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Supplementing information regarding the notification of the special tax system for shipping

1. INTRODUCTION

On 24 May 2017, the Ministry of Finance (hereafter “the Ministry”) notified to the EFTA Surveillance Authority (hereafter “the Authority”) the Norwegian special tax system for shipping in accordance with article 1 (3) of protocol 3 to the Surveillance and Court Agreement. This document is a consolidated description of the notified scheme including additional remarks made by the Ministry during the notification process.

The notification implied a continuation of the existing shipping tax system, which was approved by the Authority in its decision of 3 December 2008 (755/08/COL).

In the Ministry’s view, the notified measure constitutes state aid within the meaning of Article 61(1) of the EEA Agreement; cf. part II Section 1 of the Authority’s decision 755/08/COL.

The legal basis for the compatibility of the notified measure is Article 61(3) (c) of the EEA Agreement (aid to facilitate the development of certain economic activities or of certain economic areas may be considered compatible with the functioning of the EEA Agreement where such aid does not adversely affect trading conditions to an extent contrary to the common interest) together with the Authority’s Guidelines on State Aid to Maritime Transport (the Maritime Guidelines).

The original Norwegian special tax system for shipping was approved by the Authority 1 July 1998, cf. decision 164/98/COL. The scheme offered eligible companies a postponed taxation of profits derived from operation of vessels, until untaxed income was distributed to shareholders, or the company exited the special tax system. To ensure that all exempted income was taxed on distribution or exit, the companies had to establish a special account of retained taxed income.

The Authority approved considerable amendments to the scheme, including transitional measures, on 3 December 2008, cf. decision 755/08/COL. The previous system of postponed tax was replaced by an exemption system, corresponding to the special tax regimes for shipping in other European countries, i.e. shipping income was tax exempt on a permanent basis. The changes were made on the background that the previous Norwegian shipping tax scheme of 1996 was not adequate in order to ensure new shipping investments in Norway, and new investments were largely placed in low-tax regimes for shipping in other countries.

By its decisions 755/08/COL, 181/09/COL and 407/10/COL, the Authority has approved transitional measures of 2007, 2009 and 2010, concerning the settlement of deferred taxation from the shipping tax system prior to 2007. Further amendments to the special tax system have been approved on 31 March 2009 (181/09/COL), 7 July 2010 (292/10/COL), 27 October 2010 (407/10/COL), 10 September 2014 (322/14/COL) and 26 November 2014 (519/14/COL). No amendments have been made to the tax scheme subsequent to the amendment approved by the Authority on 26 November 2014 (519/14/COL).

Although the current model of the scheme is not of limited duration, the Norwegian authorities were committed to re-notify the scheme after 10 years. In its decision of 11 November 2016 (201/16/COL) the Authority approved a 6 months prolongation of the current special tax system, until 30 June 2017. An additional prolongation to 31 December 2017 was approved by the Authority in its decision of 23 June 2017 (109/17/COL).

The special provisions on taxation of shipping companies are found in sections 8-10 to 8-20 of the Norwegian Tax Act ("Lov 26. mars 1999 nr. 14 om skatt av formue og inntekt") and in provisions set out in regulations issued by the Ministry of Finance ("Forskrift til utfylling og gjennomføring mv. av skatteloven av 26. mars 1999 nr. 14" sections 8-11, 8-13, 8-15 and 8-16).

The special tax scheme will benefit eligible undertakings carrying out eligible activities as defined in sections 4 – 7 below.

The scheme is optional for qualifying companies. The choice of entering or leaving the scheme is made by a claim in the tax return for the fiscal year in question. However, as

described under section 11.2 below, undertakings that opt for the special tax regime commit to remain under the regime for a minimum period of 10 years. The decision to opt for the scheme is made collectively at a company group level, cf. section 11.3. Companies and groups that opt out of the system are taxed under the standard company tax rules.

The maritime sectors of the EEA States are very different, and the need for an effect of specific measures may vary much between the sectors/States. What is a useful requirement in one sector may not be necessary or may even be counterproductive in another sector. In applying the Guidelines, focus should therefore be on what, in each sector, is required to achieve the objective of the Guidelines rather than on specific measures developed in case-law, based on the specificities of the sector/State in question.

The Ministry needs to stress the economic importance and leading role of our maritime industry. The industry is successfully built and maintained based on a careful balancing of incentives. In order not to undermine the competitiveness of the industry and its contribution to the EEA-sector as such, any changes to the current system need to be carefully considered, based on the specificities and characteristics of the Norwegian maritime sector.

In the following, the Ministry will explain that the notified requirements are a logical consequence of the objective to design a regime that contributes to the achievement of the objectives of the Guidelines and of the objectives expressed in recent Commission practice. The aim is that the rules, governing these activities, should be suitable and proportionate to these objectives when applied to the Norwegian sector. Ensuring this requires that the rules are reviewed in light of the composition of the Norwegian fleet and the consequences of applying a particular rule to the Norwegian market.

2. OBJECTIVE OF THE AID

The objective of the aid is to ensure the competitiveness of the Norwegian shipping industry. The shipping industry and the maritime know-how are important for the economy and employment in Norway, in particular in many local communities along the Norwegian coast. Norway represents one of the world's largest shipping fleets and the world's second largest offshore service fleet.

The special tax scheme of 2007 has ensured the competitiveness of the Norwegian tax framework, while remaining in line with other European tax regimes for shipping. Since 2007, the net tonnage within Norwegian shipping tax scheme has increased. The development of the net tonnage is shown in attachment 1 to this letter. As of 2015, there were about 1500 vessels taxed under the Norwegian Special tax system for shipping.

In the Ministry's view, the objective of the notified measure is in line with the Maritime Guidelines. In its decision 755/08/COL Part II Section 3, the Authority stated:

“Under Article 61(3)(c) of the EEA Agreement, aid to facilitate the development of certain economic activities or of certain economic areas may be considered compatible with the functioning of the EEA Agreement where such aid does not adversely affect trading conditions to an extent contrary to the common interest. The Authority considers Article 61(3)(c) of the EEA Agreement together with the Maritime Guidelines to form the legal basis for assessing the compatibility of the notified measures.

These Guidelines at section 1.2.(c) Paragraph 4 allow the EFTA States to support the maritime transport industry; 'maritime industries are inextricably linked to maritime transport. This association is a strong argument in favour of positive measures whose aim it is to maintain a fleet dependent on EEA shipping. Since maritime transport is one of the links in the chain of transport in general and in the chain of the maritime industries in particular, measures seeking to maintain the competitiveness of the European fleet have also repercussions on investments on land and maritime-related industries and on the contribution of maritime transport to the economy of the EEA as a whole, and to jobs in general'.

The Authority has already approved the prior Norwegian Tonnage Tax scheme. The European Commission has a long standing case practice in this area.”

The Ministry considers the abovementioned statement to be a valid assessment of the present situation concerning the shipping sector of the EEA. The maritime industry is currently among Norway's most global, innovative and forward-looking industries. In order for the industry to continue its positive development, framework conditions are essential.

A competitive shipping tax regime is an important part of the Norwegian Government's maritime strategy.¹ In the strategy, the Norwegian Government states that:

"The Government will ensure that Norway continues to be a leading maritime nation with a large fleet registered in Norway. In order to

¹ The Maritime Strategy is summarised in the document *Maritime Opportunities – Blue Growth for a Green Future* published by the Norwegian Ministry of Trade, Industry and Fisheries on 29 May 2015. The document can be found at the following internet address:
https://www.regjeringen.no/contentassets/05c0e04689cf4fc895398bf8814ab04c/summary_maritime-opportunities_the-governments-maritime-strategy.pdf

maintain and further develop the maritime industry, it is important to ensure a considerable and competitive fleet under

Norwegian flag. The Government will continue the shipping tax regime, strengthen the net wage scheme, and ease the trade area limitations for NIS vessels."

The Norwegian tax scheme for shipping companies contributes to the preserving of Norway as a leading maritime nation. Shipping companies are often described as the core of the maritime sector. The Norwegian shipping industry is an integrated and important part of the European maritime sector, and an important driving force for the development of innovative and sustainable transport solutions at sea. Consequently, the competitiveness of the Norwegian shipping industry implies ring effects for the functioning of the European maritime sector and the further development towards more effective and sustainable operation. A competitive and strong Norwegian shipping industry is therefore important from both a Norwegian and a European perspective.

More than 200 Norwegian shipping companies, counting approximately 1800 ships in foreign trade, make up the core of the Norwegian maritime sector. According to a report by Erik W. Jakobsen, the shipping companies generate close to 60 percent of the Norwegian maritime sectors share of the Norwegian GDP.²

The Norwegian maritime offshore fleet has since 2004 experienced a considerable growth. This is illustrated by a growth in the number of employees, from 7 600 in 2004 to more than 19 000 in 2014, and its contribution to Norway's GDP increased from NOK 10 billion to NOK 45 billion during the same years.³ The offshore fleet has expanded from 361 vessels in 2004 to 604 in October 2016.⁴

Over the last 3 years, the market conditions for offshore vessels has however deteriorated considerably in terms of activity and market rates. The number of offshore vessels taken out of operation (lay-up) is growing and as of October 2016 more than 110 Norwegian controlled offshore vessels were laid up.

While the number of NOR registered vessels has remained stable over the last years, the number of NIS registered vessels has until recently been in steady decline and represented in 2015 only about 20 percent of the total Norwegian controlled fleet – down from about 35 percent 10 years earlier.⁵ The number of NIS vessels improved

² [http://web.bi.no/forskning/papers.nsf/0/bde96fcd8d205914c12578a800420bdf/\\$FILE/2011-05-jakobsen.pdf](http://web.bi.no/forskning/papers.nsf/0/bde96fcd8d205914c12578a800420bdf/$FILE/2011-05-jakobsen.pdf)

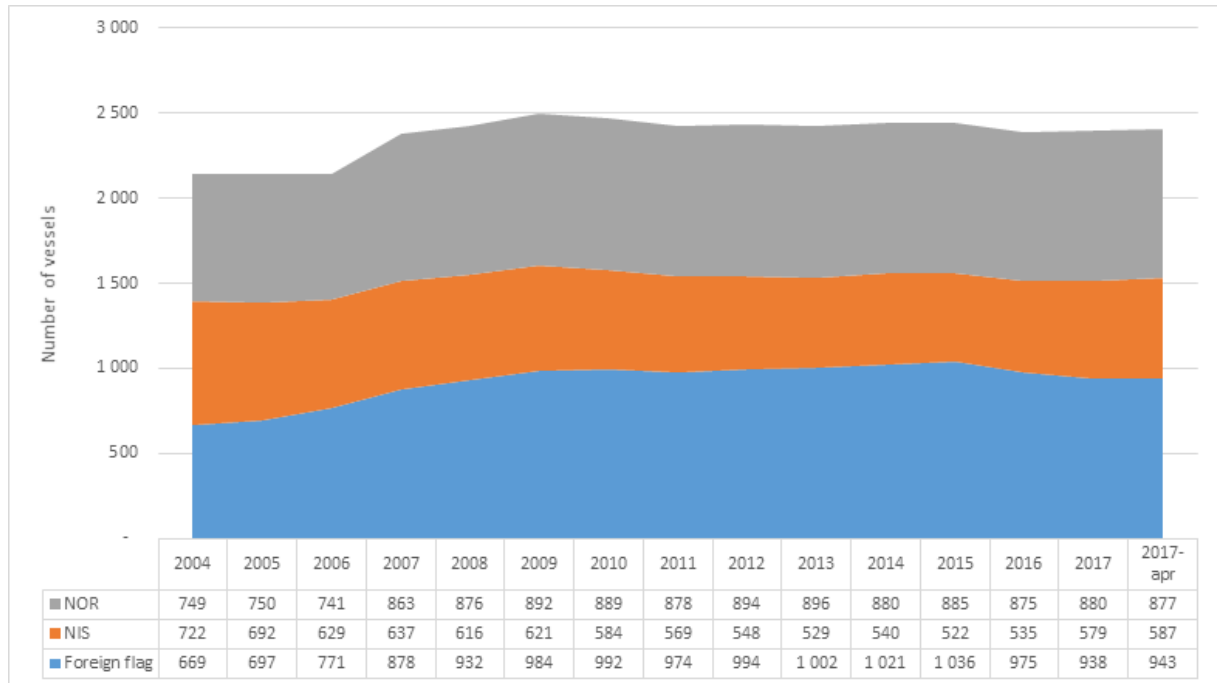
³ Source: *I krevende farvann* issued by the Norwegian Shipowners' Association in March 2015

⁴ Source: The Norwegian Shipowners' Association.

⁵ The Norwegian ship registers encompasses the Norwegian International Ship Register (NIS) and our domestic register, the Norwegian Ordinary Ship Register (NOR).

significantly in 2016 and 2017, following the liberalisation of NIS trade area restrictions, and reached 589 vessels as of 30 April 2017.

Overview of the development in number of vessels (2004 – 1.4.2017):⁶



Overview of the development in number of vessels within the special tax scheme (2007-2015):⁷

Year	Vessels in total	Chartered in
2007	709	No verified data
2008	963	151
2009	1152	155
2010	1200	125
2011	1419	346
2012	1422	277
2013	1452	252
2014	1484	231
2015	1523	246

An expressed objective for the Norwegian Government is to preserve Norway's position as a leading maritime nation. Among other things, this objective is based on the vital influence the industry has in many coastal communities, and the importance of maintaining and developing practical maritime knowledge and competence. The shipping tax scheme has proven an important element in this respect.

⁶ Source: The Norwegian Shipowners Association, the Norwegian Maritime Authority and Statistics Norway

⁷ Source: The Central Tax Office for Large Enterprises

The existing state aid guidelines have contributed to growth, profit and employment in the European and Norwegian shipping industries. The Norwegian shipping tax scheme is intended to support the Norwegian maritime competitiveness, and as such the shipping industry in the EEA as a whole, with the aim of:

- maintaining and improving maritime know-how and protecting and promoting employment for EEA seafarers;
- improving a safe, efficient, secure and environment friendly maritime transport;
- encouraging the flagging or re-flagging to the Norwegian Ordinary Ship Register (NOR) and the Norwegian International Ship Register (NIS);
- contributing to the consolidation of the Norwegian maritime sector, while maintaining an overall competitive fleet.

3. DURATION OF THE SCHEME

In the notification letter of 24 May 2017, the scheme was notified for the period 1 July 2017 to 31 December 2026. In light of the temporary prolongation of the current scheme until 31 December 2017, the measure is notified for a period as from 1 January 2018 through the income year of 2027.⁸ The inclusion of windmill farm vessels in the scheme (see section 5.6) is notified for the period as from 1 January 2017 through the income year of 2027. Although the special tax system for shipping companies is not of limited duration according to the Norwegian Tax Act, the Norwegian authorities will re-notify the scheme after 10 years.

4. ELIGIBLE UNDERTAKINGS

The Norwegian shipping tax scheme system is open for private and public limited companies formed under Norwegian law. This comprises “Aksjeselskap” (AS) and “almennaksjeselskap” (ASA).

Companies similar to Norwegian limited companies that are resident in another EEA state, and that only carry out qualifying shipping activities taxable in Norway, are also eligible for the special tax system. The activity restriction for companies resident in another EEA state is in line with the general system of ring-fencing in the Norwegian shipping tax scheme.

To prevent spill over to non-shipping activities, companies within the special tax system (Norwegian or EEA-based) are only allowed to carry out activities that fall under the tax exemption, and can only own assets that are necessary to exercise these activities. Mixed companies carrying out both qualifying activities and other activities are not eligible under the scheme.

⁸ In its decision of 11 November 2016 (201/16/COL) the Authority approved a 6 month prolongation of, the national special tax system for shipping in its current form, until 30 June 2017. An additional prolongation to 31 December 2017 was approved by the Authority in its decision of 23 June 2017 (109/17/COL).

In order to be eligible for the scheme, a company has to either own a ship qualifying under the scheme or own shares or interests in limited companies, partnerships or Norwegian controlled foreign companies, which own such ships. Companies under the Special tax system may not own non-shipping related assets – including real estate. Companies are allowed to own financial assets. However, profits derived from financial assets are subject to standard company taxation.

Companies and groups that opt for the system have to include all their eligible vessels in the shipping tax regime.

Qualifying assets can be held through limited companies, partnerships, limited partnerships (Norwegian or foreign) and controlled foreign companies based in low tax countries (CFCs). Shipping income derived by limited companies under the special tax system through such companies may be taxed under the special tax system. The minimum ownership share is 3 percent. This means that small shipowning enterprises have the opportunity to take part in shipping projects through lesser ownership shares. At the same time, the minimum share ensures that the scheme only benefits genuine shipowners. In addition, administrative considerations concerning control of compliance call for a minimum share.

5. VESSELS AND OTHER ASSETS UNDER THE SCHEME

5.1 General remarks

The definition of allowable vessels in the Norwegian tax scheme for shipping is not framed as an exhaustive list of allowable types of vessels. Rather, the terms "transport ship" ("skip i fart") and "support vessel in petroleum activities" ("hjelpesfartøy i petroleumsvirksomhet") are used in the Norwegian Tax Act to define the scope of the scheme.

One reason for choosing this system, rather than providing an exhaustive list of allowable vessels in the legislation, is that a list would easily be outdated and new vessels that in fact perform transport activities under similar competitive conditions as the vessel types already included in the list, would fall outside the scheme.

The scope of both criteria ("transport ship" and "support vessel in petroleum activities") are interpreted by the tax authorities in their application of the rules. In regulations issued by the Ministry of Finance, some vessel types are exempt from the term "transport ship".⁹ These vessel types are:

- ships in domestic traffic smaller than 100 gross registered tons;
- ferries in scheduled traffic between Norwegian ports where the distance between the first and last port is less than 300 nautical miles;

⁹ Cf. section 8-11-1 in the Ministry's supplementary regulations to the Tax Act (forskrift 19. november 1999 nr. 1158 til utfylling og gjennomføring mv. av skatteloven av 26. mars 1999 nr. 14).

- ships operating mainly in Norwegian inland waterways;
- ships conducting stationary activities (e.g. in ports) or other activities where the sailed distance is less than 30 nautical miles (applies only to domestic traffic);
- vessels which are not self-propelled, unless the vessel is operated in connection with a self-propelled vessel;
- receiving boats, and vessels used as working platform;
- pleasure crafts, and
- fishing boats.

According to the tax authorities' administrative guidelines, the exemption mentioned under item 4 above (exemption for ships conducting stationary activities or other activities where the sailed distance is less than 30 nautical miles) applies only when more than 50 percent of the ships' activities during the course of a given year consist of stationary activities or other activities where the sailed distance is less than 30 nautical miles.

Vessels transporting goods and passengers overseas qualify for the current special tax system without regard to the abovementioned limitations.

Vessels that are not self-propelled do not qualify for the scheme unless the vessel is operated in connection with a self-propelled vessel. The Ministry intends to introduce some new requirements concerning vessels that are not self-propelled, cf. section 5.7 of this letter.

In addition support vessels in petroleum activities qualify for the scheme, see section 5.4 below.

Turning to other allowed assets under the scheme, companies can only own assets that are necessary to exercise strategic and commercial management, daily technical operations and maintenance, and other allowable secondary activities, cf. section 6.2 below. However, companies are not allowed to own real property.

In addition, companies are allowed to own financial assets. However, profits derived from financial assets are not tax exempt, but subject to ordinary taxation. Financial assets can only be held in the form of cash, claims and bank deposits, shares quoted on a stock exchange, and options carrying a right to buy or sell such assets.

5.2 Transport ships

All vessels under this category are engaged in transport activities that constitutes "maritime transport". When assessing the eligibility of a new specific vessel type, the tax authorities will investigate thoroughly whether maritime transport is the substantial activity of the vessel. The tax authorities will examine the vessel's operation concrete and in detail.

In administrative practise by the tax authorities, the term "transport ship" has been interpreted to include the following vessel types:

- I. Passenger ships. The vessels are transporting passengers, i.e. the activity constitutes "maritime transport". Examples:
 - i. Ferries
 - ii. Cruise vessels
- II. Ships transporting liquid and dry cargo. The vessels are transporting cargo, i.e. the activity constitutes "maritime transport". Examples:
 - i. Bulk carriers
 - ii. Tankers
 - iii. Container ships
 - iv. Car carriers
 - v. Ro-ro carriers
 - vi. Refrigerated cargo vessels
 - vii. Chemical tankers
 - viii. Shuttle tankers
 - ix. Live fish carriers (well boats)
- III. Cable laying vessels for high-voltage cables and data communication cables (with ROV¹⁰). The vessels are in motion during a substantial part of the assignment, i.e. performing transport and therefore qualifying for aid as "maritime transport"
- IV. Tugboats not used in petroleum activities. At least 50 percent of the towage activity effectively carried out by a tug during a given year must constitute maritime transport. The activity qualify as maritime transport according to the Maritime Guidelines section 3.1
- V. Seagoing barges being towed by another vessel. The notified measure includes vessels that are not self-propelled on certain conditions (see section 5.7).
- VI. Barges used in transport of dredged material. (See section 5.3 for an elaboration on dredging and transport of dredged material.)
- VII. Windfarm service vessels used in transportation assignments and therefore qualifying for aid as "maritime transport":¹¹
 - i. Vessels transporting and unloading parts to windmills at sea, but not taking part in construction, maintenance etc.
 - ii. Installation support vessels for windmill farms (ISVs). ISVs supports the connection of cables to windmills at sea. The vessels are used for transporting crew and equipment to wind mill farms and between windmills
 - iii. Vessels used for transport and grouting of concrete to wind turbine foundations

¹⁰ Remotely operated underwater vehicles, controlled from the cable laying vessels. The ROV performs tasks in the form of digging and covering pipe-laying trenches etc.

¹¹ The notified measures also includes other types of windmill farm vessels, cf. section 5.6.

- VIII. Seismic vessels not engaged in petroleum activities. The vessels are in motion during the seismic survey and the activity therefore constitutes "maritime transport"
- IX. Rock-dumping vessels not engaged in petroleum activities. The vessels are transporting rocks to offshore installations and unloading the rocks to the seabed.

In addition to the abovementioned categories, The Ministry has notified an expansion of the scheme to windmill farm vessels, see Section 5.6 below.

5.3 Dredging activities

According to the Maritime Guidelines, dredging activities should not be eligible for tax relief. However, tax relief may be applied to those dredgers whose activity consists in "maritime transport" – that is, the transport at deep sea of extracted materials – for more than 50 percent of their annual operational time and only in respect of such transport activities.¹² As opposed to this, any dredging activity will make a vessel unqualified for the Norwegian scheme.¹³ Transport of dredged material, including loading (by mud hose) of such material on to a transport vessel, is considered maritime transport in the real sense of the word, and does therefore qualify as an activity under the scheme.

5.4 Support vessels in petroleum activities

Support vessels in petroleum activities are eligible for aid under the special tax system for shipping. The activities constitute either maritime transport as such or maritime transport by analogy. The vessels employ qualified seafarers and transport equipment used for various offshore purposes. All vessel types listed below operate under the same competitive and technical conditions as vessels involved in transportation of goods and passengers at sea.

In its decision-making, the European Commission has established a practice including support vessel activities as eligible for aid under the maritime transport guidelines, when these vessels operate under the same competitive and technical conditions as vessels involved in the transportation of goods and passengers by sea. Reference is made to the maritime-aid case practice, as inter alia referred to in the Commission decision 1 April 2015 in SA.37912 (2013/N) – Croatia paragraph 84, where the Commission stated that:

"Ships involved in exploration and providing other services related to activities at sea are also admitted, as described above in recital (20). The latter activity involves vessels servicing offshore installations (such as liaison ships, stand-by and supply vessels), cable-laying vessels, pipeline layers and research vessels. In the light of maritime-aid case practice, the

¹² Cf. the Maritime Guidelines section 3.1 paragraph 28.

¹³ This is clearly stated in the preparatory works, cf. Ot.prp. nr. 92 (2003-2004) section 11.4.5.2.

Commission has no objections against including such types of vessels in the scheme."

In decision 13 April 2015, SA.38085 (2013/N) – Italy, the Commission in paragraph 54 found that activities sharing "a sufficient number of characteristics comparable with maritime transport" could be included by analogy, "provided that the market where they operate is open to international competition and there is a high risk of de-flagging and relocation". Considering vessels that provide rescue at sea and marine assistance on the high seas, the Commission in paragraph 55 finds that these vessels 1) "require qualified seafarers, with qualifications comparable to those working on board traditional maritime transport vessels" and 2) "are obliged to undergo technical and safety controls comparable to those of vessels dedicated to maritime transport".

In our view, vessels used in the petroleum service sector require the same level of qualification for seafarers and faces the same risk of relocation of on-shore activities. Fierce competition at an international market calls for inclusion of such vessels under the special tax scheme, in order to achieve the goals set out in the Maritime Guidelines. As a consequence, support vessels in the offshore sector are notified as qualifying vessels under the scheme.

When assessing the eligibility of a new specific offshore vessel type, the tax authorities looks into the function of the vessel, and assesses what category the vessel belongs to, out of 4 categories:

1. Support vessels other than entrepreneur vessels
2. Entrepreneur vessels
3. Mobile installations
4. Fixed installations

According to the Norwegian Tax Act, categories 1 and 2 are eligible for the special tax scheme. However, vessels in category 2 are disallowed as far as the owner company is using them in operations on the Norwegian continental shelf.

Following, a revision of the maritime guidelines in 2004, vessel types in category 3 are as from 2006 no longer eligible for the special tax scheme. Therefore, the term "support vessels in petroleum activities" does not include assets that are used in functions that are a part of the core activities of oil and gas extraction. In effect, this excludes mobile installations, namely drilling rigs, production ships, accommodation platforms etc. from the shipping tax scheme. Beyond that, the term "support vessels in petroleum activities" covers vessels in all types of support functions in the oil and gas extraction.

Vessel types in category 4 are not eligible for the special tax scheme.

In administrative practise by the tax authorities, the term "support vessel in petroleum activities" has been interpreted to include these vessel types:

- I. Supply ships. Qualifies both as "transport ship" and "support vessel in petroleum activities"
 - i. Ships constructed for the supply of provisions and equipment to and from petroleum offshore installations
 - ii. FSVs (Fast Supply Vessels). Combined crew and provisions transport vessels in traffic to and from petroleum offshore installations
- II. Seismic vessels in petroleum activities
- III. Anchor Handling Tug Supply (AHTS) vessels in petroleum activities. The vessels are handling anchors and towing offshore petroleum platforms, barges and production ships
- IV. Tugboats used in petroleum activities. Such vessels qualify for the special tax system as "support vessels in petroleum activities". The limitations set out in the Maritime Guidelines section 3.1 for tugboats in "maritime transport" (cf. section 2.2 III) are therefore not relevant for these vessel types
- V. Emergency response and rescue vessels, diving vessels, fire vessels etc. in petroleum activities
- VI. Pipe laying vessels in petroleum activities
- VII. Lifting vessels in petroleum activities
- VIII. Subsea vessels in petroleum activities, including IMR (Inspection, Maintenance and Repair) vessels. The vessels are specially designed for deep ocean operations
- IX. Well intervention vessels
- X. Rock-dumping vessels in petroleum activities (cf. section 5.2 IX)
- XI. Supply ships used as connecting links between production ships (FPSOs) and tankers
- XII. Multipurpose vessels, performing two or more of the tasks described under item I-XI

The abovementioned support vessels are engaged in maritime transport activities and/or share characteristics with, and under the same competitive and technical conditions as vessels involved in maritime transport. The vessels are therefore considered qualifying vessels under the notified aid scheme. As far as their activities are not covered by the definition of "maritime transport", they should be considered eligible to be included in the scope of the scheme by analogy.

5.5 Laid up, vessels under repair and ship building contracts

Laid up vessels and vessels under repair qualify if the vessel type in question qualifies for the scheme as such. Further, shipbuilding contracts concerning qualifying vessels are accepted as qualifying assets.

Laid up vessels and vessels under repair are vessels that are temporary without employment, due to market conditions or necessary repairing, respectively. Such vessels are not generating current earnings, but are kept within the special tax system. A forced removal of such vessels from the tax scheme during the lay-up/repair period would mean an administrative burden on the ship owners and the tax administration. Further, re-entry into the scheme may trigger taxation of capital gains, making further activity within the scheme less attractive. This would be contrary to the purpose of the special tax system. Lay ups and repairs are part of business within the ship owner industry, and there is no reason to exclude laid up vessels and vessels under repair from the scheme.

Ship building contracts concerning newbuildings are allowed within the scheme. The newbulidings may be replacing vessels, adding to the fleet, or the company may be recently established and contracting vessels in order to initiate shipping activities. In all cases, the contracting is an integrated part of the shipping activity. Further, entry into the special tax system after the completion of a vessel may trigger taxation of capital gains, making it less attractive to enter the scheme.

5.6 Expansion of the special tax scheme for shipping as from 2017 – inclusion of windmill farm vessels

According to the current administrative practice, vessels involved in activity in connection with construction, maintenance, repair and disassembly of windmills at sea, may be eligible for the special tax scheme only to the extent that the vessels are used in transportation assignments ("maritime transport"). More specifically, vessels used directly in installation activities have not been accepted for special shipping tax. Vessels used in transport and placement of windmill parts however will be approved, provided that the placement of the windmills can be considered as unloading of the vessel, and thereby a natural part of the transport assignment. Other activities are not consistent with the notion of «maritime transport», and have so far not been considered eligible under the scheme.

It follows from section 5.2 VII above, the tax authorities have so far only approved the following windmill farm vessel types:

- Vessels transporting and unloading parts to windmills at sea, but not taking part in construction, maintenance etc.
- Installation support vessels for windmill farms (ISVs). ISVs supports the connection of cables to windmills at sea. The vessels are used for transporting crew and equipment to wind mill farms and between windmills
- Vessels used for transport and grouting of concrete to wind turbine foundations

A number of advanced vessels constructed for use in the oil service sector are laid up due to the current downturn of activity within the petroleum industry. Because of the limitations concerning vessels types allowed within the special tax scheme, it is not possible to make use of these vessels for the purpose of construction, maintenance etc.

on windmill farms at sea while still being taxed under the scheme. The reason is that current scheme only covers support vessels in petroleum activities, not support vessels in other activities.

