatively small GVA
- Use of English law and UK arbitration internationally for maritime business is a cornerstone of the UK's strength in maritime law

The Maritime Growth Study recommendations

The 2015 *Maritime Growth Study* made a number of recommendations to drive growth in the overall maritime sector in the UK.

In summary these are:

- Improve leadership of the sector at an industry and government level
- More proactive action to make sure there is a trained workforce with the skills required
- Improve marketing from both industry and government for UK maritime

Section 2

Sector Profiles

2.1 Insurance

2.1 1

Marine insurance directly and indirectly contributes c.£2.9bn to the UK economy. It also supports c.6,300 jobs

FIGURE 8

Direct, Indirect and Induced contribution to UK GVA from marine insurance (including insurance broking)

The UK is home to three main sources of marine insurance underwriting: Lloyd's of London (Lloyd's); the International Underwriting Association of London (IUA); and the P&I Clubs.

TABLE 1

Sources of marine insurance underwriting

Combined, these generated c.£2.9 billion in total GVA to the UK and represent c.13% of the total London insurance market gross written premiums in the UK in specialist lines.[6] We estimate that there are c.6,300 directly employed in marine insurance across these three markets excluding indirect employment for service providers to the London insurance markets.

6 In this section, we use the term 'marine insurance' instead of 'maritime insurance' as this is standard for the industry. Lloyd's Marine insurance line includes non-maritime insurance (e.g. goods-in-transit, offshore) which we have not been able to separate. We believe that these make up a small proportion of the figures.

FIGURE 8

Direct, Indirect and Induced contribution to UK GVA from marine insurance

Sources: PwC Survey, PwC Analysis, PwC Interviews, Oxford Economics, ONS, IUMI, Lloyd's of London, Company Websites, P&I Club accounts, Tysers' "The P&I Club Report 2014".

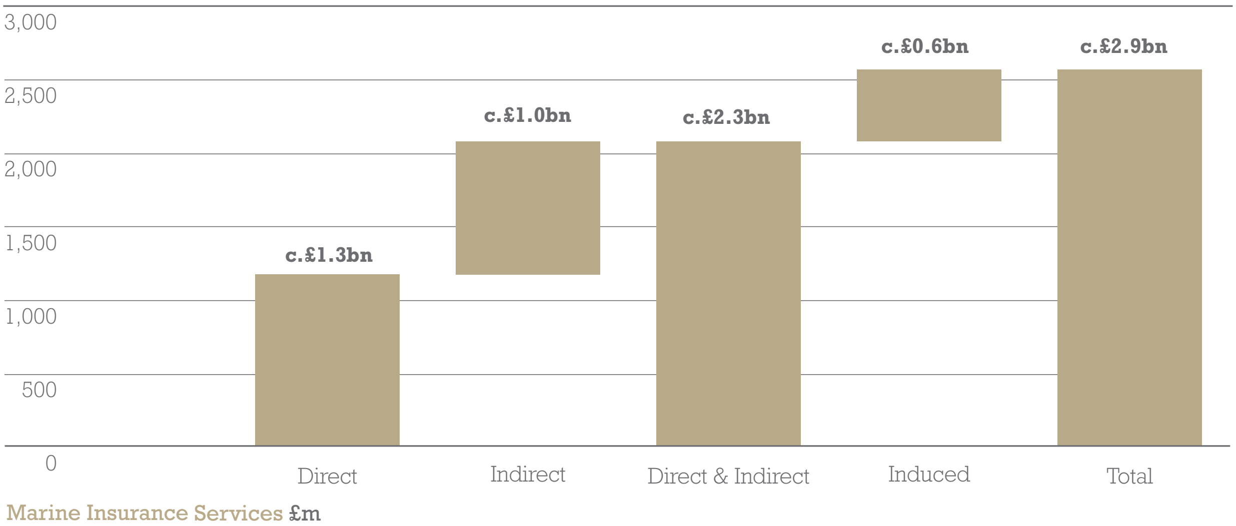


TABLE 1

Main sources of marine insurance underwriting

Lloyd's	IUA	P&I Clubs
Lloyd's is an insurance market where multiple syndicates can underwrite risks brought to the market by insurance agents. Lloyd's is the oldest existing marine insurance institution.	The IUA is made up of private and public insurance companies based in London, but outside the Lloyd's market. Many of these companies have maritime expertise and will usually interact with customers through agents.	The P&I clubs are mutual organisations, formed by ship operators and owners to share risks that are not covered by the commercial markets. These are mainly third-party liabilities (e.g. oil spills).

Insurance brokers also play a key role and contribute to the c.£2.9bn in GVA (although data is not available to individually size their contribution).

The majority of the GVA from marine insurance resides in London, although there are some small pockets outside of London, including the North of England P&I Club based in Newcastle.

Insurance makes a significant contribution to the wider maritime cluster, with particularly strong links to legal services. Legal services are generally provided in cases of dispute over claims and questions of liability.

As Figure 9 illustrates, the commercial segment of marine insurance (Lloyd's and the IUA) represents c.85% of UK maritime gross earned premiums and the contribution from P&I Clubs is c.15%. P&I clubs' profits are redistributed to members or held to cover for potential future claims, as a result the GVA generated for the UK is only the operating expenses in the UK (predominantly salaries).

FIGURE 9
UK maritime gross earned premiums by type

These figures also include the contribution of re-insurance, although we do not have the data to be able to separately define its size. The UK is a major centre of marine re-insurance underwriting, in both Lloyd's and the IUA, with many of the largest re-insurers based in London.

TABLE 2
Marine insurance sectors

FIGURE 9
UK maritime gross earned premiums by markets

Sources: PwC Analysis, PwC Survey, P&I Club accounts, Tysers' "The P&I Club Report 2014", IUMI, Lloyd's of London, Company Websites

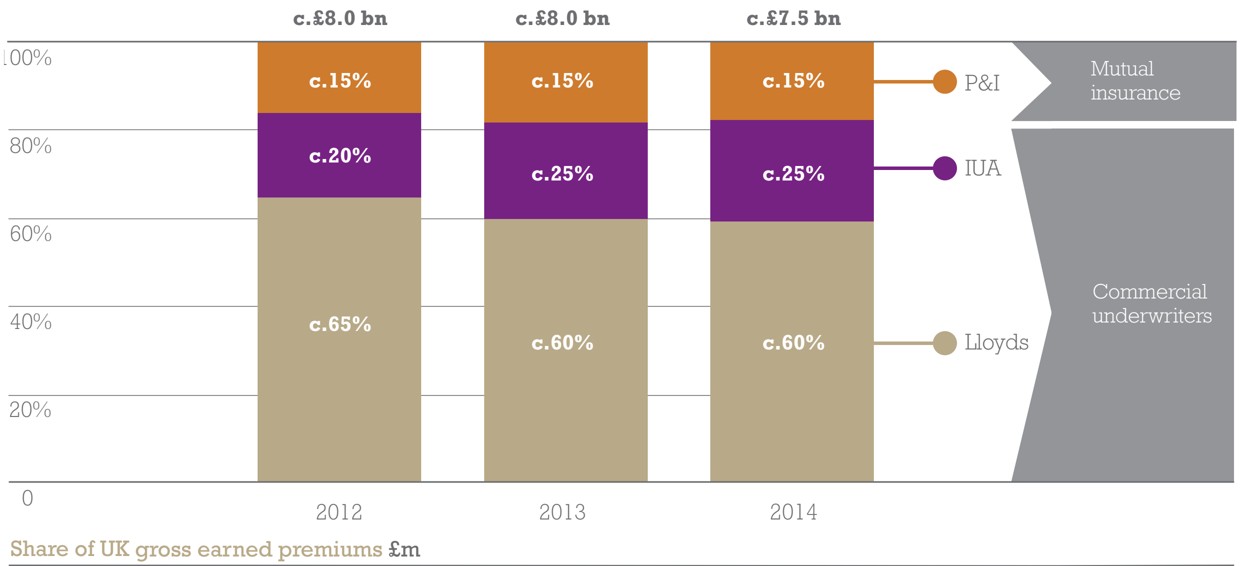


TABLE 2
Marine insurance sectors

Cargo	Marine Hull	Offshore energy & liability	War
Insures for the loss or damage to cargo carried. The most commoditised marine insurance type.	Insures the vessel and its components from damage.	Specialised insurance for the oil, gas and offshore industry.	Insures specific complex risks associated with conflict and marine terrorism.

Lloyd's and the IUA cover all main types of marine insurance. The P&I clubs typically cover only specific risks not covered by commercial insurers.

FIGURE 10
UK commercial underwriters gross earned premiums by segments, 2012-14

2.12
The UK holds a c.35% share of the global marine insurance market and is the leader in the four largest segments of marine insurance. Over the last 5 years this share has grown, with the UK taking share from smaller hubs

The UK's strength in insurance resides primarily in its expertise in writing complex, high risk products. This expertise is based on a depth of talent and experience that exists in the UK's insurance institutions.

Maritime is a segment well suited to the UK due to the complex nature of the risks undertaken by ship operators and owners. These include exposure to large, one-off and uncontrollable incidents such as natural disasters, maritime terrorism and catastrophic individual error.

The UK is the global leader in marine insurance, with a 35% share of global premiums. Its share of premiums has grown over the last 5 years by 5 percentage points in total.

