Answers to questions taken on notice, Senate Committee Hearing, 9 September 2020, Maritime Industry Australia Ltd.

Economic Impact figures (source: The economic contribution of the Australian maritime industry, February 2015, pwc)

1. Current contribution – direct and indirect - (2012-13)

- $20.8 billion in GDP
- employment for 45,000 people
- $1.287 billion in taxation revenue

2. Additional that could flow with positive policy settings
   - $4.25 billion in GDP
   - employment for 9,147 people
   - $867 million in taxation revenue

3. Total that would result from positive policy settings
   - $25 billion in GDP
   - employment for 54,000 people
   - $2.1 billion in taxation revenue

The figures in 2. and 3. above are the combination of the economic benefits using PwC CGE model estimates and the potential economic benefits based on an increase in the number of ships from other countries' experience. In overseas experience this is often characterised by the growth of the 'fleet'. Based on an assumption that the fleet size grows by 100 ships,[4] this will have significant contribution to Australian GDP of approximately $3.2 billion (see Box 2 in Section 3.3).

A projected growth in the fleet of 100 ships equates to only 2 per cent of the 5,000 international ships that trade to and from Australia (although in reality the growth would span all the operating sectors – trading, cruise and oil and gas). Even with this growth, the Australian fleet would remain a fraction of the size of the fleets that exist in other developed and developing nations and is by any measure a conservative estimate of realistic growth of the sector given the natural advantages that Australia has to offer.

[4] The assumption of growth in Australian fleet size is based on experiences in other countries, for example the United Kingdom fleet size grew by 250 ships in seven years, and the Dutch fleet grew by 397 ships over a fifteen year period between 2012 and 1997. Both countries introduced tonnage taxes in the late 1990s. The Singaporean fleet grew by 1316 ships in the past ten years with a different but competitive tax regime.

Maritime Industry Australia Limited
473 St Kilda Road Melbourne Victoria Australia 3004
P: 61 3 9647 6000 | E: admin@mial.com.au | W: www.mial.com.au
Members of International Chamber of Shipping and Asian Shipowners Association
ABN: 73 006 627 934

Box 2: Possible benefits associated with increased ship numbers

The increase in economic output implies that an additional number of vessels have become Australian registered or operated. Under the policy case, the effects flow through a number of channels:

- compositional change of foreign registered ships operating in Australia becoming Australian registered
- foreign operated ships that conduct activities in Australia or elsewhere in the world choose to operate from Australia and register in Australia.

Experience in other countries has also shown that an effective tax policy regime leads to a higher number of vessels that will register in that country. Recent examples include:

- the UK registered fleet increased from 379 in 2000 to 629 in 2007 since the introduction of the tonnage tax
- the Dutch fleet has grown from approximately 650 in 1997 to 1,047 in 2012 since the implementation of the tonnage tax
- the Singaporean merchant fleet has increased from 3,063 to 4,379 ships over the past decade as a result of favourable shipping policies. [34]

The scenarios presented below are based on the average value contribution per ship of the UK and the Dutch fleet[1]. Using these assumptions, an additional 50 Australian ships would provide an additional $1.6 billion contribution to the Australian economy, if the fleet size grows by 150 ships this would imply an increase of $4.8 billion in GDP.

While the exact number of additional number of Australia ships is unknown (as it depends on the business models chosen) the table below presents three possible scenarios. These are based on a proportionate increase in gross value added and employment (see assumptions outlined in Appendix E). The results presented in this report have used the median scenario estimate of 100 ships.

Table 5: Possible direct and indirect benefits from an increase in Australian fleet

Additional no. of Australian ships	Additional GVA ($m)	Total GVA ($m)
50	$1,600	$22,000
100	$3,200	$24,000
150	$4,800	$26,000

A copy of the full pwc report is included for ease of reference.

In addition to the above, which directly answers the questions taken on notice, we also include this assessment of the likely state of the industry with and without policy action which was prepared pre-2012 policy reforms. Unfortunately, our predictions of the state of the industry have come true, with the number of larger vessels in the Australian fleet in 2020/21 equaling 13.

The details of the policy action referred to is also included below for reference.

SUMMARY OF NUMBER OF SHIPS OVER TIME– with and without policy action

1. All anticipated departures after 2012 are replaced with Australian ships
2. 14 new ships enter domestic trades
3. 7 new ships enter to replace some of the 15 recently departed
4. 50 new ships to participate in international trades
5. 50 vessels in the offshore oil and gas sector adopt Australian flag

Assume legislative changes in place Jan 2012
Assume fleet rebuilding at ~30% per annum

Number of Australian ships

Ship numbers	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Status Quo	29	27	23	22	21	21	18	16	15	15	14	13	13	13	8	5	4	2	2	1	0
Policy case	29	27	25	30	39	51	66	86	111												

Table 3: Policy incentives and features

	Tax changes	Scope
	Existing tax policies	*Extend the tax policies to:*
1	Accelerated depreciation	• Offshore vessels • Cruise ships • Non-Australian flagged vessels that provide strategic and/or commercial control from Australia
2	Zero company income tax rate or company income tax exemption	
3	Seafarer tax offset	All vessels engaged in international activities including: • Offshore vessels • Employers of all Australian resident seafarers including those that are non-Australian flagged • All Australian resident staff working on vessels regardless of rank or role, such as hotel staff employed in the cruise industry
	Introduction of tax policies	*Apply the tax policy to:*
4	Deemed franking credits in respect of dividends paid to resident shareholders	• All vessels currently able to access 1 and 2 • Offshore vessels • Cruise ships • Non-Australian flagged vessels that provide strategic and/or commercial control from Australia
5	Exemption from dividend withholding tax on dividends paid to non-resident shareholders from profits covered by 1 and 2 above.	
6	Redefine coverage of the Australian International Shipping Register to include all vessels that participate in international activities	

Prepared by: Teresa Lloyd, CEO, Maritime Industry Australia Ltd, September 2020

The economic contribution of the Australian maritime industry

Australian Shipowners Association

The economic contribution of the Australian maritime industry

February 2015

pwc

Disclaimer

The information, statements, statistics and commentary (together the 'Information') contained in this report have been prepared by PwC from publicly available material and from discussions held with the Australian Shipowners Association. PwC may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement this document.

PwC has based this report on information received or obtained, on the basis that such Information is accurate and, where it is represented by the client and other stakeholders as such, complete. The Information contained in this report has not been subject to an Audit. The information must not be relied on by third parties, copied, reproduced, distributed, or used, in whole or in part, for any purpose without the written permission of the Australian Shipowners Association and PwC.[1]

[1] Liability is limited by a scheme approved under Professional Standards Legislation.

Executive summary

The Australian Shipowners Association (ASA) engaged PricewaterhouseCoopers Australia (PwC) to assess the maritime industry's contribution to the Australian economy and the *potential* economic impacts of tax policy changes.

The report has been prepared based on data sourced from publicly available information and based on modelling assumptions which are detailed in Appendices and throughout this report. The policy case in this report has been advised by the ASA. The economic impacts of the policy case include both a computable general equilibrium (CGE) model estimate[2] and the potential economic benefits based on an increase in shipping activity from overseas policy experiences.

In 2012-13, the Australian maritime industry directly contributed to the Australian economy in terms of gross domestic product (GDP), employment and taxation revenue, as shown in Figure 1.

Figure 1: Direct contribution of the Australian Maritime industry 2012-13

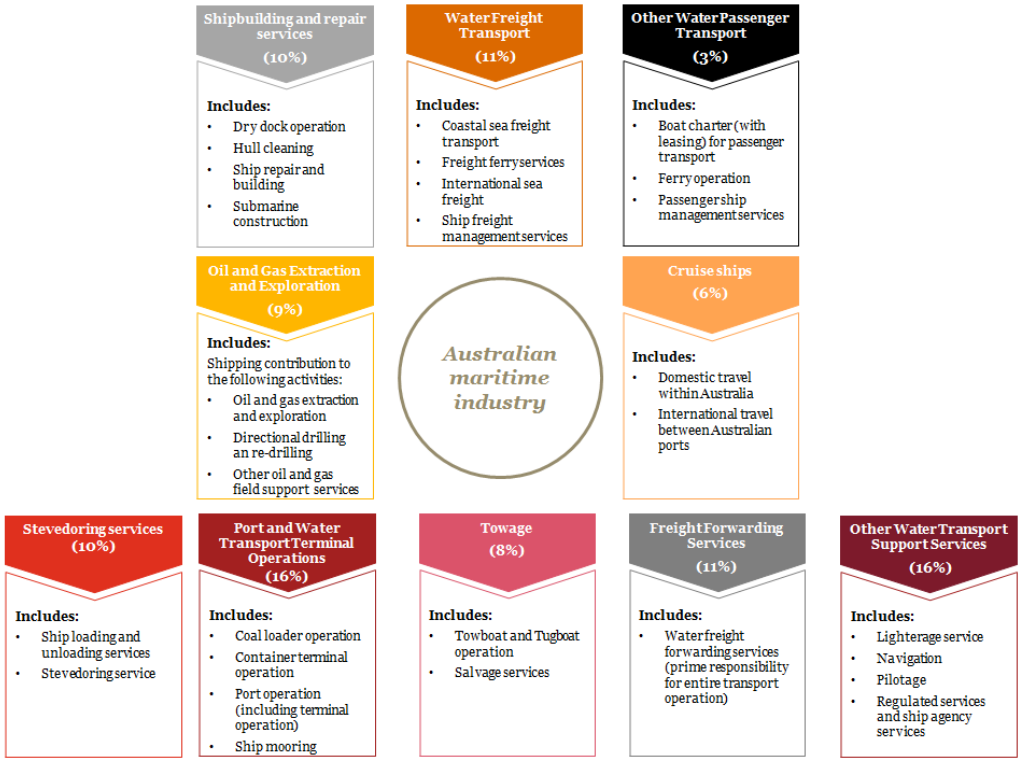
Other than the direct contribution, the maritime industry also indirectly contributed to the economy, which in 2012-13 meant an additional:

- $11.8 billion in GDP
- employment for 13,927 people
- $387 million in taxation revenue

The Australian maritime industry consists of a wide range of activities, including water freight transport, oil and gas extraction and exploration, passenger transport and towage; these are further detailed in Figure 2.

[2] Based on a comparative static version of the Monash Multi-Regional Forecasting (MRRF) model described further in Appendix G

Figure 2: Composition of the maritime industry*, share of gross value add[3]



Source: PwC analysis based on ABS catalogue 5209 2009-10 Input-Output tables and IBIS world

*Oil and gas extraction and exploration aggregates both shipping related oil and gas extraction and exploration and other mining support services.
Note: Certain oil and gas activities are included in other components such as water freight transport, towage and other water transport support services.

While PwC have used the latest Input-Output tables from ABS catalogue number 5209.0 (released September 2013), these figures only provide an economic snapshot for financial year 2009-10. Since 2009-10, the oil and gas sector has increased by 10 per cent and capital expenditure in the sector is over four times as large. As major oil and gas investment projects move from construction to the production phase, the sector is expected to increase substantially in its contribution to the Australian economy. Therefore, shipping activity estimates related to the oil and gas sector could be substantially higher than those underlying PwC's modelling estimates.

It should be expected that Australia would have a strong and broad maritime industry given that it has:

- the fifth largest shipping task in the world, due to:
  - significant raw commodities for export
  - reliance on significant imports by sea
  - a long coast line with geographically diverse populations and industries
- major offshore oil and gas industries
- the world's fastest growing cruise industry

3 Aggregates both shipping related oil and gas extraction and exploration and other mining support services

- responsibility for part of the Antarctic region
- considerable defence and border protection activity
- highly active ports requiring a range of on-water services

Despite these natural advantages there are an insignificant number of Australian owned or operated vessels operating within the maritime industry either domestically or internationally. This has restricted the potential economic contribution of the maritime industry to only that which needs to be done in Australia. This can principally be attributed to a lack of effective fiscal benefits available to support the use of Australian owned or operated vessels.

In contrast to the Australian position, a significant number of developed and developing countries have implemented attractive fiscal policies to encourage the growth of their respective shipping fleet (i.e. vessels which are owned or operated in that particular country). These policies have delivered significant economic and fiscal benefits for countries which do not have the intrinsic natural advantages available to Australia. For example, the tonnage tax introduced by the United Kingdom (UK) in 2000 is estimated to have resulted in the contribution of the UK shipping industry to economic output being two to three times higher than would otherwise have been the case.

In other words, many other countries already offer effective fiscal policies which encourage ship ownership and/or operations to take place in that particular country, regardless of the country where the vessel is ultimately being used.

PwC was asked to model a policy scenario for Australia that supports the use of Australian owned or operated vessels (i.e. the Australian fleet) by:

- recognising the breadth of the Australian maritime industry, and
- encouraging expansion of activities in the maritime sector, particularly into international activities

The modelled policy case is summarised in Table 1.

Table 1: Policy case incentives and features

	Policy changes	Scope
	Existing tax policies	*Extend the tax policies to:*
1	Accelerated depreciation	• Offshore vessels • Cruise ships • Non-Australian flagged vessels that provide strategic and/or commercial control from Australia
2	Zero income tax rate or income tax exemption	
3	Seafarer tax offset	
	Introduction of policies	
4	Deemed franking credits in respect of dividends paid to resident shareholders from profits covered by accelerated depreciation or the income tax exemption	
5	Exemption from dividend withholding tax on dividends paid to non-resident shareholders from profits covered by accelerated depreciation or the income tax exemption	
6	Redefine coverage of the Australian International Shipping Register to include all vessels that participate in international activities	

Under the policy case, it is anticipated that Australian owned or operated vessels would grow with a resultant increase in the size of the maritime industry. The total potential economic benefits to the Australian economy of the policy case are significant, with an additional

contribution to the economy of $4.25 billion in output, $867 million in tax revenue and over 9,000 additional jobs (Figure 3).

Figure 3: Total potential economic benefits to the Australian economy

Figure 4: Economic benefits to the Australian economy

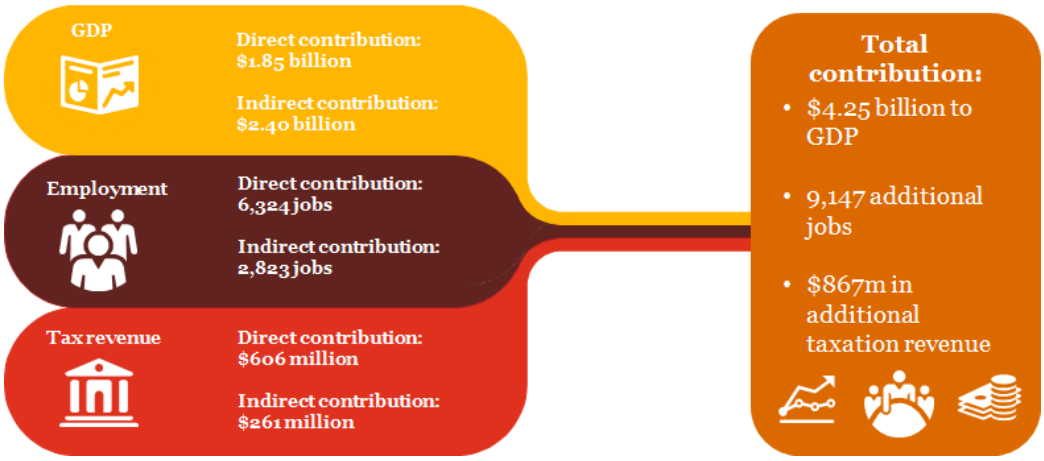


Figure 3 and Figure 4 are the combination of the economic benefits using PwC CGE model estimates and the potential economic benefits based on an increase in the number of ships from other countries' experience. In overseas experience this is often characterised by the growth of the 'fleet'. Based on an assumption that the fleet size grows by 100 ships,[4] this will have significant contribution to Australian GDP of approximately $3.2 billion (see Box 2 in Section 3.3).

A projected growth in the fleet of 100 ships equates to only 2 per cent of the 5,000 international ships that trade to and from Australia (although in reality the growth would span all the operating sectors – trading, cruise and oil and gas). Even with this growth, the Australian fleet would remain a fraction of the size of the fleets that exist in other developed and developing nations and is by any measure a conservative estimate of realistic growth of the sector given the natural advantages that Australia has to offer.

4 The assumption of growth in Australian fleet size is based on experiences in other countries, for example the United Kingdom fleet size grew by 250 ships in seven years, and the Dutch fleet grew by 397 ships over a fifteen year period between 2012 and 1997. Both countries introduced tonnage taxes in the late 1990s. The Singaporean fleet grew by 1316 ships in the past ten years with a different but competitive tax regime.

As the modelling shows, these economic benefits can be achieved at no net cost to the Australian economy. This is due to the current size and profile of the Australian shipping fleet providing minimal tax revenues to government. The vast majority of the taxation revenues arising from the maritime industry of $900 million (see Figure 1) does not only come from the vessels within the Australian fleet but rather from the other activities included within the maritime industry. It follows, therefore, that minimal tax revenue would be forgone by providing the policy incentives to stimulate the growth of the Australian fleet and, in turn, the maritime industry.

However, without an effective Australian fiscal regime for the taxation of such vessels, these additional economic benefits will not be realised in Australia as the vessels will operate from locations in other countries as they have done historically.

In addition to the net benefits in the form of stronger economic growth, there are other intangible benefits, including:

- development of a maritime cluster which includes a range of high value activities and services that support vessel operations such as finance, insurance and other professional services

- retention of maritime skills through employment opportunities for skilled maritime workers both at sea and ashore

- defence requisition of assets and availability of maritime skilled workers in times of need

By way of conclusion, international capital represented by the country of ship ownership or operations is highly mobile and without an attractive fiscal regime, Australia will fail to capitalise on its natural advantage in the maritime industry and continue to lose significant economic and associated benefits to other countries.