On 20 December 2016, the Norwegian Tax Act was amended in order to make vessels involved in activity in connection with construction, maintenance, repair and disassembly of windmills at sea eligible for the shipping tax scheme, even when they are not used in transportation assignments.

This amendment clarifies that the treatment of windmill farm vessels under the special tax system for shipping. At the same time, it is clear that by this amendment, the scheme will be expanded to vessels not literally comprised by the definition of maritime transport in the Authority's state aid guidelines.

The amendment was adopted by the Parliament on 20 December 2016, but its entry into force was postponed, pending a final decision by the Authority.¹⁴ In its letter of 24 May 2017, the Ministry notified the expansion of the scheme with effect as from the taxation period of 2017, i.e. as from 1 January 2017.

The expansion means that vessels that are engaged in activities in the form of construction, maintenance, repair and disassembly of windmills at sea will be eligible for the scheme. This includes vessels providing extra capacity at the offshore construction/repair/maintenance/disassembly site. The extra capacity vessels are used for temporary accommodation of crew during the mission, as workshop facilities and/or storage of spare parts, tools etc.

The tax scheme will not be available to windmill farm vessels operating in Norwegian internal waters or territorial waters.¹⁵ The reasoning behind this limitation is that foreign companies performing activities on windmill farms in Norwegian internal waters or territorial waters will be liable to tax in Norway. Consequently, Norwegian companies performing such activities in internal or territorial waters should also be liable to tax.

Windmill farms at sea is already a significant industry in Europe. It represents a large potential for decarbonising and safeguarding energy production, and gives a competitive edge for European companies.

In some cases, issues concerning biodiversity, fisheries and ship transport may restrict the development of offshore wind power near the shores. In the years to come, the need for a specialised support fleet is likely to increase. Reduced activity within the petroleum sector reinforces offshore wind power as an attractive business area for companies with vessels, crew and knowledge connected to the petroleum offshore

¹⁴ The decision on when to implement the amendment has been delegated to the Ministry of Finance.

¹⁵ The Norwegian territorial waters are extending 12 nautical miles from the sea boundary ("grunnlinjen").

service sector. In a survey made by the Norwegian Shipowners' Association, about 90 percent of the offshore service providers stated that offshore wind power provides interesting business opportunities.¹⁶

In the same way as support vessels in petroleum activities, windmill farm vessels operate under similar competitive and technical conditions as vessels involved in the transportation of goods and passengers by sea. They require the same level of qualification for seafarers and faces the same risk of relocation of on-shore activities. Fierce competition at an international market calls for inclusion of such vessels under the special tax scheme, in order to achieve the goals set out in the Maritime Guidelines. Activities involving windmill farm vessels should therefore be eligible for aid under the maritime transport guidelines.

The Ministry believes that the proposed rule complies with the standstill obligation and has incentive effect. Although the rule was adopted by the Norwegian Parliament on 20 December 2016, its entry into force is made conditional upon approval from the Authority. After the Authority adopts its decision, the new rule, if approved, will enter into force by way of decision by the Ministry of Finance.

When the new rules enter into force, they will have retroactive effect as from 1 January 2017. Once approved, the standstill-obligation does not in principle prevent a measure from being fully adopted, also in respect of a period predating the Authority's decision.¹⁷

Although the new rules will have retroactive effect as from the 1 January 2017, the Ministry argues that the measure has incentive effect also for activities initiated between 1 January 2017 and the date the new rule comes into force. The reason for this is that it is only fair to assume that the industry, as of 1 January 2017, has adjusted its activities taking the new rule into consideration, in accordance with the information provided by the authorities.

In support of our view, we wish to refer to the Authority's decision 150/16/COL regarding amendment to the Norwegian Tax Act concerning charges in the depreciation rules for wind power plants.¹⁸ That decision confirms the fact that a state postpones the entry into force of a measure, in order to comply with the standstill obligation, does not prevent that same measure from having incentive effect where the industry was informed of the new rule and presumably acted in accordance with it.¹⁹

The information that new tax rules for windmill vessels were adopted, has been readily available to the industry since the day the new rules were passed in the Norwegian

¹⁶ Cf. attachment 2 to this letter - Memo of 31 March 2017 by the Norwegian Shipowners' Association.

¹⁷ See to this effect C-384/07 in particular para. 25-26.

¹⁸ Case 79160, Document No 80 4573.

¹⁹ See chapter 2.3.4 of the decision to this effect.

Parliament. From that day on, it was known that the new rules would apply as from 1 January 2017, regardless of when the rules will enter into force. On this background, The Ministry assumes that the industry has acted on these premises. In particular, business decisions have most likely been adopted built on the assumption that these new rules will apply to them. Consequently, the rules has induced the investment in the named activities leading the investors in this sector to change or modify their behaviour.

On this background, The Ministry argues that the proposed measure both complies with the standstill obligation and has incentive effect.

5.7 Non-self-propelled barges

In the current system, non-self-propelled barges are eligible under the special tax system for shipping when the vessel is operated in connection with a self-propelled vessel.

In the following, the Ministry will explain the model it plans to implement in the revised special shipping tax system, whereby it intends to exclude non-self-propelled vessels from the scheme, save for the vessels that are necessary for the performance of certain transport missions. The latter are to be distinguished from other non-self-propelled vessels in general, in view of both their activities and their size.

As from 1 January 2018, transport vessels that are not self-propelled will therefore not qualify for the Norwegian special tax scheme for shipping unless:

- the vessel qualifies as transport ship according to the Norwegian Tax Act
- the vessel is operated in sea-going transport activities and not mainly in inland waterways
- the vessel is operated in connection with a self-propelled vessel
- the vessel is at least 1000 GRT
- the vessels is registered in an EEA country

These requirements firstly ensure that non-self-propelled vessels which operate mainly in inland waterways (regardless of the country of operation) are excluded from the scheme.

Secondly, non-self-propelled vessels that are used for storage purposes or operations inside a harbour area do not qualify for the shipping tax scheme.

The vessels currently within the scheme are typically chartered out on time charter contracts, and are engaged in the transport of inter alia modules used in offshore renewable (windmill) and petroleum installations, as well as modules used for shipbuilding and infrastructure. Normally, the barges are towed to a port of shipment and loaded, before towed to a port of discharge or an offshore installation for unloading.

Finally, the barges are towed to their place of storage, awaiting new transport mission. These types of vessels are subject to international competition and excluding them from the shipping tax regime could therefore result in relocation of this activity to jurisdictions outside the EEA.

To separate non-self-propelled vessels that are necessary for the performance of certain transport missions, The Ministry plans to clarify that these vessels need to qualify as a "transport ship" pursuant to the Norwegian special tax scheme. Vessels performing transport in connection with a self-propelled vessel, will qualify as "transport ships" under the Norwegian special tax scheme. Such vessels are operated in connection with a self-propelled vessel, as both vessels are necessary for the performance of the transport mission.

On the other hand, a non-self-propelled vessel that is not transporting cargo, but is itself being transported by a propelled vessel to perform an activity not related to transport at its place of arrival, will not qualify as a "transport ship". In line with other transport vessels, the vessels may however sail without cargo between transport missions.

In addition, only vessels of 1000 GRT or larger will qualify for shipping tax. The non-self-propelled vessels that are 1000 GRT or larger and fulfil the other additional criteria, in reality serve as an extension of the deck area/hull space of a vessel. The non-self-propelled vessels that are 1000 GRT or larger are often used for transportation of large installation and structures that will not fit on the deck of a vessel or that are more convenient to transport on a non-self-propelled vessel. Such vessels are often a prerequisite in order to be able to take on certain transport assignments. In this respect, such vessels could also be considered as additional equipment to a vessel that are attached according to the operation/task in order to enlarge the transport capacity.

Non-self-propelled vessels, might be *compared* to additional equipment on vessels necessary for certain types of transport missions, and should be examined *in light of* the practice related to additional equipment in general.. Additional equipment is generally allowed as part of maritime transport activities in several European shipping tax schemes - a practice that is approved by the Commission. In its decisional practice the Commission has also approved that incomes from ancillary maritime activities can be taxed under special tax schemes for shipping, *including* the possession and operation of equipment that are needed for performing ancillary activity. As decisional practice already allows for the operation of various types equipment used in *ancillary* activities, the logical consequence to be drawn is that also these vessels that are used to perform traditional transport activity are eligible for shipping tax. In our view, inclusion of non-self-propelled vessels in the shipping tax scheme therefore is in line with the treatment of other types of additional equipment on vessels.

As stated above, non-self-propelled barges should be registered separately in an EEA-register in order to continue to be eligible for shipping tax, thereby seeking to ensure

that non-self-propelled barges are made subject to European regulation on safety and security applicable in the state of registration.

The Ministry suggests limiting the shipping tax scheme to non-self-propelled vessels involved in transport activity which contribute to a clearly defined EEA objective, namely preserving EEA standards on i.e. safety, environment and security. The latter is ensured with the introduction of a requirement that all non-self-propelled vessels have to be registered in the EEA in order to qualify for shipping tax.

Non self-propelled vessels with the requirements and specifications that the Ministry plans to introduce, are operated by maritime personnel/seafarers with the same maritime qualifications and competencies as on board vessels carrying out traditional maritime transport. In Norway, non-self-propelled vessels above 15 meters shall be registered in the Norwegian Ordinary Ship Register (NOR) or the Norwegian International Ship Register, whereas vessels under 15 meters are subject to voluntarily registration. If they sail under Norwegian flag, they are subject to the regular maritime rules and requirements for labour, safety and technical standards and are controlled by maritime authorities in the same way as other vessels. Companies are however free to choose another EEA-register, as we expect these registers also to fulfil the standard compliance requirements in the maritime guidelines and in order to ensure equal treatment of EEA registers.

In summary, the non-self-propelled vessels with the requirements and limitations outlined above, are an integrated part of maritime transport services provided by genuine shipping enterprises in line with the objectives of the guidelines, and should thereby continue to qualify for shipping taxation.

6. QUALIFIED ACTIVITIES – ANCILLIARY ACTIVITIES

6.1 Principal activities

Qualifying activities are ownership, leasing and operation of ships whether directly owned or chartered in. The notified scheme includes some restrictions on chartering in and chartering out activities, cf. section 7 below.

Capital gains on the sale of assets used in connection with qualifying shipping activities are included in the profits that are tax exempt.

Although Section 3.1 Paragraph 10 of the Maritime Guidelines shows that the Authority has found it appropriate to extend the possibility of tax relief to ship management companies, ship management companies are not eligible under the Norwegian special tax system. However, strategic and commercial management, including daily technical operations and maintenance of ships, is allowed for the purpose of the special tax system for shipping companies. There is no general strategic management requirement in the Norwegian tax system for shipping, i.e. it is not required that vessels under the

scheme must be strategically and commercially managed from Norway (or from the EEA).

Companies within the special tax system are entitled to have employees of their own. Under the previous tax system (pre 2007), only ownership, leasing and operation of ships were allowed activities. Thus, all services had to be performed by companies outside the special tax system. Under the 2007 scheme, a company can perform strategic and commercial management, including daily technical operations and maintenance for vessels owned or chartered in by the company itself and vessels owned or chartered in by associated limited companies, associated partnerships, associated controlled foreign companies and shipping pool companies (where the company is one of the joint venturers).

Currency hedging instruments connected to qualifying shipping activities are, for taxation purposes, treated in the same way as shipping revenues, i.e. a profit is tax exempted and a loss is not tax deductible, cf. the Authority decision 292/10/COL.

Eligible undertakings may generate income as a result of joint and several liability for employer obligations under Norwegian law. For taxation purposes, such income is treated in the same way as shipping revenues, that is, any profits are exempted from ordinary corporate tax whereas any losses are not tax deductible, cf. the Authority decision 322/14/COL.

6.2 Ancillary activities

A number of ancillary activities are within the scope of the shipping tax regime as notified by the Ministry of Finance, namely:

- loading and unloading of goods;
- temporary storage of goods at, or near the harbour, pending further transport;
- transport of goods and persons in the port area;
- embarking and disembarking of persons;
- sale of goods and services for consumption on board;
- leasing out of containers;
- operation of ticket offices and passenger terminals;
- hiring out of premises on board, and
- door-to-door transport for the maritime leg of the transport only (i.e. joint transport that consists of sea transport by a qualifying vessel, and inland/air transport, when the inland/air transport is carried out by an independent contractor).

As mentioned above, a company can perform strategic and commercial management, including technical operations and daily maintenance, for its own vessels, and vessels in associated companies, partnerships, CFCs and shipping pool companies (where the

company is one of the joint venturers), regardless of whether the associated company is taxed under the special tax system. Other secondary activities can only be performed for the company's own vessels, and vessels in affiliated companies taxed under the special tax system.

Temporary storage of goods, at or near the harbour, is an integrated part of maritime transport services. In connection with the loading or unloading of goods that are being transported by a shipping company's vessels, it can be necessary and practical to place the cargo temporary at the harbour or at a storage nearby, pending further transport. This activity is closely linked to and carried out in connection with maritime transport, and should therefore be considered eligible for state aid according to the Maritime Guidelines.

Door-to-door-transport is a joint transport that consists of sea transport by a qualifying vessel and inland/air transport, when the inland/air transport is carried out by a third party contractor. The transport agreement with the third-party contractor has to be made on normal market conditions, and the remuneration that the protractor receives for the inland/air transport is subject to corporate taxation. The Ministry considers door-to-door-transport to be integral to and inherent in the overall transport service provided by shipping companies. The ability for shipowners to offer integrated transport contracts, although not taking part in inland/air transport activities themselves, is important in order to be competitive in the maritime transport market. The European Commission has approved door-to-door-transport in the Danish special tax system²⁰

To ensure that the scope of the special tax system is limited to genuine maritime transport, ancillary activities will benefit from the tax exemption only insofar as they are closely connected to the transport services that are subject to the scheme.²¹

In section 6.2 of the notification letter, it is explained what types of ancillary activities fall within the scope of the special tax scheme. We would like to clarify that hiring out of premises on board is not limited to conference rooms. Premises may also be rented out to enterprises outside of the special tax scheme that carry out the sale of goods and services for consumption on board. The sale of services may also be carried out directly by the shipowner. In all cases however, the activity performed by the shipowner must be closely connected to the transport services provided.

According to the Commission decision of 18 December 2015 (SA.33828), concerning shipping taxation in Greece, paragraph 127, "core revenues" of beneficiaries of the

²⁰ Cf. the European Commission's decision C (2002) 931 dated 12 March 2002 section 2.10.4.

²¹ Cf. section 8-13-1 b) and c) of the Ministry's supplementary regulations to the Tax Act (forskrift 19. november 1999 nr. 1158 til utfylling og gjennomføring mv. av skatteloven av 26. mars 1999 nr. 14).

Greek special tax system should always cover more than 50 percent of the vessel's total (core and ancillary) gross revenues.²²

In the Norwegian special tax system for shipping, the only non-core ancillary activities allowed under the shipping tax scheme are income from sale of services for consumption on board and hiring out of premises on board. Our understanding is that the remaining ancillary activities allowed in the Norwegian special tax system listed above fall within the category “core revenue”, as defined by the Commission in its decision of 18 December 2015, paragraph 126-127.

Although it is not an explicit requirement in the Norwegian special tax system for shipping, that such core revenues should cover more than 50 percent of a vessel's total (core and ancillary) gross revenues, it is unlikely that the core revenues will be less than 50 percent of gross revenues, owing to the fact that ancillary activities will benefit from the tax exemption only insofar as they are closely connected to the transport services. This criterion in effect excludes the revenue intensive non-core activities. In our view, and based on practical experience, the possibility that gross revenues from sale of services for consumption on board and/or hiring out of conference rooms could amount to 50 percent of a vessel's total (core and ancillary) gross revenues is only theoretical. In light of the closely connected criterion, the Ministry believes that a requirement that non-core revenue cannot cover more than 50 percent of gross revenues is not needed in the Norwegian system in order to ensure that the main revenue originates from core shipping activities.

Compliance with the “closely connected”-requirement is ensured by the tax office. In the same way as for other requirements concerning the special tax scheme, the requirement may be subject to subsequent tax controls by the tax office. We refer to the description of the control and sanction measures in section 11 below.

7. CHARTERING IN AND OUT

7.1 General remarks

The current Norwegian special tax scheme does not contain restrictions with respect to allowing income related to the chartering in or out of vessels. Chartering activities have been an integrated part of the special tax system since it was established in 1996, as approved by the Authority in 1998 and 2008.

The Norwegian shipping industry engages in diversified operations worldwide, where all the various forms of chartering (rental of ships) are being used. Chartering in and

²² We assume that although the Commission in the same decision, paragraph 134, uses the term "ancillary activities" when addressing bareboat chartering out, income from bareboat chartering out is not to be included in "non-core revenue" for the purpose of a cap on such revenue.

out of vessels provides operating flexibility for the companies, and enables them to meet market changes and respond adequately to secure their position also by using the various forms of chartering of vessels.

In our view, state aid to chartering activities contributes to the achievement of the maritime guidelines objectives in the Norwegian maritime sector. Chartering of vessels, whether it is on time charter, voyage charter or bareboat terms, is an integrated part of the operation of a shipping company's fleet. For this reason, the activity has until now been allowed without restrictions in the Norwegian special tax scheme.

For the reasons explained below, the Ministry intends to propose the introduction of a scheme with certain limitations on chartering out on bareboat terms and chartering in on time charter/voyage charter terms. We believe that the system continues to meet the needs of the industry to use these forms of activity where necessary, and at the same time ensures that only companies actually involved in maritime activity are taxed within the shipping tax scheme.

7.2 Bareboat chartering out

7.2.1 The definition of bareboat chartering out

Chartering on bareboat terms is a contract form used in all shipping segments, but it is particularly common in the offshore segment. Bareboat chartering out allows shipping companies to meet the regulatory and commercial needs and requirements in diverse international markets worldwide.

For the purpose of the limitations on bareboat chartering out described in this letter, bareboat chartering out is defined as the chartering out of a vessel, where the owner does not have responsibility for the crewing of the vessel.

As opposed to this, a typical time charter/voyage charter contract will imply that the crewing is carried out by the owner of the vessel. In many cases, the owner makes use of subcontractors specialised on crewing services. However, the responsibility and risk concerning the crewing remains with the owner of the vessel according to the time charter/voyage charter contract.

To our knowledge, bareboat chartering out has not been defined in previous ESA or Commission practice. Consequently, we assume that national authorities have a margin of appreciation to define the term. Nevertheless, the Ministry sees the need to make certain clarifications as to how it intends to apply the term bareboat chartering out.

In some cases, a related party to the company that charters out the vessel is responsible for the crewing of the vessels. As an example, one of the leading enterprises within the Norwegian maritime sector (R1) owns shares in the related company R2. R2 charters

out vessels on bareboat terms through its subsidiaries. The management of the vessels (including crewing) is however, carried out by another company related to R1.

The definition of “related party” should in this context however, involve a significant association. The Ministry finds that it would be appropriate to apply a minimum ownership/control share of 25 percent.

Another similar situation is where the shipping enterprise carries out the crewing of the vessel through a local affiliate (a subsidiary company).

The Ministry would like to clarify that the new limitations on bareboat chartering out agreements will not apply to the two abovementioned situations. In our view, these agreements, although formally entered into as bareboat chartering agreements, in reality deliver a time-charter service to the customer. In line with the aim of the Maritime guidelines, we assume that this should be the decisive factor when defining bareboat chartering activity.

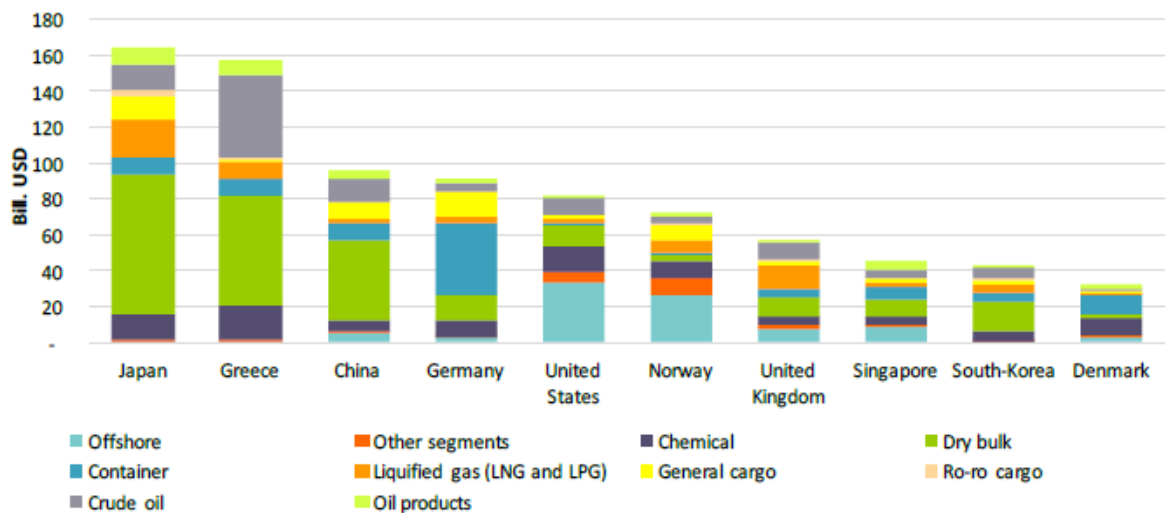
7.2.2 General characteristics of the Norwegian shipping sector

Before going into which new limitations and requirements the Ministry plans to introduce to bareboat chartering out activity in the shipping tax system, we see reason to map out certain characteristics of the Norwegian shipping sector, which are highly relevant for the assessment.

The Norwegian shipping sector differs substantially from the shipping sectors of other countries in the EEA. The Norwegian offshore fleet is the second largest in the world (second only to United States) and represents one of the most modern offshore fleets in the world. Unlike the shipping sectors of other countries (USA excluded), the Norwegian maritime sector is dominated by offshore service vessels.

The figure below shows the market value of the top 10 merchant fleets of the world by segments, as of 2015. The figure illustrates the dominance of the offshore sector in Norway compared to other big shipping nations.²³

²³ The figure is published in the report "Maritime Outlook 2016" by the Norwegian Shipowners' Association.



SOURCE: IHS/MENON ECONOMICS

An important characteristic of the Norwegian offshore industry is that it earns a large part of its income from activities connected to foreign continental shelves. Important markets for the Norwegian fleet include the North Sea, Australia, West Africa, Brazil, Indonesia, Malaysia, the Mexico Gulf and Canada. In these jurisdictions, the Norwegian fleet often have to meet and adapt to local content requirements, typically in the form of legislation or contractual practice, which necessitate the use of the bareboat chartering out contract form.

Although the vessels involved in these offshore activities, may in some cases be chartered out on contracts that include bareboat terms and in some cases are registered in local ship registers (cf. section 9 below), the Norwegian content is overall substantial. The Ministry in fact sees a substantial spill over effect from the named activity to the Norwegian maritime sector as such. For example, it will often be the case that a Norwegian owned ship operating in foreign waters is managed, designed, built, financed, classified and insured by Norwegian enterprises. Thereby, bareboat chartering out arrangements adds to maritime value creation and employment through the commodity and service flows within the Norwegian and European shipping sector and thereby makes positive contributions to the achievement of the aims of the Maritime Guidelines.

In particular, the Norwegian maritime sectors' efforts in the offshore segment abroad rely heavily on suppliers in the Norwegian maritime supply industry. The offshore fleet is highly specialised and technologically advanced, and represents a driving force in the development of new environmental technology. The contract value of an offshore service vessel may be multiple times the value of for example a bulk carrier. Although the market situation in the offshore sector has been challenging for some time, there are still Norwegian offshore vessels under construction in Norwegian shipyards.

Largely, Norwegian suppliers carry out the development of the vessels. An illustration of this is included in the Norwegian Shipowners' Association publication "Norwegian offshore shipping companies – local value creation, global success" (see attachment 2). The illustration on page 24 of the report lists the 94 different Norwegian equipment suppliers involved in the construction of the AHTS vessel "Normand Prosper", owned by the Norwegian shipping enterprise Solstad Farstad.

In our view, bareboat arrangements allow the ownership of vessels to be retained in Norway, and thereby contributes to the aims of the Maritime Guidelines. In addition, the connection to Norwegian maritime sector makes it likely that a substantial part of land-based activities characterized by advanced and knowledge-based technology will be carried out in Norway. Further, even if the charterer is located outside of Norway, the ship owner or a third party located within Norway or the EEA may carry out some management services. The crew may also be fully or partly European.

In addition to the presence of a large offshore fleet, it is important to note that the Norwegian shipping fleet is composed by many small and medium sized shipping companies. Restrictions on bareboat chartering, if not designed properly, can especially affect such companies, which do not have the same resources as large companies to reorganize their business. Their presence in the market should be taken into consideration when designing the requirements to bareboat chartering out.

On a general note, it should also be stressed that bareboat chartering out activity (at least in the Norwegian maritime sector) involves and requires certain types of maritime competencies and know-how, and is not an entirely passive activity. The ship owner remains, for instance, responsible for structural maintenance, inspection by class, insurance and modifications to the ship imposed by new rules for safety and environment. The owner also has a direct economic interest in the market value of the ship, which is a direct function of the freight market. Many contracts are therefore not "clear-cut" bareboat contracts but retain responsibility for certain tasks, for example technical management, with the shipowning company.

In many cases, the charter will take elements from both the time- and bareboat-charter formats when the responsibilities are distributed between the parties. The rights and obligations between the parties are negotiated as part of the contract. This means that it is often not possible to define a negotiated charter contract as either a clear cut time or bareboat charter. It may also be that for commercial reasons even, under a typical time charter contract, the shipowners may opt not to provide crewing and other technical ship management services themselves, but rather to contract these services from an independent, professional third party supplier who can provide such services on more competitive terms. In some cases, the chartering in can be essential for the customer, for example if they are a newly established shipping company with a narrow capital basis in need of extra tonnage to realise its ambitions.

A survey (2012) in the Norwegian shipping industry indicates that bareboat chartering takes place in all ship segments, but more frequently for the offshore companies.²⁴ The share of bareboat chartering out is on average 36 percent, and bareboat rental takes place in approximately 25 percent of the shipping companies. To our knowledge, the normal case is that only a smaller percentage of the company's total tonnage is chartered out on bareboat terms. This means that very few companies have a fleet of bareboat chartered out vessels only.

As a starting point, the Ministry should stress that we acknowledge the need to target the shipping tax system towards shipping activity, thereby seeking to exclude "pure ship lessors". In the following, we will elaborate on how the Ministry plans to achieve this objective. As already indicated, the Norwegian offshore fleet faces particular challenges due to where the fleet operates which necessitates a separate assessment and separate conditions to bareboat chartering out.

7.2.3 General requirements fully excluding financial chartering agreements and restricting operational chartering agreements to 40 percent

The objective of restricting bareboat chartering out activity in recent Commission practice appears to be to exclude pure ship lessors/maritime brokers, as such enterprises do not contribute to the objectives of the Guidelines to the same extent as other market participants in the shipping industry. After reviewing the consequences of applying the requirements that the Commission has accepted in some individual cases, we suggest an alternative way to ensure that pure financial leasing agreements are fully excluded from the benefit of shipping tax. At the same time, the requirements must not, in an arbitrary way exclude bareboat agreements that are commercially reasoned, operational in essence and executed by a company whose primary activity is traditional maritime transport and/or offshore service activities. Consequently, we believe that the temporary excess capacity requirement, the acquisition requirement and the 3-year time limit is not suitable or proportionate to achieve its objective, namely to exclude pure ship lessors.

In individual cases within the different shipping sub-segments, chartering out on bareboat terms out may be the commercially relevant form of chartering out. Safe for the general trends described above, it is difficult to point out certain universal reasons behind the commercial practises in the market. Nevertheless, we will describe the trends and provide specific examples where a maritime shipping company faces situations as part of its normal business activity, other than overcapacity, which require bareboat chartering terms.

For all segments, a commercial decision to apply bareboat terms may be founded on one or more of the following reasons connected to crewing of the vessel in question (the list is not exhaustive):

²⁴ The survey is referred to in a letter from the Norwegian Shipowners' Association to the Ministry of Finance of 12 October 2016 (see attachment 3 to this letter).

- Local legislation requires local crew not available (in sufficient number) to the shipping company
- The customer has special demands concerning the crew, and such demands cannot be met by the shipping company itself
- The charterer wishes to employ its available crew on board the vessel
- The contracting parties wishes to engage a third-party crew manning company that also handles reporting obligations, tax payments etc.
- The customer has an ownership interest in a crew manning company, and therefore wishes to engage that company

Before going into the model for excluding all financial activity from the shipping tax system, the Ministry will provide a few examples where we see that applying the temporary excess capacity requirement, the acquisition requirement and the 3-year time limit will exclude from the scheme commercially reasoned and necessary decisions made by companies whose primary activity is traditional shipping.