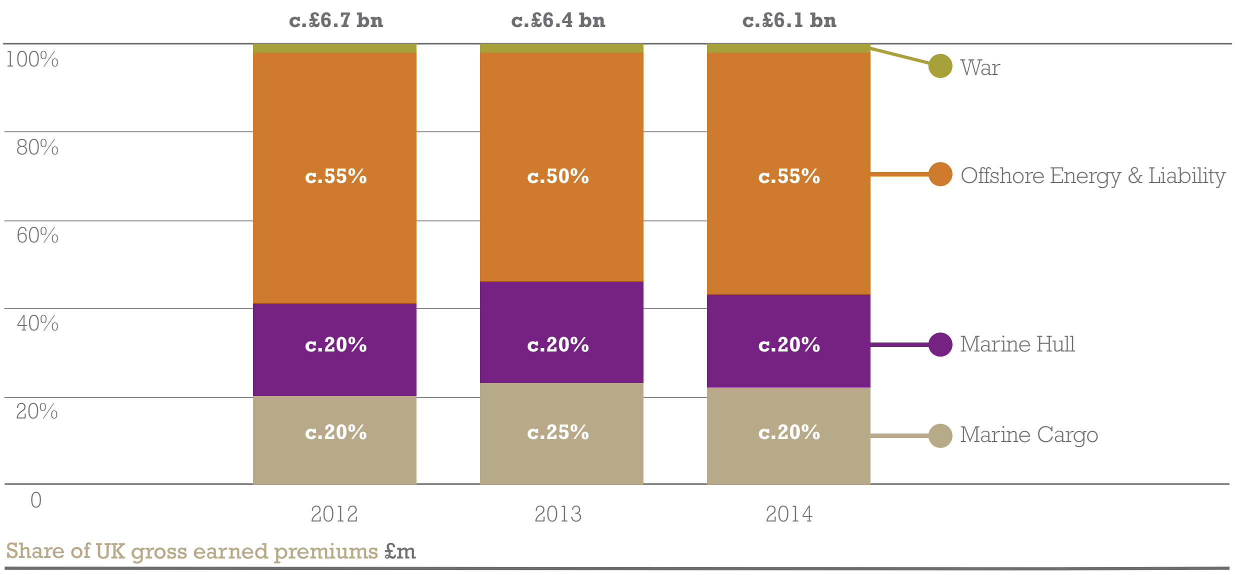
The increase in share has been driven by several factors which can be seen when examining the insurance segments individually.

- The UK's share is lowest in cargo insurance (the most commoditised of marine insurance types). However, the UK has gained share over the last 5 years, while the overall size of cargo insurance has remained flat
- The UK's share gain has been more substantial in hull insurance and has taken place during a period of overall global decline in gross earned premiums

One possible explanation for these trends

FIGURE 10
UK commercial underwriters gross earned premiums by segments, 2012-14

Sources: PwC Analysis, PwC Survey, IUMI, Lloyd's of London



is an increasing complexity of risk faced by ship operators, driven by larger vessels, increased vessel automation, more freight and more complex third party claims, leading to fewer, but more substantial claims. This has potentially driven a flight to quality, with the UK benefitting as the centre with the best reputation for complex risk coverage.

FIGURE 11
Share of top 5 countries for cargo insurance, 2010-2014

FIGURE 12
Share of top 5 countries for hull insurance, 2010-2014

For both offshore energy/liability and P&I insurance, the UK holds a dominant position which it has maintained and enhanced over the last 5 years.

Offshore energy and liability insurance is an extremely volatile market with occasional, but potentially very large claims (e.g. Hurricane Katrina) dominating market profitability. The UK's strength in depth in this market makes it challenging for other centres to provide a viable alternative location.

The P&I market has been relatively stable and remains dominated by The International Group of P&I clubs, of which 8 out of 13 are managed in the UK. While the China club has grown in importance, and there has been talk of it joining the international Group, it remains relatively small and there is no immediate prospect of it joining which would be required for it to gain significant share.

FIGURE 11
Share of top 5 countries for **cargo insurance**, 2010-2014

Sources: PwC Analysis, IUMI, Lloyd's of London

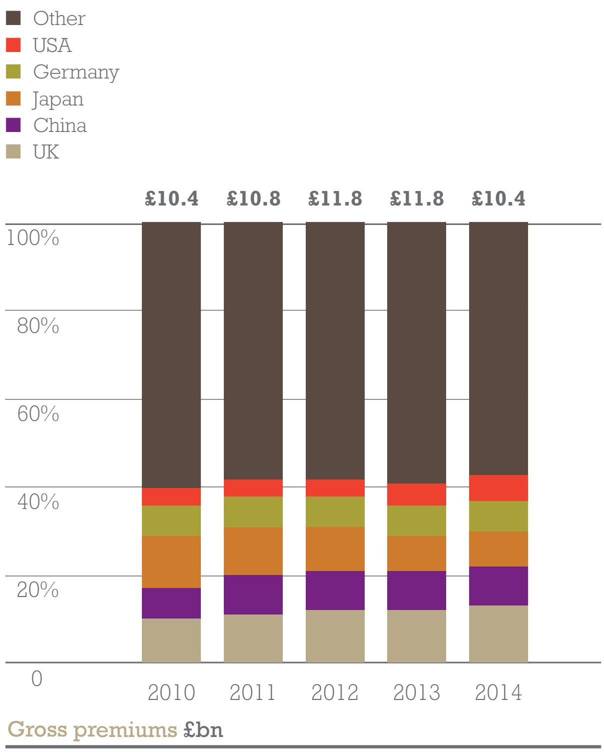


FIGURE 12
Share of top 5 countries for **hull insurance**, 2010-2014

Sources: PwC Analysis, IUMI, Lloyd's of London

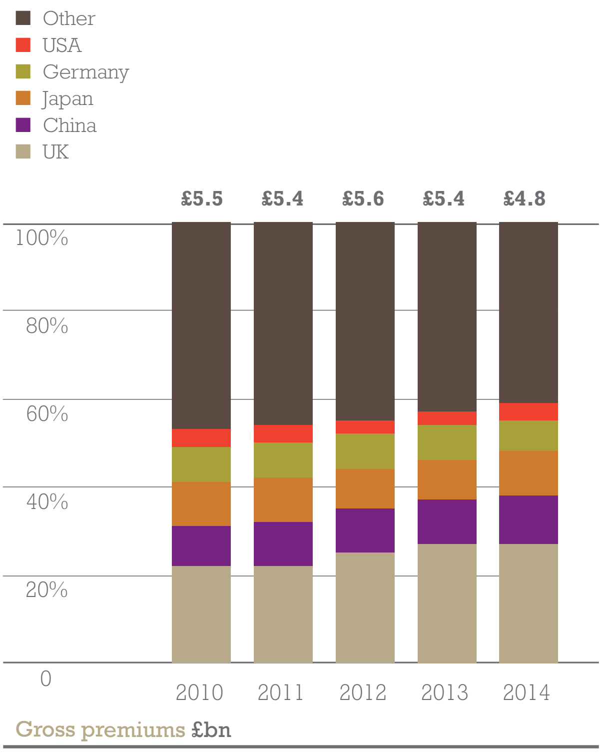


FIGURE 13
Share of top 5 countries for offshore energy/liability insurance, 2010-2014

FIGURE 14
Share of top 5 countries for P&I insurance, 2010-2014

2.13
The strength of UK insurance brokers is a key element of the UK's strong position in marine insurance

There is a strong relationship between the UK's insurance underwriters and the insurance brokers who provide a key channel to market for underwriters. The UK's network of insurance brokers is unrivalled internationally.

London insurance brokers will place some insurance with underwriters outside the UK and UK underwriters receive business from international brokers, however, the strength of both brokers and underwriters has a mutually re-enforcing effect on the marine insurance cluster.

2.14
While regulations and excess capital pose a threat to the competitiveness of the UK insurers, there are several opportunities for the UK to innovate in marine insurance

UK and European legislation (Solvency II) places strict capital requirements on insurers based on their balance sheets. As a result, UK insurers, including those that provide marine insurance, are at a disadvantage when pricing against US and Asian competitors.

Global insurance has also experienced a surge in available capital – the uncorrelated returns of insurance appear attractive during periods of turmoil in other markets. Capital coming into insurance from alternative sources (e.g. hedge funds) has grown from \$20bn in 2011 to over \$60bn in 2014 (greater than 10% of global insurance capital). This excess capital places pressure on all insurers to reduce prices, making it more difficult for the UK to compete.