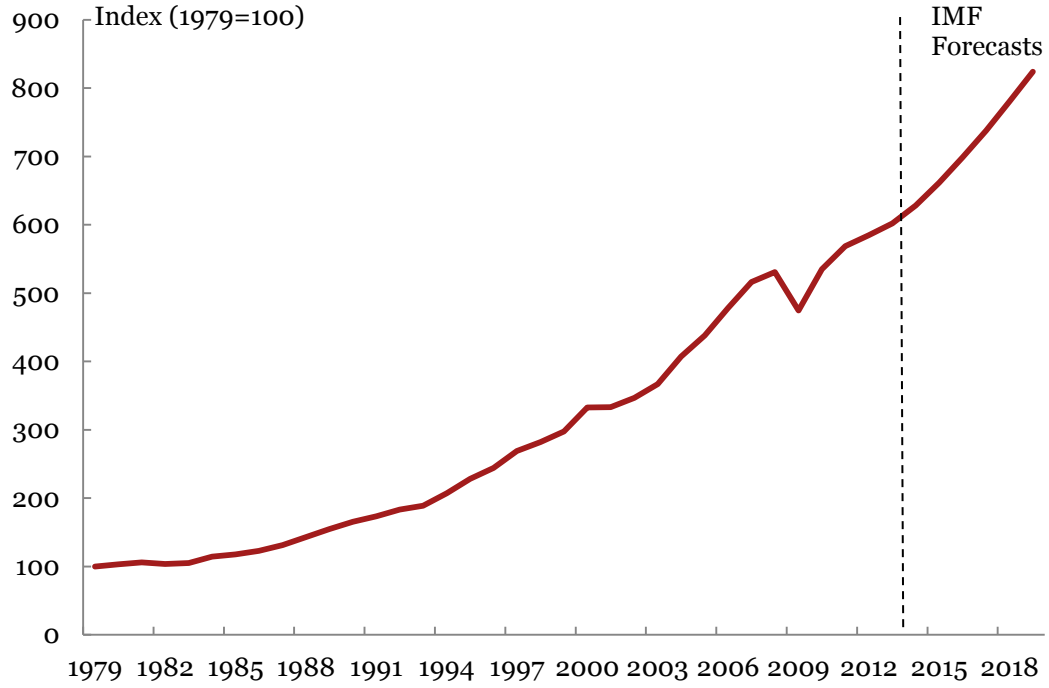
Contents

1 History of the Australian shipping fleet

1.1 Context

Over the past 35 years, global trade in goods and services has increased six-fold and is expected to continue to grow strongly over the next five years (Figure 5). This is due to global trade and capital flow barriers declining in the years following the Second World War and emerging economies becoming more integrated with the rest of the global economy.

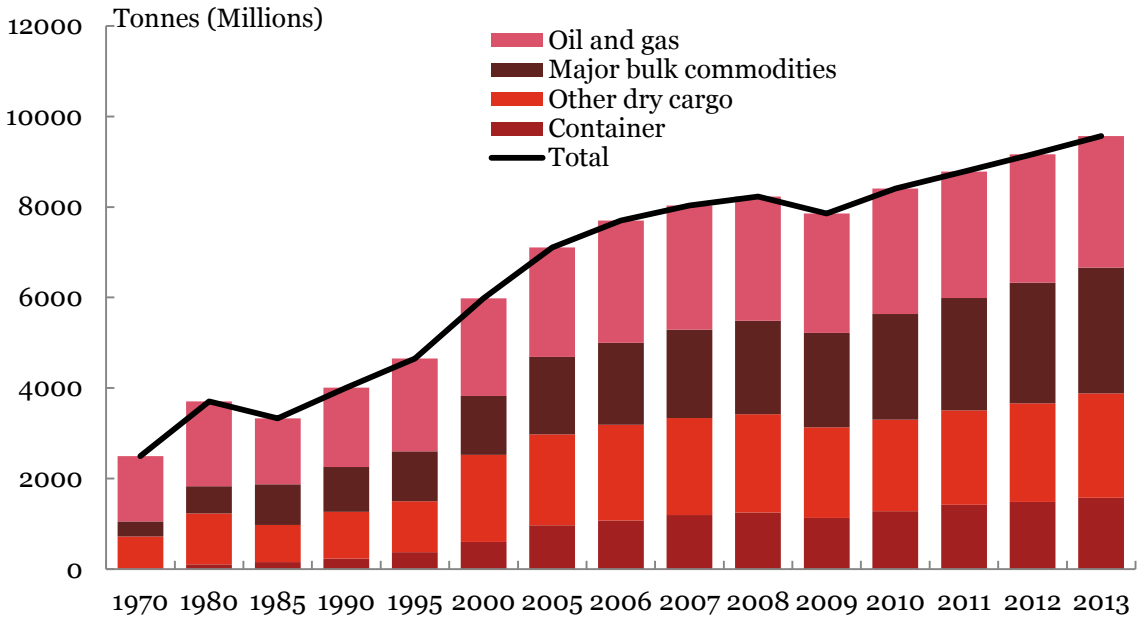
Figure 5: World trade volume of goods and services (1979 to 2019)



Source: IMF World Economic Outlook (April 2014)

Complementing strong global trade growth, international seaborne trade also increased strongly over the same period, with seaborne trade volumes tripling over the past 40 years (Figure 6). While seaborne trade has increased significantly, the slowdown in global trade during the Global Financial Crisis (GFC) caused seaborne trade volumes to fall by around 4.5 per cent in 2009 (driven by container and other dry cargoes). Trade volumes have, however, recovered since.

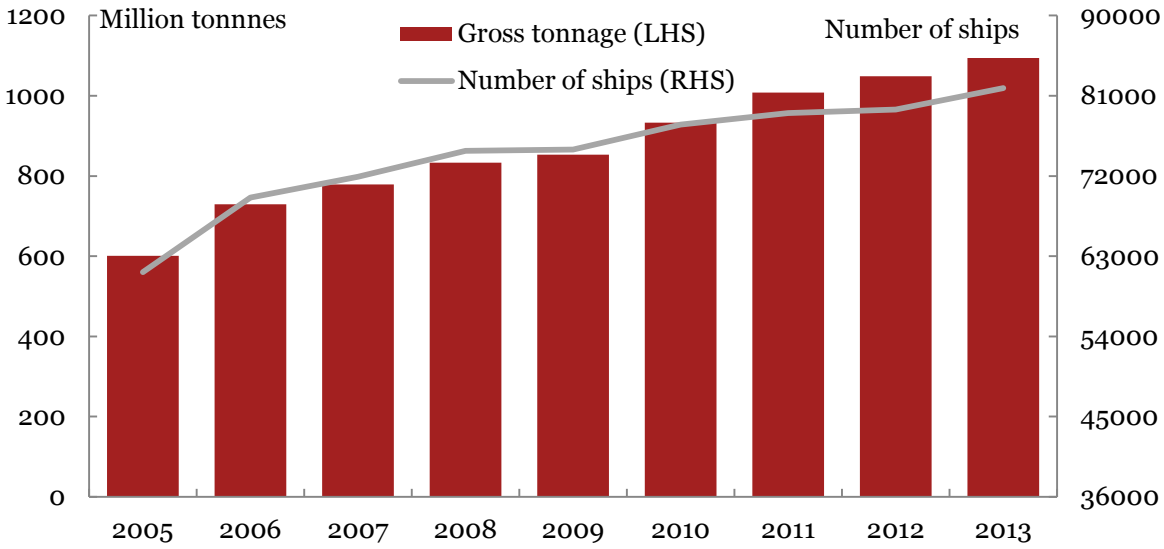
Figure 6: International seaborne trade (1970 to 2013)



Source: UNCTAD Review of Maritime Transport (2013)

In addition to strong growth in seaborne trade, the global fleet has steadily increased over the past eight years with the fleet increasing from around 61,000 in 2005 to over 80,000 by the end of 2013. Declines in trade volumes during the GFC saw growth in the number of ships in the world fleet remain relatively flat in 2009. However, in line with the improvement in global growth after the GFC, the number of ships has steadily increased over the past four years (Figure 7).

Figure 7: World fleet total (number of ships and gross tonnage)



Source: Equasis Statistics – The World Fleet publication (2005 to 2013)

The global shipping industry carried around 1.1 billion tonnes of goods in 2013, with the vast majority of goods transported by ships registered in a group of 20 countries. As Table 2 illustrates, this group of countries which carries around 80 per cent of gross tonnage in 2010 does not include Australia.

Table 2: Top 20 merchant fleets – 2010

Top 20 merchant fleets (based on gross tonnes of shipping registered in country/territory) - 2010[5]	
1. Panama	11. Italy
2. Liberia	12. Japan
3. Marshall Island	13. United Kingdom
4. Hong Kong	14. Germany
5. Bahamas	15. Norway
6. Singapore	16. South Korea
7. Greece	17. USA
8. Malta	18. Isle of Man
9. China	19. Denmark
10. Cyprus	20. Antigua and Barbuda

Source: International Maritime Organisation (2012)

While there are a number of reasons why these particular countries attract significant volumes of registered tonnage, a consistent theme is that each offers a tax effective regime for vessels which are owned or operated from that particular country. Some examples of such assistance are outlined below.

The United Kingdom

The shipping industry in the United Kingdom (UK) experienced significant growth over the past decade as part of a series of reforms (including the introduction of the tonnage tax in 2000). It is estimated that the UK owned fleet has grown by almost three times and the shipping industry's contribution to UK GDP has been two to three times as large as compared to the case without the introduction of the tonnage tax.[6]

With these policy settings, the UK shipping industry has contributed nearly £8.2 billion in additional GDP than would have otherwise been the case (about 0.6 per cent of GDP).

---

5 International Maritime Organization (2012), 'International Shipping Facts and Figures – Information Resources on Trade, Safety, Security, Environment', available at: http://www.imo.org/KnowledgeCentre/ShipsAndShippingFactsAndFigures/TheRoleandImportanceofInternationalShipping/Documents/International%20Shipping%20-%20Facts%20and%20Figures.pdf

6 UK chamber of Shipping (undated), 'Tonnage tax', available at: http://www.ukchamberofshipping.com/information/tonnage-tax/

Increased output in the UK economy has supported around 115,100 additional jobs and boosted government revenues by over £1.6 billion.[7]

Singapore

The Singapore maritime industry has experienced significant growth over the past 40 years. The industry is now a critical part of the Singaporean economy, contributing seven per cent to the country's GDP.[8] The strong contribution to growth from the maritime industry has been driven by rapid growth over the past decade. Over the past nine years, the annual average growth rate in the sector has been around 12.5 per cent.[9]

Singapore's strategic geographic location and investment in shipyard facilities and skills training have contributed to its success. Singapore has continued to support the shipping industry through a competitive tax regime for shipping businesses and incentives to promote the local maritime industry.

Norway

Norway has been a key player in the maritime industry for decades and the maritime industry contributes significantly to the Norwegian economy, accounting for around 5.5 per cent of GDP. It is also the country's second largest export market after the oil and gas extraction sector[10]. Table 2 shows Norway also holds the 15th largest merchant fleet in the world while also employing over 100,000 people in 2011.[11]

Norway has a unique position in the international maritime industry, with a high concentration of global ship owners, firms and manufacturers. Substantial changes to the Norwegian tonnage tax in 2007 have seen the number of Norwegian and international shipowners based out of the country increase significantly.

With strong support for the maritime industry and a large concentration of global shipping companies in the country, Norway has built a solid maritime hub with strong universities, clusters and business parks supporting strong research and development in the sector.

1.2 Natural advantages of the Australian maritime industry

Australia has a natural advantage for the maritime industry, supported by the use of Australian owned and operated vessels, to thrive and contribute to growth in the economy. Australia is the largest island continent on earth and the vast majority of major cities are situated on the coastline. With exports a major driver of growth over the next few years and

---

7 Oxford economics (2013), 'The economic impact of the UK Maritime Service Sector: Shipping', available at: http://www.ukchamberofshipping.com/media/filer_public/39/e8/39e8dab9-9f9a-412d-990a-5814d47ffc2e/economic_impact_of_uk_shipping_sector_-_feb_2013_including_regional.pdf

8 MPA Singapore, (2011) 'Speech address by the Minister for Transport and Second Minister for Foreign Affairs at the Singapore International Maritime Awards 2011', available at: http://www.mpa.gov.sg/sites/global_navigation/news_center/speeches/speeches_detail.page?filename=sp110412b.xml

9 Association of Singapore Marine Industries (2014), 'Industry Statistics', available at: http://www.asmi.com/index.cfm?GPID=189

10 Norway – the official site in Greece (undated), 'The Norwegian maritime industry', available at: http://www.norway.gr/News_and_events/Business/The-Norwegian-maritime-industry/#.VCN24_mSyuI

11 Norwegian Shipowners' Association (2013), 'Maritime Outlook Report 2013: Great maritime opportunities', available at: http://www.rederi.no/nrweb/mm.nsf/lupgraphics/Final_6242-Konjunkturrapport-eng-5k.pdf/$file/Final_6242-Konjunkturrapport-eng-5k.pdf

99 per cent of Australia's international trade carried by sea,[12] a vibrant and strong maritime industry would be well placed to support economic activity and jobs in the economy.

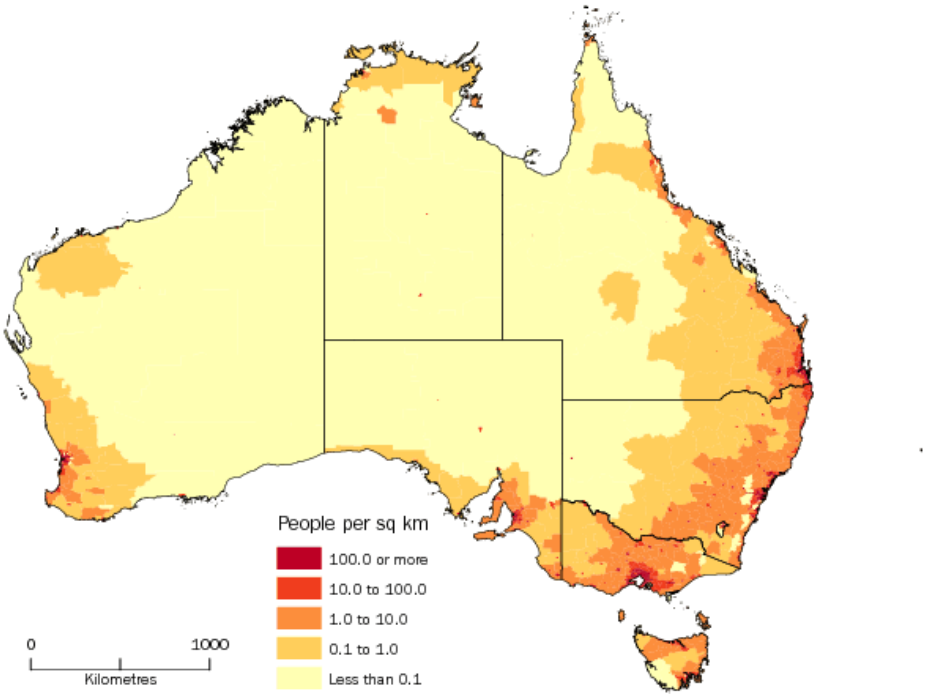
It should be expected that Australia would have a strong and broad maritime industry given that it has natural advantages driven by a range of factors discussed below.

Australia's shipping task

Australia has the fifth largest shipping task in the world,[13] due to:

- significant raw commodities for export as non-rural bulk commodities consist of over 40 per cent of all goods and services exported in 2013-14[14]
- reliance on significant international trade by sea as only 0.1 per cent of Australia's international trade (by weight) is via aviation freight[15]
- a long coast line with geographically diverse population (see Figure 8)

Figure 8: Australian Population Density, June 2013



Source: ABS catalogue number 3218.0.

[12] Anthony Albanese MP, 'Reforms to the Australian Shipping Industry – Opinion Piece' (2010), article available at: http://anthonyalbanese.com.au/reforms-to-the-australian-shipping-industry-opinion-piece-the-australian-2

[13] Australian Maritime Safety Authority, 'Protecting Our Seas' (undated), available at: https://www.amsa.gov.au/forms-and-publications/Publications/POS.pdf

[14] Australian Bureau of Statistics, ;'Catalogue number 5368.0: International Trade in Goods and Services' (2014), available at: http://www.abs.gov.au/ausstats/abs@.nsf/mf/5368.0

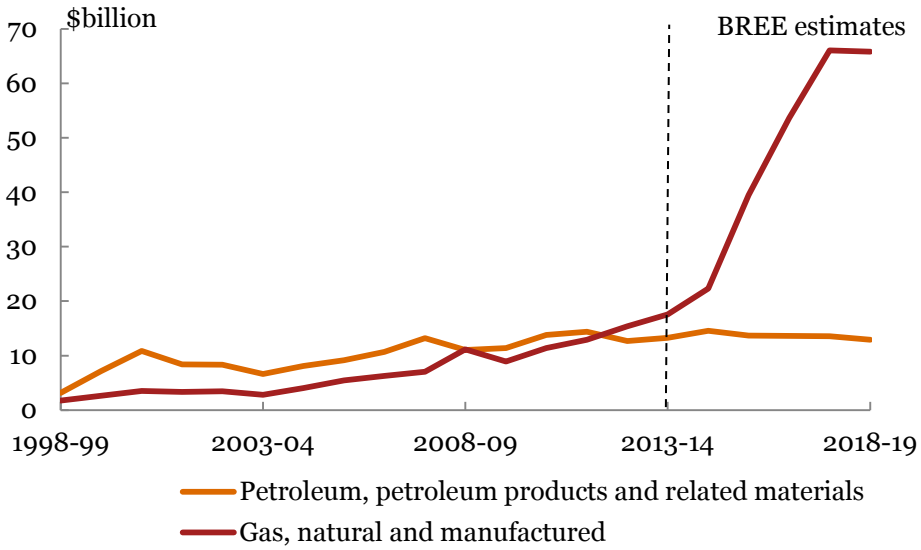
[15] Department of Infrastructure and Regional Development (2014), 'Trends: Infrastructure and Transport to 2030', available at: http://www.infrastructure.gov.au/infrastructure/publications/files/Trends_Infrastructure_and_Transport_to_2030.pdf

Major oil and gas industries

The presence of major oil and gas projects in Australia and how these projects successfully transition from the investment stage to the production stage is dependent on a successful maritime industry.