The examples are based on true situations described by the Norwegian Shipowners Association in its letter of 28 august 2017 to the Ministry of Finance:

- *“A shipping company controls 16 vessels. One of the vessels (cargo vessel) has been owned/operated by the company for several years. The company is contacted by a customer who wants to charter the vessel for 18 months to use it in domestic transport in a country in America. The shipowner has never operated a vessel in that area, and since it is domestic transport, it is also subject to local requirements (crewing, operations etc.). After negotiations, the parties agree that the customer bareboat charter the vessel, and uses local management companies for crewing etc.*
- *A shipping company wants to sell two of its vessels, which it has owned and operated for several years. The vessels shall be replaced by newer vessels. Due to a challenging market situation, it is difficult to find buyers. Eventually, a company is interested, but it is struggling to get the necessary funding. The parties therefore agree that the customer can bareboat charter the tonnage. The agreement meets the customer's needs, while the shipowner receive the necessary liquidity to invest in new vessels.*
- *A shipping company (A) has owned a vessel for several years, which has been operated in cooperation with shipping company (B). One of shipping company (B)'s regular customers wants to time charter the vessel for two years. Shipping company (A) believes the charter party is not profitable based on their business*

model. Shipping company (B) considers this differently, due to another business model, and because the customer is considered important. The parties agree that shipping company (B) can bareboat charter the vessel, and enter a time charter agreement with the customer. "

In all the examples, the bareboat charter is commercially based for reasons stemming from operating as a traditional maritime shipping company. The contract is not part of the financing of the vessel, and it is limited in time. The main part (over 60 percent) of the group's tonnage is operated by the company itself, and thereby represents traditional shipping activity. The need to charter out the vessel on bareboat terms is often set by the *customers*. From the owner's perspective, the vessel forms an integrated part of their fleet and would often be managed by the owner or chartered out with crew if the commercial situation had been different. As the shipowning company is a traditional shipping company in essence, they do not transfer the maritime market risk to the charterer, neither fully nor substantially.

If the temporary excess capacity requirement is applied, all these contracts will be considered illegal within the shipping tax scheme. In our view, this activity is not financial, but a necessary part of the company's regular activity when special circumstances arise. In our view, excluding these types of agreements will weaken the commercial freedom of action of the companies, thereby weakening the predictability, profitability and competitiveness in the maritime sector.

At the same time, we see that the requirements set in individual Commission decisions can allow for agreements where the bareboat charter fully transfers the market risk from the owner to the charterer, as long as the owner faces overcapacity and the individual leasing contract is limited in time. In such financial bareboat agreements, the company chartering the vessel out in effect performs a *passive financing activity*. In our view, the main feature of a financial bareboat agreement is that it transfers substantially all the risks and rewards of ownership, to the lessee. When examining the activity of a maritime broker, it is clear that such companies will seek to place all risk related to the fluctuations in the maritime market to the charterer, thereby exercising passive ownership. Any activity where all market risk is transferred from the owner to the charterer is financial and instead of merely limiting such activity in time or to a proportion of the company's overall activity, we plan to adopt restrictions that fully exclude such activity from shipping tax.

On this background, the Ministry intends to propose an alternative set of limitations and requirements for bareboat chartering out that effectively exclude all pure ship leasing activity from the scheme, and restrict other, operational chartering out activity on bareboat terms to 40 percent of the tonnage of the shipping enterprise (the operational chartering out rule). The Ministry believes that the proposal is both

proportionate and sufficient in order to achieve the objectives of the Guidelines and the aim expressed in recent Commission practice.

7.2.3.1 Full exclusion of financial chartering activity

According to accounting standards, a set of situations may lead to a lease being classified as a finance lease.²⁵ In order to formulate an operative definition of financial bareboat chartering out, some modifications and additions to the accounting standards should be made. The object of the modifications and additions is partly to ensure that tax authorities are able to apply the regulation to individual cases. In addition, modifications and additions are needed in order to ensure that pure ship leasing/maritime broking activities are in fact excluded from the scheme, and to reduce the risk of circumvention of the limitations.

In the new system, these strict requirements apply to the content of the chartering contracts in order to qualify as operational chartering. If the activity does not fulfil the definition of operational chartering activity, it is financial in essence and will be fully excluded from the shipping tax system.

As stated, the main function of the requirements is to exclude any ship owner from the scheme that does not retain the market risk of the ownership beyond the chartering period. As opposed to this, a financial charter agreement may transfer ownership of the vessel to the charterer by the end of the chartering term at a fixed price, or by other means transfer the market risk to the charterer. The aim of the Ministry, when designing the rule, is to capture the different means for transferring the market risk in the definition of financial leasing.

In particular, the Ministry observes that a substantial part of the market risk for the vessel is transferred if the vessel is chartered out for a period exceeding half of its expected lifespan. In our view, applying a time limit to bareboat activity related to one vessel ensures that all ship financing agreements are effectively blocked out of the scheme.

Again, it should be stressed that pure financial activity is characterised by the fact that the company exercising the activity has transferred a substantial part of the market risk. In light of this, it seems unnecessary to set an additional fixed time limit for the length of the chartering periods. In the non-offshore segment, contract periods are usually of a duration of 5 years or more. In this context, a 3-year time limit would serve no other purpose than to exclude from the tax scheme important parts of the genuine shipping activity of the non-offshore fleet. It should be stressed that the time limit cannot be viewed in isolation as it is only one of several criteria that define an operational chartering agreement.

²⁵ See for example Norsk RegnskapsStandard (NRS) 14 Leieavtaler.

Operational leasing will often in practice include additional responsibilities for the chartering party but as these seem to vary significantly from one contract to the other, the Ministry does not suggest to include in the definition of “operational chartering” a requirement for the owner to perform specific tasks or functions. What is however essential, is that considerations other than the financing of a vessel must be the main reason for the choice of a chartering out agreement on bareboat terms. The model sets out a number of situations where it should be presumed that the contract is financially motivated and should consequently be excluded from the shipping tax scheme.

The rule will build on the following model:

A bareboat chartering out agreement, if considered part of a financial leasing activity, is excluded from the scheme. Financial leasing activity is all activity where the owner essentially transfers all or a substantial part of the market risk to the charterer. An agreement is considered financial leasing if the activity has any of the following characteristics:

- The charter transfers ownership of the vessel to the charterer or a third party by the end of the chartering term, except when the transfer price is based on a fair value determination made after the end of the chartering period.
- The charterer or a third party has an option to purchase the vessel, except when the transfer price is based on a fair value determination made after the end of the chartering period.
- Other circumstances make it probable that the charterer or a third party will take possession of the vessel during or at the end of the chartering period, except when the transfer price is based on a fair value determination made after the end of the chartering period.
- The present value of the minimum chartering payments at the inception of the charter exceeds 90 percent of the fair value of the chartered vessel.
- The gains or losses from the fluctuation in the fair value of the residual at the end of the chartering period accrue completely or partially to the charterer.
- The charterer has the possibility to continue the charter for a secondary period at a rent that is lower than market rent.
- The vessel is leased for more than 50 percent of its expected total lifespan estimated at the start of the chartering period.

Activity that is not financial according to the abovementioned criteria is operational and allowed within the shipping tax scheme. Operational bareboat chartering is subject to a strict percentage limitation ensuring that the option of chartering out on bareboat terms and getting that activity shipping taxed is only available to traditional shipping companies, see section 7.2.3.2 below.

7.2.3.2 Operational bareboat chartering cannot exceed 40 percent

To further fine-tune the scheme towards core shipping activities, the Ministry intends to introduce a cap on the maximum share of tonnage that can be chartered out on operational bareboat terms, restricting that activity to maximum 40 percent. This makes it even more evident that the tax incentives are available only to traditional shipping enterprises.

The limitation on bareboat chartering out should be measured on a yearly basis, but counting the tonnage chartered out for each day of the year. Further, there should be an option to measure the bareboat chartered out share of the total tonnage over a period of 4 years, in order to avoid unmerited exclusions from the special tax scheme in situations where the share is in excess of the maximum share for a short term period. The share of tonnage chartered out on bareboat terms will be measured on a company group level. This is due to the fact that shipping enterprises are often organised as company groups with special purpose companies owning one vessel each.

7.2.3.3 No further content requirements

The Ministry do not suggest to introduce a requirement that all vessels chartered out on bareboat terms should be managed from the EEA in the "operational chartering out" model. In this model, the task is to establish criteria that define and separate operational chartering from financial chartering. In that context, we do not consider that the location of management, has any relevance for the division of tasks and risk between the owner and the charterer. Consequently, that criteria should not be included in the definition of operational chartering agreements. An application of a requirement regarding the location of the strategic management, would constitute a separate and additional criterion, not adapted to the scope and aim of the operational chartering out limitation.

7.2.3.4 The operational chartering out rule in overview

On this background and acknowledging the necessity of the exclusion of pure ship lessors, the Ministry notifies a rule allowing that revenues from bareboat activity can be subject to the Norwegian special tax system for shipping under the following conditions:

- A maximum of 40 percent of the company group's fleet within the special tax system (both offshore and non-offshore vessels) may be chartered out on bareboat terms.
 - Measured during the income year or alternatively over a period of 4 years.
 - The 4-year measurement rule can be applied by choice for companies/company groups for any income year. I.e. for the income year of 2018, the bareboat share may be measured over the period of 2015-

2018, for the income year of 2019, the bareboat share may be measured over the period of 2016-2019 and so on.

- Companies that owns tonnage within the special tax scheme through partnerships will be assigned a proportional share of that tonnage.
- Intra-group bareboat chartering out is allowed unconditionally.
- Limitation on contract periods: The chartering contract term must not exceed half of the full expected economic life of the vessel, estimated at the start of the chartering period.
- Financial bareboat chartering ("pure ship leasing") is fully excluded from the scheme. A bareboat chartering agreement is considered financial if it has any of the following characteristics:
 - The charter transfers ownership of the vessel to the charterer or a third party by the end of the chartering term, except when the transfer price is based on a fair value determination made after the end of the chartering period.
 - The charterer or a third party has an option to purchase the vessel, except when the transfer price is based on a fair value determination made after the end of the chartering period.
 - Other circumstances make it probable that the charterer or a third party will take possession of the vessel during or at the end of the chartering period, except when the transfer price is based on a fair value determination made after the end of the chartering period.
 - The present value of the minimum chartering payments at the inception of the charter exceeds 90 percent of the fair value of the chartered vessel.
 - The gains or losses from the fluctuation in the fair value of the residual at the end of the chartering period accrue completely or partially to the charterer.
 - The charterer has the possibility to continue the charter for a secondary period at terms that are more favourable than the market terms.
 - The vessel is leased for more than 50 percent of its expected total lifespan estimated at the start of the chartering period.

7.2.4 Exception from the main rule for the offshore segment

7.2.4.1 The need for specific rules for the offshore sector

Case practise by the Commission, concerning the Commission's Maritime Guidelines, are mainly accommodated to countries with a less significant offshore fleet, which for the large part does not operate in the same markets and does not face the local content requirements described in chapter 7.1. The special tax schemes of those countries, which are mainly targeted at traditional shipping, are clearly different from the Norwegian special tax scheme.

Companies within the Norwegian shipping tax scheme servicing the oil, gas and renewable industries etc. at sea will usually separate the vessel ownership and

operational activities in order to be competitive in the operating state. In the markets where these companies operate, being able to offer vessels on bareboat terms is very often a prerequisite when bidding for contracts on foreign continental shelves, for example due to regulatory requirements with respect to staffing of vessels etc. set by the host state.

In a number of jurisdictions, local manning requirements apply to vessels operating on the continental shelf. The specific rules on what positions on board that must be manned locally vary according to for example the vessel type and the duration of the vessel's assignment.

In practice, local companies that know the market and are known to potential employees, often need to undertake hiring of local crew necessary to fulfil the local content requirements. In countries typically demanding local content, the labour market concerning resident employees is often tight. This is the case in for example Brazil and Australia. Norwegian enterprises within the offshore services segment are heavily engaged in operations on the Brazilian and Australian continental shelves and consequently need to comply with these requirements. In many cases, operating a vessel on bareboat terms is also a contractual requirement set by contracting parties in the petroleum or renewable energy business sector.

The Ministry is aware that only of a few Norwegian ship-owners have been able to set up their own local subsidiaries, carrying out recruiting services for the enterprise. This is a viable option only in cases where the size and duration of the operations in the country in question, makes it possible to undertake such an investment. In other cases, the shipowners must rely on existing local companies that are able to provide for the recruitment of crew. The Norwegian offshore service sector is characterised by a number of smaller enterprises with few vessels. These will often lack the resources to undertake such long-term investments. For such enterprises, the only option in order to compete on certain foreign markets is to charter out on bareboat terms, leaving the task of recruiting local employees to local companies.

To substantiate this line of argumentation, The Ministry refers to Attachment 4 to this letter. The attachment is a memo dated 10 April 2013 by the Brazilian law firm KINCAID to the Norwegian Shipowners' Association, describing the obligation to hire a certain proportion of Brazilian employees on foreign vessels and the challenges this imposes on the Norwegian offshore service segment. The memo demonstrates that the rules can be complex and difficult to meet without assistance from a local company.

Another country in which local content requirements may render it necessary to charter out vessels on bareboat terms is Canada. A case study prepared by Center for Energy Economics describes local content requirements in North Atlantic Canada. (See attachment 5.) The study shows that both local management and local employment may

be necessary in order for vessels to operate offshore in the provinces of Newfoundland and Nova Scotia.

Incidentally, the study also refers to local content requirements in the non-EEA jurisdictions of Nigeria, Brazil and Australia, cf. page 6 and 7 of the study.

This shows that chartering out of vessels on bareboat terms is both common and necessary arrangements in the offshore sector.

There may also be other commercial reasons why a shipping company would prefer bareboat chartering out, for instance when providing ships to a charterer for operation in territories where the risk related to crew cost and availability, cost and timely access to ship repairs and maintenance, spare parts and other necessities for running the ship, is considered unacceptable. These are important factors when assessing the commercial risks involved for instance with providing transportation services to charterers operating in some countries. Many shipping companies have experienced difficulties in managing an efficient technical operation of ships in some territories.

In their Master Thesis, Thomas Vikenes and Carl-Emil Kjølås Johannessen describe challenges connected to technical management of vessels in Brazil.²⁶ These challenges implies that shipping companies need to establish a substantial level of activity in Brazil in order to carry out technical management by their own. For companies not able to perform such activities, technical management services must be contracted to local management companies or other third parties. Restrictions on this possibility will affect the smaller shipping companies the most, because they are unable to establish the necessary level of activity in order to carry out technical management themselves.

Offshore enterprises applying bareboat chartering out as a part of their maritime operations contribute significantly to the maintaining of a strong and knowledge-based Norwegian maritime sector. As far as the Ministry is aware, no other EEA country is in a comparable situation to the Norwegian maritime sector in relation to the characteristics of the offshore sector and the significance of bareboat chartering out activities.

The Ministry acknowledges that certain limitations on bareboat chartering out are also necessary for this segment. In line with the practice of the Commission, The Ministry plans to introduce a new restriction on bareboat chartering out whereby such activity should not exceed a certain percentage of the company's fleet during an income year.

As we have pointed out, the Norwegian offshore vessel segment offers services on a market where bareboat chartering out contracts are regular and necessary arrangements, sometimes required by regulatory requirements. These activities are

²⁶ See attachment 6 on page 65 et seq.

therefore a part of regular business operations, and not limited to situations of temporary excess capacity for a limited period. Regardless of the specific design of a 3-year limitation, the limitation may prevent Norwegian shipping companies from operating on a number of foreign continental shelves as they operate in markets where bareboat is a necessary, permanent arrangement and where the normal contract period required by the customer may be longer than 3 years. Further, as bareboat chartering out is necessary in order to operate in some territories, the vessels in question are in some cases acquired specifically in order to engage in such operations.

The additional restrictions on bareboat chartering out set out in individual Commission decisions, will therefore severely constraint the possibility to enter into commercially viable agreements. Additionally, the presence of small enterprises makes it particularly difficult for these companies to meet rigid requirements concerning temporary excess capacity, time limits and acquiring purposes.

The Ministry finds that the additional requirements to bareboat chartering out will prohibit commercially reasoned decisions made by companies for which the main activity (at least 50 percent) remains core shipping activity. These shipping companies are not pure ship lessors, and preventing them from making sound commercial decisions and exercising this type of activity in addition to their core shipping activity will create incentives for the companies to move ownership and flag out, including the core shipping part of their business. In our view, if the additional requirements were to be applied to the Norwegian sector, it would exclude companies that are outside the target group of such requirements. The measure is therefore not proportionate to the objective.

The objectives set out in the Maritime Guidelines are in our view best served by allowing a certain share of bareboat chartering out activity and restricting the time limit of the contracts. As a safety net requirement, aimed at ensuring that all bareboat activity retains a clear link to the EEA, The Ministry also suggests to introduce a requirement that strategical management of all vessels contracted out on bareboat terms should be from the EEA area.

7.2.4.2 Limitations on bareboat chartering out in the offshore sector

Time limit on the chartering out period

In the offshore sector, bareboat chartering out contracts are usually of a duration of between 3 and 5 years, often with an option to extend the charter period (up to 3 years). It follows from this that a 3 year limitation relating either to the specific vessel or the company itself would in effect prevent bareboat chartering out and consequently operations in several jurisdictions outside the EEA. Reviewing the information the Ministry possesses at this point, we have reason to believe that the Norwegian offshore sector is in a particular situation compared to other EEA countries in this regard as it is particularly large and particularly active in such territories. Consequently, the Ministry notifies an alternative additional limitation to the effect that bareboat chartering

contracts must not exceed a contract period of 5 years, with a possibility to extend the contract for up to 3 years. A 5+3 year limitation correspond with common practice concerning contract periods in the offshore service sector. We believe that this limitation is better suited to achieve the objectives of the Maritime Guidelines while also taking into account the characteristics of the Norwegian fleet.

Limitation on the total tonnage of the group chartered out on operational bareboat terms

The general reasoning for setting an upper threshold for bareboat chartering out is to exclude pure ship lessors from shipping tax relief and to ensure that only genuine shipping activities are eligible activities under the scheme.

In our view, the 50 percent threshold ensures that the main activity of any undertaking under the shipping tax scheme remains traditional “maritime transport” within the meaning of the Guidelines. As long as the main activity remains “maritime transport” pursuant to that definition, the Ministry fails to see how those undertakings can be considered “pure ship lessors”. Such threshold has been accepted by the Commission, for example in its decision regarding the Greek tonnage tax (SA.33828 (2012/E)) where it is confirmed, that a 50 percent limitation ensures that bareboat chartering out is always “ancillary” to the traditional shipping activity and at the same time safeguards the interests of small operators. A low threshold, for example 20 percent, would clearly discriminate against small operators and disrupt the competition in the sector.

The Ministry believes that a threshold as low as 20 percent, will lead to discriminatory taxation of genuine shipping companies carrying out the same eligible shipping activity as their main activity, thus distorting competition within the sector to an unacceptable extent. If such a low percentage would be applied, a company group operating 70 percent of its fleet on non-bareboat out terms will be excluded from shipping tax, in order to restrict activity concerning what comprises a small part of its fleet (30 percent of the tonnage). The whole fleet of that undertaking will then have an incentive to flag out and/or move the operation outside of the EEA. However, that company is most probably in a comparable situation to a competitor with a 80:20 ratio, which will fall within the shipping tax scheme. The Ministry argues that the threshold adopted should not differentiate between undertakings that have genuine shipping activity as their *main activity*. Apart from the few enterprises that can be characterized as pure ship lessors, the combined activities of the Norwegian shipping companies constitute genuine shipping activities.

On this basis, the Ministry argues that a 50 percent threshold is a proportionate measure to achieve the aim sought by ensuring that the main activity of the undertaking remains traditional maritime transport avoiding disruption between big and small enterprises and the market while at the same time clearly excluding pure ship lessors.

The limitation on bareboat chartering out should be measured on a yearly basis, but counting the tonnage chartered out for each day of the year. Further, there should be an option to measure the bareboat chartered out share of the total tonnage over a period of 4 years, in order to avoid unmerited exclusions from the special tax scheme in situations where the share is in excess of the maximum share for a short term period. The share of tonnage chartered out on bareboat terms will be measured on a company group level. This is due to the fact that shipping enterprises are often organised as company groups with special purpose companies owning one vessel each.

Strategic management requirement

Furthermore, the Ministry suggests another additional requirement to the effect that strategic management of all vessels chartered out on bareboat terms must be carried out from the EEA.

The strategic management is the higher management of the company, such as carried out by the CEO and the Board. It includes the determination of plans, budgets and guidelines for its operations together with the financial management of the company, such as the signing of agreements for purchase/sale of ships, long-term charters, various cooperation agreements, financing agreements, loan agreements, pledge agreements and insurance contracts. Thereby, the strategic management is strongly connected to maritime operations and contribute significantly to the knowledge-based maritime sector with the EEA.

This requirement ensures an additional link to the EEA, which has generally not previously been applied as a limitation to bareboat chartering out activity.

Due to the special characteristics of the Norwegian offshore sector, it has proved necessary to make certain adjustments to the criteria applying to that segment, when introducing the new system for flag-requirement and restrictions on bareboat chartering out. Consequently, we see a need to introduce the strategical management requirement as a "safety net" aimed at ensuring that the activity benefitting from the special shipping tax always retains a clear link to the maritime sector in the EEA.

7.2.4.3 The application of the offshore rule

Shipping company groups that charters out offshore vessels only, may choose to apply the offshore chartering out rule. Groups that charter out one or more non-offshore vessels on bareboat terms may only apply the operational bareboat chartering limitation rule.

7.2.4.4 The offshore chartering out rule in overview

The Ministry intends to propose a rule allowing that revenues from bareboat activity can be subject to the Norwegian special tax system for shipping under the following conditions:

- A maximum of 50 percent of the company group's fleet within the special tax system (both offshore and non-offshore vessels) may be chartered out on bareboat terms
 - Measured during the income year, or alternatively over a period of 4 years.
 - The 4-year measurement rule can be applied by choice for companies/company groups for any income year. I.e. for the income year of 2018, the bareboat share may be measured over the period of 2015-2018, for the income year of 2019, the bareboat share may be measured over the period of 2016-2019 and so on.
 - Companies that own tonnage within the special tax scheme through partnerships will be assigned a proportional share of the tonnage.
- For companies chartering out parts of the fleet on bareboat terms, strategic management of all vessels chartered out on bareboat terms must be carried out from the EEA area.
- Bareboat chartering out contracts must not exceed a contract period of 5 years, with a possibility to extend the contract for up to 3 years.
- Intra-group bareboat chartering out is allowed unconditionally.

7.2.5 The delineation of activities inside and outside of the offshore segment

In light of the planned, new limitations and requirements concerning bareboat chartering out, the Ministry sees a need to establish a delineation between activities that fall into the two main categories where different sets of rules are likely apply, namely "traditional shipping" and the "offshore segment".

The Ministry intends to issue provisions in the Ministry's supplementary regulations to the Norwegian Tax Act, defining the scope of the special regulation concerning "offshore vessels" in relation to the bareboat chartering out limitation. Our point of departure would be to establish the characteristics of the two categories. As to maritime activities taking place "offshore", we suggest to use the term maritime sea and ocean related activities. This would be activities that need to be supported by offshore vessels, including the transportation of goods and equipment to and from offshore installations. These maritime sea and ocean activities could take place in the territorial waters, economic zone and/or continental shelf under the jurisdiction of a nation state. Furthermore, the sea and ocean activity could take place under the seabed (petroleum exploration and production, mining etc.), on the seabed (i.a. cable laying) in the ocean (i.a. fish farming, tidal energy production) or on the ocean surface (windmills).

Furthermore, such sea and ocean related activity involving vessels would typically be subject to various national rules and regulations applying to particular national continental shelves, economic zones or territorial waters. The vessels servicing this activity will be subject to such national rules and regulations as we have described in the notification of 24 May 2017 with enclosures. In this context this could be the flag requirement of the state controlling the continental shelf, economic zone and territorial

water and also a need to use bareboat chartering out contracts in order to provide services.

The inclusion of a vessel type will depend on whether that vessel type is typically subject to national regulations applying for particular continental shelves, economic zones or territorial waters. Further, the vessels must be connected to activity in the petroleum, renewable power, aquaculture or ocean floor segments. By applying this principle, the following vessel types could be included (the list is not intended to be exhaustive):

- Support vessels in petroleum activities (cf. the vessel categories in paragraph 5.4 of the notification letter of 24 May 2017)
- Shuttle tankers operating from petroleum installations (ref. point 5.2, II, viii)
- Live fish carriers (ref. point 5.2, II, ix)
- Cable laying vessels (ref. point 5.2. II)
- Tugboats for offshore activities beyond petroleum activities, and not used in "traditional shipping" (ref. point 5.2.II)
- Seismic vessels (ref. page 10 point VII)
- Windmill farm vessels (ref point 5.2. point VI and point 5.6)

“Traditional shipping” would then in this context basically be all other maritime activities and mainly transportation of goods and passengers between two or more harbours on shore – i.a. transportation of containers, in bulk etc.

7.2.6 Transitional rules concerning bareboat chartering out

The notified limitations concerning bareboat chartering out may mean that some of the companies within the Norwegian special tax scheme for shipping will exit the scheme. However, some of the enterprises involved in bareboat chartering out may be able to restructure future contracts in order to meet the new limitations imposed. To encourage companies to adapt to the new requirements and continue their presence within the Norwegian shipping tax scheme, the new limitations and requirements will only apply to new bareboat chartering out contracts. Tonnage chartered out on existing contracts (including options to extend existing contracts) will not be included in the limitation.

To exclude pure ship lessors, this transitional rule will not apply to long-term contracts. The definition of long-term contracts depends on whether the offshore chartering out limitation or the operational chartering out limitation is applied.

In the offshore sector, bareboat chartering out contracts are usually of duration of between 3 and 5 years. When the offshore bareboat chartering out limitation is applied, the transitional rule will therefore take effect in cases where the original contract period exceeded 5 years, but the remaining period is 5 years or less. This will allow companies

to adjust to the new 5+3 year limitation in sectors where the 5+3 year maximum is a viable business option, but for some reason a longer contract period has been chosen for an already existing bareboat charter agreement. For example, if a vessel was originally chartered out on bareboat terms for a period of 6 years, with a possibility to extend the contract for up to 3 years, the transitional rule will apply to the contract if the bareboat charter has remained in force for one year or more.

For the operational chartering out limitation, which is mainly targeted at non-offshore vessels, the transitional rule will not take effect unless the remaining duration of the charter is 8 years or less. In the non-offshore segment, bareboat contract lengths vary, but they are usually of a duration of 5 years or more. Option agreements to extend the charter period after the original period is ended, is in practice not entered into in the non-offshore shipping segment.

Bearing in mind that chartering periods are normally of a longer duration, and that options to extend contracts are not in use, it seems appropriate to settle the maximum remaining chartering period to 8 years rather than to 5+3 years in connection with the operational chartering out limitation.

To avoid any risk of by-passing of the anti-abuse rule, any changes in the existing bareboat chartering out contracts made between 15 November 2017 and 31 December 2017 that influences the remaining contract period will not be taken into consideration.

7.3 Chartering in on bareboat terms

We refer to the remarks made under sections 7.1 and 7.4. Chartering in provides both commercial and operational flexibility. State aid to companies chartering in on bareboat terms does serve the aim of preservation of maritime know-how within the EEA. The reasoning behind restrictions on chartering in on voyage charter/time charter terms cannot be extended to companies chartering in on bareboat terms where the company operates the ship, and is responsible for the crew and technical management. It is the Ministry's understanding that chartering in on bareboat terms, i.e. to rent vessels without a crew provided by the charterer, is eligible for state aid according to practice by the Commission.²⁷

7.4 Chartering in on time charter/voyage charter terms

As stated in section 7.1, chartering of vessels, including chartering in on time charter and voyage charter terms, is considered a fully integrated part of the operation of a shipping company. Customer demands can vary significantly over short periods and shipowners have to be able to respond adequately and in a flexible manner. Time and voyage chartering is one of the key mechanisms at their disposal. Indeed, by chartering a vessel, the commercial/operational control is given to the charterer for an agreed

²⁷ See for instance the commission decision of 25 February 2009 in case C 2/08 concerning the Irish tonnage tax, paragraph 6.

period, while leaving ownership and management of the vessel in the hands of the shipowner. The latter generally retains the operating costs (i.e. the crew, maintenance and repair) and the charterer covers all voyage related costs (i.e. bunkers, port charges, etc.) as well as cargo-handling costs.

A number of reasons make chartering in attractive to a company. Firstly, it provides a certain degree of operating flexibility. Time chartering can range from a term of years to weeks or days. It is used to respond to a surge in demand or, conversely, to return the vessels swiftly should the demand weaken. It therefore allows shipowners to accommodate their customers' needs optimally. This is particularly useful in periods when markets are volatile. Moreover, companies may decide that in a specific economic environment, it is more convenient to pay a stable monthly hire rather than raise the considerable capital to buy another vessel. Buying vessels is often not an attractive alternative, and new buildings are long-term investments, normally with a delivery period of 2 to 3 years. Finally, companies may find they have different business strengths – some focus on owning assets, whilst others have a less capital-intensive strategy and focus on operating chartered in assets. Many smaller shipowners do not have the market knowledge or an organisation to conclude business with the end user, and instead choose to time charter the vessels out to ship operators.

Norwegian ship owners and ship operators have over the past decades a proven record of accomplishment of excellent management and operational abilities, and, thus, high-level employment and skills have been developed and maintained by chartering tonnage into Norwegian companies.

On this background, the Ministry finds that over the whole, companies chartering in on time charter and voyage charter contributes to the preservation of maritime know-how in the EEA. We are however, aware that according to several decisions by the Commission, a limitation on the chartering in of non-EEA flagged vessels on time charter or voyage charter terms may be appropriate in order to ensure that the beneficiaries of aid through a shipping tax scheme do not lose their know-how in terms of crew management and technical management. In Case N 563/01, approved on 12 March 2002, concerning Danish tonnage tax, a ratio of owned to time chartered ships of 1:4 was approved. This opinion seems to be confirmed by the Commission's decision in case N 171/2004 concerning the Danish tonnage tax (cf. paragraph 30) and the decision of 13 April 2015 concerning the Italian tonnage tax (cf. paragraph 62).

Further, in its decision of 25 February 2009 in case N 572/07 concerning the Irish tonnage tax, the Commission approved a ratio of owned to time chartered ships of 1:10 provided that each of the chartered-in vessels is registered in a Community or EEA maritime register or the crew management and technical management of the chartered-in vessel are carried out on the territory of the Community or the EEA.