FIGURE 13
Share of top 5 countries for **offshore energy/liability insurance**, 2010-2014

Sources: PwC Analysis, IUMI, Lloyd's of London

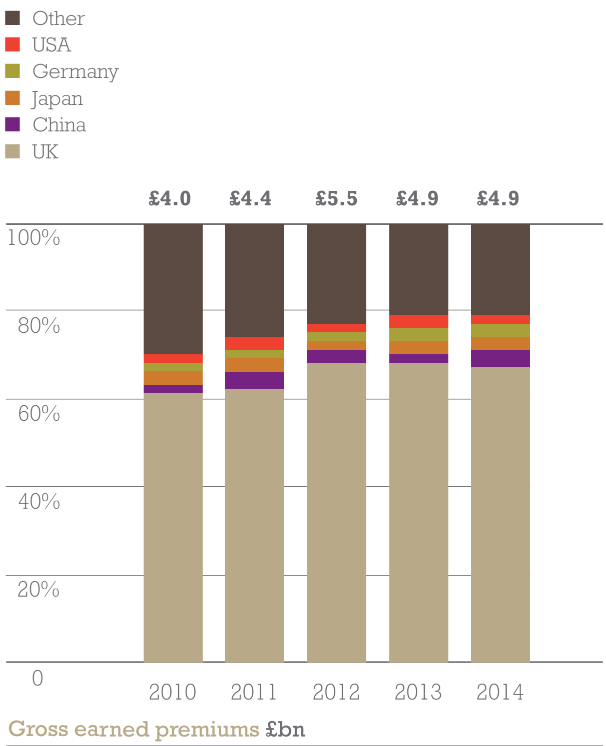
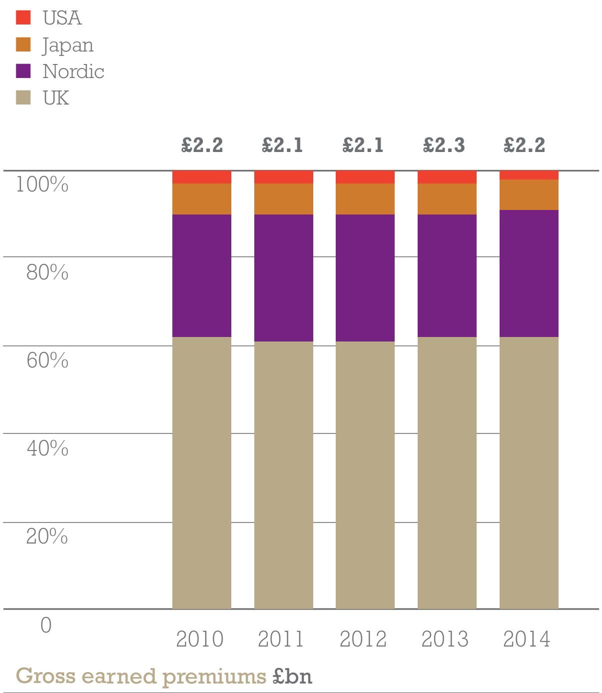


FIGURE 14
Share of top 5 countries for **P&I insurance**, 2010-2014

Sources: PwC Analysis, IUMI, Lloyd's of London



These factors combine to make the UK less competitive on price and it will be challenging for the UK to maintain position in more commoditised elements of marine insurance. There are, however, opportunities for the UK to build on its strengths and maintain its position as the 'go to' market for complex maritime risk coverage.

This includes maintaining the UK's differentiators, including industry leading bodies such as the Joint War Committee, whose risk assessments are utilised globally, and the strength of the UK's Average Adjusters. The UK also needs to stay at the forefront of offering new products, as it has done historically by developing products such as piracy cover.

2.2 Law

2.21
Maritime law generates c.£460m in direct and indirect GVA contribution and c.£620m in total GVA contribution

FIGURE 15
Direct, Indirect and Induced contribution to UK GVA from maritime law

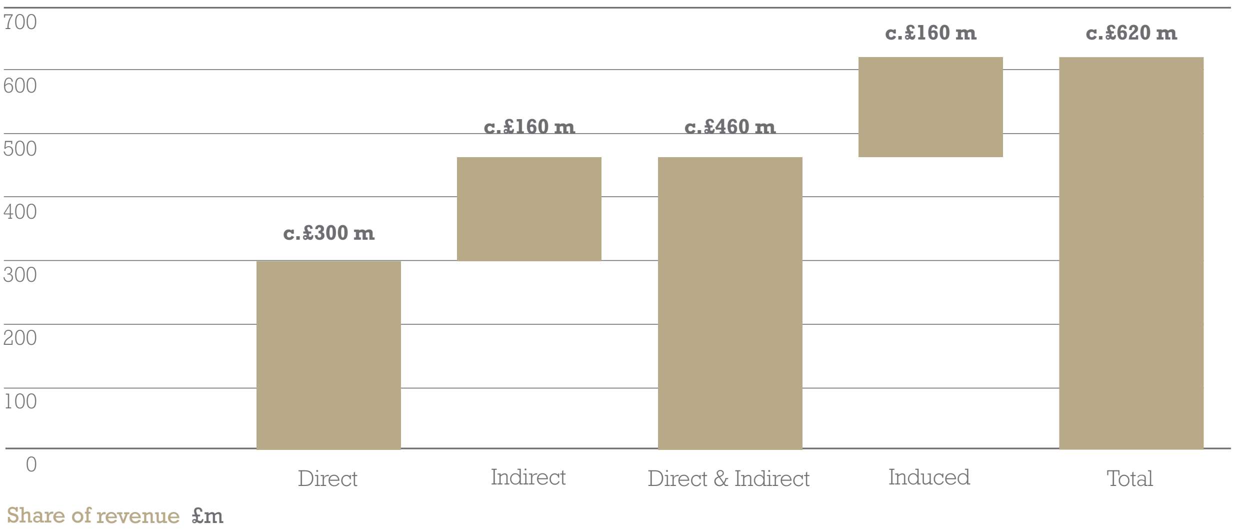
Within maritime law, there are 3 key segments:

Litigation Resolution of disputes arising over contracts or finance
Shipping Finance Loan and bond agreements, mergers & acquisitions, competition law etc…
Contractual Work Charter parties, insurance etc…

The UK's maritime legal industry generates revenue of c.£400m and supports c.1,000 jobs. This translates to a direct and indirect GVA of £460m and a £620m in total contribution.

FIGURE 15
Direct, Indirect and Induced contribution to UK GVA from maritime law

Sources: PwC Survey, PwC Analysis, Company Websites, Legal500 Website, ONS



This contribution is spread across c.40 legal firms (both maritime specialists and generalists), the majority of whom are concentrated in London. There is, however, some contribution outside of London, primarily from contractual work, which is generally lower priced and therefore more challenging to provide economically from London.

The UK's maritime legal segment has interaction with all elements of the maritime cluster. Most significant are the interactions with banks for shipping finance work and with insurers. The success of UK litigation work is significantly assisted by the interaction of lawyers with UK maritime consultants, who offer expert witness support.

2.22
The UK is the largest centre for maritime law globally with a c.25% share of the value of work

The UK's strength in maritime law is based firstly on the high reputation of the English judiciary and specialised Admiralty and Commercial Court judges, and secondly on the international expertise of its solicitors and barristers. The UK has also benefitted from the near ubiquitous use of English law in the maritime sector. This places the UK at an advantage in terms of depth of trainees with expertise in English law – although it is common to practice in English law overseas.

The relative strength of different hubs varies significantly by segment. Strength in shipping finance work is closely correlated with the amount of ship finance activity occurring in the location. Maritime law firms in New York perform a high proportion of finance work driven by maritime capital markets activity. Our survey respondents reported nearly 90% of their work in the New York offices coming from finance work. Hamburg also showed a disproportionate volume of work coming from ship finance.

Other broad based maritime hubs such as Hong Kong, Singapore and Greece have a similar mix of work to the UK.

2.23
The pre-eminence of the UK in maritime and international arbitration is a cornerstone of London's legal maritime services and a significant contributor to other sectors

London's strength in maritime arbitration had its roots in the Baltic Exchange where senior members started offering informal adjudication services to fellow brokers when disputes arose. In 1960 this was formalised with the foundation of the London Maritime Arbitration Association (LMAA).

Although there are maritime arbitration associations in many sea-faring countries and maritime arbitration centres have grown up in some, the LMAA is, far and away, the global leader in maritime arbitration. The popularity of London arbitration is based on a number of factors:

- Extensive maritime law experience and expertise, built on an unparalleled body of maritime case law
- Specific arbitration expertise – the UK is the world leader in maritime, trade and international arbitration
- Presence of complementary maritime professionals (e.g. lawyers, insurers, other maritime experts)
- Reputation for independence and integrity which leads parties from all over the world to place trust in the LMAA

Over the last 20 years there have regularly been c.3,000 appointments, c.2,000 cases and 5-600 awards p.a. under LMAA terms. By way of comparative example, Singapore (SIAC) opened 46 new cases in maritime arbitration in 2015, the highest number since it was established.

Arbitration interacts with many of the other sub-segments. In particular insurance where the salvage arbitration branch at Lloyd's has seen an average of nearly 100 new cases p.a. over the last 5 years. The LMAA has been pro-active in targeting growth in Asia by opening a Supporting Members Liaison Committee in the Asia Pacific region and arranging regular visits and seminars in the region. In doing this the LMAA attracts business to London that impacts, not only arbitration, but other associated sectors.

Although the LMAA is in strong health, it faces growing competition from other hubs. This is particularly true in the Middle East and Asia where there has been significant government support in developing local arbitration capability. These centres generally attract disputes involving local and regional parties and have had limited success to date in targeting large multinational disputes.