Oil and gas exports are expected to increase from around $30 billion in 2014 to around $80 billion by the end of 2018-19 (see Figure 9). The demand for shipping services is expected to continue to grow as emerging market demand for Australia's key commodities is estimated to remain strong over the next few decades.

Figure 9: Australian oil and gas exports



Source: ABS catalogue number 5368.0 and BREE

Australia's cruise industry

In addition to goods exports and imports associated with the mining boom, Australia has the world's fastest growing cruise industry.[16] Cruise ship visits to Australia have increased by over 10 per cent per annum over the past decade. The total industry expenditure is expected to increase from $155 million in 2004-05 to be almost $1.9 billion by 2013-14.[17]

Other natural advantages of Australian shipping

Other natural advantages of the Australian maritime industry include:

- proximity and responsibility of Australia for part of the Antarctic region
- considerable defence and border protection activity
- highly active ports requiring a range of on-water services

However, with strong demand for shipping services (including cruise ships) over the past decade, Australian owned or operated ships have struggled to compete on the global stage due to:

---

16 Cruise Lines International Association AUSTRALIASIA (2014), Media release 'New Study Shows Cruise Passengers Spend $371 a Day as Cruise Industry Generates $3.2 billion for Australia', available at : http://www.cruising.org.au/filelibrary/files/EIS.pdf

17 Cruise Downunder (2014), 'Economic Impact Assessment of the Cruise Shipping Industry in Australia, 2013-14', available at: http://www.cruisedownunder.com/sites/default/files/cdu_cruise_shipping_eia_2013-14_executive_summary_0.pdf

- strong global competition
- current tax regimes are not equivalent to those in other countries, and
- an uneven playing field in terms of labour costs.

Over time, this has resulted in an Australian fleet that is much smaller than should be expected with minimal Australian owned or operated vessels operating domestically or internationally. For example, in the context of trading ships, less than 0.5 per cent of Australian seaborne trade is carried by Australian ships.

By removing uncompetitive taxes and minimising the cost to industry, the Australian fleet will be better able to compete on an even playing field with international counterparts. With a disciplined and strategic approach by both industry and government, the Australian fleet and, therefore, the broader maritime industry should be able to reap the benefits of Australia's natural advantages by increasing output, employment, and investment in both the sector and the aggregate Australian economy.

Importantly, it is not too late to adopt measures in support of growing the Australian fleet and, in turn, the broader Australian maritime industry. Other countries are continuing to introduce new or improved taxation regimes which are supportive of growth in their particular local shipping industry including Ireland. This demonstrates the value which other countries continue to place on the economic benefits of a strong maritime sector and that countries remain committed to the goal of fleet growth:

> *"The Government has prioritised the marine as a key area for further growth under the Harnessing Our Ocean Wealth Strategy, with a target of doubling the value of Ireland's blue economy by 2030. I am keen to ensure that there is a supportive financial environment underpinning this target and so I intend to review the financial and taxation supports and opportunities available to the marine sector.*
>
> *My Department will work closely with the Marine Co-Ordination Group to examine strategic measures that could be introduced to help Ireland as an island nation to fulfil its potential in the marine area."*[18]

[18] Financial Statement of the Minister for Finance, Mr Michael Noonan, T.D, 14 October 2014, available at : http://www.budget.gov.ie/Budgets/2015/FinancialStatement.aspx

2 Economic analysis

This chapter provides an evaluation of the economic contribution of the Australian maritime industry as a whole in its current form. Furthermore, it considers the potential impact that would be expected to occur should a set of tax policy initiatives be implemented to make the Australian maritime industry more competitive and attractive on the global stage.

2.1 Analysis approach

This chapter assesses the current contribution of the maritime industry to the Australian economy and examines the *potential* economic effects of implementing the policy incentives.

The economic contribution of the maritime industry is examined across three key metrics:

- the gross value added contribution to gross domestic product (GDP), which measures the contribution of each individual producer, industry or sector to the economy
- employment, measured on a full time equivalent basis
- taxation revenue to all levels of government.

The economic impacts measured in this study are quantified across the following channels:

- **Direct impacts** reflect the economic contribution of the maritime industry itself. Direct impact measures the contribution directly by the maritime industry through measures such as: activities covered explicitly by the maritime industry. It also includes people directly employed in the maritime industry, profits obtained by the maritime industry, and taxes collected directly from the maritime industry. The result is a GDP equivalent measure of the maritime industry's direct contribution to the Australian economy. Using the definition of the maritime industry in this analysis, direct impacts would also include the economic activity of shipping related industries such as ship repairs, insurance and shipping related financial and legal services.
- **Indirect impacts** arise as employees in the maritime industry and its supply chain spend a proportion of their wages on consumer goods and services. These impacts flow through retail and leisure activities in the economy.

A 2007 study conducted by Oxford Economics on the UK shipping industry also assess 'catalytic effects', whereby the shipping industry creates positive spill overs that enhance output and productivity in other sectors. [19] This report considers the contribution of maritime skills but other types of catalytic effects are not separately split in the indirect modelling impacts. It should also be noted that the direct and indirect impact in this analysis are not comparable with the Oxford Economics study on the UK shipping industry because of the differences in methodologies employed for economic impact analysis in Australia and the UK.

2.2 Statistical definition of maritime industry

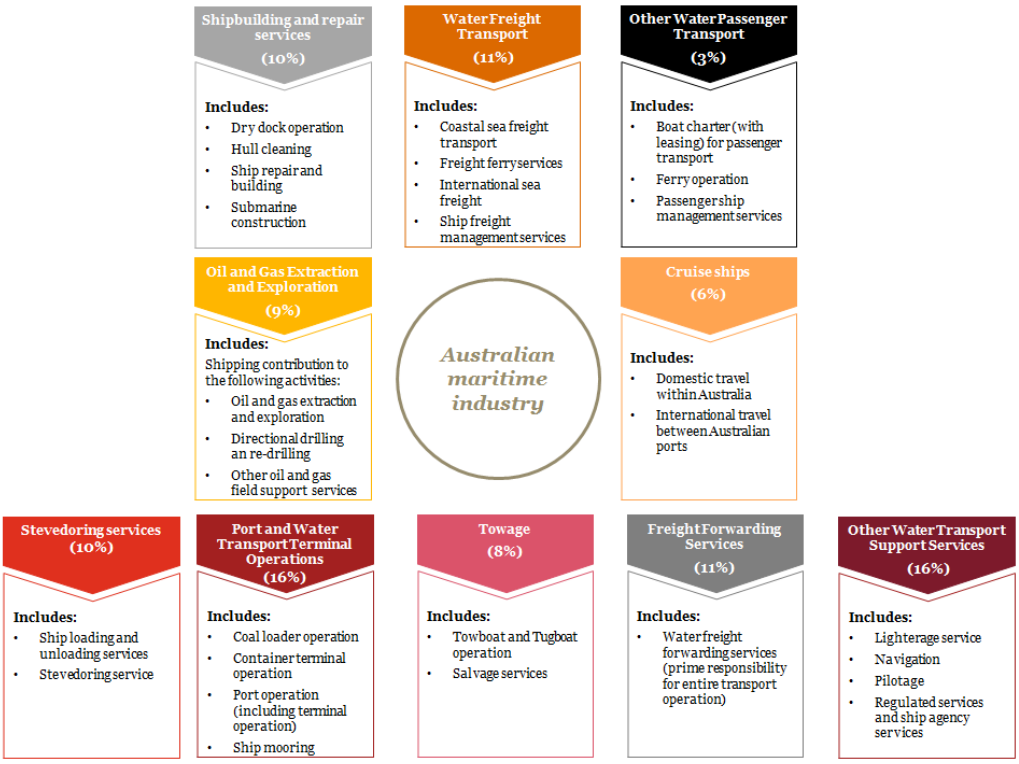
Before conducting an analysis of the maritime industry, it firstly must be clearly defined. This is difficult given there is no explicit or confined definition of the maritime industry. Rather, its components (or sub-classes) are split between other industry classes. Through

[19] Oxford Economics (2007), 'The economic contribution of the UK shipping industry'

research and consultation with industry experts, the Australian maritime industry was defined as containing the sectors shown in Figure 10.

The remainder of this chapter explores – at a high level – the different sectors and activities contained within the realm of the maritime industry. Further details of the coverage and the activities involved in each sector can be found between sections 2.2.1 and 2.2.8.

Figure 10: Composition of the maritime industry*, share of gross value add



Source: PwC analysis based on ABS catalogue 5209 2009-10 Input-Output tables and IBIS world

*Oil and gas extraction and exploration aggregates both shipping related oil and gas extraction and exploration and other mining support services.
Note: Certain oil and gas activities are included in other components such as water freight transport, towage and other water transport support services.

While PwC have used the latest Input-Output tables from ABS catalogue number 5209.0 (released September 2013), these figures only provide an economic snapshot for financial year 2009-10. Since 2009-10, the oil and gas sector has increased by 10 per cent and capital expenditure in the sector is over four times as large. As major oil and gas investment projects move from construction to the production phase, the sector is expected to increase substantially in its contribution to the Australian economy. Therefore, shipping activity estimates related to the oil and gas sector could be substantially higher than those underlying PwC's modelling estimates.

2.2.1 Shipbuilding and Repair Services

The shipbuilding and repair services industry in Australia is centred on shipbuilding for the Royal Australian Navy (RAN) whereby Defence ship building makes up 64.8 per cent of the products and services this industry provides.[20] The second largest product in this industry is commercial shipbuilding which contributes to 17.1 per cent of the industry, followed by ship repair and maintenance at 12.3 per cent and submarine manufacturing at 5.8 per cent. The industry has experienced a moderate compound annual growth rate (CAGR) of 1.5 per cent

[20] IBIS World Industry Report, (2013), 'C2391 Shipbuilding and Repair Services in Australia Industry Report'

over the past 10 years with the industry expected to grow at a CAGR of 2.75 per cent over the next few years.

While the industry has a defence focus, some capabilities and existing resources for naval shipbuilding and repair are applicable to commercial vessels. Retaining shipbuilding and ship repair capabilities in Australia is therefore important for national security as well as commercial ship repairing.

2.2.2 Water Freight Transport

Water freight transport includes coastal sea freight transport services between domestic ports and international sea freight transport services between domestic and international ports. The main activity of the industry is the transport of exports, especially of bulk commodities.[21]

2.2.3 Cruise ships and Other Water Passenger Transport

Water passenger transport in Australia is comprised of three main categories: cruise services (64 per cent), vehicular ferry operation (22.7 per cent) and passenger ferry services (13.3 per cent).[22] For the purposes of this analysis, water taxi services are not included in the definition of the Australian maritime industry. This sector has experienced a CAGR of 3.4 per cent over the past nine years and is expected to grow strongly at 4.5 per cent over the next five years. This is mostly attributed to the growth and the significant share of cruise services in water passenger transport. Specifically, cruise ship visits to Australia have increased at a CAGR of 9.9 per cent over the five years through to 2011.[23]

2.2.4 Stevedoring Services

Stevedoring services involve loading and unloading cargo from ships at ports, thus providing an interface between shippers, importers and exporters. Stevedores handle labour-intensive goods and containerised cargo which are dominated by imported finished goods and exports of primary production. Bulk export products (such as minerals, coal and grain) are handled by other water transport terminal services. The main activity undertaken by stevedores is general cargo handling which is 62.1 per cent of all services, followed by terminal stevedoring at 35.1 per cent and depot operations at around 3 per cent.[24]

2.2.5 Port and Water Transport Terminal Operations

Ports are the gateway for Australia's importers and exporters. Ports are largely owned by the state and territory governments, however the government operators are privatising port operations to promote capital investment and to meet the expansion in international trade. Port operators generate revenue from levying the movements of cargo across ports and from providing services and facilities to the users of the ports via products such as wharfage, wharf facility rental, mooring fees and port access fees.

---

[21] IBIS World Industry Report, (2014), 'I4810 Water Freight Transport in Australia'

[22] IBIS World Industry Report (2014), 'I4820 Water Passenger Transport in Australia industry'

[23] IBIS World Industry Report (2014), 'I4820 Water Passenger Transport in Australia industry'

[24] General cargo handling is the conventional stevedoring services, handling general cargo and motor vehicles. Terminal stevedoring operates ancillary equipment for the loading and unloading of the ships and the storage of container and the management of road and rail interfaces. Depot operations involve the packing and unpacking of containers at locations that are separate from the port area.

While the scope of the maritime industry in this report does not include port revenue, the activity of the port is closely linked to the activity of the maritime industry. The majority of port users are shipping companies, stevedores and cargo handlers, terminal operators, customs brokers and freight forwarders.

2.2.6 Towage and other Water Transport Support Services

This industry provides a wide range of support in order for ships to safely operate in ports. These services include towage lighterage, navigation and pilotage, regulated services and ship agency services and all together employ around 5,700 people. Towage is the largest component of these services making up 34.5 per cent of total services.[25] Towage assists vessels in manoeuvrability and in negotiating restricted clearance in channels and berth areas. Tugs are also drawn on in salvage and deep-sea towage work. In most ports, tugs play a vital role providing services 24 hours a day, seven days a week.

The next largest service is regulated services (16 per cent) which are mandated by regulatory bodies such as the Australian Maritime Safety Authority (AMSA). It includes the provision of navigational aids along the Australian coastline and within ports, maintenance and upkeep of lighthouses and assistance with GPS services. While the regulatory bodies are government agencies and have no commercial interest, they are included in the Australian maritime industry in that they provide essential services to all ships that enter Australia. The remainder of this sub-industry is comprised of shipping agent services (11 per cent), navigation and pilotage (6 per cent) and lighterage (5 per cent).[26]

The demand for these services is driven by port activity whereby over the past ten years has experienced a CAGR of 2.8 per cent, driven by the resources boom in the Australian economy. In line with strong resources exports, the industry is expected to grow at a CAGR of 3.9 per cent over the next five years.

2.2.7 Freight Forwarding Services

Freight forwarding services arrange goods to be transported on behalf of clients by purchasing space from freight transport providers. This industry includes rail, air and sea freight transport with sea freight transport totalling approximately 16.1 per cent of freight forwarding.[27] The industry has experienced a moderate CAGR of 3.8 per cent over the past ten years with expectations of a CAGR of 3.6 per cent over the next five years as online shopping continues to become a larger share of consumer expenditure.[28]

2.2.8 Oil and gas extraction and exploration[29]

The oil and gas sector draws significant capital and human resources from the maritime industry in its day-to-day operations. Vessel activities and operations across the oil and gas sector include: supply and support to offshore installations, anchor handling of offshore facilities, seismic exploration, construction supply and support, floating production, storage and offtake (FPSO) and many other activities.[30] The level of activities and demand for both

---

25 IBIS World Industry Report, (2014), 'I5219 Navigation, Towage and Services to Water Transport in Australia Industry Report'

26 IBIS World Industry Report, (2014), 'I5219 Navigation, Towage and Services to Water Transport in Australia Industry Report'

27 IBIS World Industry Report, (2014), 'I5292B Rail, Air and Sea Freight Forwarding in Australia Industry Report'

28 IBIS World Industry Report, (2014), 'I5292B Rail, Air and Sea Freight Forwarding in Australia Industry Report'

29 Aggregates both shipping related oil and gas extraction and exploration and other mining support services

30 Australian Shipowners Association (2010), 'Submission to National Resources Sector, Employment Taskforce: Resourcing the Future – Maritime Skills', available at: http://www.asa.com.au/policy/asa-submissions

oil and gas extraction and exploration and mining support services implicitly affect the demand of related vessel activities. Over the next five years, as increased capacity comes online, gas production is expected to more than double from 60 to around 150 billion cubic metres. Over the same period, export volumes are expected to increase from 24 million tonnes to almost 80 million tonnes.[31]

[31] Bureau of Resources and Energy Economics (BREE), 'Resources and Energy Quarterly September quarter 2014', available at: http://www.bree.gov.au/sites/bree.gov.au/files/files//publications/req/REQ-2014-09.pdf

3 Direct economic analysis

This chapter provides economic analysis of the direct impact of the maritime industry in the baseline and policy case scenario. The baseline scenario represents the state of the maritime industry in 2012-13, while the policy case scenario is modelled with a number of key tax changes identified by the ASA.

The direct economic impact includes components from all aspects of the maritime industry. For example, it includes the shipping activity of transporting freight and services that support shipping such as: port operations, towage and stevedoring as these are defined as being a part of the maritime industry in this analysis. The indirect economic impact therefore includes activities that occur outside the maritime industry and will be discussed in further detail in Chapter 4.

3.1 Baseline – current outlook

Gross domestic product

The Australian maritime industry contributed $9 billion directly to GDP in 2012-13. This is equivalent to 0.6 per cent of the Australian economy. The direct contribution to GDP is measured by the maritime industry's gross value added (GVA). GVA represents the contribution of the industry to the Australian economy.

As shown previously in Figure 10, the largest contributor at the sub-industry level are transport support services including port and water transport terminal operations and other water transport support services, followed by water freight transport.[32]

Investment

In 2012-13, the total level of investment in the maritime industry was $7.6 billion, which is equivalent to 1.8 per cent of total investment in the Australian economy. As with most industries, the majority of investment in the maritime industry is domestic, with foreign investment making up $1.4 billion or 19 per cent of total investment.