The Ministry notifies a limitation to 90 percent on the chartering in of non-EEA flagged vessels on time charter or voyage charter terms. This would be in line with the Maritime Guidelines and contribute to the achievement of their aim. Considering the Norwegian maritime sector, a 90 percent limitation would be suitable in order maintain needed flexibility for companies within the special tax scheme.

The notified limitation implies that a minimum of 10 percent of the tonnage of a company/company group that is taxed under the Norwegian special tax scheme must be either owned, chartered in on bareboat terms and/or registered in an EEA ship register.

The limitations on chartering in will be measured on a yearly basis, but counting the tonnage chartered out for each day of the year. The share of tonnage chartered in will be measured on a company group level. The limitations in question concern the company group's total tonnage within the Norwegian special tax scheme. Any tonnage owned by a company in the group that is not taxed under the Norwegian special tax scheme will not be counted for the purpose of the determining whether the limitations have been exceeded.

For companies under the special tax scheme that owns tonnage through partnerships, the partner shipping company will be assigned a proportional share of the partnership's tonnage for the purpose of determining whether the limitations chartering out on bareboat terms or chartering in on time charter/voyage charter terms have been exceeded.

The need for companies to adapt to a new chartering in limitation, and remain within the Norwegian shipping tax scheme, calls for a transitional rule. The limitation on chartering in will therefore only be applied to new chartering in contracts. Options to extend existing contracts will be treated in line with existing contracts.

8. CALCULATION OF TAX

The special tax system for shipping companies system is an exemption system, in which no ordinary corporate tax is imposed on profits derived from eligible activities. Instead, ship owners are obliged to pay a tonnage tax calculated by reference to each of the vessels a participating company operates. The tonnage tax rates vary with the net tonnage of the vessel.

The tonnage tax is calculated by reference to the net tonnage of each of the vessels a participating company operates. The current rates per day, applicable to the 2007-2017 scheme, are as follows:

- no tax for the first 1000 net tons, thereafter,
- NOK 18 per 1000 net tons from 1001 to 10 000 net tons, thereafter
- NOK 12 per 1000 net tons from 10 001 to 25 000 net tons, thereafter
- NOK 6 per 1000 net tons above 25 000 net tons.

The rates above do not correspond to the mode of calculation used to determine a virtual profit to which corporate tax rates will be applied but to the tax which will effectively be paid by the shipping companies. The tonnage tax rate is directly fixed by the Norwegian authorities and is not linked to the corporate taxation system. The tonnage tax is payable irrespective of the company's actual profits or losses.

Figures prepared by the Central Tax Office for Large Enterprises show that for the income year of 2015, there were 498 vessels within the scheme (owned or chartered in) with a volume of 1000 NT or less. The total net tonnage for these vessels were 417 253 NT, owned by 223 different companies. Of the 223 companies owning one or more vessels with a net tonnage less than 1000 NT, 40 companies also owned one or more vessels with a net tonnage exceeding 1000 NT.

The distribution of vessels, net tonnage and companies to the tonnage tax intervals for the income year of 2015 were as follows:

Interval	Number of vessels	Net tonnage	Number of companies
0 – 1 000	498	417 253 NT	223
1 001 – 10 000	476	1 641 829 NT	214
10 001 – 25 000	382	6 217 287 NT	87
Over 25 000	104	3 897 263 NT	49

(The net tonnage includes tonnage of partnerships with one or more partners taxed under the special tax scheme.)

Company groups within the shipping industry often place ownership of vessels in single purpose companies. The 183 companies that owns vessels within the lowest tonnage tax interval only may therefore be part of a larger company group that owns vessels within other tonnage tax intervals.

Of the 183 companies that own vessels with a volume of 1000 NT or less only, 132 are limited companies and 51 are partnerships. According to the Central Tax Office for Large Enterprises, 49 of the 132 limited companies belongs to a company group that owns vessels with a volume of over 1000 NT and subsequently pay tonnage tax.

In its approval of the Norwegian special tax system for shipping of 2007 (755/08/COL) the Authority referred to Section 3.1 Paragraph 18 of the Maritime Guidelines, in which it is inter alia stated:

"In order to keep the present equitable balance, the EC Commission stipulated that it will only approve schemes giving rise to a tax-load for the same tonnage fairly in line with the schemes already approved.

(...)

The Authority will likewise seek to keep an equitable balance in line with already approved systems."

The Authority considered that the tonnage tax rates applicable in Norway kept an equitable balance in line with the tonnage tax regimes in other EEA States

The table below gives an overview over shipping tax regimes approved by the Commission during the period of 2011–2017. Greece and Malta are not included because the respective regimes to a lesser extent are comparable to the Norwegian regime and others within the EU/EEA.

Tonnage Tax in EU and Norway

Country	Decision date	Rate description	0-1000	1001-10000	10001-25000	25000-40000	40001-
Lithuania	24.04.2017	Notional profit per day per 100 NT, LTL	3.2	2.3	1.5	0.92	0.92
Sweden	18.08.2016	Notional profit per day per 100 NT as % of “price base amount” in SEK	0.0214	0.0159	0.0103	0.0050	0.0055
Italy	13.04.2015	Notional profit per day per 100 NT, EUR	0.9	0.7	0.4	0.2	0.2
Croatia	01.04.2015	Tax per year per 100 NT, HRK	270	230	150	95	55
Finland	20.12.2011	Notional profit per day per 100 NT, EUR	0.9	0.7	0.5	0.2	0.2
Cyprus	24.03.2011	Tax per year per 100 NT, HRK	36.5	31.03	20.08	12.78	7.3
Norway	03.12.2008	Tax per day per 1000 NT, NOK	0	18	12	6	6

Below, the rates are modified for the purpose of comparison. All rates are calculated to euro with the following exchange rates, sourced from the European Central Bank’s statistics on average monthly exchange rates (October 2016–September 2017):

Currency	Rate
HRK/EUR	7.4619
NOK/EUR	9.1536
SEK/EUR	9.6260

Lithuanian litas (LTL) was pegged to the euro at 3.4528 until Lithuania adopted the euro in 2015.

Yearly rates are adjusted to daily rates by dividing by 365. For regimes with “notional profits”, the rates are modified to depict actual taxation given the corresponding corporate income tax (CIT) rates as of 2017. The following CIT rates apply:

Country	CIT rate
Lithuania	15 %
Sweden	22 %
Italy	28 %
Finland	20 %

As for Norway, the rates are recalculated to show tax per 100 NT, as is the interval in all other regimes. As for Sweden, the 2017 price base amount of SEK 44,800 is applied.

Table 2. Tonnage Tax per Day per 100 NT, 2017. EUR

NT Interval

Country	0-1000	1001-10000	10001-25000	25000-40000	40001-
Lithuania	0.139	0.100	0.065	0.040	0.040
Sweden	0.219	0.163	0.105	0.056	0.056
Italy	0.250	0.195	0.111	0.056	0.056
Croatia	0.099	0.084	0.055	0.035	0.020
Finland	0.180	0.140	0.100	0.040	0.040
Cyprus	0.100	0.085	0.055	0.035	0.020
Norway	0.000	0.196	0.131	0.065	0.065

Leaving out Norway, the overview shows that Cyprus and Croatia has the lowest tonnage taxation of ships in the lowest NT interval of 0–1000, with a daily tonnage tax of approximately EUR 0.1 per 100 NT. The Authority should thereby approve tonnage tax rates at and above this level, for ships in this NT interval. EUR 0.1 corresponds to approximately NOK 0.9.

The Ministry intends to propose the following tonnage tax rates as from the taxation year of 2018:

- The tonnage tax is calculated by reference to the net tonnage of each of the vessels a participating company operates at the following rates per day:
 - NOK 9 per 1000 net tons for the first 1000 net tons, thereafter,
 - NOK 18 per 1000 net tons from 1001 to 10 000 net tons, thereafter
 - NOK 12 per 1000 net tons from 10 001 to 25 000 net tons, thereafter
 - NOK 6 per 1000 net tons above 25 000 net tons.
- The tonnage tax rate is directly fixed by the Norwegian authorities and is not linked to the corporate taxation system. The tonnage tax is payable irrespective of the company's actual profits or losses.
- In the 0 to 1000 NT interval the tonnage will be rounded to the nearest 100 NT. For vessels with a tonnage of less than 50 NT, the tonnage should be set to 100 NT. I.e. for all vessels with a tonnage of between 0 and 149 NT the tonnage tax will be NOK 0.9 per day. Tonnage exceeding 1000 NT will be rounded to the nearest thousand NT.

The tonnage tax is differentiated within the special tax system for shipping based on a set of pre-defined environmental criteria; cf. the Authority decision 519/14/COL. Based on an environmental rating of a ship within the scheme, the shipping company can obtain a reduction of the standard tonnage tax pursuant to the Norwegian Tax Act Section 8-16²⁸ and the Ministry's supplementary regulations to the Tax Act Section 8-16 Part B²⁹.

²⁸ The Norwegian Tax Act of 26.3.1999 No 14 («Lov av 26. mars 1999 nr. 14 om skatt av formue og inntekt»)

²⁹ Forskrift 19. november 1999 nr. 1158 til utfylling og gjennomføring mv. av skatteloven av 26. mars 1999 nr. 14.

The environmental rating of a ship is carried out as follows: Pursuant to the Norwegian Regulation on Environmental Declaration, shipping companies may submit a voluntary environmental declaration to the Norwegian Maritime Authority, by using the standard Form for Calculation of the Environmental Factor. The Form for Calculation of the Environmental Factor is issued by the Maritime Authority and sets out the criteria used for determining the environmental rating of a ship.

Based on the environmental declaration, the ship will receive an environmental rating on a scale from 1 to 10. Depending on the environmental rating of the ship, the standard tonnage tax may be reduced by up to 25 percent.

The differentiated reduction of the tonnage tax based on the environmental rating of the ship is calculated as follows:

Environmental rating	Tonnage tax reduction
Up to 1	2.5%
1 to 2	5.0%
2 to 3	7.5%
3 to 4	10.0%
4 to 5	12.5%
5 to 6	15.0%
6 to 7	17.5%
7 to 8	20.0%
8 to 9	22.5%
9 to 10	25.0%

The tonnage tax reduction aims at providing an incentive for shipping companies under the scheme to make use of more environmentally sound ships in terms of both technology and operation. The reduction of the tonnage tax aims at rewarding companies for exceeding the mandatory requirements when it comes to environmental performance of their ships.

The total amount of tonnage tax accrued and the total amount of environmental reduction for the income years 2011 – 2015 was as follows:

Year	2011	2012	2013	2014	2015
Tonnage Tax (MNOK) ^[1]	36	39	43	48	45
Environmental reduction (NOK)	215.033	312.197	375.404	445.553	425.645

Number of companies that obtained reduction	29	32	34	29	18
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^[1] Not including environmental reduction

In the view of the Ministry, the abovementioned tonnage tax rates within the special tax system for Shipping, including the differentiated reduction of the tonnage tax, should be held compatible with the EEA Agreement, cf. Article 61(3)(c) of the Agreement and the Maritime Guidelines Section 3.1 Paragraph 17 – 18 and Section 5.

9. FLAG REQUIREMENT

According to Section 3.1 Paragraph 7 of the Maritime Guidelines tax relief schemes should, as a rule, require a link with an EEA flag. However, Section 3.1 Paragraph 8 of the Guidelines supports the view that aid may be exceptionally granted where a fleet also comprises vessels registered outside the EEA:

"Before aid is exceptionally granted (or confirmed) to fleets which also comprise vessels flying other flags, EEA States should ensure that beneficiary companies commit themselves to increasing or at least maintaining under the flag of one of the EEA States the share of tonnage that they will be operating under such flags when these Guidelines become applicable. Whenever a company controls ship operating companies within the meaning of the Seventh Council Directive 83/349/EEC18 (Article 1), incorporated as point 4 of Annex XXII to the EEA Agreement, the above mentioned tonnage share requirement will have to apply to the parent company and subsidiary companies taken together on a consolidated basis. Should a company (or group) fail to respect that requirement, the relevant EEA State should not grant further tax relief with respect to additional non-EEA flagged vessels operated by that company, unless the EEA-flagged share of the global tonnage eligible for tax relief in that EEA State has not decreased on average during the reporting period referred to in the next Paragraph. The EFTA State must inform the Authority of the application of the derogation. The EEA-tonnage share requirement set out in this Paragraph does not apply to undertakings operating at least 60% of their tonnage under a EEA flag."

The Norwegian special tax system currently requires a link with the flag of one of the EEA States. However, fleets which comprise vessels flying other flags are also eligible provided that the beneficiary companies commit themselves to increase or at least maintain the share of the tonnage operated under the flag of one of the EEA States. The EEA tonnage share requirement does not apply to undertakings operating at least 60 percent of their tonnage under an EEA flag, or if the EEA flagged share of the total tonnage eligible for tax relief in Norway has not decreased on average during the previous year. For companies within the scheme that prepare consolidated accounts, cf.

the Seventh Council Directive 83/349/EEC, the flag requirement applies to the companies as a group.³⁰

Tugboats and barges used for transportation of matter from dredging activities are required to be EEA-flagged. (Vessels performing any amount of actual dredging activities are not allowed within the special tax system; cf. Section 3.1 Paragraph 15 – 16 of the Maritime Guidelines and Section 5.3 above.)

The companies within the special tax system are obliged to report to the tax authorities all relevant information concerning their EEA registered tonnage share every year in connection with the tax return. According to the Norwegian Tax Assessment Act, the tax authorities may request further detailed information and documentation concerning the tonnage and registration of vessels.

Compliance with the "increase or at least maintain" requirement is controlled by the tax office. In the same way as for other requirements concerning the special tax scheme, the flag requirement may be subject to subsequent tax controls by the tax office. The tax authorities will exclude from the special tax system companies that do not meet the flag requirement.

For more detailed description of the control and sanction process we refer to section 11 below.

The Ministry of Finance is of the opinion that the flag requirement as described above complies with the Maritime Guidelines to Section 3.1 Paragraphs 7 – 9.

"(...) recipients must provide the EFTA State concerned with proof that all the conditions for the derogation from the flag link have been fulfilled during the period. Furthermore, evidence must be provided that, in the case of the beneficiary fleet, the tonnage share requirement laid down in the previous Paragraph has been observed and that each vessel of that fleet complies with the relevant international and EEA standards, including those relating to security, safety, environmental performance and on-board working conditions. Should recipients fail to provide such evidence, they will not be allowed to continue to benefit from the tax scheme."

Both the Norwegian International Ship Register (NIS) and the Norwegian Ordinary Ship Register (NOR) qualify as EEA registers as regards the flag requirement. At the same time, there is no requirement to register ships in the Norwegian register in order to be eligible under the scheme. Consequently, a company can fulfil the flag requirements by registering in other EEA-registers. This is in line with the Maritime Guidelines Section 2.2 Paragraph 2, in which it is stated that aid schemes should not be conducted at the expense of other EEA States' economies.

³⁰ For the purpose of the flag requirement, a company group may consist of more than one chain of companies within the shipping tax scheme. Each chain will be consolidated separately.

The Ministry would like to stress that contrary to the NIS register, the Norwegian shipping tax regime does not maintain trade area limitations. The shipping tax scheme does not exclude vessels in traffic between Norwegian and foreign ports (or between foreign ports). In accordance with the objective of the scheme, it is oriented towards international shipping exposed to world market competition (including traffic connected to activities on the continental shelf). Some limitations have therefore been made concerning domestic traffic, cf. section 5.2 above.

Shipowners are at the outset free to choose the country of registration. Decisions on registration are mainly dependent on the quality and service level of the marine authorities, cost of crew and other framework conditions. Special legal requirements on a national level may also affect the choice of register. The growth of international commercial ship registers has made the marine authorities exposed to competition.

The Ministry has adopted various incentives to choose the Norwegian flag. These supplement the special tax scheme for shipping. To give a full picture, The Ministry believes it is necessary to give an overview of the system of measures.

The Norwegian International Ship register was established in 1987 as a Norwegian alternative to foreign open registers. The main distinction between the NOR and NIS register, is the possibility for vessels in NIS to employ foreign crew on their domestic wage conditions. This involves that NIS vessels generally have lower operational costs. On the other hand, vessels in NIS have limited access to perform trade in Norway (trade area limitations).

The tax refund scheme for seafarers on Norwegian flagged vessels has since 1993 been developed in order to maintain and develop Norwegian/EEA maritime competencies and practical maritime know how. The Norwegian tax refund scheme has over time developed into an important policy instrument for preserving Norway's position as a leading maritime nation. The scheme is an important element in making the Norwegian ship registers attractive and competitive.

In its maritime strategy the Norwegian Government has listed a number of measures aimed at making the Norwegian shipping registers more competitive (page 21).³¹ These measures are:

- a limited softening of the trade area limitations for NIS registered vessels in short sea shipping
- a limited softening of the trade area limitations for NIS registered international ferries

³¹ See footnote 1.

- a limited softening of the trade area limitations for NIS registered construction vessels
- a strengthening of the NOR register's competitiveness, among other things by removing the limit for maximum refunds in the tax refund scheme for employing seafarers for NOR vessels in short sea shipping and international ferries, as well as for the coastal route Bergen–Kirkenes
- the establishment of a special tax refund scheme adapted to NIS, replacing the current reimbursement scheme. It will give tax refund from the first seafarer. At the same time it will be required that training positions are linked to the scheme
- the establishment of special tax refund schemes with a tax refund level similar to the current NOR scheme for NIS-registered passenger vessels in international traffic and construction vessels in NIS.
- the inclusion of sailing vessels above 498 gross tonnes mainly engaged in education in a tax
- refund scheme corresponding to the coastal route Bergen–Kirkenes.
- a proposition of regulatory changes so that vessels registered in the Norwegian International
- Ship Register (NIS) can carry cargo and passengers between ports at Svalbard as well as between Svalbard and the mainland.

With exemption of a change of the trade area limitation for NIS registered international ferries and the support scheme for these ferries, all these measures are implemented.

Against this background, the Norwegian maritime authorities are focused on customer orientation, effectiveness and expertise. The Maritime Directorate (Sjøfartsdirektoratet) works nationally and internationally on marketing, in particular the Norwegian International register as a quality register. This work was also emphasised in the Maritime Strategy (chapter 3.3) and the Maritime Directorate is well under way with digitalisation and simplification of their services. In a recent publication, the Maritime Directorate has recently issued a publication (see attachment 7) that describes the implications and advantages of using the NIS register.

Norwegian expertise and innovation strength influences international standards, through i.a. the International Maritime Organisation (IMO). The basis of national and international regulations, involving safety for ships, protection of the environment and working and living conditions for seafarers is a series of international conventions agreed at the IMO and the International Labour Organisation (ILO). International conventions and standards that regulate shipping are important in order to avoid inefficiencies through technical barriers to trade and a “race to the bottom” in terms of safety, environmental and social standards. The implementation and control of these rules are conducted by the flag states and port states including the various Port State Control Mechanisms (Paris MoU, Tokyo MoU and US Coast Guard etc.). In practical terms these mechanisms implies that the international rules are enforced for all vessels regardless of flag.

The flag requirement in the Norwegian special tax scheme was implemented in 2005, subsequent to amendments of the Maritime Guidelines. To our knowledge, the implementation of the flag requirement varies between EEA countries.

The Norwegian shipping industry is an important driving force for the development of innovative and sustainable transport solutions in the European maritime sector. According to the Norwegian Shipowners' Association, ownership plays an important role in the decisions on, for instance, where a new ship is contracted to be built and the suppliers chosen.³² Consequently, ownership plays an important role in maintaining and increasing know-how in for example in technology and environmental sectors related to shipbuilding – where Norway is an important driving force and leading nation.³³

The Guidelines points out that "maritime industries are inextricably linked to maritime transport".³⁴ The Guidelines stress the positive consequences of encouraging investments on land in maritime-related industries as a "strong argument in favour of positive measures whose aim is to maintain a fleet dependent on EEA shipping". This link is particularly relevant for Norway who is leading in maritime technology.

As shown in the notification letter, there is a substantial Norwegian content when constructing an offshore vessel. This is also the case for deep-sea and short sea vessels, using Norwegian environmental technology, as well as other supplies and input from Norwegian equipment and service providers.

In a report from Menon: Norwegian Maritime Equipment Suppliers 2016, it is emphasized on page 18 that maritime equipment suppliers have become more independent of the offshore industry.³⁵

A report by Oxford Economics, The Economic Value of the EU Shipping Industry shows that other measures than a flag requirement contributes to ship registering within the EEA countries, cf. pages 47-52 of the report.³⁶

The particular characteristics of the Norwegian maritime sector is described in another report by Menon, Leading Maritime Capitals of the World 2017.³⁷ The report gives Norway a high ranking on «attractiveness and competitiveness». It states (page 17):

³² Cf. attachment 8 to this letter.

³³ Cf. the results in the report by Menon "Leading Maritime Capitals of the World 2017"
<http://www.menon.no/wp-content/uploads/2017-28-LMC-report-revised.pdf>

³⁴ See chapter 1.2 c.

³⁵ <http://www.menon.no/wp-content/uploads/2016-Norwegian-Maritime-Suppliers-2016.pdf>.

³⁶ Cf. attachment 9 to this letter.

³⁷ <http://www.menon.no/wp-content/uploads/2017-28-LMC-report-revised.pdf>

“Oslo is the leading city of maritime technology, something that also characterizes the attractiveness of the city. 21 percent of the experts hold Oslo as their first choice for relocating R&D functions, only beaten by Singapore with 28 percent. Oslo is also regarded as the second most innovative and entrepreneurial maritime city”.

The abovementioned reports implies that if shipowning companies are established outside the EEA, fewer shipping companies will build new vessels in Norwegian and other European yards, and that fewer shipping companies will buy equipment from Norwegian and European suppliers. Furthermore, Norwegian and European maritime technology communities could be weakened. It is therefore important that the regulatory framework facilitate that shipowning companies may remain in the EEA.

Norwegian enterprises within the offshore services segment are engaged in operations inter alia on continental shelves outside Australia, Africa, Asia and South America. Activities on continental shelves are typically considered part of the domestic regime where local content provisions may apply. These limitations set the conditions for any foreign participation. In some cases, registration of vessels in the country of operation is a prerequisite in order to perform activities in such waters. Although these vessels may be a mix of chartered out and non-chartered out vessels (cf. section 7.2 above), the registration prerequisite may be applicable to all vessels. Companies in the Norwegian maritime sector have encountered local requirements in a number of countries, set as prerequisite for foreign vessels to operate its waters. We have also seen examples where a local flag is not a legal condition, but implies preferential treatment.

According to the current system, a beneficiary company may enter the Norwegian special tax scheme for shipping without any EEA-flagged vessels. There is no general minimum share of EEA-flagged vessels that has to be met by all beneficiary companies. In addition to having no basis in the wording and contradicting the objectives of the Guidelines, a minimum EEA flagged tonnage requirement lacks basis in Commission practice.

On this background, the Ministry notifies a flag requirement similar to the requirement as described in the EFTA Surveillance Authority’s decision of 3 December 2008 on the notification of amendments to the Norwegian Special tax system for Shipping. This means that companies and groups must commit themselves to increase or at least maintain under the flag of one of the EEA States the share of the tonnage that they would operate under such flags. A company may enter the scheme without any EEA-flagged vessels. The EEA tonnage share requirement does not apply to undertakings operating at least 60 per cent of their tonnage under an EEA flag, or if the EEA flagged share of the total tonnage eligible for tax relief in Norway has not decreased on average during the previous year.

10. RING FENCING MEASURES

According to the Maritime Guidelines Section 3 Paragraph 19, the fiscal advantages must be restricted to shipping activities and spill-over into non-shipping activities must be prevented.

The Norwegian Special tax system applies only to qualifying ships carrying out qualifying activities. To prevent spill-over to non-shipping activities, companies within the special tax system are only allowed to carry out tax exempted activities, and own assets that are necessary to exercise these activities (except for financial assets). In order to ensure that the special tax system only benefits eligible activities, the ring-fencing measures described under sections 10.1 to 10.8 below have been put in place.

A company within the shipping tax scheme may own financial assets as well as shipping related assets. Profits derived from financial assets are not tax exempt, but subject to ordinary taxation. Interest costs are partially deductible. The deductible part of the interest costs corresponds to the proportion of the aggregate capital of the company that consists of financial capital. For example, if 10 percent of the aggregate capital of the company consists of financial assets, and 90 percent of the aggregate capital consists of non-financial assets, 10 percent of the interest costs will be deductible. The remaining 90 percent of the interest costs are regarded as shipping-related interest costs, and therefore not deductible.

10.1 Taxation of hidden reserves upon entry into the scheme

Profits derived from shipping activities outside the special tax system, including gains on assets, are subject to taxation upon entry into the special tax system. The income settlement means that latent capital gains (hidden tax liabilities) on vessels and other non-financial assets will be taxed when a company enters the scheme. The taxable income is calculated as the difference between the market value and the tax value of the company (excluding financial assets). Consequently, capital gains related to previously over-depreciated ships entering the special tax system are not covered by the Norwegian shipping tax scheme. On the contrary, such gains are assessed and taxed upon entry into the scheme.

All non-financial hidden reserves and losses will be a part of the income settlement, increasing or reducing the calculated entry income. Financial assets is not subject to a settlement, because such income is taxed both within and outside the special tax system

The Norwegian scheme does not allow a postponement of the taxation of gains when a company enters the scheme. In its Decision of 13 April 2015 in case SA.38085A, concerning the Italian tax scheme for shipping, the Commission approved that taxation of gains may be postponed until the vessel in question is actually sold. In the Norwegian scheme, the income is assessed immediately. However, the income may be entered into

the “profit and loss account” of the company.³⁸ The income cannot be set off against tonnage tax or financial losses within the scheme.

10.2 Lock-in period

The scheme provides for a lock-in period, i.e. undertakings that opt for the special tax regime commit to remain under the favourable tax regime for a minimum period of 10 years. A company exiting the scheme before the expiry of the 10-year period will not be allowed to re-enter the regime before the expiry of the 10-year period.

To the knowledge of the Ministry, in other European special tax regimes for shipping, there is usually a 10 year lock-in/lock-out period. The consequences of exiting the regimes before the expiration of the lock-in period vary, but as a main rule an exit is without effect on profits which have arisen while the company has been within the special tax system

10.3 All-or-nothing rule

A company which is eligible for the special tax system and belonging to a group of companies, in which some companies have opted for the special tax system, is obliged to opt for the special tax system. In other words, the decision to opt for the special tax system is made collectively at the level of the group.

10.4 Rule against thick capitalisation

The special tax system contains a provision aiming to prevent all capitalisation not producing deductible costs being attributable to non-eligible activities. As interest payments have a tax value for a company within the scheme only to the extent that they offset taxable financial income, the scheme involves an incentive for such companies to be “overcapitalised” and for debt and interest payments to be shifted to related companies subject to ordinary taxation. To prevent shifting of interest payments, a minimum amount of debt for eligible companies is stipulated equal to 30 percent of the company’s total capital. If a company has less debt than 30 percent, the difference between the actual debt and the minimum debt multiplied with a regulated interest rate, is treated as taxable income.

10.5 Tax neutral effect of group contributions

Companies within the special tax system are allowed to make group contributions to and receive group contributions from companies both within and outside the special tax system. However, a group contribution shall be tax neutral, i.e. a group contribution will not be deductible for the contributor and will not be treated as taxable income for the receiver.

³⁸ The profit and loss account is kept for tax purposes. At least 20 percent of the balance of the profit and loss account must be entered as income every year. The profit and loss account is a part of the ordinary company tax rules, i.e. the system of entering capital gains into the account does not imply a special advantage for companies within the shipping tax regime.

10.6 Restrictions on group contributions subsequent to an exit from the scheme

The amended special tax regime can give companies incentives to opt into the regime for income years with a profit, and opt out for income years with a loss. This is because a profit will be tax-free within the regime, while a deficit will be tax deductible outside the regime. To counteract such adaptations, companies that exit the shipping tax system will not be entitled to receive group contributions for tax purposes in the exit year and the two following years.

10.7 The Arm's Length principle

The general provision in Norwegian tax legislation that imposes an arm's length principle, will apply to transactions between associated companies and persons. For example, normal market terms will apply for tax purposes where a transaction takes place within a group of companies, between a company benefiting from the shipping tax system and a company subject to the standard corporate tax.

10.8 Exit from the special tax system

Profits derived from shipping activities within the special tax system are tax exempted on a permanent basis. Thus, it is not necessary to settle profits upon exit, and companies are not required to keep an account of retained untaxed income.

However, to ensure that an increase in value of the company's assets within the special tax system will remain tax-free, and a decrease not tax deductible, new bases of depreciation on the assets will be calculated at the time of exit, equal to the market value.

As mentioned under section 10.1, all hidden reserves are settled upon entry into the scheme. The establishment of new tax values for assets at the time of exit prevents double taxation or double deduction of any hidden reserves or losses in the company prior to its entry into the scheme.

11. CONTROL AND SANCTION MEASURES

Compliance with the requirements of the special tax system is controlled by the tax office. In their tax return, companies within the special tax scheme reports on the various conditions required to be taxed within the scheme. Companies may also be subject to subsequent tax controls by the tax office.

Companies have to fulfil all requirements in order to be eligible for the special tax system. If a company no longer fulfils the necessary requirements, it has to revert to regular corporate taxation, regardless of whether the breach is done deliberately or not. The exit will have effect as from the income year in which the requirements were breached, i.e. all shipping profits derived in the year of exit will be subject to ordinary corporate taxation.

However, in order to avoid unmerited exclusions from the tax scheme, companies that have breached the requirements, have a two-month time limit to fulfil the requirements, running from the breach came into being. Fulfilling the requirements within the time limit allows the companies to stay within the special tax system. If the breach is insignificant or caused by circumstances outside the control of the company, the two-month time limit runs from the moment the company ought to have discovered the breach.