GVA from barristers, court fees and tribunal fees

We have not had data to be able to size the GVA contribution from barrister fees, court fees or tribunal fees. While solicitor fees form the bulk of GVA for maritime law there will be additional contribution from these areas that is not included in our numbers. We estimate that this could add an additional 10-20% on top of our existing GVA estimates

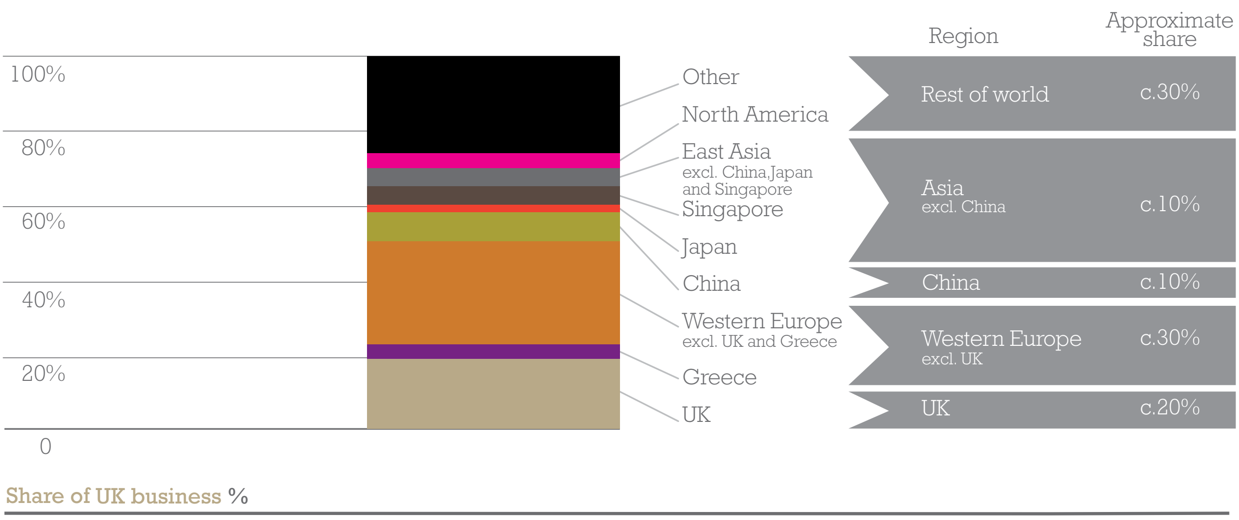
2.24 Approximately 80% of the maritime legal work done in the UK originates from overseas customers. This is testament to the international reputation of UK legal expertise

As would be expected, the strongest trading partners for UK-based offices are customers based in the UK and Western Europe. However, 50% of the business for UK-based law firms is from customers outside of Western Europe. The largest maritime law firms have offices globally, however, customers will still often procure work from the UK rather than locally which is testament to the quality offered in the UK.

FIGURE 16
Estimated share of maritime law globally from services provided by UK/London-based offices, 2014 estimate

FIGURE 16
Estimated share of maritime law globally from services provided by UK/London-based offices, 2014 estimate

Sources: PwC Survey, PwC Analysis



2.25

We believe that the UK has lost share of global maritime legal activity, although this has been driven by high growth in emerging hubs rather than absolute declines in the UK's activity

As trade moves East a portion of maritime legal work will inevitably follow. Feedback from interviews suggests that the UK's share of maritime legal work has declined over the last 5 years. This has been driven by growth of emerging hubs such as Singapore and Shanghai where local service provision is improving and can meet preferences for proximity where possible.

UK firms have been instrumental in driving this shift. All major UK law firms have internationalised significantly over the last 15 years, establishing a network of offices to serve their customers locally where possible. This shift has a negative impact on the UK's maritime law GVA in the short term – most legal firms are structured as partnerships and so there is limited flow of profit from international offices back to the UK.

However, the internationalisation of UK firms is likely to benefit the UK in the long term as offices refer work internationally and the UK remains connected to all major maritime hubs. If UK firms had not internationalised in this way it is likely that much of this growth would have been captured by local firms or international firms with weaker links back to the UK.

For UK law firms, the most common locations for the largest offices after London are Hong Kong and Singapore.

The UK has also been negatively impacted by a decline in the amount of financing activity (see page 35-38). This has driven a decline in financial legal work which has moved to alternative locations (particularly New York). There is a risk of further declines in finance work if the trend of the UK continuing to lose share in maritime finance continues.

Although English law is the most common legal framework applied to maritime contracts globally, interview feedback has suggested that there are examples of Singaporean law being used on intra-Asian trade contracts. There is a long term threat to the UK's position if Singaporean law begins to be used on international shipping agreements rather than just intra-Asian trade. Although there is no clear evidence of this happening to date, as Asia's importance in shipping grows it remains a possibility that the UK should seek to avoid.

2.26

For the UK to maintain its position as the leading hub for maritime law, UK-based law firms will need to continue to maintain a quality premium compared to other locations. The position of English law and arbitration should also be protected

Going forward, the UK needs to further exploit the strength of legal talent training in the UK. Attracting the best law graduates into maritime specialities should be a focus for the industry.

It is also important for the UK to remain at the forefront of emerging maritime issues. A number have been mentioned by our interviewees including terrorism, cyber security, arctic shipping and the growing automation of vessels.

The pillars that support the maritime legal cluster – ubiquitous use of English law and the strength of the LMAA – should be protected and enhanced as far as possible.

2.3 Shipbroking

2.31
Shipbroking in the UK directly employs c.2,400 people and contributes c.£500m in GVA to the UK

FIGURE 17
Direct, Indirect and Induced contribution to UK GVA from maritime shipbroking

Shipbroking involves linking potential buyers or charterers of vessels with owners (in the same way as a real estate agent lets or sells a house).

The UK is home to many of the largest global shipbrokers. The industry is heavily concentrated in London which is also home to the Baltic Exchange – a provider of market information and a market for settling freight derivative trades – which remains the most influential organisation in shipbroking. There are also other clusters of shipbroking activity in Aberdeen, focused on the offshore market, and some independent shipbrokers operating from the South East.

We estimate that the UK has c.26% of global shipbroking activity by volume, although the UK's position varies by vessel type.

The UK has particular strength in dry cargo and tanker chartering and sale and purchase broking. There are also areas of specialist strength such as offshore (including in Aberdeen).

While smaller than chartering and sale and purchases, shipping derivatives (Forward Freight Agreements) is another segment where the UK is strong. As FFAs are more akin to other financial derivatives, the UK benefits from the large pool of financial talent.

The UK is less strong in container vessel chartering, where Hamburg has a leading position. Container vessel chartering is a smaller market than Dry Bulk or Tankers as a much larger proportion of the fleet is owner operated. Hamburg's strong position is driven by the large number of container vessel owners based in the city, and, historically by the ready availability of finance for container vessels through KG Structures.[7]

7 KG Structures are special purpose vehicles (SPVs) that own vessels, usually invested in by the general public. Similar structures are also used in Norway, although they are known as KS Structures.

FIGURE 17
Direct, Indirect and Induced contribution to UK GVA from maritime shipbroking

Sources: PwC Survey, PwC Analysis, Clarksons Research, Company Accounts

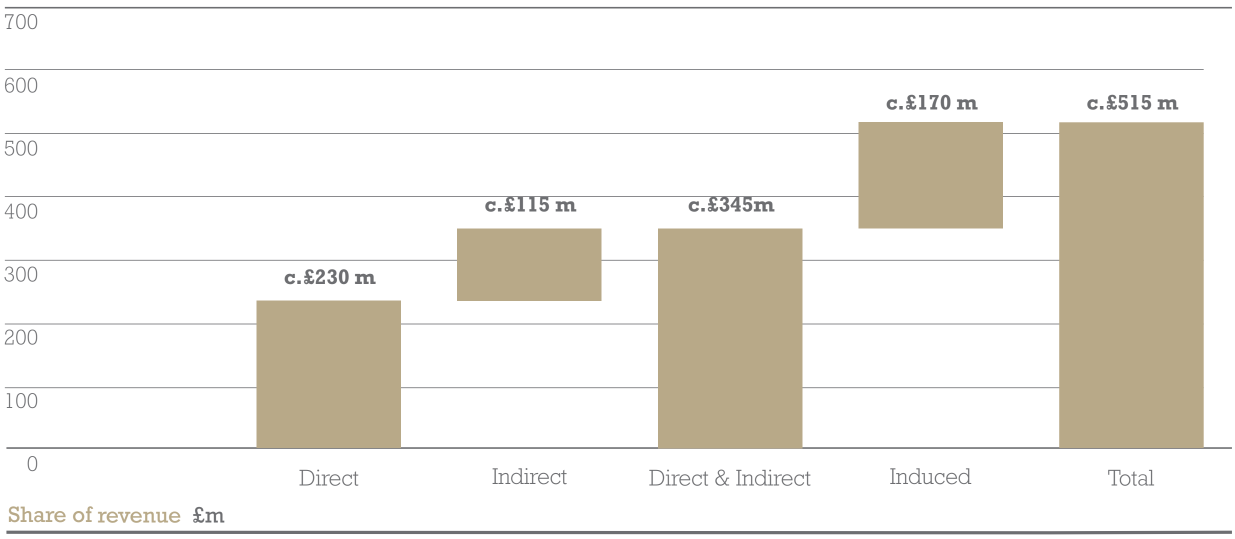


FIGURE 18
Share of the top 5 centres in maritime shipbroking

2.32
Overall activity in shipbroking is thought to have declined over the last 5 years at a market level

Overall, the value of the global shipbroking industry is thought to have declined over the last 5 years due, primarily, to declining charter rates and, more recently, a decline in bunker costs. This has particularly impacted the dry bulk sector over the last year as declining commodity demand has fed through to low demand for vessels and low charter rates. At a time of rapidly expanding shipping supply, the Baltic Dry Index reached its lowest ever point in 2016 and market outlook remains challenging.

As shipbrokers charge fees based on a percentage of transaction value, declining rates have directly fed through to market value.

Although market value has declined, total number of fixtures has continued to grow. This has put pressure on salaries and workloads for shipbrokers.