Employment

The total number of people directly employed in the maritime industry is almost 31,000 persons. This is equivalent to 0.26 per cent of total employment in Australia. The major sub-industry employers include: water freight transport, stevedoring and other transport support services combined with towage (where employment is over 5,000 in each sub-industry).[33]

Taxation revenue

The total taxation revenue generated by the maritime industry is estimated to be $1.3 billion; of this $0.9 billion is direct contribution, equivalent to 0.3 per cent of total taxation revenue in the economy. As seen in Figure 11, this largely comes from income tax which is mostly a function of the number of people employed in the industry. This is followed by a mix of state taxes (which include payroll, property, insurance and other production taxes) and the GST contribution. Lastly the contribution of corporate income tax was around $140 million in

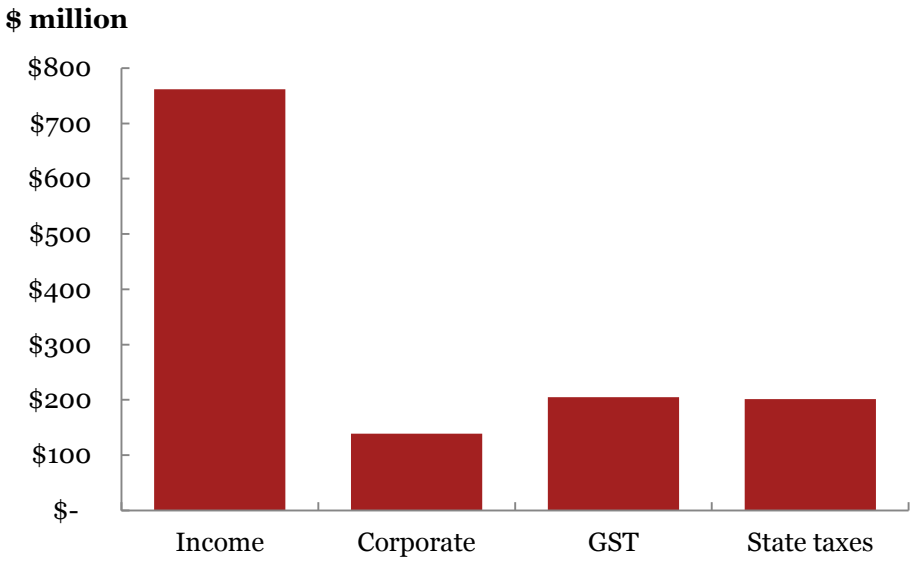
---

[32] While PwC have used the latest Input-Output tables from ABS catalogue number 5209.0 (released September 2013), these figures only provide an economic snapshot for financial year 2009-10. Since 2009-10, the oil and gas sector has increased by 10 per cent and capital expenditure in the sector is over four times as large. As major oil and gas investment projects move from construction to the production phase, the sector is expected to increase substantially in its contribution to the Australian economy. Therefore, shipping activity estimates related to the oil and gas sector could be substantially higher than those underlying PwC's modelling estimates.

[33] PwC analysis of ABS employment data and IBIS World Industry Report

2012-13. This is approximately 0.21 per cent of total corporate tax and reflects the low levels of profit in the industry that are subject to company tax.

Figure 11: Taxation contribution of the maritime industry 2012-13



Source: PwC analysis, ABS catalogue 5209 Input-Output table and ABS 2012-13 Taxation Revenue

3.2 Policy case

The tax policy case for the economic analysis is intended to:

- recognise the breadth of the Australian maritime industry, and
- encourage expansion of activities in the maritime sector, particularly into international activities

It does this by extending the tax incentives to a broader range of vessels and addressing the disincentives present in the existing tax policy settings. The policy case incentives are outlined in Table 3.

Table 3: Policy incentives and features

	Tax changes	Scope
	Existing tax policies	*Extend the tax policies to:*
1	Accelerated depreciation	• Offshore vessels • Cruise ships • Non-Australian flagged vessels that provide strategic and/or commercial control from Australia
2	Zero company income tax rate or company income tax exemption	
3	Seafarer tax offset	All vessels engaged in international activities including: • Offshore vessels • Employers of all Australian resident seafarers including those that are non-Australian flagged • All Australian resident staff working on vessels regardless of rank or role, such as hotel staff employed in the cruise industry
	Introduction of tax policies	*Apply the tax policy to:*
4	Deemed franking credits in respect of dividends paid to resident shareholders	• All vessels currently able to access 1 and 2 • Offshore vessels • Cruise ships • Non-Australian flagged vessels that provide strategic and/or commercial control from Australia
5	Exemption from dividend withholding tax on dividends paid to non-resident shareholders from profits covered by 1 and 2 above.	
6	Redefine coverage of the Australian International Shipping Register to include all vessels that participate in international activities	

3.3 Policy case scenario

The policy case introduces a range of measures including: providing incentives to investors; reducing the cost disadvantages in Australia in relation to labour costs; and offering a competitive tax regime to business to make Australia's fiscal environment more comparable with other countries that have vibrant shipping industries. These measures have the potential to attract an increased number of shipping businesses to operate from Australia and revitalise the domestic shipping industry.

The increase in business activities implies that an additional number of foreign flagged vessels have become Australian (either registered or operated). Because the exact number of additional ships that will become Australian is unknown, this report presents the possible benefits associated with the scenario of an additional 100 ships that will become part of the Australian fleet. The details of two other scenarios – of the economic benefits from additional 50 and 150 ships that become part of the Australian fleet – are also discussed in Box 2.

The increased level of business activities are represented by changes in the level of key economic indicators such as: contribution to GDP, employment, taxation revenue and investment. These results are summarised in Table 4.

Table 4: Potential economic effects of tax policy incentives

	Policy case impact			
Contribution	**Industry Gross Value Add**	**Employment**	**Investment**	**Tax revenue**
	$m	persons	$m	$m
Direct	1,854	6,324	1,491	606
Indirect	2,395	2,823	1,729	261
Total	4,249	9,147	3,220	867

Source: PwC estimates based CGE model and international experience (see Box 2)

GDP

Under the policy case, the maritime industry would directly contribute an additional $1.85 billion to the Australian economy. This is due to changes in the level of investment as a result of tax incentives. As investment is part of GDP, a higher level of investment would lead to a higher level of GDP.

Gross National Income

Under the policy case, the maritime industry would directly contribute an additional $1.88 billion to Australia's Gross National Income (GNI). GNI is a similar measure of economic performance to GDP. However, GNI includes net primary income received from non-residents. Primary income includes salaries, dividends and interest repayments. Box 1 provides further details of the definition and the economic implications of GNI.

When GNI increases at a faster rate than GDP, it implies more primary income is repatriated back into Australia from non-residents. Under the tax policy incentives, the direct increase to GNI is $24 million higher than the direct increase to GDP. This means more income flows into Australia or remains in Australia. Further detail of GNI is explained in Box 1.

Investment

The change in the level of direct investment as a result of the policy case is approximately $1.49 billion. The level of investment is higher because the cost of capital is lower. For example, deemed franking credits and an exemption of withholding income tax create more incentives for domestic and international investors to invest in the maritime industry as they no longer have to give a proportion of dividends received back in tax.

Employment

The additional direct employment generated is 6,324 full time equivalent persons. The change in the level of employment is due to the additional business activities undertaken by the maritime industry which drives up the demand for labour.

Taxation revenue

While the policy case promotes targeted tax incentives intended to grow the Australian fleet, there would still be growth in taxation revenue as a result of increased employment and business activities within the maritime industry. The additional tax revenue raised directly as a result is around $606 million. The vast majority of additional taxation revenue would be accrued by the Commonwealth Government.

Box 1: Why does Gross National Income matter?

Gross National Income (GNI), as defined by the Australian Bureau of Statistics, is 'the aggregate value of gross primary incomes for all institutional sectors, including net primary income receivable from non-residents'.

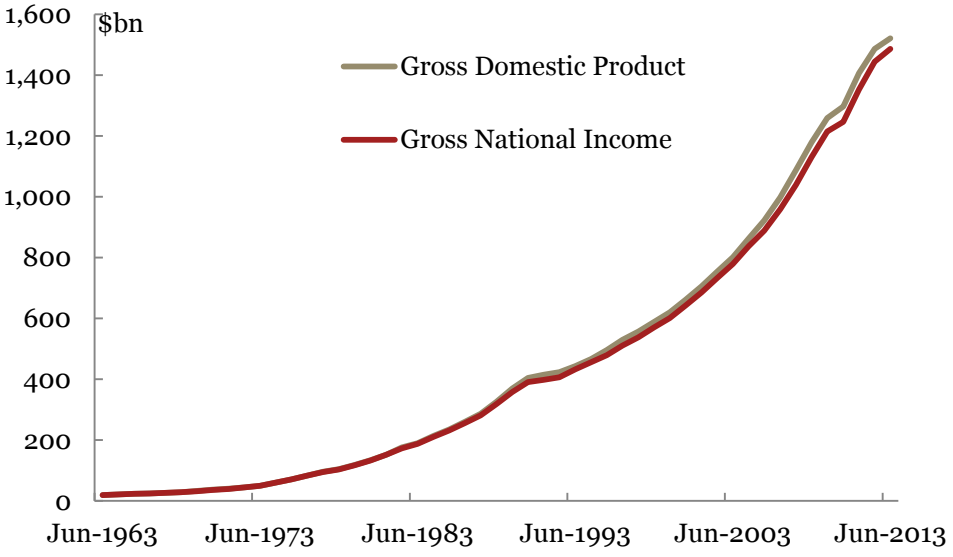
GNI is used along with GDP as a key measure in analysing economic activity of individual countries and can provide a different perspective on the composition and structure of individual economies. GNI includes all domestically generated economic activity; however, it also takes into account income flows between countries by adding the net balance of primary income received from non-residents via salaries, dividends and interest repayments.

Over the past 50 years, Australia has a long history of foreign capital inflows which have been used in funding major investment opportunities. With the amount of investment required, Australian savings levels were not high enough to meet demand. Therefore to meet this investment demand, inflows of foreign capital were required from other countries. In 2012-13, the net balance of primary income received from non-residents was -$38 billion (around 2.5 per cent of GDP).

With a long period of net primary income deficits in Australia, GNI has been around 2 per cent lower than GDP over the past 50 years (see Figure 12).

However, in some economies, such as Ireland, which have favourable taxation arrangements for foreign companies, a significant proportion of domestic economic income generated is repatriated overseas. Over the past five years, Gross National Product (a very similar measure to GNI) has been 17 per cent lower than GDP. Which implies for every $1 of GDP created in the Irish economy, 17 cents was lost overseas via salaries, dividends or debt interest repayments to non-residents.

Figure 12: Australian Gross Domestic Product and Gross National Income (1963-2013)



Source: ABS catalogue number 5204.0.

While the shipping reforms will not change Australia's aggregate net primary income balance significantly, our modelling suggests the increase in GNI from these reforms will be around $56 million higher ($24 million direct and $32 million indirect) than the increase in GDP (around 1.3 per cent higher).

With a higher increase in GNI relative to GDP, this implies the tax policy incentives will see less Australian generated income repatriated overseas or an increase in incomes repatriated to Australia from overseas operators.

Box 2: Possible benefits associated with increased ship numbers

The increase in economic output implies that an additional number of vessels have become Australian registered or operated. Under the policy case, the effects flow through a number of channels:

- compositional change of foreign registered ships operating in Australia becoming Australian registered
- foreign operated ships that conduct activities in Australia or elsewhere in the world choose to operate from Australia and register in Australia.

Experience in other countries has also shown that an effective tax policy regime leads to a higher number of vessels that will register in that country. Recent examples include:

- the UK registered fleet increased from 379 in 2000 to 629 in 2007 since the introduction of the tonnage tax
- the Dutch fleet has grown from approximately 650 in 1997 to 1,047 in 2012 since the implementation of the tonnage tax
- the Singaporean merchant fleet has increased from 3,063 to 4,379 ships over the past decade as a result of favourable shipping policies. [34]

The scenarios presented below are based on the average value contribution per ship of the UK and the Dutch fleet[1]. Using these assumptions, an additional 50 Australian ships would provide an additional $1.6 billion contribution to the Australian economy, if the fleet size grows by 150 ships this would imply an increase of $4.8 billion in GDP.

While the exact number of additional number of Australia ships is unknown (as it depends on the business models chosen) the table below presents three possible scenarios. These are based on a proportionate increase in gross value added and employment (see assumptions outlined in Appendix E). The results presented in this report have used the median scenario estimate of 100 ships.

Table 5: Possible direct and indirect benefits from an increase in Australian fleet

Additional no. of Australian ships	Additional GVA ($m)	Total GVA ($m)
50	$1,600	$22,000
100	$3,200	$24,000
150	$4,800	$26,000

[34] The assumption of growth in Australian fleet size is based on experiences in other countries, for example the United Kingdom fleet size grew by 250 ships in seven years, and the Dutch fleet grew by 397 ships over a fifteen year period between 2012 and 1997. Both countries introduced tonnage taxes in the late 1990s. The Singaporean fleet grew by 1316 ships in the past ten years with a different but competitive tax regime.

4 Indirect economic analysis

This chapter discusses the indirect economic impact of the maritime industry on other industries in the Australian economy. These are known as the multiplier effects and occur through two channels:

- the procurement of goods and services by the maritime industry from domestic and international suppliers
- consumption of goods and services from those that are directly and indirectly employed by the maritime industry.

4.1 Baseline

GDP

In terms of the multiplier effects on GDP, Table 6 indicates that the maritime industry supported an additional $11.8 billion of industry gross values add to other industries in the Australian economy. This implies that the total economic contribution to GDP in 2012-13 is equivalent to $20.9 billion or 1.37 per cent of total GDP.

Investment

The maritime industry requires different types of capital inputs, including ships themselves. Based on the 2012-13 data, the indirect investment in the maritime industry is $8.7 billion which is higher than the direct investment in the sector. Indirect investment is captured as investment in other industries induced by additional activities in the maritime industry. If direct investment is included, the total investment in the industry is $16.3 billion.

Employment

The number of full time equivalent staff indirectly employed by the maritime industry is estimated to be almost 14,000. Indirect employment consists of all the other industries that benefit from the activities in the maritime industry. Combined with direct employment, this gives a total of around 45,000 persons employed directly and indirectly in the economy.

Taxation revenue

The indirect tax from the maritime industry is $387 million in 2012-13, together with direct taxation the industry contributed $1.3 billion in taxation revenue in 2012-13. Given that the maritime industry supports employment and activities in other industries through procurement of inputs, it also contributes to the taxation of the industries which it supports and the economy in general. For example, the GST on additional goods and services consumed by an employee in the maritime industry would be included as an indirect taxation contribution.

Table 6: Baseline economic analysis, 2012-13[35]

	Baseline							
Contribution	**Industry Gross Value Add**		**Employment**		**Investment**		**Tax revenue**	
	$m	%GDP	persons	%total	$m	%total	$m	%total
Direct	9,041	0.59%	30,897	0.23%	7,545	1.84%	901	0.21%
Indirect	11,847	0.78%	13,927	0.11%	8,751	2.14%	387	0.09%
Total	20,888	1.37%	44,824	0.34%	16,296	3.98%	1,288	0.30%

Source: Total impacts are based on the PwC's MMRF model, ABS catalogue number 5209.0 and IBIS world

4.2 Policy case scenario

GDP

If the shipping incentives were implemented, Australian GDP would be $4.25 billion higher relative to the 2012-13 baseline of $20.9 billion. This consists of $1.9 billion of direct economic contribution from the maritime industry and a further $2.4 billion of indirect contributions. This estimate includes both CGE model output and international experience of increased fleet size which is based on an assumption that the Australian shipping fleet size grows by 100 ships illustrated in Box 2.

Under the policy case, a higher level of investment results in higher GDP. This leads to a second-round effect as the level of spending in the economy increases. The increased investment also means the level of capital is higher and allows more output to be produced in the future. In addition, household consumption might increase if businesses choose to pass on lower capital costs. As seen in Figure 13, the indirect impact is more significant than the direct impact. This shows the impact of the multiplier effect from the maritime industry to the other sectors in the economy.

GNI

Under the policy case, it is estimated that the maritime industry would contribute an additional $4.30 billion to Australia's Gross National Income (GNI) relative to the baseline.

With the overall increase in GNI $56 million higher than the increase in GDP, this implies the increase in economic activity is driven by the increase in non-resident net primary income.

Investment

A total increase in investment of $3.2 billion is estimated to occur in the economy as a result of the policy case (indirect investment contributes $1.7 billion of this). The indirect investment impact refers to the additional level of investment in other sectors of the economy due to increased aggregate demand in the overall economy.

35 Industry Value Add (IVA) is expressed as total GDP and employment, investment and tax revenue are expressed as a percentage of total employment, investment and tax revenue in the economy.