The tax authorities can extend the time limit, if the company proves that it will be particularly difficult to fulfil the requirement within the time limit. The tax authorities have taken a strict view on the application of this clause. The exception will not be applied in cases where a correction of the breach within two months is merely less convenient or more costly than a delayed correction.

If a requirement is breached again within 3 years from the last breach was corrected, no time limit to fulfil the requirements will apply, and the company has to revert to corporate taxation.

It is important that the industry is given sufficient time in order to meet the challenges upon entry into a revised scheme, and to adjust to the new requirements that will be imposed as a result of the notification process. As a transitional provision for the income year of 2018, company groups that are already taxed within the scheme for the income year of 2017 will benefit from a time limit of 10 months, running from the introduction of the new scheme, i.e. from 1 January 2018. The special time limit will apply only to the new requirements introduced in 2018. See section 14.4 below.

12. TRANSPARENCY

The transparency rule, incorporated in Section 2.2 of the Guidelines on aid to maritime transport, stipulates that state aid should be granted in a transparent manner, so that companies and individuals are aware of their rights and obligations. As shown in the description above, the Norwegian special tax system for shipping meets the transparency criteria in Section 2.2 of the Guidelines.

The tax authorities will submit information on tax related state aid, including state aid through the Norwegian special tax system for shipping, to the National State Aid Register. Information concerning income tax aid schemes (including the special tax system for shipping) for the income year of 2016 will be reported by the taxpayers to the tax authorities during 2017, and subsequently submitted to the National State Aid Register.

The publication of information will comply with the transparency requirements. The implementation of the transparency requirement to the special tax scheme for shipping will be in accordance with the text incorporated in the General Block Exemption

Regulation and across the recently revised state aid rules in relation to rapid deployment of broadband networks, state aid to promote risk finance investments, state aid to airports and airlines and regional state aid for 2014-2020.

13. NATIONAL LEGAL BASIS

The legal basis for the Special tax system for shipping companies is as follows:

- I. The Norwegian Tax Act (Lov 26. mars 1999 nr. 14 om skatt av formue og inntekt (skatteloven)) sections 8-10 to 8-18 and section 8-20.
- II. The tonnage tax rates are established in the parliamentary resolution on income and net wealth taxes (Storingsvedtak om skatt av inntekt og formue mv.). For constitutional reasons the parliamentary resolution must be adopted ahead of every income year.
- III. The Ministry has issued further provisions in sections 8-11, 8-13, 8-15, 8-16 and 8-20 of the Ministry's supplementary regulations to the Norwegian Tax Act (forskrift 19. november 1999 nr. 1158 til utfylling og gjennomføring mv. av skatteloven av 26. mars 1999 nr. 14).

14. TRANSITIONAL PROVISIONS

14.1 Introduction

The Ministry would like to point out that, participants should be given sufficient time to adjust to any new requirements as a result of the notification process. Otherwise, the risk of disturbances in the Norwegian shipping industry, including the risk of emigration of vessels and/or shipping companies to non-EEA jurisdictions, could be substantial. Both from a Norwegian and European perspective it is important that the Norwegian shipping industry, as an important driving force for the development of innovative and sustainable transport solutions in the European maritime sector, is given the opportunity to reorganize its operations without facing a risk of being excluded from the special tax scheme.

14.2 The limitations on bareboat chartering out

The notified limitations and requirements concerning bareboat chartering out may mean that some of the companies within the Norwegian special tax scheme for shipping will exit the scheme. However, some of the enterprises involved in bareboat chartering out may be able to restructure future contracts in order to meet the new limitations imposed. To encourage companies to adapt to the new requirements and continue their presence within the Norwegian shipping tax scheme, the limitations and requirements will only apply to new bareboat chartering out contracts. Tonnage chartered out on existing contracts (including options to extend existing contracts) will not be included in the limitation.

To exclude pure ship lessors from the scheme, the transitional rule will not apply to contracts with a remaining chartering period exceeding certain time limits. The transitional rule is described in further detail in section 7.2.6 above.

14.3 The limitations on the chartering in on time charter/voyage charter terms

As mentioned under section 7.4 above, the Ministry considers that a limitation to 90 percent on the chartering in of non-EEA flagged vessels on time charter or voyage charter terms would be in line with the Maritime Guidelines and contribute to the achievement of their aim. However, the need for companies to adapt to a new chartering in limitation, and remain within the Norwegian shipping tax scheme, calls for a transitional rule. The limitation will therefore only be applied to new chartering in contracts. Options to extend existing contracts will be treated in line with existing contracts.

14.4 Time limit to comply with the requirements of the scheme

The Norwegian special tax system applies only to qualifying ships carrying out qualifying activities, and companies within this tax system can only own qualifying assets and perform qualifying activities. It is our understanding that the shipping tax schemes in other European countries allows both qualifying and non-qualifying activities and assets in the same company.

Consequently, the Norwegian system related to compliance and consequences of breach of requirements is strict, and this is the reason for the time limit to comply with the requirements of the scheme, cf. section 11 above. In order to avoid unmerited exclusions from the tax scheme, companies that have breached the requirements, generally have a two-month time limit to fulfil the requirements, running from the breach came into being. Fulfilling the requirements within the indicated time limit allows the companies to stay within the special tax system. If the breach is insignificant or caused by circumstances outside the control of the company, the two-month time limit runs from the moment the company ought to have discovered the breach.

The tax authorities can extend the time limit, if the company proves that it will be particularly difficult to fulfil the requirement within the time limit. The tax authorities have taken a strict view on the application of this clause. The exception will not be applied in cases where a correction of the breach within two months is merely less convenient or more costly than a delayed correction.

If a requirement is breached again within 3 years from the last breach was corrected, no time limit to fulfil the requirements will apply, and the company has to revert to corporate taxation. The company is then excluded from the shipping tax scheme for the duration of the lock-out period, cf. section 10.2 of this letter.

This general time limit to comply will be carried forward in the new scheme that will come into force 1 January 2018.

In addition, due to the strict rules applicable to breach and exclusion, the Ministry intends to apply an extended time limit to fulfil the new requirements that will come into force as of 1 January 2018 concerning bareboat chartering out and the new requirements for non-self-propelled vessels concerning gross register tonnage and registration, cf. sections 5.7 and 7.2 of this letter. The extended time limit to comply will be applicable to these amendments and allow for timely adjustments on the side of the industry.

The new requirements may trigger a variety of actions necessary to adjust activities and allow for continued presence within the special tax scheme. Contracts that do not comply with the new requirements may in some cases be renegotiated. Another possible action is to transfer vessels to companies in non-EEA countries, by demergers, transfers within the company group or sale of vessels to non-related parties. All of these alternatives would involve negotiations with contracting parties, co-owners, bank connections etc. The extended time limit allowing for these renegotiations and re-organisations will be necessary for companies to adjust to the new rules on bareboat chartering out and for the registration and 1000 GRT requirements concerning non-self-propelled vessels.

Although it is not possible to state the exact hypothetical length of a process leading up to a renegotiated agreement, sale or demerger, it will take a considerable amount of time. The duration of the adjustment process will vary between enterprises, depending on the initial structure of the business, ownership, financing etc. Based on a Government proposal, outlining the details of the new requirements, individual enterprises may begin preparations, analysis, negotiations, processing of applications by public authorities etc. Depending on the country in question, the necessary clarifications and response needed in order to adjust may be challenging to obtain during the summer months, in particular concerning public offices and financial institutions. The extended time limit means that the autumn months of September and October will be available for companies to finalize the necessary re-organisation of activities.

The transitional rule is limited to the minimum necessary, both as regards its length (see above) and scope. Firstly, the transitional time limit cannot be extended by the tax authorities. Second, the transitional provision will be applicable only to company groups that are already taxed within the scheme for the income year of 2017. New company groups entering the shipping tax scheme on the other hand, will in any event have to comply with the new requirements as of 1 January 2018.

Companies that fail to comply with the requirements on 1 November 2018 will exit the scheme as from 1 November 2018. This implies that all income, regardless of their eligibility for the scheme, will be taxed under the ordinary company taxation rules for the period of 1 November 2018 to 31 December 2018. Income received before 1

November 2018 will be taxed under the special tax scheme. The distribution of income could be based on the principles used when a taxpayer transfers to or from a divergent financial year.

With the new requirement concerning chartering in on time charter/voyage charter terms cf. section 7.4, we do not expect that there will be a great need for adjustments among the enterprises within the Norwegian shipping tax scheme.

The new tonnage tax rates will apply fully as of 1 January 2018.

15. AMOUNT OF AID

Based on average profits and taxes paid for the period 2012-2014, the Ministry of Finance has estimated the annual tax expenditure to NOK 200 million and the tax expenditure in total for the period 2018-2027 to NOK 1 900 million. The actual tax expenditure will depend on the development of profits within the shipping sector during the 10-year period.

16. CONCLUDING REMARKS

To the assessment of The Ministry of Finance, the notified measure constitutes state aid within the meaning of Article 61(1) of the EEA Agreement.

The Authority approved the Norwegian Shipping Tax scheme in 2008 (Decision 755/08/COL) with reference to the Maritime Guidelines Section 1.2.(c) Paragraph 4. It follows from the discussion above that the Ministry of Finance finds that the notified measure complies with the Maritime Guidelines and should be held compatible with the EEA Agreement Article 61(3)(c).

Yours sincerely,

Bjørn Berre
Deputy Director General

Hallvard Rue
Legal Adviser

This document has been signed electronically and it is therefore not signed by hand.

Appendix 1: Net tonnage and companies within the Norwegian special tax system for shipping 2006-2014

	31 December 2006	31 December 2007	31 December 2008	31 December 2009	31 December 2010	31 December 2011	31 December 2012	31 December 2013	31 December 2014
Net tonnage EEA-registered	3 574 169	3 303 526	4 404 905	4 381 201	4 766 162	4 569 273	4 964 123	5 071 620	5 051 240
Net tonnage not EEA-registered	788 233	954 768	1 553 198	1 517 251	1 470 408	1 428 238	1 761 669	2 006 745	2 299 979
Net tonnage total	4 362 402	4 258 294	5 958 103	5 898 452	6 236 570	5 997 511	6 725 792	7 078 365	7 351 219
No. of limited companies under the scheme	448	492	505	546	604	599	602	635	686
No. of partnerships under the scheme	233	271	272	273	257	255	255	270	265

Store muligheter for norske rederier innen havvind

Vindkraft i Europa

Vindkraft utgjør en betydelig næring i Europa med over 300 000 jobber og 72 mrd. euro (omtrent 660 mrd. kroner) i årlig omsetning. Vindkraft representerer videre et vesentlig potensial for dekarbonisering av energiproduksjonen, bidrag til energisikkerhet og et konkurransefortrinn for europeiske selskaper, og er den fornybare energiteknologien som forventes å gi det største bidraget til Europas fornybare mål for 2020 og utover.

I følge Wind Europe, interesseorganisasjonen for vindkraftprodusenter og leverandører til vindenergisektoren i Europa, utgjør installert vindkraftkapasitet i EU nå totalt 153,7 gigawatt (GW). Dette betyr at vindkraft har gått forbi kull som den nest største formen for kraftproduksjon, bare slått av gass. Vindkraft står nå for 17 pst. av totalt installert kapasitet for kraftproduksjon i Europa. I 2005 var andelen bare 6 pst.

I 2016 ble det generert 300 TWh med elektrisitet fra vindkraft. Dette dekker 10,4 pst. av EUs totale elektrisitetsbehov, med relativt høye markedsandeler i land som Danmark (42 pst.), Spania (20 pst.), Tyskland (13 pst.) og Storbritannia (11 pst.).

Mesteparten av vindkraftproduksjonen finner sted på land; 141,1 GW av kapasiteten finnes på land mens 12,6 GW er til havs. Så mye som 12,5 GW vindkraftkapasitet ble installert i 2016. Dette tilsvarer 51 pst. av all kraftkapasitet som ble installert i Europa i fjor. Nesten halvparten av vindkraftkapasiteten ble installert i Tyskland (44 pst.), etterfulgt av Frankrike (13 pst.) og Nederland (7 pst.). Tyskland er dermed fortsatt det største vindkraftmarkedet i Europa, etterfulgt av Spania, Storbritannia og Frankrike. Til sammenligning ble 6,7 GW solenergi installert, noe som utgjorde 32 pst. av all kapasitet for kraftproduksjon i Europa i 2016.

Havvind

Havvind (også kalt offshore vind) representerer et betydelig potensial for fornybar energiproduksjon i Europa og andre steder i verden, som Kina, Japan, Sør-Korea og USA. Europa er likevel globalt ledende innen havvind, og det mest modne markedet. Mens havvind i andre steder i verden er i en tidlig fase, kan sektoren vise til over 20 års erfaring i Europa. Europa er dermed den viktigste regionen for utvikling av havvindteknologi. Det forventes en sterk vekst i denne sektoren fremover.

Siden 2012 har det vært en kontinuerlig økning i energiproduksjonen fra havvind. Det produseres 13 GW fra 3 589 vindmøller i 82 vindparker til havs i 10 land. Til sammenligning produseres det rundt 1 GW fra 25 vindkraftverk (på land) i Norge (ref. Meld. St. 25 Kraft til endring).

Av vindkraftkapasiteten som ble installert i fjor (12,5 GW), utgjorde havvind 1,6 GW, eller omtrent 13 pst. Alt dette ble installert i Nordsjøen, med mesteparten utenfor kysten av Tyskland og Nederland.

I 2016 ble det investert 27,5 mrd. euro (252 mrd. kroner) i utvikling av havvind i Europa. Dette var 5 pst. mer enn i 2015. Det ble også foretatt beslutninger på å investere ('Final Investment Decision', FDI) i 11 havvindprosjekter i Europa til en verdi av 18,2 mrd. euro (167 mrd. kroner) i årene fremover. Når disse utbyggingene er fullførte, vil total installert kapasitet fra havvind ha økt med 4,8 GW til 17,4 GW. Frem til 2020 anslår Wind Europe at installert havvindkapasitet vil vokse til 24,6 GW. Dette utgjør en vekst på 16 pst. p.a.

Storbritannia har størst andel (41 pst.) av totalt installert havvindkapasitet i Europa, etterfulgt av Tyskland (33 pst.), Danmark (10 pst.) og Nederland (9 pst.).

Flytende havvind

Mesteparten av de vindmøllene som er montert til havs er bunnfaste. Disse vindturbinene er avhengige av relativt grunne havområder, med dybder som er mindre enn noen titalls meter (ofte maks 60 meter). Jo dypere, desto dyrere og vanskeligere blir det å installere bunnfaste vindmøller. Grunne områder med god vind er begrenset. I Nordsjøen ser vi nå økende arealkonflikt. I mange områder der det installeres havvindturbiner, eksisterer det også høy biologisk verdi. I tillegg ligger mange av disse grunne områdene nær land. Med bakgrunn i biologisk mangfold, fiskerier og skipsfart, legges det dermed begrensninger på fremtidige utbygginger av vindkraft til havs i grunne havområder.

Vinkraft lenger ut fra land har større potensial, med større og mer kontinuerlig vindstyrke. Havdybden er derimot også større, noe som betyr at bunnfaste installasjoner ikke er fysisk mulig eller kommersielt interessante. Flytende vindturbiner kan anlegges i slike havområder siden de ikke er avhengige av grunt vann. Dette er imidlertid en langt mindre utviklet teknologi. I dag finnes ingen større vindparker med flytende vindturbiner, kun ulike demonstrasjonsprosjekter og prototyper i Norge, Portugal og Japan.

Mens bunnfast havvind etter hvert har blitt vanlig, har utviklingen av flytende vindkraft hengt etter. Dette kan skyldes at de tekniske utfordringene er mindre ved bunnfast vindkraft, men også at de landene som nå er førende i utbyggingen av vindkraft til havs, som Storbritannia, Tyskland og Danmark, har hatt god tilgang på grunne havområder. De siste fem årene har imidlertid flere og flere land investert mer i forskning og utvikling av teknologi til flytende havvind. Dette fordi det er ventet at flere og større vindparker vil bygges ut på større og større havdyp. Massachusetts Institute of Technology, MIT, kunne i mai 2016 rapportere om at det eksisterer over 40 utviklingsprosjekter innen flytende havvind globalt. I de kommende årene vil vi se flere flytende havvindinstallasjoner i land som Storbritannia, Frankrike og Tyskland. Statoils Hywind-prosjekter utenfor Karmøy og Skotland er to slike prosjekter.

Avstand fra land for nye vindparker øker betraktelig, og flere vindparker som nå er under planlegging ligger opptil 200 km fra land. I tillegg til selve lengde, øker også størrelsen på vindmøllene (alt fra blader og turbiner til understell og transformatorer), lengden på strømkablene og kompleksiteten rundt prosjektering, installasjon og vedlikehold når man beveger seg såpass langt fra land. Dermed øker også behovet for blant annet mer spesialiserte skip. Antall nybyggete og konverterte servicefartøy og fartøy til transport av personale (SOV= Service Operation Vessels og CTV = Crew Transport Vessel¹) til havvindmarkedet har vokst med ca. 57 pst. årlig siden 2012, en økning som er ventet å fortsette også i 2017.

Muligheter for norske selskaper

Av den akkumulerte kapasiteten som er gitt konsesjon i Europa, representerer Nordsjøen så mye som 78 pst. (ved utgangen av 2015). Vår egen konjunkturrapport for 2017 viste nylig at Norge og Storbritannia totalt sett er de viktigste markedene for norske rederier. I rapporten fremkommer det også at norsk og britisk sokkel er viktigste markedene for offshore service-rederiene og for offshore entreprenørene. Dette er også de rederisegmentene som anser havvind som mest interessant (rundt

¹ SOVs benyttes når avstanden til havvindparkene er lenger enn 65 km fra land. CTVs benyttes når avstandern er lenger enn 30 km. For avstander mellom 30 og 65 km benyttes også helikoptere ved enkelte parker i tillegg til CTV.

90 pst. av offshore service-rederiene oppgir at de anser havvind som interessant for sin virksomhet). Det er gjennom utvikling og markedsføring av teknologi og løsninger som i første rekke er relevant for det europeiske markedet at norske selskaper utløser sitt verdiskapsingspotensiale i relasjon til havvind. Nordsjøen er med andre også hjemmemarked for de norske aktørene som ønsker å satse på havvind. Havvind representerer dermed en gylden mulighet for utvikling av nye kunnskapsbaserte arbeidsplasser også i Norge.

Sammen med Norsk Industri, DNV GL, Norwea, Christian Michelsen Research og Institutt for Energiteknikk, og basert på fremskrivningene til Wind Europe og konsulentselskapet EY, anslår vi markedsstørrelsen i Nordsjøen mellom 2025 og 2040 til å utgjøre 60 GW. Med et slikt utgangspunkt oppgir norske selskaper som inngår i verdikjeden for havvind at verdien av markedstilgang i havvindmarkedet vil utgjøre 60 mrd. kroner over denne perioden.

De norske fortrinnene innen havvind er forsterket ved at havvindparkene blir større, mer komplekse og legges lenger fra land. Dette gjør også støtte- og operasjonsaktiviteter viktigere i et kostnadsperspektiv, og gir økte mulighetsrom for en bredere del av norsk havbasert industri. En strategi fra Europakommisjonen for europeisk lederskap innen havvind peker videre på reduserte installasjons- og servicekostnader, samt utvikling av teknologi for havvind på dypere vann, som drivere. Dette passer det norske utgangspunktet svært godt.

Norske rederier med aktivitet i havvindmarkedet

I 2015 vant norske rederier kontakter for nærmere 3,2 mrd. kroner i havvindmarkedet, eller i underkant av 1,5 pst. av de totale investeringene.

En rapport om mulighetene for norske selskaper i havvindmarkedet utført av Make Consulting for INTPOW (nå Norwegian Energy Partners), Eksportkreditt Norge og olje- og gassklyngen Greater Stavanger, viser at en rekke norske selskaper allerede har aktivitet knyttet til havvind. Rapporten viser at norske selskaper leverer til følgende havvindsegmenter (med oversikt over hvilke norske rederier som leverer til disse, ikke uttømmende).

Aktivitet	Norske rederier involvert
Havbunnsundersøkelser	DeepOcean, Dof Subsea, Subsea7, Technip
Produksjon av fundament (såkalte tripods og jackets)	N.A.
Installasjon av vindturbiner og fundamenter, også på havbunnen	Eide Marine Services, DeepOcean, Dof Subsea, Subsea7, Technip, Fred. Olsen
Produksjon av undervannskabler	N.A.
Installasjon av undervannskabler	Reef Subsea, DeepOcean, Dof Subsea, Siem Offshore, Subsea7, Technip
Leverandører av kabelleggingsfartøy	Eide Marine Services, Siem Offshore, Ugland Construction, Olympic Shipping, Gc Rieber, Volstad, Solstad Offshore

Produksjon av transformatorstasjon	N.A.
Installasjon av transformatorstasjon	Eide Marine Services,
Underleverandører til segmentene nevnt over	Fred. Olsen, Havila Shipping, North Sea Shipping, Oddfjell Wind, Siem Offshore, Subsea7, Technip, Uksnøy & Co., Østensjø Rederi

To case

Fred. Olsen Windcarriers installerte USAs første offshore vindmøllepark sommeren 2016. Jack-up-installasjonen 'Brave Tern' fraktet installasjonene fra Europa til USA, før havvindmøllene ble installert på 'Block Island' utenfor Rhode Island i Connecticut.

De fem Alstom Haliade-turbinene (6 MW) ble installert på 22 meters dyp og produserer 125 000 MWh i året. Det skal være nok til å dekke elektrisitetsbehovet til 17 000 amerikanske hjem.

Fred. Olsen Windcarrier har gjennom flere år installert de aller største havvindturbinene i Nordsjøen ved hjelp av sine spesialiserte installasjonsfartøy.

Østensjø Rederi AS bygger to spesialfartøy (SOV) for havvind for levering i henholdsvis 2017 og 2018. Fartøyene vil operere utenfor den engelske østkysten med basehavn Grimsby. Skipene bygges etter at rederiet inngikk en befraktningsavtale med danske Dong Energy i 2015. På grunn av reduserte oppdrag i petroleumsnæringen har Østensjø Rederi sett etter nye områder der de kan bruke sine fartøy, mannskaper og kompetanse fra offshorevirksomhet. Havvind anses som et attraktivt forretningsområde både for eksisterende og nye fartøyer.



Arkiv/Saksnr.
/11/00248

Oslo
12. oktober 2016

LCT
001

Den norske rederiskatteordningen – utleie av skip på bareboat-vilkår

I forbindelse med EU-kommisjonens revisjon av statsstøtteretningslinjene for skipsfart i 2012 gjennomførte Rederiforbundet en spørreundersøkelse blant medlemmene, der det blant annet ble stilt spørsmål om hvilke konsekvenser det vil ha for selskapets virksomhet dersom skip kun kan leies ut på bareboat-vilkår *i konsern*, og *utenfor konsern ved midlertidig overkapasitet*.

- Medlemsundersøkelsen ble sendt ut til ca. 150 medlemmer, og den ble besvart av 59 medlemmer.
- Av de 59 medlemmene svarte 36 at de har skip i den norske rederiskatteordningen.
- Av de 36 svarte 9 at de leier ut skip på bareboat-vilkår til selskap utenfor konsernet.
- For de 9 rederiene var i snitt 36 pst. av totaltonnasjen leid ut på bareboat-vilkår.
- De 9 rederiene uttrykte at en begrensning av utleie av skip på bareboat-vilkår til midlertidig overkapasitet ville få svært negativ innvirkning på deres rederivirksomhet. Tilsvarende ble uttrykt av flere andre rederier som i 2012 ikke leide ut skip på bareboat-vilkår.

Vi vet at flere medlemmer som ikke svarte på undersøkelsen leier ut skip på bareboat-vilkår til selskap utenfor konsernet. Dette gjelder blant annet flere offshore-rederier.

Vårt inntrykk er også at det varierer en del fra år til år hvor mange skip som er leid ut på bareboat-vilkår. Dette har blant annet sammenheng med kundens ønsker og behov, som igjen varierer med markedssituasjonen og hvilke prosjekter de er engasjert i. Som nevnt er medlemsundersøkelsen fra 2012, og antall skip som leies ut på bareboat-vilkår kan derfor nå være høyere eller lavere.

Lars Christian Tønder

A. P. M. Britto (In Memoriam)
A. C. Mendes Vianna (In Memoriam)
J. M. Guerreiro Jr.
G. Mendes Vianna
C. M. V. Cardoso
M. L. Malta
I. Jaeger Jr.
B. L. Mendes Vianna
R. R. Riff
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Rio de Janeiro, April 10, 2013

To
NORWEGIAN SHIPOWNERS ASSOCIATION

via email rcf@rederi.no

Attention: Mr. Ricardo Cesar Fernandes

Reference: Memorandum on Normative Resolution 72 and the possibilities of interpretation of the rule

Dear Sirs,

As per your request, please find below a memo on the Ministry of Labor's Normative Resolution 72, which deals with the proportion of foreign and Brazilian employees in vessels operating in Brazilian Territorial Waters, including the divergent interpretation of the referred rule, especially in regards to subsections I and II of art. 3 of the referred rule.

We remain at your disposal for further clarification.

Sincerely,

KINCAID – MENDES VIANNA ADVOGADOS

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I – THE CONSULTATION

NORWEGIAN SHIPOWNERS ASSOCIATION, represented by Mr. Ricardo César Fernandes (hereinafter “Client”) requested us to prepare a legal opinion on the Ministry of Labor’s Normative Resolution 72, especially on the interpretation of subsections I and II of art. 3 of the cited rule.

Client’s intent by requesting this opinion is to clarify definitely the intent of the rule, thus bringing greater juridical security to the commercial relationships established by its associates.

In this respect, we were requested to answer the following questions:

With respect to subsection I of art. 3:

1. What is the correct interpretation of the rule?
2. In light of such rule is it possible not to have any Brazilian worker in any hierarchical level on the vessel?
3. In the event the Legal Opinion concludes that the answer to item 2 is negative, i.e. that it is mandatory to have Brazilians in all hierarchical levels of the crew, should the proportion that must be observed take into consideration the number of employees in the department or does the proportion that the rule refers to respect only the total of the crew? Example: one vessel with 30 crewmembers listed under situation 2 of the rule, as described above (b), that is, that should have 15 Brazilian professionals to form a six-person department, is it necessary to have 3 Brazilian crewmembers, or having any Brazilians at all (at least one) and meeting the requirement of 15 in the crew as a whole, would the rule have been complied with?

About subsection II of art. 3:

1. Should the fraction of Brazilian professionals imposed by the Resolution be necessarily and exclusively applied to the total number of foreigners on board, regardless of the normative reference to “total of professionals existing on board the ship”?
2. Should the number of Brazilians on board be considered in the calculation of the fraction of Brazilian nationals required on board?
3. Should the non-continuous activities also be computed for the purposes of calculation of the proportion in the cases of subsection II of art. 3 of RN 72?

For easy reference, we will address the questions posed in the order they were asked.

II – POSSIBLE INTERPRETATIONS OF MTE’S NORMATIVE RESOLUTION 72

II.A) Introduction and overview

Normative Resolution 72 disciplines the hiring of foreign professional for the work on board vessels or platforms in Brazilian Jurisdictional Waters, stipulating the procedures for issuance of visas.

In addition to making provisions about visas for crewmembers, Normative Resolution 72 sets forth the obligation to hire a certain proportion of Brazilian professionals in foreign vessels. This proportion increases in accordance with the period of time that the vessel stays in the country. Please see below the referred legal provision:

“Art. 3 When foreign vessels or platforms are operating in Brazilian Jurisdictional Waters for a period that exceeds ninety consecutive days, Brazilian seamen and other Brazilian professionals shall be hired in the same proportion, with observance of the following conditions:

I – for vessels utilized in maritime support navigation, defined as the one carried out for logistic support to vessels and facilities operating in the activities of research and processing of minerals and hydrocarbons:

- a) as from ninety days of operation, one third of the total of existing professionals on board in all technical levels and in all continuous activities shall be Brazilians;*
- b) as from one hundred eighty days of operation, one half of the total of existing professionals on board in all technical levels and in all continuous activities shall be Brazilians; and*
- c) as from three hundred sixty days of operation, two thirds of the total of existing professionals on board in all technical levels and in all continuous activities shall be Brazilians.*

II – for exploration or prospection vessels, as well as platforms, defined as fixed or floating facilities or structures intended for the activities directly or indirectly related to the research, exploration and exploitation of resources originated from inland waters and their subsoil or from the sea, including from the continental shelf and its subsoil:

- a) as from one hundred eighty days of operation, one fifth of the total of existing professionals on board shall be Brazilians;*
- b) a as from three hundred sixty days of operation, one third of the total of existing professionals on board shall be Brazilians; and*
- c) a as from seven hundred twenty days of operation, two thirds of the total of existing professionals on board shall be Brazilians.*

III – for vessels utilized in coastal navigation, defined as the one carried out between ports or points within the Brazilian territory, using seaways or the latter and inland waterways:

- a) as from ninety days of operation, one fifth of the seamen shall be Brazilians, rounding it up to the subsequent whole number in case of a fraction equal to or lower than five tenths, in each technical level (ranked and unranked officers) and in each field of continuous activity (deck and engines); and*
- b) as from one hundred eighty days of operation, one third of the seamen shall be Brazilians, rounding it up to the subsequent whole number in case of a fraction equal to or lower than five tenths, in each technical level (ranked and unranked officers) and in each field of continuous activity (deck and engines)”. [Emphasis added]*

Please note that the rules vary according to the type of operation: maritime support, exploration, prospection or research vessels and platforms, and coastal navigation.

In view of the divergences in the wording for the three different operations, there are doubts in respect of the interpretation of the rule of proportion in each of the activities.