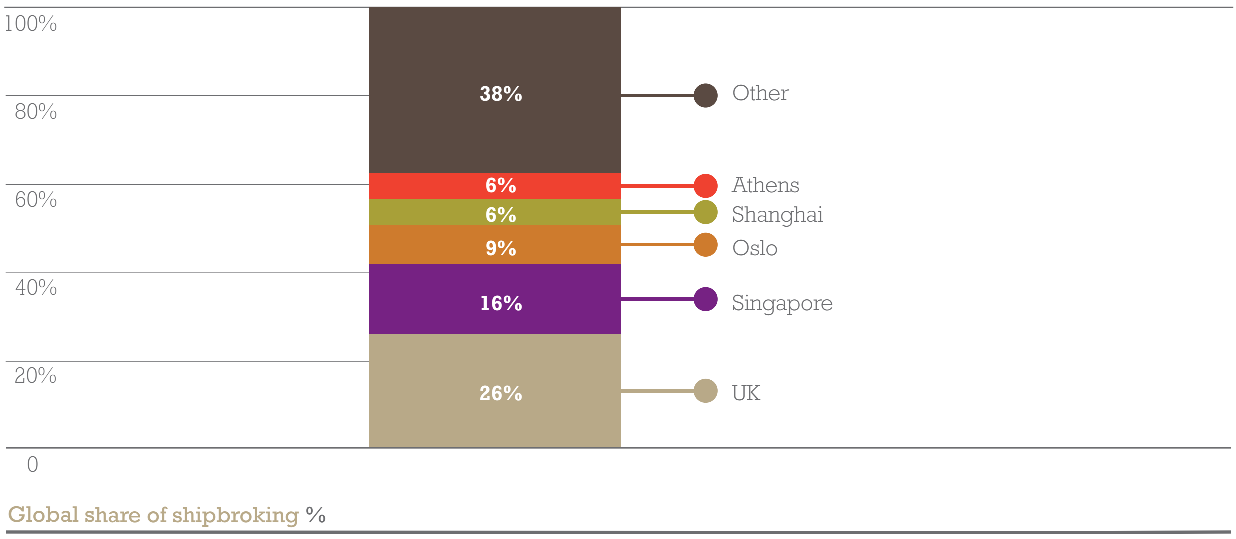
2.33
The UK has maintained its leading position through market turmoil, although its overall share has declined as UK firms have expanded overseas driving internationalisation of shipbroking capability

While the UK retains a market leading share in shipbroking, interview feedback suggests that it has lost share to emerging markets as the capability in other hubs has developed. As with Law, much of this has been driven by UK based firms internationalising and opening offices in locations such as Singapore, Athens and Shanghai. The growth of UK firms overseas has led to an increase in the share of international markets (e.g. Singapore and Shanghai) in shipbroking.

Clarksons Platou and Braemar ACM are examples of UK-headquartered firms which have been at the forefront of the internationalisation of shipbroking. Clarksons now makes c.50% of revenue from overseas offices, bolstered by the acquisition of RS Platou, although London remains the single largest office. Similarly, Braemar ACM has increased its global footprint since 2012 through office openings in Oslo, Dubai and the United States.

FIGURE 18
Share of the top 5 centres in maritime shipbroking

Sources: PwC Survey, PwC Analysis, Company Websites



The pre-eminent position of UK firms internationally is a major strength for the UK, even though it has contributed to the growth of other maritime hubs. The strength of these firms' linkages with emerging maritime hubs ensures that the UK remains well connected to overseas customers. There are flows of customers and profits within international firms that ensures the UK will benefit from their international footprint and will help the UK maintain its relevance as the centre of trade continues to move towards Asia.

The importance of customer location should not be overstated. Shipbroking is done predominantly over the phone and by email and therefore most brokers that we spoke to did not see client proximity as a key factor. Time zone, however, is important and many UK based brokers reported earlier start times to help them meet the demands of Asian clients. Of most importance, however, is the relationship with owners and market knowledge, which enable brokers to find the best rates for their clients.

2.4 Finance

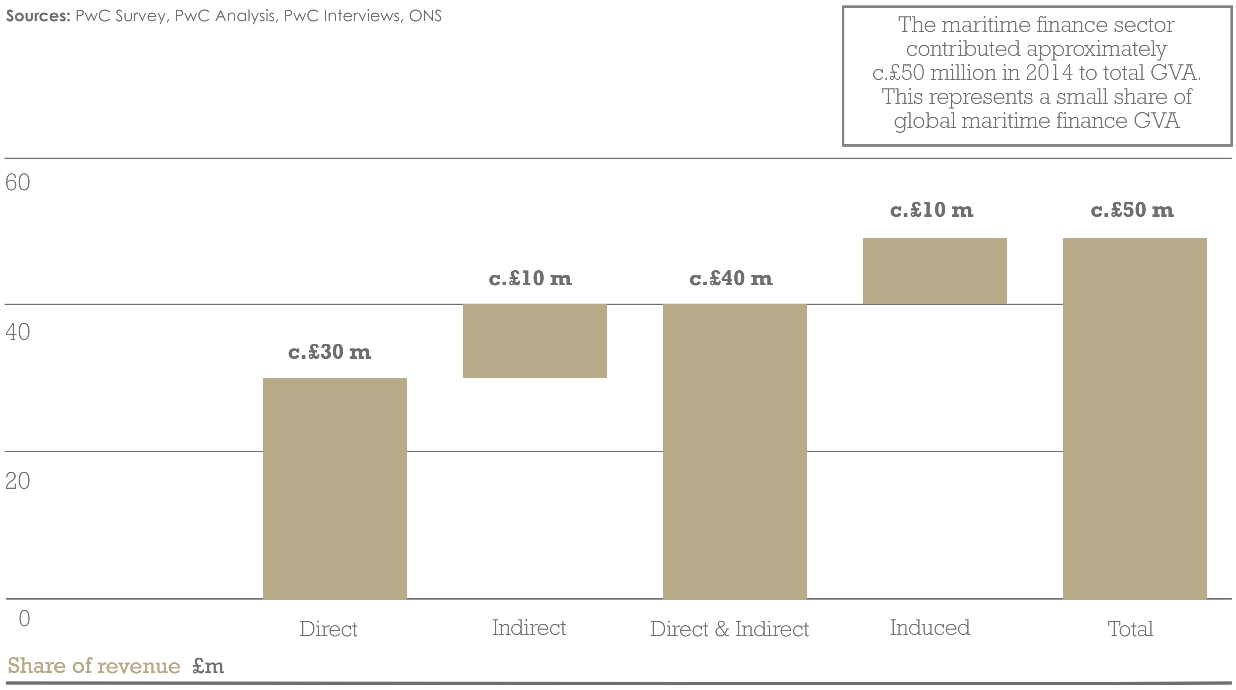
2.41
The GVA from maritime finance is c.£50 million in total. The direct and indirect impact is assumed to be only from the salaries and operating costs of teams based in the UK

FIGURE 19
Direct, Indirect and Induced contribution to UK GDP from maritime finance

Contributions from maritime finance to the UK economy are difficult to estimate and it is likely that our calculations underestimate the true GVA. London has historically been a major centre for ship finance and UK banks have played a major role in financing shipping activity for hundreds of years. While there have historically been some important UK ship finance banks (in particular RBS), the sector has traditionally been dominated by European lenders. In spite of this, many foreign banks maintain London shipping teams and as such London has remained an important centre for maritime finance.

FIGURE 19
Direct, Indirect and Induced contribution to UK GDP from maritime finance

Sources: PwC Survey, PwC Analysis, PwC Interviews, ONS



As a result of most shipping finance in London being carried out by foreign banks, profits generated do not generally stay in the UK and the major contribution to GVA is salaries and operating costs. We estimate that the sector directly employs around 200 people in London, generally on high salaries.

However, the importance of maritime finance is greater than its size would suggest. It has significant synergies with the maritime law and insurance sectors and the presence of maritime bankers is an attraction for ship owners.

2.42
The source of financing for shipping varies significantly depending on the global environment, and has a knock-on impact on other sub sectors

Maritime activity is financed in a number of ways. The most common is traditional mortgage debt finance, through syndicated loans, although ship owners also seek finance through capital markets (both equity and bonds) and, more occasionally, from private equity investors.

The UK's strength in ship finance has historically been in debt finance, with very little activity in capital markets occurring in the maritime sector. Conversely, New York is very strong in capital markets while being weak in traditional debt finance. As a result, shifts in the source of finance can drive shifts between different financial centres.