Figure 13: Impact of policy case on GDP and investment, $millions

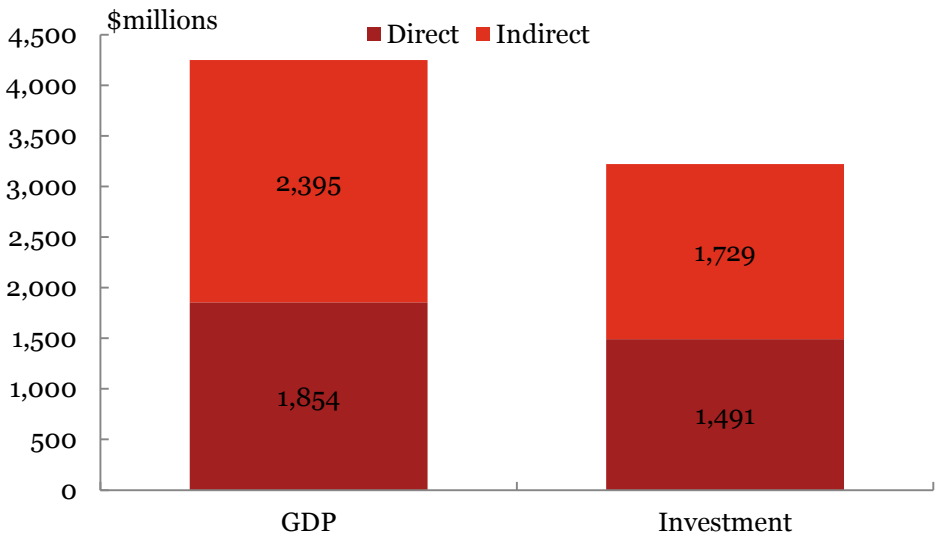
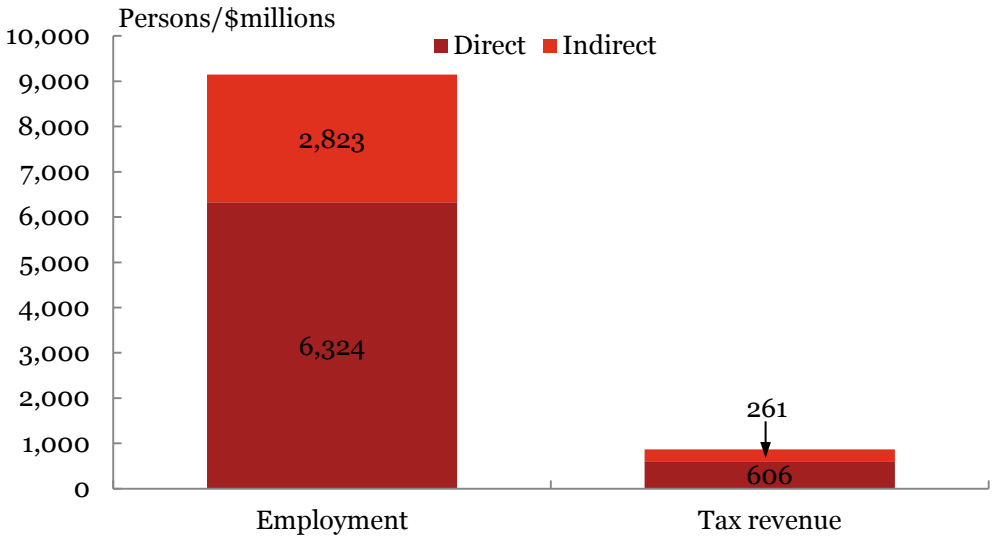


Figure 14: Impact of policy case on taxation revenue, $millions, and number of employment in persons



Employment

In the policy case scenario, an additional 9,147 full time equivalent jobs are generated, resulting in almost 54,000 workers directly and indirectly employed by the maritime industry. This is driven by the increase in aggregate demand, calling for more labour to meet the additional output requirements of the economy.

The effects on employment are both positive and negative to the other industries in the economy. This is because as the level of activity increases in the maritime industry, it might attract workers from other industries which would be a negative impact on other industries. While the shift of employment is likely to occur, the overall employment impact on the maritime industry is positive. Figure 14 illustrates that direct impact is greater than the indirect impact for both employment and taxation revenue. As the number of people employed increases, more income taxes can be collected on additional employed persons as well as on taxes on their increased consumption of goods and services.

Taxation revenue

Under the policy case, the maritime industry contributes to an additional $867 million in taxation revenue, of which $261 million is indirect. Indirect taxes come from taxation on additional income and inputs used in production due to higher levels of output and employment in the economy. Increased consumption from those that have taken up employment opportunities would also have a positive impact on government tax receipts through GST and any other consumption taxes that apply.

5 Intangible benefits

In addition to the quantifiable economic benefits as outlined above in Chapters 3 and 4, the policy case will also result in a range of intangible benefits that whilst not quantifiable, are equally as important in determining the value of the policy. These areas of intangible benefits are highlighted below and should be reflected on when considering any changes to the maritime industry.

Creation of a strong and vibrant industry and maritime cluster

A maritime cluster is a geographic connection of interconnected businesses, suppliers and associated institutions in the maritime industry. The cluster typically comprises core sectors (i.e. shipping, ports and offshore activities), together with related activities (i.e. marine equipment, recreational boating, seaports).

A strong maritime cluster will typically be characterised by a number of high-value support services also being located within the country (i.e. professional services, engineers, public administration and safety). Amongst other things, firms locate in a cluster because of proximity to customers and the development and sharing of specialised labour pools, knowledge and information. This typically results in cooperative rivalry, innovation pressures and establishment of trust relations between cluster participants.

The benefits of maritime clusters arise in two ways:

- via direct benefits which arise from economic activity and jobs generated by the cluster
- indirect benefits occur from the jobs and demand created up and down the supply chain

With maritime clusters providing significant economic benefit to many countries across Europe,[36] the creation and sustainment of a vibrant maritime cluster would be of significant economic benefit to Australia. European studies have also found that around 30 per cent of the gains to national output are attributable to activities undertaken at sea and 70 per cent were created both directly and indirectly onshore.[37] The implementation of the policy case is expected to encourage growth in supporting services. With the vast proportion of cluster related activity taking place onshore, policy emphasis should be directed towards internationally competitive maritime policies to promote and attract maritime activities in Australia.

This strengthening of a local – Australian – maritime cluster will ensure Australia is better able to manage domestic and international freight services, ensure service reliability, as well as price stability to domestic markets. Further, this greater degree of control or management of shipping services will improve Australia's economy (as discussed in Chapters 3 and 4) through the growth in magnitude and breadth of Australian shipping services provided.

Importantly, the changes are expected to halt the current decline in Australian operated or controlled shipping activities. For example, within the context of the recent closure of a ship repair yard in Queensland, a recent ASA submission to the Queensland Coastal Sea Freight

---

[36] Danish Shipowners Association, 'The Economic Importance of Maritime Clusters, Lessons Learned from European Empirical Research', July 2010.

[37] Wijnolst, N, 'Dynamic European maritime clusters', 2006, pg 105.

Inquiry (2014) noted that 'recent decisions by regulatory authorities has frustrated the shipping industry and that it no longer makes commercial sense to persevere with perpetually changing government policy'.[38] Whilst there is the quantifiable economic loss of this business closure, there is also the intangible loss regarding a loss of skilled workers (now and in the future) and critically, a loss of, or reduced capacity for Australia to have the means to provide emergency repairs. Ultimately, this could mean damaged ships having to travel to other repair yards, creating environmental dis-benefits and further causing detriment to Australia's reputation in the global shipping industry.

Defence linkages

A more vibrant and sustainable local shipping industry has the intangible benefit of also developing greater relationships or linkages with the Australian Defence Force. Namely, a greater *Australian* shipping capability and presence at our borders may in effect, increase border protection as this will increase the ability of the Australian Government to requisition assets (or ships) when required, as well as access commercial and logistical shipping expertise.

The growth in the shipping industry would provide greater opportunity for the shipping industry to cooperate and interact with the Department of Defence resulting in skills sharing and greater career growth for both parties. Further, a stronger and larger industry will mean more resources are available to call on in times of need such as when the government needs to provide disaster relief to areas where road access is unavailable or to surrounding countries.

Strategic Skills

Increased Australian participation in the shipping industry both domestically and internationally has significant benefits and goes a long way to ensuring Australia's capacity to identify, train and retain a strategically significant workforce. Its infrastructure and workforce should be equipped to provide efficient and reliable sea transport services in and out of the more than seventy ports that line Australia's coast. Such critical roles include (but are not limited to) marine pilotage for safe vessel transit through the Great Barrier Reef and Torres Strait; port state control officers to conduct robust safety inspections of visiting foreign vessels; Harbour Masters to manage the safety and day-to-day operation of the states' ports and to work on board the tugs providing essential harbour towage services. A viable, competitive and thriving local industry will go a long way to ensuring these skills are retained.

[38] Australian Shipowners Association 'QLD Coastal Sea Freight', July 2014

6 Tax changes

6.1 Policy case features

The policy case aims to improve the existing regulatory and fiscal settings for the Australian fleet through two changes:

- extend the tax incentives to a broader range of vessels; and
- address the impediments that investors face in the existing tax setting.

6.1.1 Extension of existing tax incentives

Income tax exemption and accelerated depreciation

The policy case extends the existing tax incentives to vessels that have significant contribution and employment in the maritime industry but are not included within the existing fiscal incentives. These industries include the offshore oil and gas industries and the cruise industries which comprise the majority of vessel activities within the Australian maritime industry. The policy case is also to be extended to include any other vessels that have commercial or strategic control in Australia. This is to increase business activities associated with the shipping industry and to grow the maritime cluster generally. Strategic control from Australia means that there are more local offices based in Australia responsible for high level decision making as well as managing vessel activity.

Extension of seafarer tax offset

The seafarer tax offset is critical to the operation of the Australian International Shipping Register (AISR) as it addresses most of the disparity in the employment costs of senior officer roles (e.g. the Master or Chief Engineer) for Australian resident workers versus foreign workers. Currently the seafarer tax offset is only available to a small number of Australian employers as there are only six Australian registered vessels that participate in international trade.[39]

Governments throughout the world have introduced concessionary tax regimes for international seafarers as a means of reducing manning costs to an internationally competitive level. Concessionary tax regimes have, for example, been introduced in Denmark, Germany, Netherlands, France, Singapore, Norway, and UK. Many developing countries have adopted similar polices including South Korea, Thailand, India and the Philippines.

In many cases, these concessionary regimes effectively comprise a total exemption from individual income tax.

The Australian approach via the seafarer tax offset to employers achieves a consistent outcome by lowering the employment cost of Australian seafarers to make these comparable with seafarers from other countries.

---

39 Department of Infrastructure and Transport (2013), 'Australian sea freight 2012-13', available at: https://www.bitre.gov.au/publications/2014/files/asf_2012_13.pdf

6.1.2 Introduction of tax policies

Deemed franking credits

Dividend imputation in the policy case is to be made available to all shipping businesses to address disincentives to invest in Australian shipping companies by both Australian residents and non-residents. Currently, distributions of profits arising out of exempt shipping income to resident shareholders will be subject to taxation at taxpayers' marginal income tax rates. Distribution to foreign residents will be subject to a dividend withholding tax rate up to a maximum of 30 per cent, subject to the application of the *International Tax Agreements Act 1953*.[40] The tax burden is essentially shifted from shipping companies to shareholders, making Australia a less appealing base to own or operate ships in comparison to other nations.

Furthermore, shipping nations around the world such as Singapore provide significant income tax exemptions for companies that engage in international shipping activities. Distribution of profits arising from these shipping activities is also exempt from income tax when received as dividends.[41]

Therefore, under the policy case deemed franking credits would be available to offset the taxes which arise from dividend payments to provide incentives for domestic and foreign investment in Australian shipping companies. These would cover profits from all shipping businesses that qualify for the income tax exemption or accelerated depreciation, including offshore vessels, cruise ships and non-Australian flagged ships that have strategic control from Australia.

Redefine the coverage of Australian International Shipping Register (AISR)

Lastly, the AISR is to include all vessels that conduct international activities. Currently only trading or cruise ships that are either owned or operated by Australian residents or Australian nationals may be registered on the AISR. Offshore vessels do not conduct international trading as described in the *Shipping Registration Act 1981* and are therefore not eligible for the AISR. The policy case allows offshore vessel operators to be registered on AISR. This would lead to an increase in the business activity of the offshore sector in Australia as international vessels operating internationally would remain controlled from Australia. In addition, the Australian senior officer positions such as a Master and Chief Engineer would be filled by Australian nationals or Australian residents.[42]

The ultimate objective of redefining AISR is to promote business activity in the control and operation of ships from Australia on which the maritime cluster is built. A further benefit is the increase in employment/training opportunities for a highly skilled maritime workforce based in Australia. This is complemented by the seafarer tax offset to ensure the international competitiveness of employment costs of senior officers on vessels.

6.2 Experience in other countries

The policy case aims to align Australia's tax regime with most other countries that have a competitive shipping tax setting in place. Examples of tax changes are drawn from countries where the shipping industry has grown significantly over the past ten years. This includes the UK as well as countries such a Singapore where shipping has been a major contributor to the economy since the 1970s.

---

[40] Moore Stephens (2012), 'Submission in response to the exposure draft – Tax Incentives for the Shipping Industry'

[41] Moore Stephens (2012), 'Submission in response to the exposure draft- Tax Incentives for the Shipping Industry'

[42] Department of Infrastructure and Transport, 'Guide to the Registration of a Ship on the Australian International Shipping Register', available at: http://www.amsa.gov.au/forms-and-publications/Publications/AMSA339.PDF

The United Kingdom

The introduction of the tonnage tax in the UK allowed companies to operate more competitively if the ships become strategically managed in UK.

The policy case also aims to increase commercial or strategic control from Australia by attracting shipping companies with zero corporate tax rates and allows investors to be subject to zero income tax.

Singapore

Singapore offers two tax incentives. The first tax incentive is the automatic tax exemption for an owner or operator of Singapore-registered ships to encourage ships to be registered in Singapore. The second incentive is the income tax exemption under the Approved International Shipping Enterprise (AISE) Incentive Scheme which encourages management and control from Singapore.

Similar to Singapore, the policy case promotes registration of ships in Australia through income tax exemption.

Singapore also provides the Marine Finance Incentive which grants tax exemption for dividends distributed by the ship investment vehicle such as ship leasing company, shipping fund or shipping trust to both corporate and individual investors.[43]

The policy case takes a similar approach through deemed franking credits or withholding tax exemption for non-residents which allows dividends to be exempt from individual's income tax.

Norway

Norway implemented a tonnage tax regime in 2007 which provides full tax exemption on shipping income. Its tonnage tax regime is unique in that it is open to a range of offshore vessels. The tax regime is accompanied with the tax exemption on dividends received by investors.

Like Norway, the policy case follows the tax regime of income tax exemptions on shipping income and complements this with tax exemption for profits distributed back to shareholders.[44]

Conclusion of experience in other countries

As shown above, the policy case aims to be aligned to other countries which have competitive tax regimes. Complementary tax regimes which provide income tax exemptions for both shipping companies and investors are common in countries that have experienced growth in the shipping industry or are in the process of developing highly skilled maritime clusters.

---

43 PwC Singapore (2006), 'Solutions for Shipping companies', available at: http://www.pwc.com/sg/en/tax/assets/publication-solutionsforshippingco.pdf

44 International Law Office (2012), 'Shipping & Transport – Norway' available at: http://www.internationallawoffice.com/newsletters/detail.aspx?g=7b4091a3-ccba-40a0-8827-3a556dc83ceb

7 Cost benefit analysis

This chapter draws together the information that has come to light over the course of this analysis to determine the expected net impact of the tax incentives. In brief, the changes will provide a net benefit the economy.

7.1 Costs of the policy case

Government - The majority of the cost of implementing the policy will be borne by the government as the policy case includes a range of tax incentives. However, extending tax incentives to the broader shipping industry would create additional cost for the government *only if* the result is to be less than what the government is currently receiving in taxation revenue. This cost impact to government is explained in further detail in Appendix D.

Business - The policy case is targeted to benefit - and therefore incentivise – businesses that have some form of strategic control in Australia. The cost impact to business is thus minimal with there being two main types of costs:

- If international ships register under the AISR, businesses will face one off registration costs and compliance costs such as inspections by a Marine Surveyor, safe manning determination and any other administrative levies.[45] This compliance cost of ship registration has been estimated using the number of ships and the expected costs involved in registration and compliance activities. Noting that these same costs would be faced in any jurisdiction where a ship was being registered.

- There may be internal business costs which businesses would incur when transitioning to operating from Australia. A business would only take this course of action however, should the expected benefits of operating from Australia outweigh the costs of moving operations.

7.2 Benefits of the policy case

Government – Government can expect to benefit from the policy case due to the resulting flow on activity from the additional level of shipping activity. That is, there will be additional taxation revenue generated under the policy situation such as: consumption taxes, production taxes, excise, and duty on exports and imports. In addition, a strong locally-based shipping industry is important for national security purposes.

Business - The policy case has a range of expected benefits for industry (which are highlighted in Appendix D) and centre around making the Australian shipping industry more attractive on the global stage and thus a viable option for shipping organisations to base their operations. Whilst the core benefits accrue to shipping businesses themselves, there are significant flow-on effects to those industries or organisations that support these businesses such as commercial operations, ship repair and maintenance, technical management, maritime law, marine insurance and seafarer training.

Society – The policy case will benefit society at large due to the employment opportunities that are expected to arise and the associated flow on impacts of the policy. The growth of the shipping industry will see more job opportunities created for the more than 400 applications

---

45 Department of Infrastructure and Transport (undated), 'Guide to the registration of a ship on the Australian International Shipping Register', available at: http://www.amsa.gov.au/forms-and-publications/Publications/AMSA339.PDF

plus that are received annually from people wishing to pursue a career at sea.[46] The end result will be more seafarers earning a wage and contributing to economic output of the maritime industry.

7.3 Net Results

Examining the results of the economic analysis we see that the policy case is expected to provide a total net benefit of $4.25 billion over and above the current situation to Australia.

The net benefits to society, business and government are represented by the changes in key economic indicators in the economy (GDP, employment, etc.). Specifically, the benefit to society can be represented by the increase in consumption because as output, wages and productivity increases, consumers have a higher income to spend resulting in higher consumption and thus reflecting the general change in welfare to consumers.

Benefits to business are indicated by the increased level of investment as this implies that businesses have access to more capital. Lastly, benefits to the government are represented by the increase in tax revenue. While the policy case imposes the highest cost on the government through tax concessions, the government still receives more tax revenue from higher income and consumption taxes outweighing the concessions provided.

There are many intangible benefits also present in the policy case (outlined in Chapter 5). These benefits - such as the availability of ships and trained seafarers for defence in times of need and the value of having a maritime cluster in Australia – would accrue to Australia. Overall the policy case results in additional net benefits to the Australian economy.