The legal interpretation of the rules follows some pre-established rules, which we resort to in case of doubt.

In this regard, we have Complementary Law No. 95 which governs the rules of normative wording, stipulating some criteria for the creation of legal texts, which we shall use to permeate our interpretation.

Art. 11 of the cited Complementary Law 95 provides as follows:

“Art. 11. Normative provisions shall be written clearly, precisely and with a logical order, with observance for such purpose of the following rules:

(...)

II – to obtain precision:

(...)

b) to express the idea, when repeated in the text, by way of the same words, avoiding using synonyms with a mere stylistic purpose;”[emphasis added]

From the rule above, we extract the principle of interpretation that the law or rule does not contain any useless word, so that, in case different words are used, the interpretation shall be in the sense of establishing different meanings for each situation.

Another legal norm interpretation rule states that right restricting legal provisions shall be construed in the most beneficial way for the party who has his/her rights restricted.

Lastly, we point out that even though the rule in Normative Resolution 72 is a rule that restricts the right of companies freely hiring professionals they choose, and therefore is subject to interpretation rules that are more favorable to the party who has her rights restricted, this is a public interest rule and it aims at protecting the Brazilian manpower and as such could be construed by the authorities more strictly to assure its protectionist purpose.

It is based on such fundamental principles that we establish the backbone of our opinion below.

II.B) With regard to item I, of art. 3

The referred item introduces the following wording relative to the rule for calculating the percentage of Brazilians: *“Brazilians out of the total of existing professionals on board, in all technical levels and activities of continuous nature”*.

II.B.1) What is the correct interpretation of the rule?

The wording of this provision is not clear whether the proportionality must be observed in **every** technical level (as required for cabotage¹) or simply for the **total number** of professionals on board (as required for exploration or prospecting vessels and platforms²).

As it can be read above, the rule sets out that such proportions in the offshore support must apply considering the “***the total number of professionals on board, in all technical levels and in all activities of continuous nature***”. The rule does not mention “***each technical level***” and “***every activity***”, as it does in coastal navigation (cabotage), but neither mentions only the “***total number of professionals on board***” so directly as it does for exploration and prospecting vessels and platforms.

As per our understanding, there are arguments defending that the proportion in the offshore support must be calculated based on the **total number** of professionals on board considering only the activities of continuous nature.

In other words, the total professional on board must be considered, but only in continuous nature activities. The professionals occasionally on board by virtue of maintenance to a specific equipment would not be considered, but those professionals on board in a number superior to the number required in the Safety Navigation Certificate within those activities listed on the SNC would be considered for calculations purposes³.

Our view is still that the wording of item I sets out which proportion must be observed in relation to the total number of crewmembers on board, regardless their respective levels or activities. If the lawmaker wished the proportionality to apply to **each** level and **every** activity, he would have written the rule for offshore support with the same wording given for cabotage in item III.

It is important to highlight that although this is our own interpretation, this thesis has not been tested yet before the public authorities, therefore, the interpretation from the Ministry of Labour, Public Prosecution Office, Immigration Council is not known yet, not even from PETROBRAS in this regard.

Therefore, it cannot be discarded the risk of the Ministry of Labor, the immigration authorities, and Petrobras as well to acknowledge that the proportion in the offshore support must be applied to every technical level and every activity developed, as it occurs with cabotage.

¹ According to item III of the same art. 3.

² According to item II of the same art. 3

³ It is important to highlight that we have been informed by several visa companies that operate in the market that the interpretation of this item should take into account only the number of professionals shown on the Safety Navigation Certificate, however, we believe that such interpretation lacks legal support.

Moreover, the definition of “technical level” and “activity” would be those attributed by the own Resolution, in its art. 3, III, when dealing with cabotage. Therefore, technical level would be split into officers, graduated and undergraduate; and field of activity would be split into deck and engines.

In other words, according to the most conservative interpretation, the proportion of foreigners on board offshore support vessels, as of one year of operation, should be the maximum of 1/3 among officers, graduates and undergraduates. Furthermore, at most 1/3 of foreigners should work in the deck, as well as with the engines.

Another doubt raising from the practical application of the Resolution 72 refers to the proportion in the hypotheses of numbers that are not multiple of three (in case of less than 90 days or more than one year of operation) or odd numbers (in case of 180 up to 360 days of operation). In these cases, we understand that the number of Brazilian professionals must always be rounded to the nearest whole number, inasmuch as such percentages represent the **minimum** required by the rule. Thus, if the number of Brazilians were rounded down (for a smaller round number), the minimum percentage would not be met.

II.B.2) Under the aegis of such rule can any hierarchical level on board to have no Brazilians in its composition?

We understand that there must have Brazilians in all technical levels and in all activities. Should their presence be unnecessary, the wording of item I would be equal to the wording of item II, that is, only setting out the proportion of Brazilians out of the total of professionals on board.

However, since the expressions “at every technical level” and “at every activity” were not used, as in the case of item III, we believe that only the presence of at least one Brazilian at every technical level and at every activity is sufficient, but not the total proportion at every level or every activity.

II.B.3) In the event the Opinion renders a negative conclusion as to the issue questioned in item 2, i.e., should the presence of Brazilians at all hierarchical levels of the crew be a determinant factor, the proportion to be observed must take into account the quantity of members who make up the department or the proportion the rule makes reference concerns only the total of crewmembers? For instance: A vessel composed by 30 members, shown in situation 2 of the rule, as transcribed above (b), that is, obliged to count with 15 Brazilian professionals to compose a department of 6 persons, is it necessary to have 3 Brazilian members, or existing any Brazilian (at least one) and abiding by the 15 of the crew as whole, would this rule be met?

As described above, we understand that in this case if there is at least one (01) Brazilian and once observed the total proportion of the crew, the rule was being met.

II.C) With respect to item II of art. 3:

” The wording of item II sets forth as follows with regard to the calculation of Brazilian professionals: “ shall count with _____ Brazilians out of the total of existing professional on board;”

II.C.1) *Must the fraction of Brazilian professionals imposed by the Resolution be necessarily and uniquely applied over the number of foreigners on board, notwithstanding the normative reference to “total of existing professionals on board”?*

We understand that the fraction of Brazilians must be calculated over the total of professional on board and not only over the number of foreigners.

Thus, as of the first 90 (ninety) days up to 180 (one hundred and eighty) days, the crew must count with 1/5 (one fifth) of Brazilian over the total of professionals on board. In other words, if the total of professionals on board is 30 (thirty), at last 6 (six) of them must be Brazilians.

II.C.2) *Must the number of Brazilians on board be considered upon calculating the fraction of nationals required on board?*

Affirmative, we understand as correct

II.C.3) *Must the non-continuous nature activities also be calculated for purposes of computing the proportionality in the cases of item II of art. of the RN 72?*

Since the words “*in continuous nature activities*” have not been repeated in item II, as it has been made in item I, we understand that in the case of item II all professionals on board must be considered, including those involved in non-continuous activities.

III – MEASURES TAKEN BY THE INDUSTRY: APPLICATION FOR TIME EXTENSION AND FLEXIBLIZATION.

The segment in general has been facing difficulties to comply with the Normative Resolution 72, as there is no great quantity of seafarers available in the market, and when these seafarers are available, their hiring costs are quite high, and most of the time these workers are not qualified for performing the job.

The issue relative to lack of qualified labor in Brazil becomes even more serious with the strong expansion of the oil and gas industry and the internal market protectionist rules, such as local content requirements, being the Normative Resolution 72 inserted in this context.

We became aware that some companies requested a time extension in order to meet the proportionality rules according to the stipulated in art. 3 of the Sole Paragraph of Resolution 72 which sets forth as follows:

“Sole Paragraph. The Ministry of Labor and Employment will set forth the procedures for analysis of justified request for extension of the time limits provided for in this article, including consultation to the representative union of the professional category. “

We are aware of some extensions granted and many others that remained under analysis during the entire period of time estimated for its validity, granting the applicant companies defence arguments in the sense of suspending the obligation to fully comply with the rule until the request is definitively denied.

However, the risk of applying for such a time extension is that the same may subsequently be construed as an assumption of fault. In other words, if Client is applying for a time extension in order to comply with the Normative Resolution 72 is because he knows that he is not in conformity with the precepts of this Resolution. As soon as the time extension ends, the Client would be more exposed should it not be possible for him to increase the proportion of Brazilian professionals up to minimum required.

Please note that such application for time extension must be independently made by each company for each specific situation. Therefore, in principle, the extension period would be granted only to the applicant company and in relation to specific vessels.

On the other hand, the sector has been trying to face this matter by means of fewer restriction requests of Resolution 72 through the Brazilian Association of Offshore Support Companies – ABEAM and National Union of Maritime Navigation Companies – SYNDARMA. Such requests aim at altering the law, providing for more flexible rules, which would certainly benefit the entire the sector.

Despite all efforts exerted by the sector, there are no reasons for us to believe that the Normative Resolution 72 will be revoked in a near future. As mentioned above, the Normative Resolution 72 is aligned with the Brazilian government’s policy in the sense of increasing the local content in the oil and gas sector.

IV – CONCLUSION

The Normative Resolution 72 is somewhat confused with regard to the calculation of the compulsory proportion of Brazilian and foreign professionals on board offshore support vessels. It is not clear, particularly with respect to item I, addressed to offshore support vessels, whether the proportion must be observed at every technical level or total of professionals. It is understood as technical level the officers, graduated and undergraduate; and activities are those carried out at the deck or in the engines.

The thesis that the proportion of Brazilians and foreigners in offshore support segment could be calculated in relation to the total of professional on board (as it occurs on the platforms), and not in relation to every technical level and every activity (as it occur in cabotage) has not

been tested yet and there is the risk of the authorities fail to accept them and demand that the proportion be observed in every technical level and activity.

In cases of non-multiple numbers, note that the percentage of Brazilians required (1/3, ½ and 2/3, progressively) is the minimum percentage. Therefore, the number of Brazilians required must be rounded to the next whole number, under the penalty of not meeting the minimum percentage.

Many companies are facing difficulties to meet the Resolution 72 and some of them have also requested a time extension before the Ministry of Labor. The downside in applying for a time extension is that once expired the time extension, the company is further exposed in the event said company is unable to meet the Resolution. On the other hand, during the period of extension granted, the company would be under a regular status and safeguarded from penalties imposed by the Ministry of Labor or PETROBRAS.

At last, the sector has been attempting to alter Resolution 72 by means of requests for more flexible rules filed by ABEAM and SYNDARMA along with the Ministry of Labor, however, so far, there is no reason to expect any alteration to the law in the near future.

We hope the above comments are responsive to your needs, and we remain at your disposal should any additional clarifications be needed on the above captioned matter.

Very truly yours,

KINCAID – MENDES VIANNA ADVOGADOS

Case Study From



North Atlantic Canada: Local Content Requirements¹

Canada, like many other countries, is focusing on local content requirements (employment, training and purchase of goods or services) for companies that want to develop its oil and gas resources. In Canada, especially in the provinces of Newfoundland and Nova Scotia, where this issue has developed, the Offshore Petroleum Boards are the ones that require companies to submit documentation with information about benefits for the provinces.

➤ *Is it riskier to undertake any development project in North Atlantic Canada?*

- *How do local content requirements affect the cost structure of companies?*
- *What are some worldwide trends related to local content requirements?*

Background²

Canada is a significant energy exporter, and part of the current Canadian economic boom results from high world energy prices. In 2000, energy accounted for almost two-thirds of Canada's large trade surplus. Canada is one of the few highly industrialized economies that benefits from higher world oil and other energy prices. However, revenues flow mostly into the energy-rich province of Alberta, while the average Canadian consumer pays higher energy prices. Canada has become a significant net energy exporter. In 2001, the United States imported more oil (including crude oil and petroleum products) from Canada than from any other country. The United States also consumes large amounts of Canadian natural gas, which accounted for 93% of U.S. gas imports and 14% of U.S. gas consumption in 2001.

Oil

Canada has proven oil reserves of 4.4 billion barrels, as of January 2002. Oil production averaged 2.8 million barrels per day (b/d) on 2001, with estimated



¹ This case study was prepared using publicly available information.

² From www.eia.doe.gov

consumption of 2.0 million b/d. Alberta, in western Canada, is by far the country's leading oil producer, accounting for almost 60% of Canadian oil production in 1999. However, the province now faces decreasing reserves. Meanwhile, projects and potential projects in other provinces are shifting the oil industry focus to include the eastern and northern parts of the country. The Canadian oil industry is in the midst of consolidation, reducing the number of active companies. The largest companies operating in Canada are Exxon's Imperial Oil, Royal Dutch/Shell's Shell Canada, Petro-Canada, and Suncor. Mobil also is active in Canada, and there are no plans to merge ExxonMobil's Canadian affiliates.

There has been considerable exploration activity throughout Canada, not just in the traditional producing province of Alberta. In remote northwestern Canada, parts of the Mackenzie Delta and Beaufort Sea will be explored by: Anderson Exploration and Petro-Canada (jointly); Shell Canada; BP Canada Energy, Burlington Resources, and Chevron Canada Resources (jointly); Anadarko Canada; and EOG Resources Canada. On the east coast, reserves in the Jeanne d'Arc Basin on the Grand Banks, offshore Newfoundland, have increased by 33% (536 million barrels) in the Hibernia, Hebron, and White Rose fields. The first project in the area, the Hibernia field, came onstream in 1997 and currently produces 150,000 b/d of light, sweet crude. ExxonMobil is the operator. The area's second project, Terra Nova, began production in January 2002 after several delays, currently has a capacity of 110,000 b/d and is expected to produce for about 15 years. The White Rose field is expected to be the third Grand Banks development, beginning production in 2004, although there are concerns that development will be prohibitively expensive. Finally, the Hebron field could prove worthy of development.

There is an extensive pipeline system to transport western oil to eastern Canadian and U.S. markets. There are two major pipeline networks. The first is Enbridge Pipelines Inc. (formerly Interprovincial Pipe Line-IPL), an 8,700-mile network of piping and terminals, delivering oil from Edmonton, east to Montreal and eastern Canada and the U.S. Great Lakes refineries and markets. The other major pipeline system is the Trans Mountain Pipe Line (TMPL), which delivers oil mainly from Alberta west to refineries and terminals in the Vancouver area, as well as to the Puget Sound area of Washington State.

Natural Gas

Canada holds about 60 trillion cubic feet (Tcf) of proven natural gas reserves, and additional reserves are thought to lie off the Canada's eastern coast between Newfoundland and Nova Scotia. Canada currently produces about 6.3 Tcf of natural gas per year, making it the world's third largest gas producer (after the United States and Russia) and second largest gas exporter (after Russia). Canada's gas exports go almost exclusively to the United States. Canadian gas consumption is projected to grow significantly in coming decades, largely for use in electricity generation. As natural gas production and infrastructure grow, there is a potential for emergence of a unified North American natural gas market.

Like the oil industry, Canada's natural gas industry is based primarily in Alberta, reaching into neighboring Saskatchewan, British Columbia, and the southern Northwest Territories. Another important industry focal point is offshore Atlantic Canada. Nova Scotia's Sable Island reserves are estimated at 0.8 Tcf. Offshore Newfoundland is thought to hold as much as 18.8 Tcf between the Jeanne d'Arc Basin (home to the Hibernia oil project) and the Ridge Complex. Sable Island Offshore Energy, a consortium led by Mobil Canada and including Shell Canada, Imperial Oil, Nova Scotia Resources and Mosbacher Operating, began production in January 2000. About 420 million cubic feet per day of natural gas is pumped from three reservoirs at Sable Island's Thebaud platform. The Arctic Northwest Territories and the Yukon are thought to hold great potential for new gas discoveries.

There has been considerable progress in recent years on gas interconnections between Canada and the United States. The Northern Border Pipeline, an extension of the Nova

Pipeline, came onstream in late 1999 and connects to Chicago through the upper Midwest. The Maritimes and Northeast Pipeline came onstream in January 2000, running from Sable Island to New England. The Alliance Pipeline is a \$2.5-billion, 1,875-mile pipeline, the longest ever built in North America, and is designed to carry about 1.3 billion cubic feet per day (Bcf/d) of gas from western Canada (Fort St. John, British Columbia) to the Chicago area. The pipeline began commercial service on December 1, 2000. The Millennium Pipeline remains in the regulatory approval stage of development; it is slated to connect Canadian sources to southern New York and Pennsylvania. Exploration and production activity in the Mackenzie Delta, Beaufort Sea, and Alaskan North Slope has sparked interest in an Arctic pipeline.

As Canada's energy interests shift to its northern and eastern regions, there is a need to understand what the provinces in those regions have experienced in the past to fully comprehend the magnitude of the local content requirements that certain organizations propose.

Emergence of the Atlantic Canada Offshore Industry³

From 1889 to 1912, federal lands owned by all Canadians were given to Quebec and Ontario. These were lands rich with sub-soil resources and great rivers which provide huge hydro electric capacity. In the 1930's British Columbia, Alberta and Saskatchewan were specifically granted valuable subsoil mineral rights. Prior to that these sub-soil rights belonged to all Canadians. When a similar expansion occurred with the 1976 Law of the Sea Convention and the 200-mile economic zone, Nova Scotia and Newfoundland believed the same principles should apply. The federal government disagreed and the matter ended up in court. Most of the provinces intervened on the side of Newfoundland, but the Supreme Court of Canada ruled in favor of the federal case. As a result of these differences, there was a deadlock in the offshore at the operating and management levels.

Atlantic Canada's offshore petroleum industry moved forward only after the Government of Canada and the Governments of Nova Scotia and Newfoundland and Labrador negotiated a pair of offshore accords in the mid 1980's. In the latter half of this decade the royalties from the Sable Project alone are projected to be approximately \$300 million a year. In Newfoundland their royalties could reach \$800 million a year. Very large financial numbers in relation to the size of provincial operating budgets. The problem is that for every dollar that flows to governments, the federal government is set to gain more than 80 cents. Nova Scotia on the other hand is set to gain less than 20. The result is that Nova Scotia is not the primary beneficiary of offshore development.

There are difficulties in trying to effect change. For example, the Canada Nova Scotia Offshore Petroleum Board (CNSOPB) is governed by two statutes these statutes, one federal and one provincial are "mirror legislation." Any change would need to be endorsed by both levels of government. However, the federal government would have a complementary interest in legislation effecting Newfoundland where they essentially have the same "mirror legislation" with the Newfoundland Offshore Petroleum Board (CNOPB). The fact that there are two offshore boards in Nova Scotia and in Newfoundland is a reflection of the fact that there is a significant jurisdictional debate.

At the present time the industry deals with a number of federal and provincial agencies, each of who deals with their own area of responsibility for example;

Provincial Departments & Agencies

³ From www.otans.com

- Department of the Environment and Labour
- Department of Natural Resources
- Nova Scotia Petroleum Directorate
- Department of Agriculture and Fisheries
- Nova Scotia Utilities and Review Board

Federal Departments & Agencies

- Human Resources Development Canada
- Canadian Coast Guard
- Canada Customs and Revenue Agency
- Canadian Environmental Assessment Act
- Department of Fisheries and Ocean Canada
- Environment Canada
- Natural Resources Canada
- Citizenship and Immigration Canada.¹²

Joint Federal – Provincial Agencies

- Canada-Nova Scotia Offshore Petroleum Board
- Canada-Newfoundland Offshore Petroleum Board

Canada Royalties

Payments made by producers to owners are termed *royalties*. Royalty instruments take various forms, such as lease bonuses, gross production shares, and profit sharing. The resource value on which royalties are ultimately predicated is *economic rent* – the value at the point of sale less economic costs of production. The two main methods to acquire rents are up-front payments and a flow of payments over time. Of the various royalty instruments, the most relevant in the context of the Atlantic Provinces regimes are gross royalties and resource rent royalties. A resource rent royalty (RRR) taxes resource profits above a stipulated floor level. It involves specification of a threshold return representing normal profits, no tax on returns up to the threshold, and a relatively high tax on returns in excess of it. Because a single threshold rate introduces bias in the presence of differential project risk, setting the appropriate threshold rate(s) is a major issue with an RRR.

Newfoundland's gross royalties are more lenient at earlier stages and more severe at maturity. Nova Scotia's net royalty rates are higher at higher profitability levels, but are imposed after award of more generous return allowances. Cost eligibility is much the same, except that Newfoundland allows compounding of return allowances. But Newfoundland does not provide relief for high-risk projects as does Nova Scotia. The royalty regimes in both Nova Scotia and Newfoundland are competitive when compared with relevant international practice. Thus the regimes are not vulnerable to criticism that the governments are not getting fair value for the resources on behalf of their citizens. By the same token, the fact that industry has endorsed the regimes and is making investments under them suggests there is no compelling need for reductions. Governments are not trying to grab too much and producers are not enjoying a free ride.

Local Content Requirements

In the provinces of Newfoundland and Nova Scotia a trend to increase local content requirements has developed. Below are some relevant aspects for each province.

Newfoundland⁴

Section 45 of the Atlantic Accord Implementation Acts require that before any work or activity is authorized in the offshore area, a Canada-Newfoundland benefits plan must be approved by the Board. In general terms, a benefits plan must describe a plan for the employment of Canadians and, in particular, members of the labour force of the province; and for providing manufacturers, consultants, contractors, and service companies in the province and other parts of Canada with a fair opportunity to participate on a competitive basis in the supply of goods and services.

A benefits plan must also contain specific provisions to ensure that:

- Before carrying out any work or activity in the offshore area, the proponent shall establish an office in the province where appropriate levels of decision-making are to take place;
- Individuals resident in the province shall be given first consideration for training and employment;
- Expenditures shall be made for research and development to be carried out in the province and for education and training to be provided in the province; and
- First consideration shall be given to services provided from within the province and to goods manufactured in the province, where those services and goods are competitive in terms of fair market price, quality and delivery.

However, the Board cannot exceed its authority under the federal and provincial Atlantic Accord legislation by forcing proponents to enter into contracts for goods or services which are not competitive.

Nova Scotia⁵

Under the Accord legislation, a Canada - Nova Scotia Benefits Plan must be submitted and approved before any work authorization is granted. Every application for a work authorization, whether it's geophysical or drilling, requires a Canada - Nova Scotia Benefits Plan, unless that requirement is waived by the Board. Each benefits plan must commit to the fundamental principles laid out in the Accord Acts. Those fundamental principles include full and fair opportunity and first consideration for residents of Nova Scotia and companies in Nova Scotia. A benefits plan must show a commitment to provide manufacturers, consultants, contractors and service companies in Nova Scotia and other parts of Canada with a full and fair opportunity to participate on a competitive basis. The plan must also indicate how the operator will provide employment of Canadians and in particular members of the labour force of Nova Scotia. The plan must show that residents of the province will be given first consideration for training and employment. In addition, there must be a commitment to give first consideration to services provided from within Nova Scotia and goods manufactured in the province where those services and goods are competitive in terms of fair market price, quality and delivery. Other matters to be addressed by the benefits plan include establishing an office in the province with the appropriate level of

⁴ from www.cnopb.com

⁵ from www.cnsopb.com

decision making and the promotion of education, training, research and development in the province.

Each Benefits Plan shall address the following statutory requirements and confirm the operator's commitments as to:

1. Opportunity

To provide . . . *"manufacturers, consultants, contractors and service companies in the Province and other parts of Canada with a full and fair opportunity to participate on a competitive basis in the supply of goods and services used in any proposed work or activity"* . . .

2. Employment

To provide for . . . *"the employment of Canadians, and, in particular, members of the labour force of the Province". . . More specifically . . . "consistent with the Canadian Charter of Rights and Freedoms, individuals resident in the Province be given first consideration for training and employment"* . . .

In addition, provide for . . . *"disadvantaged individuals or groups to have access to training and employment opportunities and"* . . . *"to participate in the supply of goods and services used in any proposed work or activity"* . . .

3. Procurement

. . . *"first consideration is (to be) given to services provided from within the Province and to goods manufactured in the Province where those services and goods are competitive in terms of fair market price, quality and delivery"* . . .

4. Education & Training; Research & Development

. . . *"a program be carried out and expenditures be made for the promotion of education and training and of research and development in the Province in relation to petroleum resource activities in the offshore area"* . . .

5. Establishment of Office

. . . *"the corporation or other body submitting the plan shall establish in the Province where appropriate levels of decision making are to take place;"* . . .

Thus far, even though the Offshore Petroleum Board of Newfoundland and the Offshore Petroleum Board of Nova Scotia included local content requirements, major oil companies have not altered their plans to explore and develop in Canada. However, a number of factors have contributed to investor intentions, not least of which is Atlantic Canada's proximity to high demand areas in the northeastern U.S. However, announcements during the first half of 2002 of downward reserve adjustments by operating companies are expected to place some pressure on the provinces with respect to local content promotion.

By comparison, local content requirements caused various reactions in different countries. For example:

- In Nigeria, the government with the help of major oil companies such as Chevron has increased local content and indigenous participation in the oil and gas sector. "Since 1996 government has initiated a policy where 40 % of contract in the joint venture operation of the multi-national companies in the upstream are reserved for local oil service companies... Already, government local content policy has begun to yield results. This year alone (2001), companies like Relentech, Filco, Drillog, Petro Dynamics, Hexagon Petrol Services, Weafri and Sowsco have benefited from Chevron Nigeria joint venture contract in drilling and other related activities. More indigenous

oil service companies are also securing good contracts from other joint venture operators.”⁶

- In Brazil, it appears that government requirements have been too rigid. Various prohibitions restrict foreign investment in petroleum production and refining. Brazil also limits foreign equity participation, imposes local content requirements and links incentives to export performance. Foreign ownership of land in rural areas and adjacent to international borders is prohibited.
- In Australia relevant industry organizations are working together to facilitate participation of local industry in resources and energy projects. The Industrial Supplies Office (ISO) network has a central role in this process of matching local capability with the needs of industry. ISONET is a national body coordinating the network of ISO offices in every State and Territory of Australia and New Zealand. ISOs and ISONET are independently managed, non-profit organizations financially supported by Australian, New Zealand and State/Territory Governments.⁷
- In the UK, the Association of British Independent Oil Exploration Companies promotes the role played by British independent exploration and production (E&P) companies in maintaining a powerful and effective UK based oil and gas industry. Britain remains the only European country in which a substantial, independent E&P sector has been established.⁸

⁶ Alexander Gas and Oil Connections Volume 6, issue #16 - 28-08-2001

⁷ From www.industry.gov.au

⁸ From www.brindex.co.uk



Comparing OSV operations in Brazil with Norway

- Qualitative benchmark study of the cost drivers using interviews

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Master Thesis within the Master of Science

Major: Financial Economics

NORWEGIAN SCHOOL OF ECONOMICS

This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible – through the approval of this thesis – for the theories and methods used, or results and conclusions drawn in this work.

Abstract

The objective of this thesis is to map the main drivers behind the operational and capital expenditures related to offshore support vessels in Brazil and in the North Sea. We compare the two regions using the North Sea as the benchmark.

Our study is qualitative and the data is gathered using semi-structured interviews with Norwegian offshore shipping companies, both in Brazil (Rio de Janeiro) and in Norway. Our findings are mainly based on information gathered in these interviews, but reports from shipbrokers and other financial institutions, together with interviews with other actors in the offshore shipping industry, are used to get a different perspective on the topic.

In the first part of our thesis, the external environment in the offshore shipping industry is analyzed. Three different analyses are performed assessing: the drivers behind the demand for offshore vessels, the attractiveness of the offshore shipping industry and how it is to do business for Norwegian shipowners in Brazil compared to Norway. In the second part, the company specific factors, OPEX and CAPEX, are analyzed. An investment case, evaluating whether to invest in a vessel in Norway or Brazil is presented at the end of this part.

Based on our analysis of the external environment in the offshore shipping industry, we find out that; the demand for offshore vessels is stagnating due to lower E&P spending, the attractiveness of the offshore shipping industry is low, and the difference between Norway and Brazil in terms of doing business is large.

Based on our analysis in the second part of our thesis, we conclude that both the OPEX and the CAPEX (Docking and Shipbuilding) related to the operation of a vessel is higher in Brazil than in the North Sea. The higher OPEX is mainly driven by higher crew and technical costs, and increased costs due to a challenging client. The higher docking cost is mainly driven by a lack of dry-docks, and issues related to the importation of equipment. The higher shipbuilding cost is driven by a low supply of commercial yards, delays in the shipbuilding process, and issues related to the importation of equipment.

In the investment case at the end of part two, our recommendation is that shipowners should invest in Norway rather than Brazil.

Preface

This thesis is the last step to complete our Master of Science in Financial Economics at Norwegian School of Economics (NHH), and our CEMS-degree in International Management.

Through our studies at NHH we have developed an increasing interest for the shipping industry and especially the operation of offshore support vessels. Both of us have worked part-time in shipping companies during our Bachelors at NHH, and we have participated in shipping related activities offered by NHH's Shipping and Logistics Group (STG).

The offshore shipping industry is at different maturity stages around the globe. The North Sea is the most mature market in the world, with a sophisticated spot-market for offshore support vessels. The market in Brazil is rather immature, without any real spot-market, where most of the offshore vessels are on long contracts, between 4 and 8 years excluding options. The cost of operating vessels in Brazil has increased substantially the last decade, making it harder for shipowners to earn good profits. However, the growth prospects look very promising.

For the Norwegian economy, the offshore- and shipping industry is essential both in terms of value creation and employment. Several Norwegian shipowners are major players in the business globally, and the Norwegian fleet is one of the most modern and advanced in the world, thus making it interesting to compare Norway to other regions.

Throughout the process of writing this thesis we have gained substantial knowledge about the offshore shipping industry in the North Sea and Brazil. The process of writing the thesis has been tough, and we will like to thank Siri Pettersen Strandenes for the valuable discussions we have had with her. We would also like to thank the Norwegian Shipowners Association's representative in Brazil (ABRAN) and DOF ASA for the help they provided during our stay in Brazil.