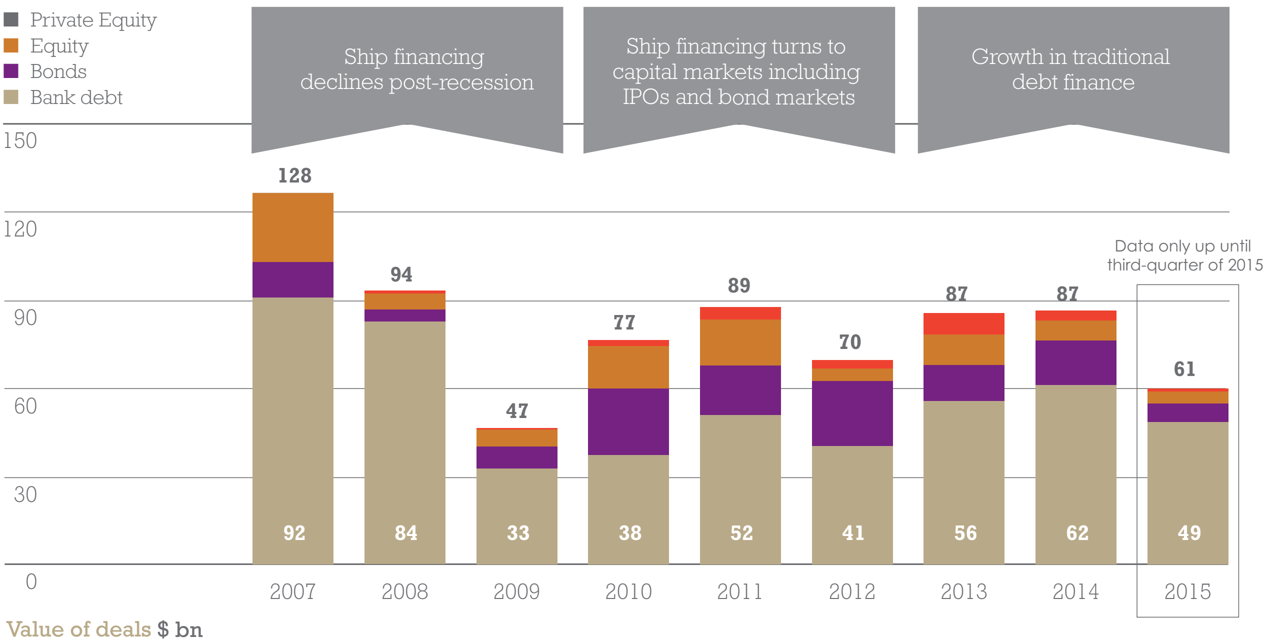
Trends in the source of finance have varied over the last 10 years driven by the availability and cost of capital from different sources. Figure 20 shows the major shifts in funding source since 2007.

FIGURE 20
Global maritime financing by source, 2007 - 2015

The reluctance of banks to lend during the recession led to an increase in the use of capital markets for financing (2010-2012). This benefitted centres such as New York and Oslo that are strong in capital markets for

FIGURE 20
Global maritime value of deals by source, 2007 -2015

Sources: PwC Analysis, PwC Interviews, Marine Money



% that is bank debt	72%	89%	70%	49%	58%	58%	65%	71%	81%

shipping. The UK lost out during this period as it has limited maritime capital markets activity. During the same period there has been a growth of interest in the maritime sector from private equity investors. Private equity investment has predominantly been from US firms based in New York although some also occurs in London.

The increasing importance of capital markets as a source of financing has not only helped New York and Oslo to build their presence as maritime finance centres, it has helped these hubs to attract activity in other sectors as well. For example, based on the results from the companies surveyed, legal services for shipping finance in New York over the last 3 years has grown at c.70% p.a. (this is for UK based firms' US offices and hence may overstate the total growth in NY).

London has potential to develop as a centre for capital markets financing in maritime. Its strength in related maritime services should be a significant advantage, especially when compared with New York where no comparable cluster exists. London's current relative weakness in capital markets is not structural and attracting a number of large maritime businesses to use capital markets financing in London could open the gates to growth in this area.

3.23 UK and European banks are currently reducing their exposure to the maritime sector, being replaced by capital rich Asian banks. This trend presents a threat to the UK's position

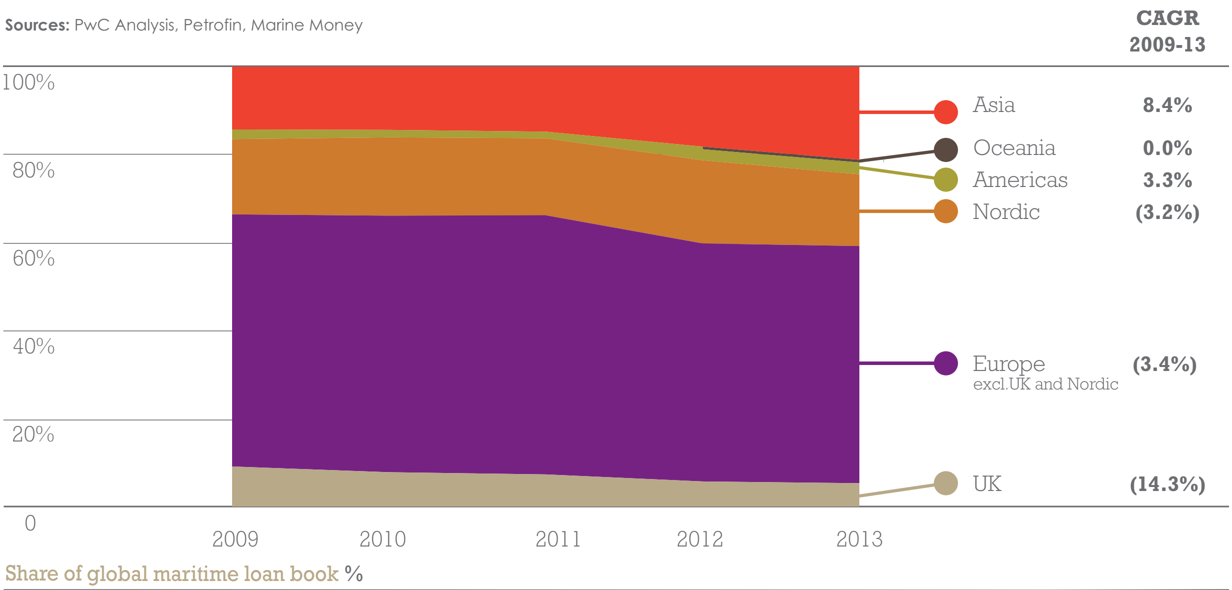
UK banks have significantly reduced exposure to the maritime sector in recent years. A similar trend can also be seen in several of the key European banks, which have reduced new lending and/or sold off portfolios of loans. This funding gap is largely being filled by Asian banks who have been gaining share of total loan book, particularly since 2011 (see figure 21).

The Asian banks currently have a limited presence in London (unlike most European banks) and hence this trend is potentially damaging for the UK.

FIGURE 21
Share of global maritime loan book by country, 2009-13

FIGURE 21
Share of global maritime loan book by country, 2009-13

Sources: PwC Analysis, Petrofin, Marine Money



Going forward, it is important for the UK to remain relevant for maritime finance both for its own contribution to the economy and also the benefits it brings the wider cluster. There are several potential ways for the UK to build on its current success:

- Use the strength of the existing maritime cluster to encourage growing Asian banks to locate shipping teams here
- A successful drive to increase shipping capital markets activity in London
- Attract more ship owners to the UK as well as protecting the existing ship owning communities in the UK
- Ensure that the UK remains an attractive location for global financial activity in general

2.5 Education

2.51

Over the last 3 years, maritime education revenue in the UK has been growing as a result of increasing prices for university and cadetship programmes

Maritime education can be segmented into 3 main categories: technical university courses, business university courses and cadetship programmes.

TABLE 3
Main categories of maritime education

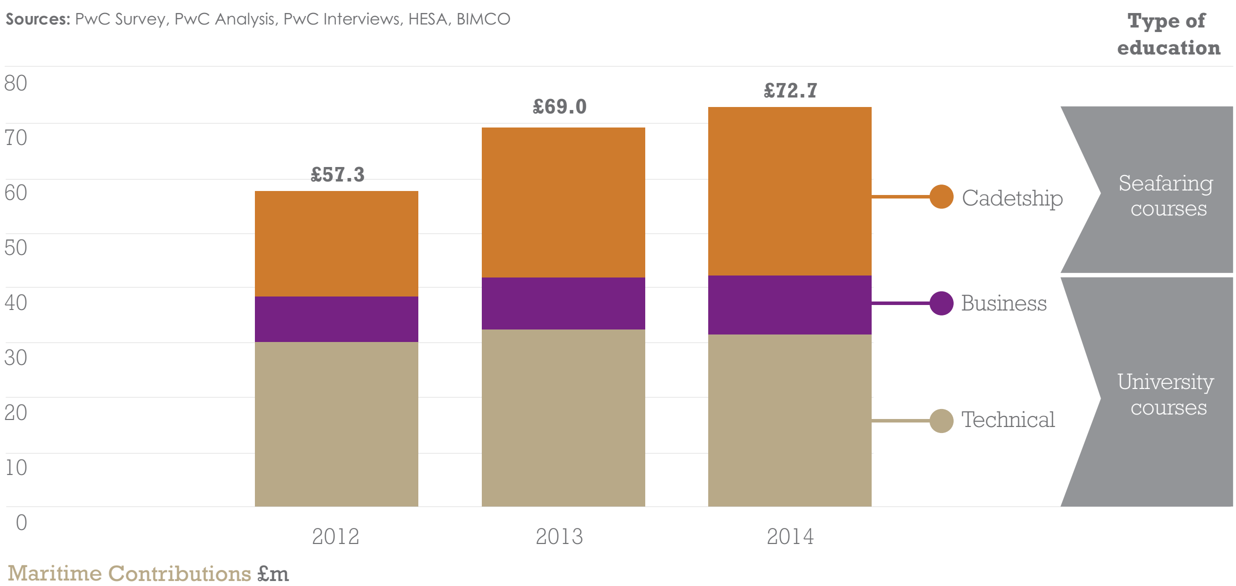
FIGURE 22
UK maritime education revenue by segments, 2012-2014

TABLE 3
Main categories of maritime education

Technical university courses	Business university courses	Cadetship
Maritime courses relating to engineering, sciences, architecture, design, hoteling, archaeology, historical studies and other related programmes	Maritime courses relating to management, logistics, trading, finance, law, security, MBAs, international business, international shipping and any other related programmes	Programmes that are aimed at training students to become officers

FIGURE 22
UK maritime education revenue by segments, 2012-2014

Sources: PwC Survey, PwC Analysis, PwC Interviews, HESA, BIMCO



Unlike the other maritime business service sectors, UK maritime education is primarily based outside of London. Typically, the technical and cadetship institutions are based in port towns such as Southampton and Plymouth for technical training and Warsash, Glasgow and South Shields for cadet training.