7.4 Industry assistance

The government provides assistance to Australian industry through a range of measures including tariffs, budgetary outlays, tax concessions and restrictions on competition. The total level of government assistance to all industries in the Australian economy was estimated to be over $15.6 billion in 2012-13.[47] This consisted of:

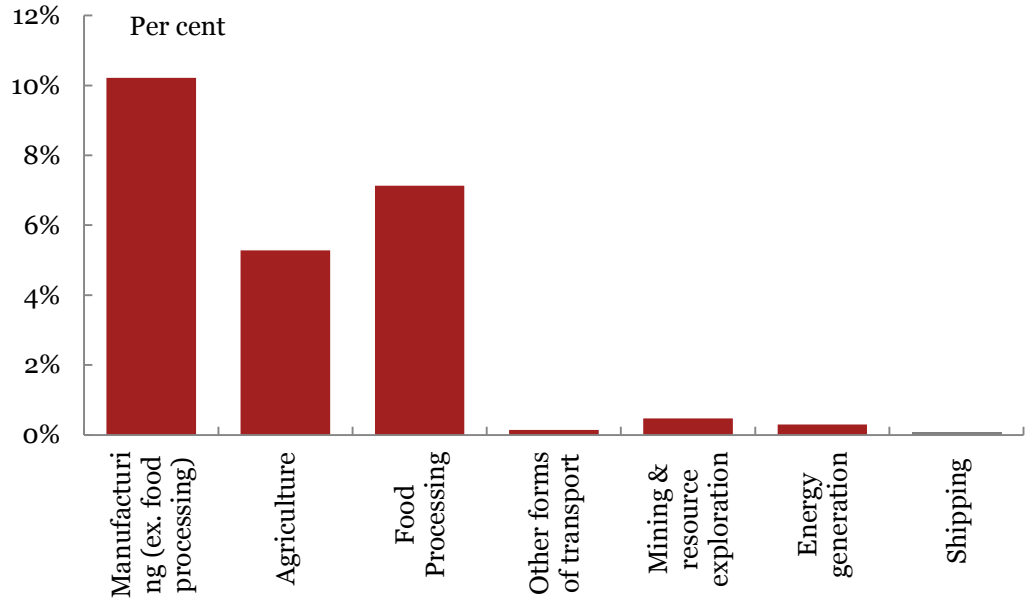
- $7.8 billion in tariffs
- $4.4 billion in budgetary outlays
- $3.4 billion in tax concessions

In addition to financial assistance, non-monetary assistance is provided to industry through increased competition barriers. In 2012-13, the manufacturing industry (excluding food processing) received the highest level of net assistance as a proportion of gross value add, followed by food processing and the agricultural industry (Figure 15).

[46] Advised from ASA members

[47] Productivity Commission (2014), 'Trade Assistance Review 2012-13'

Figure 15: Combined assistance to industry as a proportion of industry gross value added (2012-13)



Source: Treasury 2013 tax expenditure, Productivity Commission 2012-13 Review and ABS cat. no. 8155.0.

The maritime industry receives tax concessions through shipping investment incentives which includes income tax exemption, accelerated depreciation and balancing adjustment roll-over relief. It is estimated that the total assistance through the shipping investment incentive was $2 million in 2012-13.

The industry also receives tax concessions through the seafarer tax offset given to qualifying employers to incentivise the hiring of qualified Australian resident seafarers. It is estimated that the total assistance to the maritime industry from this tax initiative was $4 million in 2012-13. The estimated total assistance to the maritime industry was therefore $6 million in 2012-13.[48]

[48] Using the 2013 Tax Expenditure statement and Productivity Commission (PC) 2012-13 Trade Assistance Review, the total assistance to the shipping industry is around $86 million. This includes $50 million for shipping incentives, $1 million for seafarer tax offsets and around $35 million from the Bass Strait Passenger Vehicle Equalisation. After consultation with key stakeholders, PwC has reduced the shipping investment incentive estimate from $50 million to $2 million. This was driven by discussions with key industry experts about the actual number of claims and the very low reliability score of the Treasury estimate (lowest score of 9 ratings).

On the seafarer tax offset, the Treasury estimate of $1 million in the 2013 Tax Expenditure statement had a relatively higher reliability score (around 5-7 of 9). However, in the 2014-15 Budget, abolishing the seafarer tax offset is estimated to save the Government $4 million per year from 2015-16. For this reason we have used $4 million instead of $1 million for the level of assistance for the seafarer tax offset.

After consultation with the Australian Shipowners Association we have excluded the Bass Strait Passenger Equalisation scheme from the estimates given the scheme is considered as not industry specific assistance in the PC Trade Assistance Review. Given the PC inquiry into *Tasmanian Shipping and Freight* (http://www.pc.gov.au/projects/inquiry/tasmanian-shipping/report) report the incidence of the subsidy is unclear, the scheme has not been included as assistance to the shipping industry.

Appendices

Appendix A The Australian maritime industry

Based on discussions with the ASA, the Australian maritime industry sub-classes (based on ANZSIC) are defined and provided in Table 7. Most sub-classes of the maritime industry are fully covered in the scope of this analysis. Some sub-classes are partially covered according to the level of shipping activities in the industry. For example, sea freight forwarding services is estimated to be 16.8 per cent of the total freight forwarding activities as other forms of transport such as rail and road also provide freight forwarding services.[49] Some sub-industries (such as the Custom Agency Services) do not provide an output but do employ a significant number of ex-seafarers. They are therefore included in the transport support services sub-class.

Table 7: The Australian maritime industry

Broad industry name	Individual sub-industry	Description of activities	Coverage
Ships and Boat Manufacturing	*Shipbuilding and Repair Services*	This class consists of units mainly engaged in manufacturing or repairing vessels of 50 tonnes and over displacement, submarines or major components for ships and submarines not elsewhere classified. Primary activities: • Drydock operation • Hull cleaning • Ship repairing • Ship wrecking • Shipbuilding • Submarine constructing	100%
Water, Pipeline and Other Transport	*Water Freight Transport*	This class consists of units mainly engaged in the operation of vessels for the transportation of freight or cargo by water. Primary activities: • Coastal sea freight transport service between domestic ports • Freight ferry service • Harbour freight transport service • International sea freight transport service between domestic and international ports • River freight transport service • Ship freight management service	100%

[49] Department of Infrastructure and Regional Development (2014), 'Freightline I- Australian freight transport overview', available at: https://www.bitre.gov.au/publications/2014/files/Freightline_01.pdf

Broad industry name	Individual sub-industry	Description of activities	Coverage
		(i.e. operation of ships on behalf of owners) • Water (river, sea and lake) freight transport service	
	Water Passenger Transport	This class consists of units mainly engaged in the operation of vessels for the transportation of passengers by water. Primary activities: • Boat charter, lease or rental, with crew for passenger transport • Ferry operation, including vehicular • Passenger ferry service • Passenger ship management service (i.e. operation of ships on behalf of owners) • Ship charter, lease or rental, with crew, for passenger transport • Water passenger transport service • Water taxi service	80%
Transport Support Services and Storage	*Stevedoring Services*	This class consists of units mainly engaged in providing stevedoring services for the loading or unloading of vessels. Primary activities: • Ship loading or unloading service (provision of labour) • Stevedoring service	100%
	Port and Water Transport Terminal Operations	This class consists of units mainly engaged in the maintenance and leasing of port facilities to facilitate the land-sea transition of goods and passengers. Also included are units mainly engaged in the operation of ship mooring facilities or water transport terminals for passenger or freight (including sea cargo container terminals and coal or grain loaders) Primary activities: • Coal loader operation (water transport) • Container terminal operation (water transport) • Grain loader operation (water transport) • Port operation • Ship mooring service • Water freight terminal operation • Water passenger terminal operation	100%

Broad industry name	Individual sub-industry	Description of activities	Coverage
		• Wharf operation	
	Other Water Transport Support Services	This class consists of units mainly engaged in providing water transport support services not elsewhere classified. Primary activities: • Lighterage service • Navigation service (water transport) • Pilotage service • Salvage service, marine • Ship registration and agency service • Towboat and tugboat operation • Water vessel towing service • Safety Surveyors • Equipment suppliers • Providers • Agents	100%
	Customs Agency Services	This class consists of units mainly engaged in providing advice on import and export procedures and documentation, and other related services. • Primary activities • Custom agency service • Custom clearance service • Export documentation preparation service • Import documentation preparation service	Number of employment included
	Freight Forwarding Services	This class consists of units mainly engaged in contracting to transport goods for other enterprises, using one or more different enterprises to perform the contracted services by road, rail, air, sea freight transport or any combination of the modes of transport. (In these cases the 'forwarding' unit takes prime responsibility for the entire transport operation). • Primary activities • Air freight forwarding service	16.8% (share of water freight forwarding services in all freight forwarding services)[50]

[50] Department of Infrastructure and Regional Development (2014), 'Freightline I- Australian freight transport overview', available at: https://www.bitre.gov.au/publications/2014/files/Freightline_01.pdf

Broad industry name	Individual sub-industry	Description of activities	Coverage
		• Rail freight forwarding service • Road freight forwarding service • Water freight forwarding service	
Oil and gas extraction and exploration*		This class includes the shipping contribution to the following activities: • Oil and gas extraction and exploration • Directional drilling and re-drilling • Other oil and gas field support services	3.3%[51] of combined oil and gas extraction and mining and exploration and mining support services.

Source: ABS (2006) Australian and New Zealand Standard Industry Classification 2006
*Aggregates both shipping related oil and gas extraction and exploration and other mining support services.
Note: Certain oil and gas activities are included in other components such as water freight transport, towage and other water transport support services.

Recent industry activity

The CAGR of revenue over the past ten years varies across different sub-class shipping industries. As seen in Table 8, driven by the mining investment boom, port and water transport terminal operations along with exploration and mining support services have experienced the highest level of growth. Most other sub-class industries experienced moderate growth. The drop in overall demand for imports and exports from the global financial crisis (GFC) was balanced with steady growth in international trade post GFC.

Table 8: CAGR of the maritime industry, 2004-2014 and forecast 2014-2019

Industry	CAGR 2004-2014	Forecast CAGR 2014-2019
Shipbuilding and Repair Services	1.5%	2.8%
Water Freight Transport	2.3%	2.9%
Water Passenger Transport	3.4%[52]	4.5%
Stevedoring Services	2.5%	2.8%
Port and Water Transport Terminal Operations	12.1%53	4.1%
Other Water Transport Support Services	2.8%	3.9%
Freight Forwarding Services	3.8%	3.6%
Oil and gas extraction	5.7%	12.6%
Exploration and Mining Support services	12.3%	3.4%

Source: IBIS world industry reports and PwC analysis

[51] PwC analysis of direct contribution on the share of shipping industry in the oil and gas industry

[52] Water passenger transport CAGR 2004-2014 is 2005-2014 due to availability of IBIS world industry data.

[53] Port and water transport terminal operations CAGR 2004-2014 is 2005-2014 due to availability of IBIS world industry data.

Shipbuilding and Repair Services

The shipbuilding and repair services industry in Australia is centred on shipbuilding for the Royal Australian Navy (RAN). Defence shipbuilding activities include construction of military warships and ships which are highly specialised, with unique designs and specifications that generally require technologically intensive processes. Examples of recent major projects include the Hobart Class Air Warfare Destroyer and the Canberra Class Land Helicopter dock.[54]

The second largest product in this industry is commercial shipbuilding which contributes to 17.1 per cent of the industry, followed by ship repair and maintenance at 12.3 per cent and submarine manufacturing at 5.8 per cent. Commercial shipbuilding includes the construction of all types of ships that have a variety of sizes, structure and functions. Most of the ships produced are 50 deadweight tonne displacement and over.[55] The competitive advantage of the commercial shipbuilding industry however, is in the niche market of fast passenger catamaran ferries with its innovative design, advanced materials and construction.[56]

The significant share of naval shipbuilding in this industry means that demand is largely affected by the Federal Government's capital expenditure on defence. The industry has experienced a moderate CAGR of 1.5 per cent over the last ten years. The industry is expected to grow at a CAGR of 2.75 per cent as the Future Submarine project is anticipated to commence in 2017-18.[57] The tender has not been awarded to an Australian shipbuilder however the construction is announced to occur at ASC's Osborne shipyards.[58]

While the industry has a defence focus, some capabilities and existing resources for naval shipbuilding and repair are applicable to commercial vessels. For example, Forgacs which is an Australian shipbuilding and repair company specialises in the naval sector. Its shipyards were equipped and able to construct entire vessels for small to medium-sized ships such as off-shore patrol vessels, inshore patrol vessels, mine hungers and icebreakers. In ship repair, Forgacs provides marine engineering to both Australian and overseas defence forces. It also regenerates, refits, converts, repairs and maintains a wide range of commercial and naval vessels.[59] Forgacs however, closed down the Australian operation in July 2014 due to a number of reasons causing ship repair to be uncompetitive in Australia.[60] Retaining shipbuilding and ship repair capabilities in Australia is therefore important for national security and commercial shipbuilding and ship repairing.

Water Freight Transport

Water freight transport includes coastal sea freight transport services between domestic ports and international sea freight transport services between domestic and international ports. The revenue of the industry in the past ten years experienced a CAGR of 2.3 per cent and is expected to grow at almost 3 per cent between 2014 and 2019 (Table 8). The main

---

54 IBIS World Industry Report, (2013), 'C2391 Shipbuilding and Repair Services in Australia Industry Report'.

55 IBIS World Industry Report, (2013), 'C2391 Shipbuilding and Repair Services in Australia Industry Report'.

56 Australian Shipbuilders Association, 'Brochure', available at : http://www.shipbuilders.com.au/brochure.pdf

57 Australian Shipbuilders Association, 'Brochure', available at : http://www.shipbuilders.com.au/brochure.pdf

58 Australian Submarine Corporation, 'Future Submarine Project', available at: http://www.asc.com.au/en/Programs/Submarines/Future-Submarine-Project/

59 Forgacs, 'Maritime', available at: http://www.forgacs.com.au/sectors/maritime/

60 Lloyd's List Australia (2014), 'Local: Report, reaction & analysis – Forgacs closes Cairncross shipyard', available at: http://www.lloydslistdcn.com.au/archive/2014/07-july/10/report-reaction-analysis-forgacs-closes-cairncross-shipyard

activity of the industry is the transport of exports, especially of bulk commodities.[61] The shipping demand in this category, particularly internationally, will be driven by commodity demand (including crude oil which is a significant input cost to the industry).

Water Passenger Transport

Water passenger transport in Australia is comprised of three main categories: cruise services, vehicular ferry operation and passenger ferry services. Water taxi services are not included in the definition of the Australian maritime industry in this report.

This sector has experienced a CAGR of 3.4 per cent over the past nine years and is expected to grow strongly at 4.5 per cent over the next five years (Table 8). This is mostly attributed to the growth and the significant share of cruise services in water passenger transport. Cruise ship visits to Australia have increased at a CAGR of 9.9 per cent over the five years through to 2011.[62] The major cruise operation in Australia is run under the brand P&O Cruises by Carnival UK.

While cruise services are expected to grow, the rest of the water passenger transport sector is expected to follow the broad trend of population and employment. This is because it serves a domestic market that is comprised of commuters and local tourists. The major ferry operators in Australia include TT-Line that provides services across the Bass Strait, Harbour City Ferries and Sealink Travel Group.[63]

Stevedoring Services

Stevedoring services involve loading and unloading cargo from ships at ports, thus providing an interface between shippers, importers and exporters. Stevedores handle labour-intensive goods and containerised cargo which are dominated by imported finished goods and exports of primary production. Bulk export products (such as minerals, coal and grain) are handled by other water transport terminal services. The main activity is general cargo handling which is 62.1 per cent, followed by terminal stevedoring at 35.1 per cent. The rest are depot operations.[64]

Stevedores also have direct supply contracts with shippers and the majority of the market is comprised of general cargo importers and exporters at 62.1 per cent. The other major market is containerised freight importers and exporters at 35.1 per cent.[65] The industry's level of activity is therefore, highly dependent on the volume of imports and exports.

Over the past five years, the industry's CAGR was 2 per cent, noting though that in 2008-09 the growth was -8.43 per cent reflecting the lack of consumer and business confidence during the GFC. The industry is expected to follow the general trend of export and import demand and grow at 2.8 per cent over the next five years. The free trade agreements with South Korea, China and Japan will contribute to growth of stevedoring services in the future. [66]

---

61 IBIS World Industry Report, (2014), 'I4810 Water Freight Transport in Australia'

62 IBIS World Industry Report (2014), 'I4820 Water Passenger Transport in Australia industry'

63 IBIS World Industry Report (2014), 'I4820 Water Passenger Transport in Australia industry'

64 General cargo handling is the conventional stevedoring services, handling general cargo and motor vehicles. Terminal stevedoring operates ancillary equipment for the loading and unloading of the ships and the storage of container and the management of road and rail interfaces. Depot operations involve the packing and unpacking of containers at locations that are separate from the port area.

65 IBIS World Industry Report, (2014), 'I5211 Stevedoring Services in Australia Industry Report'

66 IBIS World Industry Report, (2014), 'I5211 Stevedoring Services in Australia Industry Report'

Port and Water Transport Terminal Operations

Ports are the gateway for Australia's imports and exports. Ports are largely owned by the state and territory governments however, the government operators are privatising port operations to promote capital investment and to meet the expansion in international trade. Port operators generate revenue from levying the movements of cargo across ports and from providing services and facilities to the users of the ports via products such as wharfage, wharf facility rental, mooring fees and port access fees.

While the scope of the maritime industry in this report does not include port revenue, the activity of the port is closely linked to the activity of the maritime industry. The majority of port users are shipping companies, stevedores and cargo handlers, terminal operators, customs brokers and freight forwarders. It is therefore useful to explore the trend and underlying drivers of port operations. There are two main types of ports, the first type of port handles mostly bulk commodity exporting and are located near mining sites. The second type of port handles the imports and exports of containerised and general cargo and is located in/near capital cities.