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Table of content

Abstract.....	2
Preface	3
Table of content.....	4
Figures.....	7
Tables	7
Introduction and research questions.....	8
1 Scope of study and definitions.....	10
1.1 Definition of terms and concepts	10
1.2 Definition of Industry	12
1.2.1 Menon’s definition of offshore shipping	12
1.2.2 Our definition of offshore support vessels	12
1.2.3 The vessel types	13
1.3 The offshore shipping industry in Brazil and Norway	17
1.3.1 The North Sea	17
1.3.2 The Brazilian continental shelf.....	18
2 Method	20
2.1 Choice of research method.....	20
2.2 Data gathering	21
2.3 Power of results	23
2.4 Analysis method.....	25
3 Drivers of demand for offshore support vessels.....	28
3.1.1 PSV	29
3.1.2 AHTS	29
3.1.3 CSV	30
3.1.4 Overall outlook.....	30
4 Strategic Profitability Analysis	31
4.1 Rivalry among competitors.....	31
4.2 Threats of substitutes	34
4.3 Threats from new entrants	35
4.4 Bargaining power of suppliers	37
4.5 Bargaining power of buyers	40
4.6 Summary	42
5 Country analysis - Norway and Brazil.....	42

5.1	Cultural distance	43
5.2	Administrative distance	44
5.3	Geographical distance.....	45
5.4	Economic distance	46
5.5	Summary	47
6	OPEX.....	48
6.1	OPEX - Norway	49
6.1.1	Crew	50
6.1.2	Technical	54
6.1.3	Insurance.....	55
6.1.4	Breakdown	55
6.1.5	Bunkers and lube oil.....	56
6.1.6	Port and pilot fees.....	56
6.1.7	Inspection.....	57
6.2	OPEX - Brazil	57
6.2.1	Specific characteristics with the Brazilian market	57
6.2.2	Crew	60
6.2.3	Technical	65
6.2.4	Insurance.....	68
6.2.5	Breakdown	68
6.2.6	Bunkers and lube oil.....	70
6.2.7	Port and pilot fees.....	70
6.2.8	Inspection.....	71
6.2.9	Other costs	71
6.3	Comparison and summary of OPEX	71
7	CAPEX.....	72
7.1	CAPEX - Norway	72
7.1.1	Docking.....	72
7.1.2	Shipbuilding.....	75
7.1.3	Advantages and disadvantages of building vessels in Norway	77
7.2	CAPEX - Brazil	78
7.2.1	Dry Docking	78
7.2.2	Shipbuilding.....	82
7.2.3	Advantages and disadvantages of building vessels in Brazil.....	85

7.3	Comparison and summary of CAPEX	91
8	Tax and foreign exchange costs	92
8.1	Tax.....	92
8.2	Financial Cost - Currency - FX risk	94
9	Investment case: Brazil vs. Norway	95
9.1	Methodology.....	95
9.2	Assumptions.....	99
9.3	Analysis	100
9.4	Recommendation.....	103
10	Conclusion.....	104
11	Limitations of the study and further research.....	105
12	Bibliography	107
13	Appendix	113

Figures

Figure 1: Development in PSV newbuilding prices 2004-2014	14
Figure 2: Development in AHTS newbuilding prices 2004-2014.....	15
Figure 3: Offshore Support services along the life-cycle of an oil field	28
Figure 4: Overview of the North Sea supply fleet 2007-2014	32
Figure 5: Hofstede(2001) dimensions - Power distance and masculinity.....	44
Figure 6: Average breakdown of OPEX for supply vessels in the North Sea and Brazil.....	49
Figure 7: Average daily OPEX (1000 USD) for PSV, AHTS and CSV.....	49
Figure 8: Average number of crew on PSV and AHTS.....	52
Figure 9: Breakdown of social benefits on top of crew salary in Brazil	63
Figure 10a: Contract structure and revenue tax for International vessels in Brazil	92
Figure 10b: Contract structure and revenue tax for Brazilian vessels in Brazil	92

Tables

Table 1: Orderbook PSV 2014-2016.....	14
Table 2: Orderbook AHTS 2014-2016	16
Table 3: The World Bank rankings - ease of doing business in Norway and Brazil.....	45
Table 4: Valuation assumption Norway	101
Table 5: Valuation result Norway	101
Table 6: Valuation assumptions Brazil	102
Table 7: Valuation result Brazil	102

Introduction and research questions

We will in this study highlight the differences between operating offshore support vessels in Norway and Brazil, with main focus on operating expenses, shipbuilding and docking costs.

The Norwegian market for offshore support vessels (OSV) was established together with the discovery of oil on the Norwegian continental shelf. The first orders of OSVs by Norwegian shipowners were done in 1969 (Norwegian Shipowners' Association, 2011). The Brazilian market for OSVs was established around the same time, but it was not before the discoveries made in the beginning of the 2000s that the industry really started to develop. (Abeam, 2013)

To gather data and understand the differences between the two regions, we have conducted interviews with top managers in Norwegian offshore shipping companies in Rio de Janeiro, and in cities along the coast of Norway. Together these companies control about 237 OSVs¹. 80 of these vessels are operating in Brazil, while about 100 operate in the North Sea. As a result, Norwegian shipowners control more than 20% total fleet in Brazil, and the same shipowners about ⅓ of the fleet in Norway. (RS Platou 2014). In addition, several interviews have been conducted with other actors in the industry, like banks, insurance companies, yards and shipbrokers.

Among the Norwegian offshore shipping companies that operate in Brazil, DOF is the largest player with a total of 25 vessels, followed by Farstad with 18 vessels and Siem Offshore with 13 vessels (Abeam, 2014). Farstad, Siem Offshore, Havila Shipping, Olympic Shipping, Deep Sea Supply and K-line are mainly operating in the anchor handling tug supply (AHTS) and platform support vessel (PSV) segment, while DOF and Solstad are major players in the subsea segment, as well as PSV and AHTS.

Through interviews with key players from the offshore shipping industry and comprehensive study of relevant theory we have aimed to answer the following questions:

- What are the main drivers for operational and capital expenditures related to operation of PSVs, AHTS' and CSVs in Brazil and how do they differ compared to the North Sea?

¹ The fleet number is derived from annual reports (DOF ASA, 2014a, Havila Shipping, 2014, Olympic Shipping, 2014, Siem Offshore, 2014, Solstad ASA, 2014, K-Line Offshore, 2014)

- Where should Norwegian Shipowners invest in their next OSV?

We answer these questions through an analysis divided into two parts. The first part is an analysis of the external environment where we look at the external factors that influence the demand for OSVs, the attractiveness of the offshore shipping market in Brazil and Norway, and the differences between Norway and Brazil when it comes to doing business. The second part of the study is an analysis of company specific factors. We focus on the costs related to operating OSVs and the associated cost drivers. Norway and Brazil are compared throughout the study in order to highlight the main differences in cost levels and cost drivers. We have grouped the costs in several sub groups, and analyzed each group separately in order to draw interesting conclusions. The second part is ended with an investment case where we look at where a Norwegian shipowner should build and operate a newly built offshore vessel.

1 Scope of study and definitions

1.1 Definition of terms and concepts

Vessels and offshore units

OSV - Offshore support vessel, general term for all vessels supporting the oil companies

PSV - Platform supply vessel

AHTS - Anchor handling tug supply vessel

CSV - Construction support vessel

PLSV - Pipe lay support vessel

DSV - Diving support vessel

FPSO - Floating production, storage and offloading unit

ROV - Remotely operated vehicle

FPU - Floating production unit

Flags

BRL-flagged vessel - Vessel flying under the Brazilian flag

INT-flagged vessel - Vessel flying under an International flag

REB-flagged vessel - Vessel flying under the special Brazilian flag

NIS-flagged vessel - Vessel flying under the Norwegian International Ship Register flag

NOR-flagged vessel - Vessel flying under the Norwegian flag

Other

IOC - International oil companies

CAPEX - Capital Expenditure

OPEX - Operational Expenditure

EBN - Brazilian Shipping Company

NCS - Norwegian Continental shelf

BCS – Brazilian Continental shelf

Institutions and Associations

ANTAQ - National Agency of Waterway Transportation in Brazil

IBAMA - Brazilian Institute for the Environment and Natural Resources

ABRAN - Brazilian Association of Norwegian Shipowners

ABEAM - Brazilian Association of Offshore Support Companies

ANP - National Petroleum Agency in Brazil

NSA - Norwegian Shipowners Association

FMM - Marine Merchant Fund - Giving financing to BRL-built vessels

BNDES - The Brazilian development bank - Giving out the loans on behalf of FMM

Import

REPETRO - Brazilian special customs regime

Tax

ISS - Tax on services

ICMS - Tax on circulation of goods and services

CPRB - Social Security Contribution on Gross Revenue

PIS - Contribution to the Social Integration Program

COFINS - Contribution to Social Security Financing

Labor agreements

CLT - Consolidation of Labor Laws

CBA - Collective Bargaining Agreement

Offshore regions

Norwegian offshore shipping market - The North Sea, both UK and NCS

Brazilian offshore shipping market - The Brazilian Continental Shelf

Offshore shipping

Charterer - The company (Statoil/Petrobras) hiring the vessel from the shipowner

Shipowner - The company owning the vessels. In this paper also used when talking about managers of Norwegian subsidiaries in Brazil

Operator/Manager - The company in charge of the vessels, could be the shipowner

Bunkers - Fuel used for the vessel's engines.

Pilot - Person being onboard the vessel when the vessel goes to port. ("Los" - Norwegian)

Inspection - Companies like Det Norske Veritas GL (DNV GL), giving certificates to vessels

Thrusters - Propellers on the side of the vessel, making it go sideways and spin

DP system - Dynamic positioning system, positioning the vessel in the correct spot

Winch - Equipment used during anchor handling operations

Classification - All vessels are classified by DNV GL or similar institutions. Otherwise they cannot operate.

Chief engineer - The person in charge of the machinery onboard of the vessel (engine room)

Deck Cadet - People working on the deck of the vessel

Dry-docking - Process where the vessel is taken out of the sea, in order to do maintenance.

Financial expressions

CF - Cash Flow

NPV - Net present value

EMARK - Market premium

IRR - Internal rate of return

R_f - Risk free rate

R_e - Required return on equity

E - Equity

D - Debt

EBITDA - Earnings before interest, taxes, depreciation and amortization.

CAPM - Capital Asset Pricing Model

1.2 Definition of Industry

1.2.1 Menon's definition of offshore shipping

Menon's definition of *offshore shipping* (Norwegian Shipowners' Association, 2012): All enterprises that is owning, operating, designing, building, supplying equipment or specialized services to all types of ships and other floating units.

Offshore shipowner: Owners and operators of supply vessels, anchor handling vessels, construction vessels, seismic- and other offshore related special vessels, including subsea entrepreneurs.

1.2.2 Our definition of offshore support vessels

In the *offshore support industry* we include PSV (Platform supply vessels), AHTS (Anchor Handling Tug Support Vessel) and CSV (Construction Support Vessel). When we refer to the OSV (Offshore Support Vessels) market this is the market for PSVs, AHTS' and CSVs. Several people would argue that the OSV market only consist of PSVs and AHTS' (Offshore supply vessels), and that CSV are considered to be subsea vessels. We argue that all the different vessel-types perform support services for the offshore industry; hence all of them are part of the common term offshore support vessels (OSV).

1.2.3 The vessel types

The main categories of offshore vessels are Platform Supply vessels (PSV), Anchor Handling Tug Supply Vessels (AHTS) and Construction Support Vessels (CSV). The two first groups are normally categorized based on their size, engine power and technical equipment on board. CSVs are more specialized and cannot be categorized in a similar way. The CSVs are primarily used for subsea operations. These vessels are more advanced and different vessels with different equipment are used depending on the type of project. A more detailed explanation of the three types of vessels follows underneath.

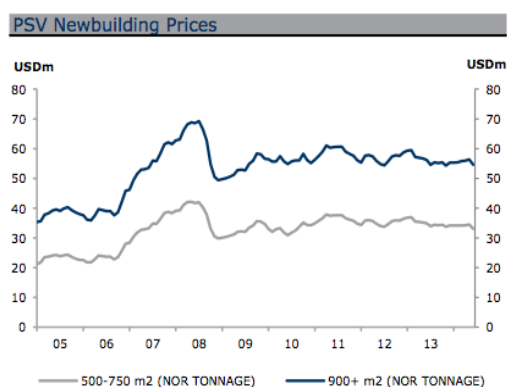
Platform Supply Vessel (PSV)

The PSV's are specially designed to supply oil platforms offshore. The length of a PSV can vary from 20m to a 100m. The main purpose of the vessel is to transport cargo or crew to oil platforms or other offshore installations. The cargo transported to the platforms is pulverized cement, fuel, drinking water, chemicals used in the drilling process, pipelines, food and other equipment. Returning from the platforms the PSV bring drilling mud, and other disposable products that are handled onshore. (Norwegian Shipping Association, 2012)

The PSVs have tanks underneath the deck where they can carry liquid substances, while containers and other equipment can be carried on top of the deck. The technical equipment installed on a PSV can distinguish it from another vessel. Some PSVs have been designed, or converted, to perform a specific task. An example is DOF ASA's vessel Skandi HAV who has been converted from a PSV to a Pipe-lay support vessel (PLSV) to be able to support in pipe laying activities. Some of the PSVs carry equipment for extinguishing or fighting fires on platforms (Norwegian Shipowners' Association, 2012), and other PSVs have Remotely Operated Vehicle (ROV) equipment onboard or oil spill recovery equipment. The extra equipment are qualities that can lead to higher day rates for the vessels, or at least make them able to bid on more tenders.

The PSVs are normally grouped based on their size (length), their deck area or the deadweight ton (dwt) capacity. In the table showing newbuilding activity underneath the vessels are categorized by deck area (m²).

Figure 1: Development in PSV newbuilding prices 2004-2014



(RS Platou, 2014)

The development in newbuilding prices for a PSV is shown in the graph above. There was a large increase in prices before the financial crises, followed by a dip and stabilization in prices afterwards. The largest PSVs with deck space of over 899 m2 cost about \$55 million today.

The current PSV fleet is about 1369 vessels. As seen in the table underneath, the newbuilding activity for PSVs is high.

Table 1: Orderbook PSV 2014-2016

Platform Supply Vessel

	Total	2014	2015	2016+
PSV <500 m2	85	49	24	12
PSV 500-749 m2	120	50	57	13
PSV 750-899 m2	134	58	58	18
PSV 900+ m2	133	70	45	18
PSV Total	472	227	184	61

(RS Platou, 2014)

There will be built about 227 new PSVs in 2014, which corresponds to 16,5% of the current fleet. Some vessels might be scrapped during 2014, reducing the fleet growth, but many shipowners and investors believe that the growth in supply is so large that it won't be absorbed by the demand from the offshore oil companies. The balance between supply and demand is the main driver of the dayrates that the shipowners receive.

Anchor Handling Tug Supply Vessel (AHTS)

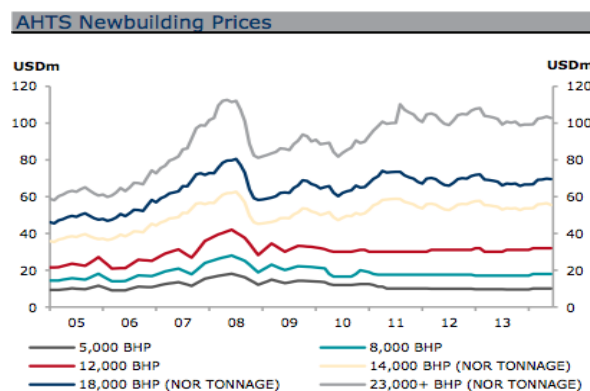
Anchor Handling Tug Supply Vessels' main purpose is towing the oil rigs from one well (field) to another and anchor them to the seabed. These vessels are also able to supply the platforms the same way as the PSVs, but their deck capacity is usually much smaller. They

differ from PSVs in that they are equipped with winches for towing and anchor-handling operations. They also have open sterns to allow anchors to be raised onboard (Norwegian Shipowners' Association, 2012). In addition to winches for towing, AHTS' are sometimes equipped with large cranes, and ROV systems. DOF's Skandi Skansen is an AHTS with both cranes and a ROV installed, making it a versatile vessel, able to conduct both anchor handling and construction support activities (DOF ASA, 2014b).

The AHTS' can fix anchors at new locations, and make the seabed ready for jack-up rigs. The demand for the vessels is very dependent on the amount of rigs working at a specific time (Pareto E&P Survey, 2014). Compared to PSVs, AHTS' have much more engine power, which is natural because it is needed when handling heavy anchors and towing extremely heavy platforms. Larger anchor handlers have the ability to support larger rigs and to perform more steady and safe towing work. To remove a rig, 4 AHTS' are normally required.

As seen on the graphic on the next page, the development in newbuilding prices has been similar for AHTS' and PSVs the last 10 years. The prices increased before the financial crisis, followed by a drop and then stabilization. Very large AHTS is however an exception, where the prices have increased with 20-30% from 2008/09 until today. This could be driven by the increasing demand for larger vessels as oil drilling move from shallow water to more deep-water operations. The largest AHTS' costs around \$105 million today, while medium sized AHTS' cost \$70 million on average (RS Platou 2014).

Figure 2: Development in AHTS newbuilding prices 2004-2014



(RS Platou, 2014)

When categorizing the different AHTS', the engine power is the main criteria. This is seen in the table underneath showing the newbuilding activity for AHTS in the coming years.

Table 2: Orderbook AHTS 2014-2016

Anchor Handling Tug Support

	Total	2014	2015	2016+
AHTS 4-7,999 BHP	121	66	46	9
AHTS 8-9,999 BHP	15	9	5	1
AHTS 10-15,999 BHP	47	19	24	4
AHTS 16-19,999BHP	10	6	4	0
AHTS 20,000 + BHP	16	12	3	1
AHTS Total	209	112	82	15

(RS Platou 2014)

The vessels are sorted after Break Horse Power (BHP). The total AHTS fleet today is about 1938 vessels. There will be built about 112 new AHTS in 2014, which corresponds to 6% of the current fleet. Thus, the newbuilding activity is moderate in the AHTS segment.

Construction Support Vessel (CSV)

The CSV segment comprises all vessels that carry out construction support and subsea operations. The CSV fleet includes: Diving support Vessels, ROV support Vessels, Multi-purpose Support Vessels, Pipe Laying Support Vessels and others (Norwegian Shipowners' Association, 2014). Different activities, from smaller survey and inspection projects to more comprehensive installation and pipe laying projects, requires vessels with different size and equipment, leading to a big difference among the CSVs. The investment cost varies a lot from small to big CSVs (Solstad ASA, 2014). There are examples of CSVs costing around 2 BNOK (300-350M\$) like the LEWEK Connector, a ultra-deep-water multipurpose construction vessels, while other CSVs, like DOF's Skandi Bergen, cost around 6-700 MNOK (110M\$) (Clarksons, 2014).

CSVs are typically equipped with large cranes, helideck, ROV, and Dynamic Positioning (DP) systems. (Havila Shipping ASA, 2014). The DP system helps the vessel maintain its position using its own propellers and thrusters (Kongsberg Maritime, 2014). This is an important feature of the CSV's equipment. When divers and ROV are doing work on the seabed it's important that the vessel manages to stay in position.

The CSV segment is newer and consists of fewer vessels than the AHTS and the PSV segment. It's about 581 CSVs working in different regions around the world today. This

number is expected to grow with 35 (6%) vessels in 2015 and 27(4,5%) in 2016 (DNB Markets, 2014). The two biggest segments are ROV support and Pipe-lay support vessels representing more than half of the newbuildings. The prices can, as already mention, vary depending on the type of vessel that is purchased.

1.3 The offshore shipping industry in Brazil and Norway

1.3.1 *The North Sea*

History and development

The North Sea comprises of Norwegian and British continental shelf. The offshore shipping industry in Norway started with the discovery of oil on the Norwegian continental shelf (NCS) in 1969. The first offshore supply vessels used on the NCS was converted fishing vessels. The fish boat companies had great competitive advantage when operating on the NCS because they were used the heavy waves and the dark and cold environment. These tough conditions also required ships and equipment of high quality, which put pressure on the local shipyards, naval architects and equipment manufactures to develop robust, durable and innovative solutions (Norwegian Shipowners' Association, 2011). On British side gas was first discovered in 1965. In 1968 oil was still not found on British side and the oil companies lost interest in further exploration in the British sector. The situation changed when oil was discovered on Norwegian side in 1969, and in 1970 BP discovered oil in the Forties Oil Field (Bamberg, 2000).

Alongside a rapidly growing oil industry the offshore shipping industry has evolved fast, and today there are more than 600 offshore vessels in the North Sea. (RS Platou, 2014). From the very beginning the North Sea has been open for international players. Even though the Norwegian government in 1972 decided that Statoil should control 50% of all new extraction permissions and that the corporate tax should be set to 80%, the Norwegian continental shelf has always been strongly influenced by international players. With the competitive advantage the Norwegians had from fishing, the Norwegian offshore shipping industry grew to be the most modern and advanced in the world. Several innovative solutions have been developed in Norway, and the most advanced vessels are still being built in Norway. During the development of the offshore shipping industry in Norway a

unique cluster of shipowners, shipbuilders, equipment suppliers have arisen along the west coast of Norway. (Olje- og Energidepartementet, 2013)

Characteristics of the market

The North Sea is today the only place in the world where there is a well functioning spot market. This means that instead of hiring vessels on long-term contracts, the charterer can hire a vessel only for the period they need it. The period could be from a few days up to several months. The main reason why a well-functioning spot market exists in the North Sea is that the North Sea market is very open, with few regulations from the governments. International players are allowed into the North Sea market on the same terms as the Norwegian and British companies.

Due to the tough conditions in North Sea the oil companies require advanced vessels with modern technology. Larger vessels are often equipped with several backup solutions in case something should break down. Today the development in the North Sea is moving towards drilling at deeper waters, which also create a demand for larger vessels. A third factor leading to larger vessels in the exploration of oil and gas in the arctic environment. This is an even rougher climate than the North Sea, and the distance from shore is even longer.

1.3.2 The Brazilian continental shelf

History and development 345

The development of the Brazilian OSV industry started with the first oil discoveries between 1968 and 1975. At that time 13 vessels were imported to work for Petrobras. By 1981 there were 43 Brazilian offshore vessels operating in Brazil and by 1989 the number of vessels had reached 110 (Abeam, 2014). The number of proven reserves in Brazil has grown steadily since the first discoveries in 1975, with discoveries mainly on the Campos Basin and the Santos Basin. However, it was not before 2007, with the discoveries of the Pre-salt fields outside Rio de Janeiro that the oil and gas industry really boomed. In 2007 there were about 168 offshore vessels working on the BCS, both international and Brazilian vessels. By 2013 this number had grown to 450, where of 50% had Brazilian flag. Petrobras forecast that they will need another 200 vessels on the Pre-salt field in the next 5-6 years until 2020 (ABRAN FGV Seminar, 2014).

Petrobras or “Petróleo Brasileiro S/A” is the world’s 3rd largest oil company and the largest industry conglomerate in South-America. The company controls about 90% of the oilfields in Brazil, giving them tremendous power. Even though the Brazilian market was opened to foreign oil companies in 1997, Petrobras has retained its position as monopolist. This monopoly situation is making operations challenging both for domestic and international shipowners. Strict regulations, a complex tax system and a country only speaking Portuguese makes the operations challenging. As for the future, more international oil companies should appear. But Petrobras is supposed to be the sole operator, and owner of at least 30%, of all the Pre-salt fields being developed in the next coming years, slowing down the production as foreign players are not let in a 100%.

Characteristics of the market

The Brazilian oilfields are mainly located at ultra deep waters (1000-3000m) with a long distance from shore. The ultra-deepwater fields require different oil production units. Floating Production Storage and Offloading (FPSO) units are used rather than the Jack-up rigs that often are used at shallow waters. The FPSO require a different service from the OSVs than rigs working at shallower water. FPSOs can normally move around from one oil field to another without the help of an anchor handler, but they normally get support from anchor handlers when offloading oil to oil tankers. Because of the long distance from shore to the oilfields, larger PSV are required in order to transport more goods to and from the FPSOs. The AHTS are also larger in Brazil, both in terms of size and engine power. Today most AHTS’ in Brazil have more than 16 000 BHP (Break Horse Power), and the engine power will likely increase in the future as operations move to even deeper waters. The power is necessary in order to pull heavy anchors at extreme water depths, while ensuring a safe operation.

As of today, there is not really a functioning spot market in Brazil; most contracts are very long, between 2 and 10 years. A typical contract with Petrobras last for 8 years, where the shipowner have a certain 4-year contract + an option to continue for 4 years. The long contracts look attractive for the banks financing the vessels, but history has shown that inflation and high cost-increases have led to several contracts being unprofitable over time.

2 Method

In this chapter we will describe the methods we have used to answer our research questions. The data gathering in our thesis has mainly been done through interviews with top management in offshore shipping companies, located both in Brazil and in Norway. We will in this chapter discuss our choice of research method, how we have collected the data, the validity and reliability of the data, the data sample and how we have analyzed the data.

2.1 Choice of research method

Qualitative vs. quantitative research methods

Research methods refer to the systematic, focused and orderly collection of data for the purpose of obtaining information from it and to solve our research questions. The methods are different depending on the techniques used for data collection and procedure. In qualitative research, findings are not obtained by statistical methods or other procedures of quantification. Qualitative research requires a different toolset from the researcher where the findings are based on rational, intuition and exploratory abilities, rather than quantitative models (Ghauri & Grønhaug, 2010).

Qualitative research is characterized by its aims, which relate to understanding some aspect of social life, and its methods that in general generate words, rather than numbers, as data for analysis. Qualitative methods seek to answer questions about the 'what', 'how' or 'why' of a phenomenon rather than 'how many' or 'how much', which are answered by quantitative methods.

Criticism of qualitative research:

- Samples are small and not necessarily representative of the broader population, making it difficult to know how far we can generalize the results
- The findings lack rigor
- Difficult to tell how far the findings are biased by the researcher's own opinions

(Bricki, 2007)

Choice of study type

It can be argued that structured and quantitative methods are more "scientific" and thereby better than qualitative research methods. We argue that the quality of a study and the

appropriate use of methods depend on the research question and the available information, meaning that qualitative studies could be just as good. Albert Einstein put it this way: *“Not everything that can be counted counts, and not everything that counts can be counted”*

The purpose of our master thesis is to analyze the offshore support industry, and especially how the operations of OSVs are different in Brazil and Norway. The choice of study method mainly depends on the type of data that is available and the formulated research question. In our research it is not possible to collect quantitative data, because the shipowners potentially could break competition law when sharing their financial information, thus a qualitative approach, with the focus on the drivers behind the different costs was more suitable for our study.

More about qualitative research, citation of Denzin and Lincoln (2000):

“Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them”

2.2 Data gathering

Primary data vs secondary data

For the purpose of analysis two types of data have been collected, primary- and secondary data. Secondary data is data that have already been collected for some other purpose. Secondary data could be published summaries or books. Market reports from shipbrokers are an example of secondary data used in this study. The main advantage with secondary data is that you save resources using less time to collect information, while the disadvantage could be that the data is not collected for the same purpose as your study, and that you do not have control of the data quality (Saunders, et al., 2009).

Throughout our study we have collected primary data through interviews with several companies in the offshore shipping industry. The gathering of primary data does normally

strengthen the study, because it gives firsthand information and valuable insights. There are however some disadvantages:

1. The process of gathering enough data is long
2. Access to target persons that are willing to be interviewed is limited
3. Researcher cannot control unforeseen responses/events
4. The data quality depends on the cooperation from the target persons (companies)

For our study we have used interviews to collect primary data.

3 types of interviews

According to Punch 2004 there are three types of interviews that can be conducted in a research paper:

1. Structured interviews:

These types of questionnaires are usually based on a standardized or identical set of questions. Saunders et al. 2009 refers to the method as interviewer-administered questionnaires. Questions in these types of interviews usually have pre-coded answers that make it easier to analyze the results later on. Structured interviews are often used to collect quantifiable data.

2. Semi-structured interviews

In semi-structured interviews the researcher uses an interview guide consisting of topics with related questions. Each interview does not need to be exactly the same and the topics and questions raised could differ depending on the interview object. The order of questions may also vary depending on the flow of the conversation. The advantage of semi-structured interviews is that the researcher allows the interview object to talk more freely. On the other hand, the structure of the interview guide could lead to topics being undiscovered.

3. Unstructured interviews

Unstructured interviews are the most informal form of interviews and should be conducted almost like a normal dialog. These types of interviews are used to get in depth information about a general area, which is of your interest. There is not a predetermined list of questions in these interviews. Instead the interview object is given the opportunity to speak freely. The advantage with this type of interview is that the researcher gets all the information the interview object wants to share, while in more structured interviews the

researcher might not manage to ask all the “right” questions. Unstructured interviews could be challenging to analyze.

Choice of interview type

Structured interviews are normally conducted to collect data that will be used in a quantitative analysis, while non-structured interviews are used to gather data that will be analyzed qualitatively. The choice of interview type depends on the purpose of the research paper. As this master thesis’ main focus is on the cost drivers behind capital and operational expenditures for OSVs in Norway and Brazil, we have found it most convenient to conduct semi-structured interviews. This will help us to figure out how the cost-groups differ in the two regions, what the drivers behind the different cost-groups are and why the cost-level is different in Brazil compared to Norway. Using semi-structured interviews does not completely narrow down the responses received from the interview participant, thus widening the potential findings in the study.

The making of the interview guide

In order to create an appropriate interview guide, that covered the most important issues within the offshore support industry, we read all the annual reports from the Norwegian shipowners operating in Brazil, in addition to reports from shipbrokers and banks covering the offshore support industry. This gave us a good picture of the topics that had to be discussed. We discussed the interview guide with representatives from both ABRAN and DOF ASA to ensure that we had covered the most interesting topics. Throughout our thesis, the interview guide was evaluated and edited after each interview, without changing the core content. All interviews were based on the same main questions. The interviewee did not receive the interview guide, it was just used as a starting point for the interview, and more specific follow up question were asked. The interview guide can be found in the appendix.