The increase in revenue from maritime education in universities has been driven by 2 factors:

- Price – both technical and business courses have seen a 4-5% p.a. price increase over the last 3 years; these have applied to both UK and non-UK students
- Student volume – the number of students studying business-related courses which we estimate has increased by 12% p.a. over the last 3 years (growing to an estimated 2,500 students in 2014)

For cadetship, programme revenue growth has been driven by price increases. This is particularly true for UK students who have seen a c.27% p.a. price increase. The increase for international students has been in line with university courses at c.5% p.a..

FIGURE 23
Direct, Indirect and Induced contribution to UK GVA from maritime education

We estimate the direct and indirect GVA contribution to the UK from maritime education is approximately £80m and the number of jobs from maritime education to be c.600. We also estimate an additional input to GVA from overseas' students spending while in the UK of c.£50 million per year[8] on top of £30m of induced GVA from the spending of maritime education employees.

The strength of the UK brand within maritime education globally is evident in the composition of the students. Approximately c.60% and c.75% of the student body for technical and business courses respectively are international students compared to c.20% on average amongst all courses at UK universities.

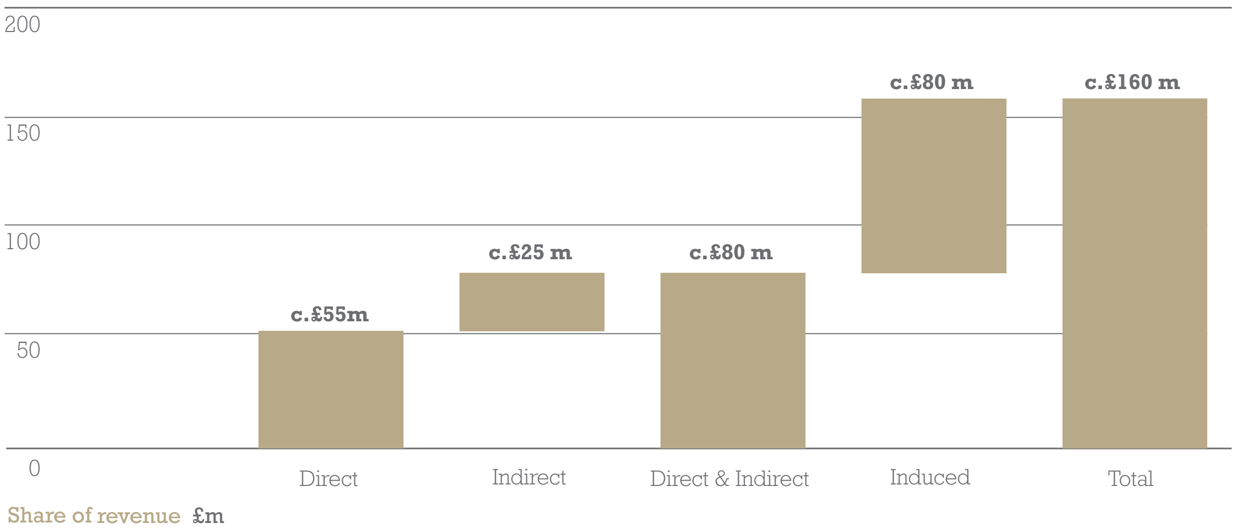
The UK has a very strong brand for tertiary education internationally (second only to the US). In maritime this is particularly true, as

8 Note: Based on Universities UK data, the approximate spend per international student is c.£13,000 per year. Applying this approximation to an estimated number of international students who study in the UK generates a total of c.£50 million per year

FIGURE 23

Direct, Indirect and Induced contribution to UK GVA from maritime education

Sources: PwC Survey, PwC Analysis, PwC Interviews, HESA, BIMCO, ONS



global strength in education is combined with the UK's history as a maritime centre. Many of the oldest maritime educational institutions are in the UK and interview feedback suggests that they maintain a quality premium.

Unlike technical and business courses, students enrolled in UK cadetship programmes are primarily British (c.85%). This has largely been driven partly by the cost difference between UK cadetship programmes and local programmes in Asia (where the majority of cadets globally originate from). It is also driven by requirements under the STCW (Standards for Training, Certification and Watchkeeping for seafarers) being reduced for trainees following approved courses, meaning that courses are designed, approved and regulated for the domestic market.

FIGURE 24

UK maritime education proportion of UK and non-UK students by segment, 2014

In addition to the 3 main categories of maritime education there are a number of small but important maritime education institutions. These include:

- The Institute of Chartered Shipbrokers – a key provider of commercial shipping qualification by examination
- A number of mandatory training courses for seafarers (e.g. Advanced Fire Fighting) provided by a variety of education organisations
- The Marine Society – a charity providing educational resources to seafarers

2. While UK maritime education has grown revenue historically, it faces a number of challenges going forward

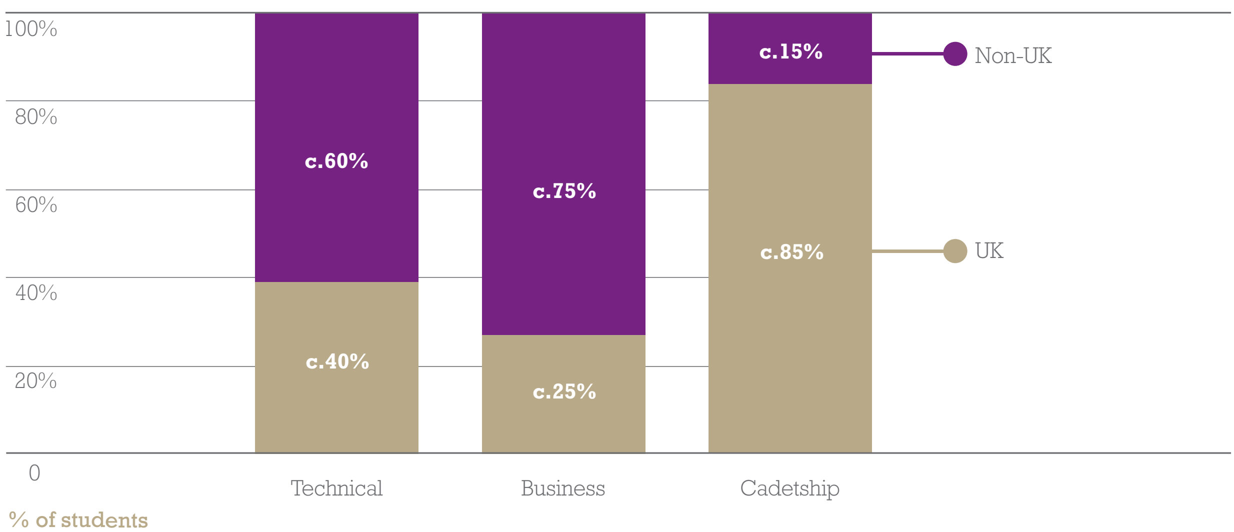
There are key challenges that may hinder the UK's attractiveness for international students.

The first barrier is the cost of the programmes. UK institutions are comparatively expensive,

FIGURE 24

UK maritime education proportion of UK and non-UK students by segment, 2014

Sources: PwC Survey, PwC Analysis, PwC Interviews



in terms of fees, cost of living and travel cost. This is especially stark when compared to Asian institutions, whose quality has been improving as they invest in the sector. UK institutions are responding to this by opening campuses overseas, particularly in China. The inherent risk in this strategy is potentially harmful to UK campuses as the students who would have normally gone to the UK may now choose to instead study closer to home. However, UK institutions plan to target students who would not otherwise be able to travel to the UK and believe that an overseas presence will benefit the UK brand in the long run.

The second barrier is the introduction of stringent processes for obtaining a tier 2 and 4 visa. Interview feedback from UK institutions has suggested that some international applicants have been delayed due to visa complications and sometimes even denied entry into the UK. According to a 2014 study conducted by Universities UK, the UK's ability to remain attractive to international students is "far from secure" as a result of the strict visa policies. The growth of international students into the US, Canada and Australia in 2013 was c.7% on average while in the UK there was a decline of 4%.

Going forward, the UK may face increasing competition from other maritime education hubs. Interviews suggest that key competing locations for cadetship are the Philippines and India while key competing locations for university courses (both technical and business) are Singapore, China and Hong Kong.

Growing the availability of scholarships and funding for education is an important way of encouraging young people into the maritime sector. The Maritime London Officer Cadet Scholarship (MLOCS) has been doing this since 1992 and currently offers 20 scholarships, while Trinity House's Merchant Navy Cadet Scheme provides financial support for young people seeking careers as officers in the Merchant Navy. London Nautical School, supported by the Worshipful Company of Shipwrights, also offers a Maritime Studies course to Year 10 and 11 students as a separate class to the sixth form. Further support for schemes such as this are an important way of encouraging the sector.