Over the past ten years, the commodity boom in Australia has led to the rapid expansion of port capacity near mining sites as sea transport is the only viable method of transporting mined exports such as coal, ores and liquefied natural gas. This is reflected in the robust growth in the past eight years, with a CAGR of 12.1 per cent. With mining investment peaking in 2012-13, the industry's revenue is expected to grow slower at 4.1 per cent in the coming five years (Table 8). Containerised trade at ports however, is still predicted to be strong with improvements in international trade as a result of the breakdown of trade barriers.

Other Water Transport Support Services

This industry provides a wide range of support in order for ships to safely unload in ports. The services include towage lighterage, navigation and pilotage, regulated services and ship agency services. Towage is the largest component of these services making up 34.5 per cent of total services. Towage assists vessels in manoeuvrability and in negotiating restricted clearance in channels and berth areas. The next largest service is regulated services (16 per cent), which are mandated by regulatory bodies such as the Australian Maritime Safety Authority (AMSA).[67] It includes the provision of navigational aids along the Australian coastline and within ports, lighthouses and GPS. While the regulatory bodies are government agencies and have no commercial interest, they are included in the Australian maritime industry in that they provide essential services to all ships that enter Australia. For example, AMSA provides emergency response to national search and rescue coordination and marine pollution services, administers domestic vessel safety, conducts inspections for ship safety and operational oversight on maritime safety, and associated environmental and navigational issues.[68] AMSA also provides employment opportunities for ex-seafarers who have gained relevant skills required of AMSA services, particularly in areas such as ship and navigation safety.[69]

Shipping agent services make up 11 per cent of the total services and make arrangements when ships visit a port, such as taking cargo bookings, advising shippers of cargo availability

---

67 IBIS World Industry Report, (2014), 'I5219 Navigation, Towage and Services to Water Transport in Australia Industry Report'

68 Australian Maritime Safety Authority (undated), 'Organisational Structure', available at: https://www.amsa.gov.au/about-amsa/organisational-structure/

69 Australian Maritime Safety Authority (undated), 'Employment at AMSA', available at: https://www.amsa.gov.au/about-amsa/employment-at-amsa/#benefits

and process documentation. Navigation and pilotage represents 6 per cent of the services and lighterage represents 5 per cent of the services.[70]

The demand for these services is driven by port activity as navigation services are contracted out by ports. Over the past ten years, the industry experienced a CAGR of 2.8 per cent, mostly from the commodity boom since bulk carrying ships requires towage and navigational services. The industry is expected to grow at a CAGR of 3.9 per cent over the next 5 years (Table 8). A number of exclusive licences in various bulk ports are up for tender from 2015 onwards. This will increase opportunities for the port and support services industry especially as the mining sector moves from investment phase into the production phase. For example, as LNG projects commence production, there may be a number of long-term LNG terminal towage contracts available. [71]

Freight Forwarding Services

Freight forwarding services arrange goods to be transported on behalf of clients by purchasing space from freight transport providers. The industry's source of revenue is therefore, commission from clients. It generates profits from bundling the freight from different clients and purchasing space for bulk loads at a discounted price. This industry includes rail, air and sea freight transport.

Sea freight forwarding services facilitate both international and domestic freight shipping. Domestic freight, however, occurs mostly between Melbourne and Tasmania which is also supported by the Tasmanian Freight Equalisation Scheme. The freight forwarding operators receive revenue from freight brokers, shipping brokers and the shipping and airline operators. The underlying source of demand of those operators is imports and exports within the economy which are driven by activities of manufacturers, retailers and wholesalers. Unlike port operators, this industry has not greatly benefited from commodities as they provide services related to consumer goods. The geographical distribution of the industry also follows the distribution of the Australian population as it is consumer focused.[72]

The industry experienced a moderate CAGR of 3.8 per cent in the past ten years. Similar to other water transport services, it suffered a loss of revenue due to the GFC with a negative growth rate of -1.8 per cent in 2008-09. Since the GFC, a slowing of the global economy has continued to affect this industry through a drop in international shipping rates; especially for air freight. The industry is expected to grow at a CAGR of 3.6 per cent over the next five years as consumer spending is expected to increase (Table 8).[73]

Oil and gas extraction and exploration[74]

The oil and gas sector draws significant capital and human resources from the maritime industry in its day-to-day operations.

The corresponding industries defined by the ANZSIC are 0701: oil and gas extraction and 1001: exploration and mining support services. The scope of the analysis in this report includes the maritime industry activities in oil and gas extraction and exploration.

---

70 IBIS World Industry Report, (2014), 'I5219 Navigation, Towage and Services to Water Transport in Australia Industry Report'

71 IBIS World Industry Report, (2014), 'I5219 Navigation, Towage and Services to Water Transport in Australia Industry Report'

72 IBIS World Industry Report, (2014), 'I5292B Rail, Air and Sea Freight Forwarding in Australia Industry Report'

73 IBIS World Industry Report, (2014), 'I5292B Rail, Air and Sea Freight Forwarding in Australia Industry Report'

74 Aggregates both shipping related oil and gas extraction and exploration and other mining support services

The level of activities and demand for both the oil and gas extraction and exploration and mining support services implicitly affect the demand of the related vessel activities. Over the past ten years, oil and gas production grew at a CAGR of 5.7 per cent, while exploration grew at 12.3 per cent (Table 8).The position is switched with forecast figures of CAGR over the next five years where oil and gas extraction is expected to grow at 12.6 per cent and exploration is expected to grow at 3.4 per cent. This reflects Australia's overall trend in the mining sector which transitions from the investment phase to the production phase.[75]

Global demand for liquefied natural gas has grown considerably over the past five years and is expected to contribute significantly to export growth in the oil and gas industry.[76] The demand for exploration services is mostly dependent on the demand for extraction of oil and gas. For vertically integrated companies exploration expenditure is seen as an expense, whilst for independent exploration companies, they are commissioned by the extraction companies.[77] The underlying factor of demand of vessel operation in this sector is therefore driven by demand of oil and gas production which is dependent on a number of factors including prices and global demand for those energy sources.

---

75 Bureau of Resources and Energy Economics, Media Release 'Transition to production phase to underpin increased export earnings', available at: http://www.bree.gov.au/media-releases/20131218

76 IBIS world report (2014), 'Oil and Gas Extraction in Australia'

77 IBIS world report (2014), 'B1011 Petroleum Exploration in Australian Industry'

Appendix B Detailed analysis

This section provides the detailed economic analysis of the maritime industry for the following scenarios:

- Baseline
- Policy case

The baseline scenario evaluates the economic contribution of the maritime industry as illustrated in Figure 10 and highlighted in further detail in Appendix A. The policy case scenario evaluates the tax package suggested by the ASA and described in Table 3.
The baseline economic analysis includes the maritime industry's contribution to the Australian economy in terms of:

- Industry gross value add
- Employment
- Investment
- Taxation revenue

Gross value added

Gross value added (GVA) describes the value of the gross product by industry and is an indicator of an industry's contribution to the economy.[78] The GVA of the entire maritime industry (see Appendix A for its coverage) was a direct contribution of $9 billion in 2012-13 (see Table 9). Further, shipping (as defined in this study) was approximately 0.6 per cent of GDP in 2012-13.

Half of the GVA contribution is attributed to transport support services. The next biggest contributor is water, pipeline and other transport at a total of $1.8 billion.(Table 9)

GVA is comprised of compensation of employees, gross operating surplus and mixed income, and other taxes less subsidies on production.

Employment

The total number of directly employed persons within the maritime industry is almost 31,000 in 2012-13. The majority of the workforce is in transport support services, followed by water pipeline and other transport. This reflects the general trend of a higher gross value added as a result of a larger workforce.

[78] ABS (2013), 'Australian System of National Accounts: Concepts, Sources and Methods', available at: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/5216.0Glossary12013?OpenDocument

Table 9: Direct contribution of the maritime industry in 2012-13 ($ millions)

Industry	Ships and Boat Manufacturing	Water, Pipeline and Other Transport			Transport Support Services and Storage						
Sub-industry	**Shipbuilding and Repair Services**	**Water Freight Transport**	**Cruise ships**	**Other Water Passenger Transport**	**Stevedoring services**	**Port and Water Transport Terminal Operations**	**Towage**	**Other Water Transport Support Services**	**Freight forwarding**	**Oil and gas extraction and exploration[79]**	**Total**
Gross value added	$871	$1,017	$556	$242	$930	$1,475	$687	$1,456	$996	$811	**$9,041**
Number of employed persons (2012-13)	2,900	5,984	2,450	1,065	6,473	3,676	1,954	3,711	1,931	753	**30,897**
Investment	$136	$1,114	$874		$4,044				$866	$491	**$7,545**
Taxation revenue[80]	$85	$183	$92		$395				$51	$95	**$901**

Source: PwC analysis, ABS Input-Output Tables 2009-10, ABS Consumer Price Index Table 1 2014, IBIS worlds 2013 and 2014 industry reports

79 Aggregates both shipping related oil and gas extraction and exploration and other mining support services

80 ABS (2013), The number of employed persons is described as either an employee, an employer, an own account worker or a contributing family worker. Full time equivalent is used to represent the number of employed persons, available at: http://www.abs.gov.au/ausstats/abs@.nsf/INotes/5209.0.55.0012009-10Data%20CubesTable%2020.%20Employment%20by%20Industry?opendocument&TabName=Notes&ProdNo=5209.0.55.001&Issue=2009-10

Industry investment

In 2012-13, the total level of investment in the maritime industry was $7.6 billion (equivalent to 1.8 per cent of the total investment in the economy). As seen in Table 9, the total level of industry investment has a similar pattern to GVA. Transport support services have the highest level of investment. This is followed by water freight transport which has the second highest level of GVA. Exploration and mining support services has the lowest level of investment reflecting the size of shipping component in this industry.

Tax revenue

The total level of taxation revenue contributed by the maritime industry is estimated to be $901 million (equivalent of 0.3 per cent of total taxation revenue in the economy). Table 9 shows that transport support services contributed to around half of total taxation revenue.

Baseline economic analysis

To obtain the total impact (both direct and indirect) of the maritime industry's contribution to the economy, a 10 per cent sales shock was applied to the sub-industries within the maritime industry in the economy wide model[81]. Subsequently, subtracting the direct impact from the total impact gives the indirect contribution of the maritime industry to the Australian economy. The maritime industry baseline analysis is provided in Table 6 (page 20).

Direct effects

The modelling indicates that in 2012-13, the direct maritime industry generated a value-add contribution to Australian GDP of over $9 billion, which is equivalent to 0.6 per cent of the Australian economy. (Table 9) In the same year, the Australian maritime industry directly employed nearly 31,000 jobs. This is equivalent to 0.26 per cent of total employment in Australia. A further benefit of the maritime industry is that it contributes to the tax revenue of both the Commonwealth and state and territory governments. PwC has calculated that the maritime industry directly contributes through the income tax levied on the earning of employees, corporate taxes and other taxes.

Indirect effects

As well as the direct contribution of the maritime industry to the Australian economy, there are indirect impacts on employment and output through forward and backward supply chains and induced impacts from those directly and indirectly employed by the industry using their wages to buy goods and services in the Australian economy.

In order to estimate the indirect impact of the maritime industry's contribution, PwC has used the MMRF model. It is based on the Australian IO tables and developed at the centre of policy studies MONASH University (now Victoria University). Details of the MMRF model are provided in Appendix G. The MMRF model is implemented in comparative static form which estimates the impacts at only one point in time. That is, the results show the difference (usually reported in percent change form) between two alternative states (with and without the policy shock).

In terms of the multiplier effects on GDP, the results indicate that the maritime industry's procurement of inputs of goods and services from domestic and international suppliers and consumer spending of those directly and indirectly employed by the industry supported an additional $11.8 billion of industry gross value add. This implies that the total economic

[81] Details of PwC's economy-wide model are provided in Appendix C.

contribution to GDP in 2012-13 is equivalent of $20.9 billion or 1.37 per cent of GDP. This is comprised of $9 billion direct contribution and $11.8 billion of indirect contribution.

The estimated total employment in the maritime industry is 44,824. Of this total, 30,897 is direct and 13,927 is indirect employment.

The shipping sector requires different types of capital inputs, including ships themselves. As noted before the investment in shipping is declining. Based on the 2012-13 data, the total level of investment in the industry is $16.3 billion, of which $7.5 billion is direct and $8.8 billion is indirect investment.

A further benefit of the indirect effects is that they generate additional tax receipts for the government. The industry contributes to $1.3 billion in total taxation revenue in 2012-13.

Tax policy economic analysis

The economy-wide modelling result for the policy case scenario is discussed in this section.

Modelling assumptions

Accelerated depreciation

Accelerated depreciation is the allowance for deduction for declines in the value of an asset at higher rates than would otherwise occur. The benefit to the vessel owner in this case is tax deferral. In after tax terms, accelerated depreciation increases the net present value of an investment, or its rate of return above what it would be in the absence of accelerated depreciation. Investors in vessels value accelerated depreciation because it provides important cash-flow benefits earlier. Accelerated depreciation is implemented in the economy-wide model as a decrease in the required rate of return for vessel investment.

Zero corporate tax

Australian shipping companies are subject to the standard corporate tax arrangements, which appear to put them at a competitive disadvantage with ships registered in many other countries (such as the UK, Netherlands, Norway, Germany, Denmark and Singapore) that offer zero tax or very low rates for shipping businesses. Since shipping businesses are located in various official industry statistics, a calibrated effective tax rate is first estimated and applied as a share of the shipping industry activity that pay zero corporate tax.

As a part of the corporate tax incentives, deemed franking credits in respect of dividends to resident shareholders and a dividend withholding tax exemption in respect of dividends to non-resident shareholders are modelled in a stylised way because of the lack of existing data in relation to shipping activities across international investments in Australia.

The basic premise for the discussion is that the present overall structure of the taxation of cross border investments in the shipping industry creates distortions to shipping investment. This may lead to a higher overall taxation of dividends from non-domestic than domestic investment and hence require a higher compensating pre-tax return. This reduces the incentive to invest in the shipping industry. The dividend withholding tax exemption removes this distortion and potentially increases the investment in the shipping industry.

Extend application of taxation structure to a broader range of vessels

The application of the corporate tax incentives is to be extended to a broader range of vessels including those engaged in offshore activities, the cruise industry and non-Australian flagged vessels where strategic and/or commercial control of those vessels occurs from Australia.

Seafarer tax offset

One of the impediments to the competitiveness of Australian vessels internationally is the high effective tax rate applicable to Australian resident seafarers which increases wage costs relative to other countries. This is mainly addressed through the seafarer tax offset. The seafarer tax offset is modelled as a reduction in labour costs for shipping businesses at the

minimum requirement of two persons per each registered ship. This is made available to all vessel types, to Australian employers of Australian resident seafarers (regardless of the flag of the ship they are employed on) and is also made available to all Australian resident staff, regardless of rank or role.

Potential economic effects of policy incentives

The potential effects of the shipping policy incentives are highlighted in Table 10 below. As discussed earlier in the report, the potential economic effects occur via four isolated shocks, including: zero corporate tax rate, deemed franking credits, return on capital for accelerated depreciation and reduction in labour costs for seafarer offsets.

Table 10: Potential economic effects of tax policy incentives

Policy case impact				
Contribution	**Industry Gross Value Add**	**Employment**	**Investment**	**Tax revenue**
	$m	persons	$m	$m
Direct	1,854	6,324	1,491	606
Indirect	2,395	2,823	1,729	261
Total	4,249	9,147	3,220	867

PwC estimates based CGE model and international experience (see Box 2)

Summary of impacts

The precise magnitude of the long term economic impacts of shipping tax policy incentives is difficult to determine given the myriad of domestic and international factors at play. However the modelling undertaken suggests that the aggregate impact on GDP is $4.25 billion in the policy case relative to the baseline scenario.

An important route for a zero corporate tax rate and accelerated depreciation in the shipping industry is investment. The impact of zero corporate tax on investment is through the cost of capital[82] in the shipping industry (which will become lower compared to the other sectors in the economy). A reduction in the corporation tax rate reduces the cost of capital for shipping firms. This means that marginal shipping investment projects are now more profitable and more likely to go ahead so long as sufficient financing is available. Such increased investment opportunities and higher returns should increase both domestic investment and foreign investment.

Investment is a component of GDP so increased investment results in higher GDP. Increased investment affects GDP through its short-run effect on the level of demand in the economy and through its long-run effect on how much output the economy can supply. Investment is an expenditure component of GDP. This means that more investment leads to higher demand in the economy, feeding directly into the level of GDP. Higher demand further increases GDP through a series of second-round increments as spending propagates through the economy. Increased investment also affects GDP through the capital stock. A larger capital stock enables the economy to produce more output in the future, although it may take time for the effects of this larger capital stock to fully flow through to a higher level of GDP.

The lower cost of capital and higher returns could also translate into lower prices of goods transported by the shipping industry. The extent that firms pass these lower prices depends on how easy it is for consumers to switch goods transported by ship for those not transported by the shipping sector. Lower prices could further raise domestic consumption, reduce

[82] The cost of capital (or the rental price of and asset) is the unit cost for the use of that asset for one period. The cost of capital includes the cost of finance, depreciation of the capital good, the relative change in the price of the capital good and the impact of corporate taxes. The cost of capital falls when either the corporate tax rate falls or capital allowances increase.

demand for imports and increase demand for exports. An increase in household consumption would increase the level of GDP.

A zero corporate tax rate and accelerated depreciation also affects the shipping industry through another way, via higher wages and employment. Since labour is less mobile than the capital, a zero corporate tax rate in the shipping industry increases demand for labour in the shipping industry and in turn raises wages. This effect mainly depends on the ability of shipping businesses to substitute between capital and labour. Increased employment and wages increases consumption and affects the level of GDP in the tax policy scenarios.

Tax revenue impacts

The macroeconomic effects generated through zero corporate tax rates and other changes will have a positive effect on taxation revenue. Stronger growth will eventually generate tax revenues that recoup a proportion of the revenue lost directly from a zero corporate tax rate in the shipping industry. The additional investment in shipping as a result of zero corporate tax rates will increase employment in the sector and will provide more revenue through income taxes. Higher consumption will lead to more GST and excise duty receipts.

Appendix C Tax policy in other countries

This section provides more detail on the policy case and tax policy in other countries to highlight how Australia compares with other nations competing for shipping businesses.

Experience in other countries

Examples of tax changes are drawn from countries where the shipping industry has grown significantly over the past ten years. This includes the UK and Singapore where shipping has been a major contributor to the economy since the 1970s and Norway where offshore oil and gas sector is a significant part of shipping.

Table 11: Shipping tax incentives in the United Kingdom

United Kingdom			
No	Shipping tax regime/incentives	Benefits	Compared to Australia
1	Tonnage tax	Low and predictable tax rates for shipping companies and encourage ships to be registered in the U.K.	Not in Australia
2	Support for Maritime Training (SMarT)	SMarT provides financial support to the training providers (mostly shipping companies)	Not in Australia

Table 12: Shipping tax incentives in Singapore

Singapore			
No	Shipping tax regime/incentives	Benefits	Compared to Australia
1	Automatic exemption on income tax of Singaporean ships (ships registered in Singapore/with Singaporean flag)	Benefits to Singapore-flagged ships in reducing costs and encourage flagging of ships under the Singapore flag	It is not automatic in Australia
2	AISE income tax exemption for Singaporean managed ships even if the ship is not Singaporean	Encourage Singaporean management or control of ships	Not in Australia
3	Tax exemption on leasing income received by a non-resident for AIS ships	Develop the ship financing sector and provide the operators more flexibility in managing ships	Not in Australia
4	Marine Finance Incentive - tax exemption for the dividends distributed by the ship investment vehicle	Incentive for investment in ships, as there is cheaper source of capital for shipowners and investors	Not in Australia
5	Approved Shipping Logistics scheme-concessionary tax rate on incremental income generated from providing freight and logistic services	Encourage freight management and logistics company to use Singapore as a base to provide ancillary logistic services	Not in Australia
6	Block Transfer Scheme - volume discount scheme for ship registration fees if foreign flagged ships as a fleet became Singaporean flagged	To encourage flagging of foreign flagged ships as a fleet under the Singapore flag	Not in Australia

7	Income tax exemption available to oil rig exploratory work by Singapore-flagged ships	Encourage operation of oil rigs exploration by Singapore-flagged ships	Not in Australia

Table 13: Shipping tax incentives in Norway

Norway			
No	Shipping tax regime/incentives	Benefits	Compared to Australia
1	Tonnage tax	Full tax exemption on shipping income and is open to a range of offshore vessels.	Not in Australia
2	Participation exemption	Dividends to be distributed without being taxed to Norwegian and European Economic Area (EEA) shareholders.	Not in Australia

Appendix D Cost benefit analysis

Largely, cost benefit analysis uses the results of the economic outcomes to perform the quantitative analysis which is supplemented with a qualitative analysis of the impacts to the maritime industry from the tax changes. It also looks at the results of the economic analysis through a stakeholder lens identifying where relevant the specific impact on consumers, industry and government.

Cost

Government

The majority of the costs of implementing the policy will be borne by the government as the policy case includes a range of tax incentives. The cost of shipping investment incentives is expected to be around $6 million per year in 2012-13. The shipping investment incentives include: accelerated depreciation; income tax exemption and roll-over relief. The seafarer tax offset is estimated to cost the government about $4 million per year over the forward estimate period of 2015 to 2018.[83] Extending tax incentives to the broader shipping industry would create additional costs to the government *only if* the result is to be less than what the government is currently receiving in taxation revenue. The cost impact to government is explained further in Table 14

[83] Treasury (2014), 'Budget 2014-15 - Part 2: Expense Measures', available at: http://www.budget.gov.au/2014-15/content/bp2/html/bp2_expense-22.htm

Table 14: Policy case cost to government

Tax policy change	Costs to government
Accelerated depreciation	Accelerated depreciation is a mechanism similar to an interest free loan from the government to the company as revenue collections are lower in the early years but is recouped in later years. The real cost is therefore the interest that could be earned on this loan less any additional taxation revenue earned by the taxpayer as a result of the loan. Assuming companies pay zero tax under the policy case; the cost here is interest on the amount of depreciation expense claimed.[84]
Zero rate of income tax	The cost to government would be the corporate tax the government is currently receiving which the government no longer receives under the tax change.
Deemed franking credits to resident shareholders	Assuming the level of investment remains constant, if investors decide to shift investment from other sectors in the economy to the shipping industry that have access to franking credits the impact to government would be minimal.
Dividend withholding tax exemption to non-resident shareholders	Whilst Australian shipping companies are subject to zero income tax, under the existing tax arrangements foreign residents investing in these companies would be subject to a maximum 30 per cent withholding tax rate for dividends. Investment in foreign shipping companies is not subject to withholding tax. Under the policy case therefore, the net impact to the government will be zero as the foreign investors who were originally investing in a foreign company (but now an Australian shipping company) will continue to not pay withholding tax.
Seafarer tax offset	The seafarer tax offset is likely to provide more opportunities and attract Australian resident seafarers to work on vessels that qualify for the offset. The cost to government is therefore the amount of additional seafarer tax offset as a result of qualifying vessels that apply for the tax offset.
Australian International Shipping Register	Additional activities to ensure compliance for additional ships registered under the AISR. There would be compliance costs; however the costs would be fully recovered from the users of the government service.[85]

[84] The Review of Business Taxation (undated), 'The case for accelerated depreciation', available at: http://www.rbt.treasury.gov.au/publications/paper3/download/ch2.pdf

[85] The costs to the users that register under AISR are advised to be fully recovered after consultation with Australian Shipowners Association.

Business

The policy case is targeted to benefit - and therefore incentivise – businesses that have some form of strategic control in Australia. The cost impact to business is thus minimal. There are two main types of costs for shipping businesses in the environment under the policy case. Firstly, any ship register under the AISR will face one off registration costs and compliance costs such as inspections by a Marine Surveyor, safe manning determination and any other administrative levies.[86] Compliance costs for ship registration under the AISR have also been estimated using the number of ships and the costs involved in registration and compliance activities.

The other major cost is internal business cost which businesses incur when they decide to operate from Australia. This could be costs incurred from making adjustments to base their operation in Australia such as setting up offices, local support and resources involved to ensure they are compliant with Australian legislative requirements. A business would only take this course of action however, should the expected benefits of operating from Australia outweigh the costs of moving operations.

For businesses that do not operate in the shipping sector, these would be affected to the extent their employees and investors shift from their sector to the shipping industry or the extent to which their sector relies on - or is complementary to -the shipping sector. This impact is considered in the economic modelling when indirect impacts are calculated.

Society

Society would incur a cost under the policy case if resources were to be reallocated from an existing sector to the maritime industry (this is the case with employment). If workers were to move from one sector to another that has a lower productivity level, it would lead to a reduction in real wages. This is unlikely to be the case as workers tend to be attracted to sectors with higher remuneration which usually implies higher productivity.

The government would also reallocate resources (such as assistance) from other industries to the maritime industry (given the level of resources is fixed) meaning some industries will be worse off. The net impact of resource allocation to the economy as a whole though is zero as there is no addition or removal of resources occurring. Regardless, it is still important to note the impact to the industries that would be affected.

Benefits

Government

While the government and society bears most of the costs of reallocated resources to allow for the policy case, there are still additional benefits to the government as a result of the policy case. The additional level of shipping activities and the flow on activity means there is additional indirect taxation revenue generated such as consumption taxes, production taxes, excise and duty on exports and imports.

In addition, a strong locally-based shipping industry is important for national security purposes. Reliable sources of key assets and personnel can be drawn from the shipping industry during times of conflict and emergency and can be a long-term source of key skills and expertise to help address defence force shortages. Growing the seafarer workforce therefore provides more availability to defence in times of need.

---

86 Department of Infrastructure and Transport, 'Guide to the registration of a ship on the Australian International Shipping Register', available at: http://www.amsa.gov.au/forms-and-publications/Publications/AMSA339.PDF

Business

The policy case has a range of benefits to businesses depending on the tax change. The details and mechanism are outlined in Table 15.

Table 15: Benefit to business under policy case

Tax policy change	Benefits to business
Accelerated depreciation	Accelerated depreciation allows the business to claim tax deduction in earlier years of the asset when a company has made a significant up-front capital expenditure. This is positive cash flow to the business and gives businesses greater rate of return on the invested asset.[87]
Zero rate of income tax	Zero income tax gives businesses equal incentive to operate in Australia and in other countries where the effective tax rate is very low or close to zero.
Deemed franking credits to resident shareholders Dividend withholding tax exemption to non-resident shareholders	Both policy changes minimise the disincentive for businesses to operate in Australia because their investors will not be affected by the clawback effects or subject to taxation in Australia. It could also attract capital from other sectors in the economy as the shipping business can distribute dividends on the same basis as other companies.
Seafarer tax offset	Seafarer tax offset is targeted to support the AISR so that businesses can comply with the minimal requirement of having two Australian senior officers on their vessel under the AISR at competitive labour costs.
Australian International Shipping Register	Businesses in the offshore oil and gas sector and the cruise industry which were not eligible to the AISR may choose to use this register which provides an internationally competitive regulatory framework.

While the benefits above seem to accrue to shipping businesses, there are significant flow-on effects to the other support industries in the economy such as commercial operations, ship repair and maintenance, technical management, maritime law, marine insurance and seafarer training.

An example of this is the Carnival Group, which has chosen to home port twelve vessels from its fleet in Australia. Carnival has chosen to operate a significant part of its business from Australia. This will act as incubators of specialized marine skills directly through employment and training of staff, and indirectly through the fostering of a vibrant maritime cluster of supporting industries.[88]

---

87 The Review of Business Taxation (undated), 'The case for accelerated depreciation', available at: http://www.rbt.treasury.gov.au/publications/paper3/download/ch2.pdf

88 Tourism & Transport Forum (2014), 'CARNIVAL EXPANSION TO HERALD TOURISM BOOST', available at: http://www.ttf.org.au/Content/carnivalexpansion200514.aspx

Society

As there is flow on impacts to other support industries in the economy, it will benefit society by providing more opportunities and shift workers to a more specialised industry. While shipping is likely to attract workers from other industries if it offers a more competitive wage rate, workers will likely be specialised and have higher productivity if they choose to become a qualified seafarer. Attracting workers also does not appear to be an issue as ASA members advised that in excess of 400 applications are received annually from people wishing to pursue a career at sea. It would seem that in Australia the imbalance is not just a question of a lack of numbers wanting to go to sea, but has also been caused by 'bottlenecks' in the system.[89]

Net Results

The above discussion is now combined with the results of the economic analysis to determine which of the scenarios is most likely to provide the greatest benefit to Australia. As discussed in Chapter 7, the policy case generates overall net benefits to the economy.

The exact cost for each group is difficult to disaggregate due to the complex and re-iterative nature of the model. An approximation of the total costs can be derived using the difference between total net impact and total net benefits. It should be noted that the quantifiable net benefits are represented by the net impacts of the policy case. There are intangible benefits to the whole of Australia such as availability of ships and trained seafarers for defence in times of need and the value of having a maritime cluster in Australia.

89 Australian Maritime College (2009), 'A review of some solutions to the shortage of maritime skills', available at: http://www.amc.edu.au/sites/default/files/MTPC+Occasional+Paper+1_0.pdf

Appendix E Scenario outcome assumptions

This appendix provides the assumptions to derive the additional economic values as a result of an additional 50, 100 and 150 ships in the Australian fleet presented in Box 2.

Assumptions of the impact of additional ships

The scenario outcomes presented in Box 2 are based on the assumptions of the average value contribution per ship in the UK and the Netherlands.

Using the total number of UK registered or operated ships and the total contribution of the UK maritime services industry, suggests an average output of $38.6 million.[90] [91] Applying a similar approach to the Dutch merchant fleet, it suggests an average output per ship of $25.1 million.[92] Applying the average of these values provides economic contribution and employment scenarios of the impacts of additional ships in the Australian fleet.

[90] Oxford Economics (2013), 'The economic impact of the UK Maritime Services Sector'

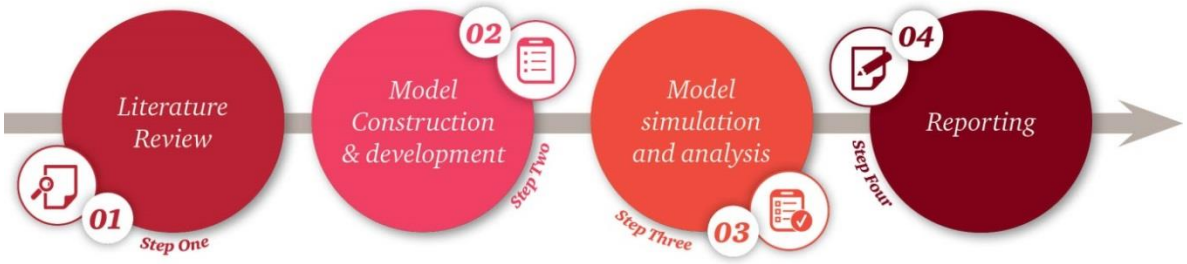
[91] UK Department of Transport (2014), 'Shipping Fleet Statistics'

[92] Ministry of Infrastructure and the Environment, undated, 'The Netherlands, Home to Maritime companies'

Appendix F Approach and methodology

The PwC approach to modelling the economic analysis of the maritime industry consisted of four stages, and is outlined below.

Figure 16: Our Approach



Literature review: A review of literature was conducted to provide a basis for the structure of the modelling. A data audit was also undertaken to supply reliable inputs to the modelling, including assumptions, parameters and data. This stage allowed the inputs to be evidence-based and transparent.

Model construction and development: PwC constructed a model to calculate estimates of the total (direct and flow-on) impact to economic output 2012-13. The model first calculated a business-as-usual baseline estimate to replicate the maritime industry's current contribution to the economy and then calculated two scenarios to estimate the impact of fiscal incentives.

The economy-wide impacts are estimated based on a comparative static approach and a using a computable general equilibrium (CGE) model (see Appendix G). Comparative static analysis estimates the impacts at one point in time, once the economy has reached a long-run growth path. That is the results show the difference with and without the proposed reforms. The process of adjustment of industry is not explicitly presented in the comparative static analysis.

Model simulation and analysis: We have used PwC's MMRF CGE model to estimate the total (direct and flow-on) impacts to the economy from changes in technology take-up. Our CGE model is based on the MONASH type of models and is expertly updated with the most recent official data. It contains explicit representations of intra-industry, intra-regional, inter-regional and international trade flows. As discussed in Appendix E, PwC have complemented the CGE model output with scenarios based on international experiences (see Box 2).

Reporting: The approach and methodology to calculating the baseline estimates and the policy scenario estimates are reported; along with the cost benefit analysis and industry assistance.

Appendix G Economy wide model

As highlighted in the report, the direct contribution of the maritime industry has wider impacts on the economy, industries and government revenue. However, using a traditional costing approach would have only considered the direct contribution to the economy.

The broader economic contribution of the maritime industry is captured in this study using advanced economic modelling techniques such as computable general equilibrium (CGE) modelling. CGE models recognise that complex macroeconomic mechanisms and inter-industry interactions exist in the economy built on the ABS input-output framework of the Australian economy. Using the results from the direct economic contribution, the CGE modelling was used to estimate the indirect and induced impacts on the national economy, including on specific industries, households and the government.

The indirect impact estimates demonstrate in a quantifiable way how the direct contributions flow through the economy and generate additional economic benefits, and the full benefits of the maritime industry to the Australian economy. The CGE modelling used in this study appropriately analyses how the economic impacts flow to the other sectors in the economy, such as ship building and other inputs to the production of ship building and operation, and services sectors that assist the operation of shipping vessels.

Monash Multi Regional Forecasting (MMRF) Model

The potential economic benefits of tax incentives by the ASA were conducted using PwC's version of Monash Multi Regional Forecasting (MMRF) model. It is a CGE model of the Australian economy initially developed at Monash University[93] and updated by PwC that models short and long-run equilibrium of the Australian economy.

This CGE model is widely used by the Australian Government, the Productivity Commission and the Australian Treasury to quantify the second round impacts of a policy change.

It is highly detailed, distinguishing by products produced by more than 60 industries. The high level of product detail means that many policy changes can be analysed without the need for further disaggregation of the product detail. It also means that the potential impacts such as benefits of tax incentives for local shipping can be more fully captured. For example:

- the economy-wide impacts of changes that affect primarily the maritime industry; and
- the linkages between the maritime industry, the rest of the Australian economy and the outside world due to the changes in relative prices induced by policy incentives.

Some of the key assumptions involved are as follows:

- **Profit maximisation:** the representative business in each industry chooses inputs and outputs to maximise profit subject to prices and a production function exhibiting

93 Adams, P. D., J. Dixon, J. Gieseke and M. J. Horridge (2011), 'MMRF: Monash Multi-Regional Forecasting Model: A Dynamic Multi-Regional Applied General Equilibrium Model of the Australian Economy', Working Paper, Centre of Policy Studies, Monash University.

constant returns to scale. This involves choosing inputs of capital and labour and outputs for the local and export markets.

- **Labour market equilibrium:** in the long-run the labour market is assumed to attain equilibrium, so that economic shocks, such as changes in corporate tax rate for local shipping activities, have no lasting effect on total employment. Rather, only the distribution of total employment across industries is affected.

The MMRF model treats each of the six states and two territories as a separate economy, linked by inter-regional trade matrixes. It is a bottom-up model, which includes a range of industries, commodities and labour types, aggregated to produce macroeconomic results. The model includes a representative household and government in each region, as well as the Australian government. Foreign demands are represented by downward sloping export demand curves, and import prices are given. MMRF also accounts for state and territory taxes, including income and payroll taxes, fringe benefit taxes, the GST, excise and other commodity specific taxes and tariffs.

www.pwc.com.au