2.6 Accounting

2.61
Maritime accounting is estimated to contribute c.£75m in GVA to the UK

FIGURE 25
Direct, Indirect and Induced contribution to UK GVA from maritime accounting

The maritime accounting sector generates c.£75 million in GVA and creates an estimated c.400 jobs in the UK. Accounting services are typically provided to two types of businesses:

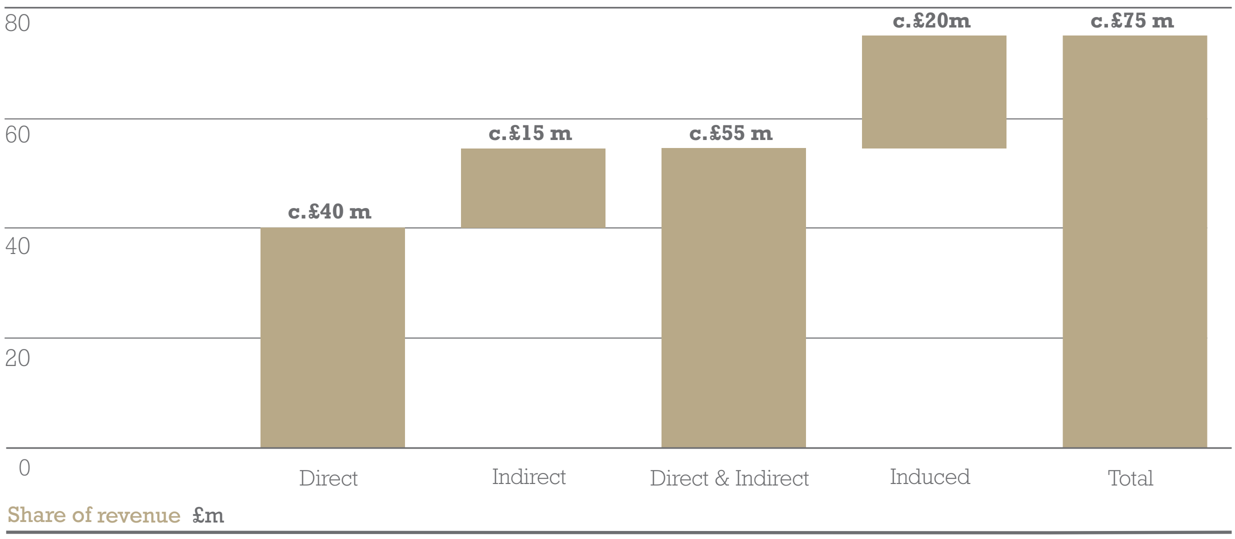
- Owners and operators - services are typically for the headquarters of UK based shipping companies or for the UK-office of foreign shipping companies
- Maritime services companies – these include maritime business services as well as technical services such as marine classification, technical consulting and engineering

For vessel operators, the majority of the value of an audit will take place in its home country, with a smaller amount attributable to countries with significant subsidiaries. Consequently, given the limited number of operators based in the UK, its share of operator audit revenue is relatively small. However, as the UK has a strong presence in maritime services, the share in the service company segment is higher. Overall we estimate the UK holds a share of slightly under 10% of global maritime accounting revenue.

Maritime accounting services are probably not a major growth opportunity for the UK going forward. If the recommendations of the maritime growth study are adopted and more maritime businesses are attracted to the UK then accounting revenue should grow as a result. However, its contribution relative to other sectors is likely to remain small.

FIGURE 25
Direct, Indirect and Induced contribution to UK GVA from maritime accounting

Sources: PwC Analysis, PwC Interviews, OBS



2.7 Consulting

2.71
Business activity within maritime consulting in the UK is primarily from data subscriptions and generates c.£60m direct and indirect GVA contribution for the UK

FIGURE 26
Direct, Indirect and Induced contribution to UK GVA from maritime consulting

We define consulting for the purposes of this report as including both the provision of data and market information to the maritime industry and management consulting services to the maritime industry. We exclude technical maritime consulting as this is considered a technical service rather than a business service.

Maritime consulting in the UK generates approximately c.£60 million in revenue and c.300 jobs.

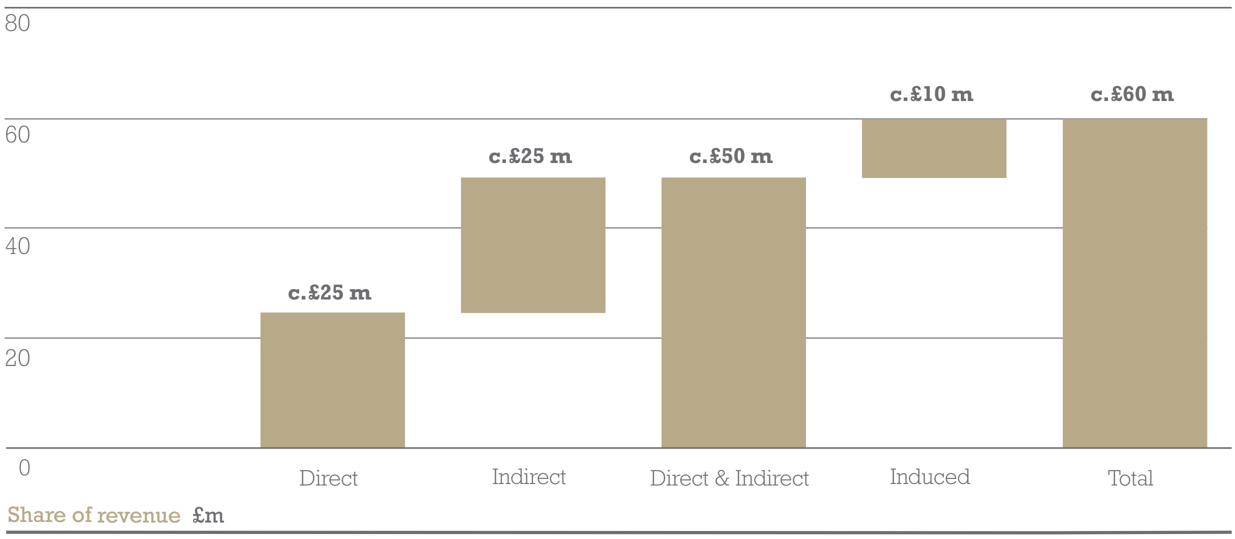
Consulting segments into data providers and business consulting. The UK has a particularly strong position in data provision due to the existence of a number of companies with proprietary data sources.

Business consulting is more frequently done close to the end customer and is not a major sector for the UK. The UK is generally strong in business consulting and, as for accounting, if more maritime businesses were attracted to the UK, there would likely be a growth in associated maritime consulting activity.

Data is becoming of increasing importance in maritime industries and data providers are generally small but influential actors in the maritime sphere. The UK has a number of particularly strong maritime data service providers including IHS and Clarksons Research. There are new sources of data being utilised and explored in maritime (e.g. use of AIS tracking for market insight) which may become influential and important for maritime business services. UK firms are already at the forefront of this sector but new data sources present an opportunity to build on and improve their position globally.

FIGURE 26
Direct, Indirect and Induced contribution to UK GVA from maritime consulting

Sources: PwC Survey, PwC Analysis, PwC Interviews, ONSS



Appendix

The methodology to calculate total GVA relies on a mix of financial data collected from survey participants and company accounts, other primary sources of data, ONS input-output tables and existing literature.

Accounting, Shipbroking, Consulting, Education and Law

For accounting, shipbroking, consulting, education and law, survey data was used along with supporting data sources to generate estimates for total sector revenue. Using the ONS input-output tables and the derived Leontief multipliers, approximates for direct, indirect and induced GVA were determined.

Finance

Interview feedback suggested that finance GVA is primarily driven by the salaries to employees and operating expenses therefore direct and indirect contributions were estimated based on bottom up estimates of maritime related operated costs for the major banks. The induced contribution from finance was estimated using the derived Leontief multiplier.

Insurance

For insurance we have used data from Lloyd's, IUMI and our survey to estimate direct and indirect GVA. We have triangulated this with employment multipliers using ONS data. We have calculated induced GVA using the same methodology as for the other sectors.

Note on maritime reinsurance

In addition to the types of commercial insurance already introduced (i.e. cargo, hull and offshore energy/liability), maritime reinsurance also generates a measure to the UK GVA.

Within reinsurance, the cedent (the policyholder in a reinsurance contract) seeks to safeguard itself against catastrophic events as it may lead to substantial claims from its policy holders. To do so, the cedent takes out a policy with a reinsurance company to transfer some of the risk. However, it is also common practice for reinsurance companies to mitigate their catastrophe exposure by seeking a policy with another reinsurance company (known as retrocession). This creates an intricate global network in which multiple parties are sharing a portion of the risk and thus identifying the location of the associated profit/loss is highly convoluted without having access to a complete set of accounts of all parties involved.

Given the challenge posed, we have assumed that all UK insurance companies seek out reinsurance from only UK firms. In reality, some UK insurance companies would pay premiums to international reinsurers (decreasing the UK GVA) however the reverse is also true with some international insurance companies paying premiums to UK reinsurers (increasing the UK GVA). Therefore our assumption is that the net internationalisation impact is zero.

The UK's Global Maritime Professional Services: Contribution and Trends

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