2.3 Power of results

In qualitative research reliability and validity is used as a measure of the quality of the research. The validity of the data explains to which extent the data collection method accurately measures what they were intended to measure and to which extent research findings are really about what they intended to explain. The reliability of the data explains to

which extent the data collection technique yields consistent findings and if similar observations and conclusions would be made by other researchers (Punch, 2004).

Validity

There are 2 types of validity in exploratory studies, construct validity and external validity. Construct validity is whether our empirical data measure what it is supposed to measure (Yin, 2009). To fulfil this requirement we have used several information sources. We have read reports from both the offshore shipping companies and shipbrokers, talked with people from different part of the industry and used relevant theory about the industry. We have also tried to talk with people with first-hand information about the topic under investigation, e.g. yards when the topic has been shipbuilding and ship owners when the topic has been OPEX on OSVs. We have also used a lot of time to gain knowledge about the offshore shipping industry to be able to conduct accurate interviews.

External validity is whether the results can be generalized. In our study this means whether the results are valid for other companies within the industry (Yin, 2009). In general it is difficult to generalize information based on few observations. To maintain the external validity we have chosen to focus on Norwegian offshore shipping companies present in both Norway and Brazil, and within this group we have been able to conduct interviews with all of the players, thus retaining a high external validity.

Reliability

It can be hard to fulfill the reliability requirements in qualitative studies, because the data is not gathered with the exact same structure. Further, it would be difficult for other researchers to get the same observation and conclusions due to information being gathered in different contexts and by researchers with different knowledge and experience. These factors all lead to a different interpretation of the data (Johannessen et al., 2011). This is also the case in our research. First of all, since the interviews we conducted were semi-structured they would not be identical if conducted again. Interviews with different people would result in different answers, because of different interpretation and opinions. Secondly, the business environment in the offshore shipping industry is rapidly changing and the same interview would likely give different results on a later stage. Lastly, our experience and knowledge influences the way we interpret the information and this interpretation would likely be different for other researchers.

We have tried to maintain the reliability in our research by explaining the goal of our study, our choice of sample and by attaching the interview guide.

Choice of sample

Sampling means saving work by examining the sample instead of the whole population. The sample size is the number of participant within a specific study. Increased sample size will, in general improve the quality of the results (Ghauri og Grønhaug, 2010). Our master thesis was a result of a project initiated by DOF ASA and ABRAN, where they wanted to compare the operation of offshore support vessels in Brazil with Norway. The scope was originally limited to the companies that were members of ABRAN (about 7 offshore shipping companies), but we have conducted interviews with shipbrokers, shipyards, banks and insurance companies to increase the sample and to get a different perspective on the OSV-industry.

The sample of shipowners is however limited to offshore shipping companies owned and controlled by Norwegians. In Norway, both public companies (on the Stock Exchange) and fully private companies have been included in the scope. In Brazil, both shipowners having their own EBN (Brazilian shipping company) and shipowners working through a third party (a Brazilian company) are part of the study. Interviews have in several cases been conducted with the same company both in Brazil and in Norway. The interview objects have usually been top managers (CEO, CFO, COO) within the companies, but sometimes also people at lower levels in the organization.

In terms of vessels type and vessel flag, the focus has been on companies that have PSVs, AHTS' or CSVs, with international, Brazilian or Norwegian flag. This has resulted in a wide scope, which we believe will give a correct picture of the industry, and how it is to operate as a Norwegian shipowner in the North Sea and Brazil respectively. We have conducted just over 20 interviews, had several visits to offshore support vessels and visited shipyards both in Norway and Brazil.

2.4 Analysis method

Qualitative research creates diverse and complex information, and one of the big challenges is to structure the information for further analysis (Punch, 2004). Data analysis of qualitative information requires decomposing and organization of the data and presentation of the

information with use of figures, tables and discussions (Creswell, 2007). There are a variety of methods used to analyze qualitative data, and the diversity among the methods implies that there is no correct way of data analysis (Johannessen et al., 2011).

Four steps of analysis

According to Miles and Huberman (1994) the process of analyzing qualitative data consists of three processes.

1. **Data reduction** includes summarizing and simplifying the data collected. The aim of the process is to make the data easier to handle. This can be done through interview summaries, coding and categorizing of the data.

2. **Data display** is a process of displaying the data true matrices, diagrams and graphs. Qualitative data collection produces hours of audio recorded interviews with additional notes. This information is usually comprehensive and poorly ordered. Miles and Huberman (1994) argue that displaying the data with the use of matrices, diagrams and graphs will make the analysis process easier.

3. **Drawing and verifying conclusions** is made easier by using data display. In this way you can make comparison between the data and identify relationships, key themes, patterns and trends. The conclusions cannot be drawn before all data is gathered and analyzed. Before drawing the conclusions it is important that the data is verified.

We recorded all of our interviews and took key notes during each one. After each interview, we listened to the recording and took more comprehensive notes. To make sure that vital information was not left out, we listened to the audio recordings for a second time while taking detailed notes. We then grouped the information into categories based on the interview guide and its topics. This gave us a better overview of what each interview object had answered.

After this we sorted the answers from the different interview objects based on different criteria. This gave us a better overview of the interview objects opinion of the different matters. We compared the answers from all the interviews and tried to find patterns, trends, similarities and disagreements. After having consolidated and analyzed the findings we were able to start drawing conclusions and answer our research questions.

The numerical information we got during the interviews were gathered in Excel to get an overview of similarities and differences between the different companies. We used average numbers to make comparisons between Brazilian and Norwegian vessels. The information is presented in graphs and diagrams throughout this paper.

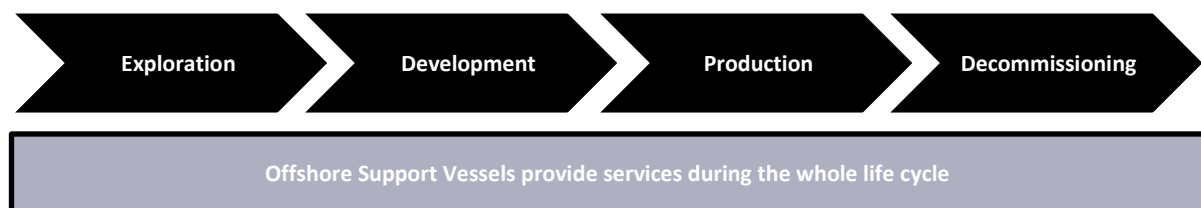
PART 1: Analysis of the external environment

In this part of our thesis we conduct 3 different analyses. In the first one we elaborate shortly on the drivers behind the demand for offshore vessels. In the second analysis we evaluate the attractiveness of the offshore shipping industry, and in the third analysis we show the differences of operating a company in Brazil compared to Norway.

3 Drivers of demand for offshore support vessels

The main task for OSVs is to support oil companies in their operations, thus the demand for offshore support vessels is dependent on the activity in the oil and gas sector. The OSVs support the oil companies at different stages in the life-cycle of oilfields, as shown in the illustration underneath.

Figure 3: Offshore Support services along the life-cycle of an oil field



(Yeo & Øy, 2010)

The exploration and production (E&P) activity can be a good overall indicator of the demand for offshore support vessel. But as explained under the chapter “types of vessels”, PSVs, AHTS and CSV have different purposes, which means that each segment has different drivers of demand.

The exploration and production activity is driven, to a large extent, by the oil price. As seen lately (October 2014) in the Norwegian newspapers, analysts and experts on the oil and gas industry are afraid that the investment level on the Norwegian continental shelf will decrease substantially if the oil price decrease to a level lower than \$80, showing how the E&P activities is correlated with oil price (E24, 2014). The current oil price is \$65, and most companies in the oil and gas industry are expecting a challenging time going forward. We

will now briefly explain the drivers behind the demand for the three different types of offshore vessels.

3.1.1 PSV

PSV vessels mainly do three types of jobs. 50-60 % of the demand is related to production support, both for fixed and floating units, 30-40% of the demand come from rig support and around 10% of the demand is related to construction support. This means that the demand for PSV vessels is mostly influenced by the numbers of fields in production. Offshore production is long lasting processes and it will be a constant demand for PSV vessels even though the E&P spending decline. PSV vessels supporting drilling rigs are exposed to a bigger change in demand as the drilling activity is influenced by the oil price. The construction support demand also varies with the oil price and the market situation. Oil companies do more maintenance on subsea equipment and installation of new equipment when the oil price is high and they have good cash flows, which will lead to a higher demand for construction support during good times.

The future demand for PSVs is difficult to anticipate, because it is hard to know what the oil companies will do regarding exploration of new fields. If the oil price is low the oil companies tend to delay projects and it is therefore difficult to know when projects will start. Even though most of the PSVs are operating for producing units, a decreasing activity in the exploration of new fields will lead to a lower demand for PSVs. However, today's rigs are bigger, they drill at deeper water and use more fuel due to DP3 systems, all leading to an increasing demand for PSV vessels. The supply of PSVs on the other side is huge. At the moment, the order book is 40% of the existing fleet. The huge supply of new vessels will cover any increasing demand from the oil companies; therefore the dayrates for PSVs are predicted to remain low going forward (DNB Markets, 2014).

3.1.2 AHTS

The main task for anchor handlers is to tow rigs from one oilfield to another, pre-lay anchors and anchor rigs and other offshore installations, like floating production units (FPU), to the seabed. As a result, the demand of AHTS is mainly driven by the rig activity offshore. The offshore drilling fleet has grown significantly over the past decade and is expected to grow by 10% in 2015e and 6% in 2016e (DNB Markets, 2014). A good indicator of the balance in the AHTS market is the amount of AHTS/rig or FPU, that is the number of AHTS per working

rig or FPU. If this relationship (fraction) remains constant, the work for AHTS should remain quite stable. The last decade, the number of AHTS per rig has increased. Because many new projects are in deeper water with harsh environments, larger rigs are required, which in turn increases the demand for large vessels. The fact that new rigs are built with dynamic positioning systems somewhat reduce this increase in demand. In terms of the market going forward, we believe that the rates and utilization will remain the same as today's level, as the growth in the number of AHTS is about 6%, while the growth in number of rigs is 10% (DNB Markets, 2014). This stable outlook could however change if the oil companies continue to decrease their investment activities as a result of a persistent low (decreasing) oil price.

3.1.3 CSV

The construction vessels do a variety of different tasks, but the biggest driver for the CSV demand is the number of subsea trees being installed and the meters of cables (pipes) being laid. With increased number of deep-water fields, subsea constructions are more and more common. These leads to an increased demand for CSVs because new subsea constructions need to be installed and old constructions need maintenance. Anticipating the demand for CSVs in a longer run is difficult because of the uncertainty related to when the oil companies will start their projects. The number of subsea trees ordered will drop by 12% to around 500 subsea trees in 2014 compared to 2013, but it will be a quick rebound in 2015 with more than 600 subsea trees ordered. The rates and utilization are predicted to remain on the same level as they are today.

3.1.4 Overall outlook

The outlook for all three types of vessels look stable and the rates will remain on the same level as today. We could however see a decrease in dayrates if the fall in oil price continues. The AHTS segment is the segment mostly influenced by the E&P spending, and thus the oil price. A persistent low oil price can therefore lead to lower rates for AHTS. The PSVs and CSVs rates are not that strongly influenced by the oil price in the short run, as many of these vessels are needed on already started long term projects. In the longer run however, a decline in E&P spending will influence the rates negatively for these vessels as well, as future projects can be delayed or cancelled.

4 Strategic Profitability Analysis

Porter's Five Forces approach considers how the company's performance depends on conditions within the given industry (Peng, 2009). According to Porter (2008), the industry structure, manifested in the five competitive forces, sets industry profitability in the medium and long run. Understanding the competitive forces, and their underlying causes, reveals the roots of an industry's current profitability while providing a framework for anticipating and influencing competition (and profitability) over time (Porter, 2008). To determine the attractiveness of an industry, not only the competition among the industry rivals is taken into account, but also the threat of new entrants, the threat of substitutes, supplier power and customer power.

We will in this section describe the characteristics of the OSV-industry in Brazil and Norway, using the five forces framework. By understanding the competitive situation in the industry and how the different players affect the industry profitability, it becomes easier for companies to figure out what measures they can take to succeed. The five forces framework is also helpful in understanding the drivers behind OPEX and CAPEX in Brazil and Norway.

4.1 Rivalry among competitors

The intensity of the competition within the industry is determined by the degree of rivalry among existing companies. In industries with intense rivalry it is harder for a company to achieve a substantial profit margin. The following factors drive the competition in the OSV industry:

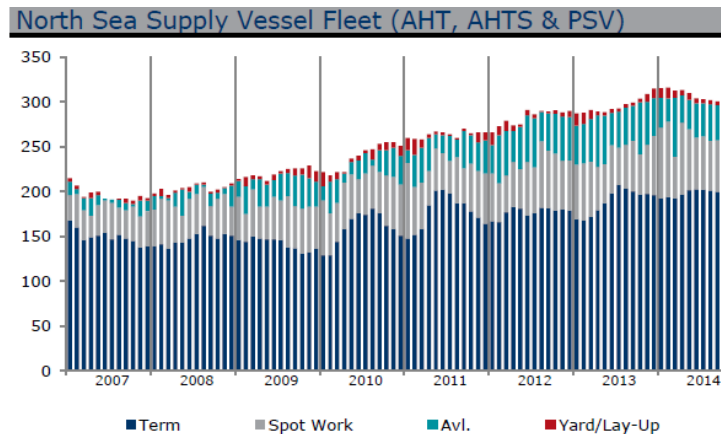
1. Growth in the industry
2. Exit barriers
3. Absence of strong market leaders
4. Differentiation

Industry growth

Low growth in the industry will increase the rivalry among existing companies, because they would try to capture market shares from each other. The OSV industry has grown rapidly the last 30 years due to high activity in the oil and gas industry, driven by an increasing oil price. Lately the growth in Norway has declined and the fight for market shares has increased. The reduction in the fleet (AHTS, PSV) is shown in the graphic underneath. The

development of Johan Sverdrup should however lead to an increased demand for OSVs (Statoil, 2014).

Figure 4: Overview of the North Sea supply fleet 2007-2014 (Term, Spot, Available and Yard/Lay-Up)



(RS Platou, 2014)

In Brazil the demand for OSVs is driven by Petrobras' activity, which has currently slowed down due to internal problems and political issues. The government has decided that Petrobras needs to be the sole operator on all the Pre-salt fields, which has delayed exploration and development. Because Brazil is not yet oil self-sufficient, Petrobras has experienced liquidity problems because they have had to buy oil on the international market and sell it at a lower price in Brazil, so that the government manages to keep the fuel prices low. Despite these problems Petrobras says that they will double the production of oil by 2020 and this will create a demand of 200 new OSVs. The growth is therefore anticipated to be large in Brazil.

In good times, when growth forecasts are positive, shipowners tend to order vessels to increase their market share. When competitors see that one shipowner is trying to capture market shares, they often start ordering new vessels to secure their own position. This eventually leads to an oversupply of vessels, which in turn decreases that rate and the companies' profitability. Thus, the growth in the industry does not necessarily lead to higher profits for the shipowning companies due to the fight for market share.

Exit barriers

High exit barriers increase the competition, because it becomes difficult for companies to leave the industry. The OSV industry has quite low exit barriers because it exists a quite

liquid market for sale and purchase of vessels. Due to the cyclical fluctuations in the OSV market the vessels prices vary, it is therefore not given that you are able to get a good enough price for your vessel when you want to exit the market.

Brazilian built vessels are less tradable than international built vessels because of their high building cost. It can therefore be more difficult to exit the Brazilian market, which again can lead to increased competition in this market.

Concentration among competitors

A low concentration among competitors will lead to increased rivalry because no one is able to control the market. The total fleet of OSV vessels consists of approximately 1400 PSVs, 1400 AHTS and 700 CSVs. The market share of the 10 biggest companies is around 30% in all the three segments. This means that the OSV industry is very fragmented, which imply a high degree of competition.

The concentration varies in different geographical regions. In the Norwegian and Brazilian market there is no sole dominant player in any segment. The absence of an industry leader makes it difficult for any company to lobby for industry interest. This is partly solved with companies forming alliances like ABEAM and ABRAN in Brazil, and NSA in Norway.

Differentiation

The services offered by the different OSV companies are very similar. The differentiation is low, especially within the PSV market. As long as a vessel meets the technical requirements in a tender, the price offered to the charterer is without doubt the most important factor deciding who will win the contract. However, fuel consumption, safety records and previous performances also impact the decision. In Brazil, Petrobras have an excellence program that rewards companies with good safety records, commitment to doing business in Brazil and good previous achievements. Companies with good rankings in this program receive better rates than other companies. In Norway, Statoil has similar audit programs where they rank their suppliers based on similar type of criteria. Companies try to differentiate themselves through minor measures. Solstad offshore has for example started a “green operation” program where they save fuel on their vessels, and thereby decrease the total cost for the charterer. This could give them a benefit in a tendering process.

Within the more advanced vessel segments the vessels are more customized for special geographical areas and operations, and therefore somewhat easier to differentiate from other players.

Overall, we consider the rivalry among companies in the OSV market to be medium to high. The market is very fragmented, and it is difficult to differentiate from others. The growth in the market do to some extent compensate for these factors.

4.2 Threats of substitutes

A substitute, according to Porter (2008), is a product which performs the same or similar function as an industry's product, only by different means. Substitutes represent a threat to the established company if there is high enough incentive for customers to switch. This usually occurs if:

- Substitutes have superior quality than existing products.
- Substitute products have sufficient price-performance trade-off
- Buyers face low switching cost.

Historically, the OSV industry has not had any immediate substitutes threatening the operation of offshore support vessels. This has however changed during the last years, as more and more deep-water rigs have been equipped with dynamic positioning (DP) systems. DP systems are used to position vessels/rigs in the correct place in relation to the seabed and have made it possible for rigs to move from one oil field to another by it self. Originally, rigs have been moved using AHTS, and they still are today. But with the new rigs having their own DP systems, they are able to maneuver the rig without help from an AHTS, thus the rig itself could be a substitute for the AHTS.

The DP systems are a bigger substitute to AHTS in Brazil. For the DP system to work the water depth need to be more than 1000 meter. Only a few places in the North Sea have such water depths, while it is more common in Brazil. Using the DP system to move the rig or keep the rig in position is in some cases not profitable because of the large consumption of fuel. If a rig is meant to drill at specific location for a long time, it is usually better that it uses anchors instead of its own DP system to stay in position.

For PSVs, there are not any substitutes. The rigs will always need supplies for their operations offshore and the PSVs are the cheapest mode of transport as of today.

Some of the CSVs' operations, like installing subsea trees could also be done by rigs, but it is cheaper for the oil companies to use a CSV, the rigs are not a real substitute.

In conclusion, the threat from substitutes are present to a certain degree for AHTS, but inexistent for PSV and CSV.

4.3 Threats from new entrants

New entrants in an industry increases the supply, and their desire to gain market share puts pressure on the existing players, which may result in price wars and cost pressure. Especially large multinational companies adding a new country to their portfolio can easily leverage developed resources and therefore increase the rivalry and add new know-how which might reduce the profit of existing companies (Peng, 2009). The threat of new entrants is defined by the entry barriers in the industry, including:

- Economies of scale and scope
- Capex requirements (Sunk cost)
- Knowledge/experience
- First mover advantage
- Regulation restriction
- Access to distribution channels
- High exit cost for current players
- High fixed costs and existing players' ability to cut prices to keep up volume
- High switching cost for customers

We have observed that the Economies of scale/scope, CAPEX requirement, the knowledge and experience and the regulation restrictions are the most important factors defining the threat of new entrants.

Economies of Scale/Scope

Having several vessels is an advantage for the shipowners because they can divide the administration cost like accounting, vessel management, etc. on several vessels. Have a bucket of crew and a bucket of vessels (a fleet) is easing the operation, because of the possibility to move crew from one place to another when needed.

A wide range of vessels could also be an advantage for shipowners because it makes it possible for them to provide a full range of services to the oil companies. When the oil companies have good experience using a company's PSV, it is easier to use the same company's AHTS, rather than screening the market for a new supplier. However, in practice we see that companies do not get any advantages for providing a full range of services.

CAPEX requirement

The shipping industry is a capital-intensive industry where investments in expensive vessels are necessary in order to operate. A new PSV could cost around 55 M \$ in Norway and as much as 75 M \$ in Brazil. As long as the investments are profitable it should not be a problem to get funding in an efficient capital market, but due to the risk related to the investment, not everyone can start an offshore shipping company tomorrow. The fact that the shipping industry is a cyclical industry makes it more risky, thus harder to raise capital. The high capital investment is a large barrier for potential new entrants.

For companies that are already established in one region (country) with a large fleet, wanting to enter into new regions, raising capital is easier. These companies often have financial muscles, and they can leverage their already existing resources. This means that there will always be a high threat of new entrants from existing players that are located in other regions.

Knowledge and Experience

The complexity of the operation conducted by offshore support vessels varies from the PSV segment to the CSV segment. PSV-operations are pretty simple, as one are only supplying the oil rigs with different type of goods. PSVs could be seen as the truck of the sea, and are by the oil-companies often looked at as a commodity (standardized product). AHTS perform more complex operations like anchor handling and towing, thus requiring more specialized knowledge. The CSV segment is even more complex, different knowledge is required on a diving support vessel than on a pipe lay support vessel.

The knowledge and experience needed to be able to operate these vessels in a safe and efficient way is a large entry barrier for investors that want to start a greenfield operation. Several investors, especially private equity firms have been attracted by high margins in the shipping industry during good times, and have invested a lot of money, especially in PSVs,

because of its “simple” operation. The knowledge barrier can be avoided by being a “tonnage provider”, meaning that you purchase the vessel, before renting it out to another shipowner who operates it for you.

Nevertheless, to be able to establish a shipowning company, that not only will own the vessels but operate them as well, knowledge and experience is essential.

Regulation restrictions

Even though the Brazilian market has seen companies entering after the Pre-Salt discoveries in 2007, there are several regulations making it hard for foreigners to establish a company in Brazil. First of all, to be able to operate as a shipping company and enter into contracts with oil companies in Brazil the shipowner must have an EBN, explained later in chapter 6.2.1. Secondly, a certain % of Brazilian crew is required depending on how long your vessel operate in Brazilian waters (according to RN72). In addition, there are environmental regulations that need to be followed and several other requirements from Petrobras. These regulations make it a challenge to enter into the Brazilian market.

In the North Sea there are not many entry barriers. Everyone can enter the market regardless of the flag the vessel is flying and the nationality of the crew. If the vessel is going to operate on NCS most of the charterers do require the crew to speak a Scandinavian language. The charterers in the Norway also requires vessels with high redundancy and high technical standards, often with special equipment like fire fighting and oil spill recovery systems, making it harder to enter this region.

In summary, the threat of new entrants is higher in the less complicated PSV-segment, where the capital investment and the knowledge requirements are lower, while it is lower in the AHTS and CSV segment. Regulations are reducing the threat of entrants in Brazil. Overall the threat from new entrants is high.

4.4 Bargaining power of suppliers

High bargaining power of suppliers allows them to get better deals, which decreases the profit margin of the counterparty or makes the operations of the latter harder because of dependence on the supplier (Peng, 2009). Porter (2008) provides several drivers of high supplier power:

- Supplier concentration is higher than that of supplied industry
- Supplier's ability to serve several industries with equal importance for the sales
- High switching costs in supplied industry and low switching costs for the supplier
- Ability of suppliers to integrate forward
- Lack of substitutes

In the following section we focus on how the supplier concentration leads to power over the shipowners, and how the power relationship is affected by the market situation. We have not focused on other drivers that could lead to high supplier power. It is however worth mentioning that several shipyards are able to supply more than one industry, which could make them less dependent on the OSV industry. As an example, Vard Niteroi is producing oil tankers for Petrobras in addition to the AHTS and PSV they produce for the OSV companies.

The most important suppliers for the shipowners are labor force, that is the crew needed onboard of the vessels, and the shipyards, both shipyards building ships and the shipyards providing dry-dock facilities.

Concentration in the industry of suppliers

The supplier concentration varies depending on which region the shipowner is operating in. In the North Sea, there are many reliable shipyards and dry-dock facilities leading to a low concentration among the suppliers and good balance between supply and demand. In Brazil however, there are only a few commercial shipyards that are able to produce high-end, medium to large-sized offshore support vessels, thus it becomes easier for the shipyards to gain market power and charge premium prices.

There are about 10 shipyards building OSVs in Brazil, where the four main ones are Vard and Alianca in Rio de Janeiro, Navship in Santa Catarina, and Wilson Sons in Sao Paulo. The problem is however that many of these shipyards are owned by shipowners that only (mainly) build for their own use. Navship is building for the American company Edison Chouest, while Alianca and Wilson Sons are building ships for the Brazilian companies CBO and Wilson Sons respectively. This means that the only commercial yard that is able to build medium and large vessels with international standards is Vard Niteroi/Vard Promar. There are other shipyards that are able to build AHTS, like Keppel Singmarine and Mac Laren, but they are however more focused on offshore equipment and semi-submersible platforms.

Thus, the concentration of shipyards within the offshore support industry is quite high in Brazil, giving them some power over the shipowners (Banco Itau, 2014).

In terms of docking-slots in Brazil, the supply is even worse than for the shipyards. There are only 2-4 docs that could be used for medium to large support vessels in the Rio de Janeiro area, Renave, Maua and Dockshore (floating dock) located in Niteroi, being the most reliable ones. All the shipowners that we have talked to in Rio emphasize that there is a lack of good dry-docks, which causes a huge imbalance between the supply and the demand.

When it comes to the labor force, the marine and offshore crew has had high bargaining power in many parts of the world the last years, especially in Brazil. Brazil has had a lack of qualified, well-educated workers, leading to high salaries and competition among the shipowners and rigs to get the best seafarers. In Norway the supply of qualified crew has been much better than in Brazil. The Norwegian companies are able to recruit the people they need without problems.

Market situation - Demand from Shipowners

Higher supplier concentration than that of the supplied industry is an important driver of a suppliers' power. Nevertheless, the suppliers' power depends on the market situation (where in the cycle the OSV-industry is at a specific time). During good times, every shipowner wants to build vessels because the day rates are high, thus the shipyards can charge a higher price. But during a downtime in the cycle the demand is lower, and shipyards are willing to build ships at lower prices, not even covering all their costs. In good times, not all shipyards will take whatever price they want, they are careful not to exploit their power too much, as it could potentially destroy a good relationship with the shipowner. High prices would also increase the attractiveness of the shipyard industry, and could lead to entrance of new players, which would lead to more competition and lower prices.

In summary, the market power of the suppliers is higher in Brazil than in Norway, and is mainly driven by the lack of commercial shipyards and dry-docks, in addition to the lack of qualified professional workers. Viewed in isolation, this leads to a high supplier power, especially in Brazil, but because the suppliers' power is dependent on the market situation in the OSV industry the power relationship can vary over time.

4.5 Bargaining power of buyers

Buyers with high bargaining power can have a negative influence on the markets profitability. Buyers can reduce industry profitability by demanding better or more services for the same price, by demanding lower prices or by inducing price wars between service vendors. The most important factors that can indicate high bargaining power in the OSV industry are:

1. Few and large buyers with large volumes of purchases
2. Price sensitivity and switching cost
3. Information availability

Buyer concentration

The concentration of buyers is high within the OSV industry, especially in the Brazilian market where Petrobras is operating between 80 and 90% of the oilfields. This gives them huge power when bargaining with the OSV companies who have a much lower concentration. One single OSV company has little possibility to put pressure on Petrobras because Petrobras have so many other alternatives, and is such an important customer for all the players in the industry. To be able to do business in the Brazilian market the OSV companies have to follow Petrobras' rules. Other big oil companies like Shell, Exxon Mobile, Statoil and Chevron have only minor market shares in Brazil.

In the North Sea the market concentration among the oil companies is lower than in Brazil. On the NCS the largest player, Statoil, have about 70% (Store Norske Leksikon, 2014) market share. On the British continental shelf however the market is fragmented, with no dominant player. This means that Statoil does not have a dominant position in the North Sea. Thus, the OSV companies have several alternative customers to whom they may charter their vessels. However, the concentration among OSV companies is even smaller than that of the oil companies. In the end, the buyers have more power, at least under normal market conditions.

Price sensitivity and switching cost

The cost for oil companies related to services done by OSVs are low compared with the total cost of their projects. The rigs can have dayrates around 500' USD per day, while the day rates for OSVs normally are between 30' and 100' USD per day. The cost of OSV services

represent as little as 6% of the oil companies' total cost. Because of this the price sensitivity towards the OSV companies is low. If they need an OSV to proceed with a project they will pay a high price if that is necessary. In Norway, where a large part of the market is based on spot contracts, this can lead to very high day rates when there is a shortage of vessels. In Brazil, the market is mainly based on long term contracts, and it is therefore not common for oil companies to suddenly need a vessel. On the other hand this leads to an oversupply of vessels for the charterers in low activity periods.

Most OSVs are standardized and vessels from different companies can do the same tasks. The PSV segment is the most standardized; PSVs can almost be seen as a commodity. Because of this the switching cost for the oil companies is low. This puts pressure on the prices when several vessels are available. More specialized vessels, like large AHTS and CSVs, are less standardized. The switching costs become higher, because it is more difficult to find another vessel that can perform the same work.

Even though the OSVs are crucial for the oil companies operations, it has historically not been in their interest to build their own vessels. Lately several oil companies have due to increased costs decided to build their own rigs, but they have not yet started to build their own OSVs, at least not to a big extent. This can be because of the unique skills needed to operate the most advanced OSV, and because there has been no super profit² within the less specialized vessels.

Information availability

Shipbrokers all over the world have constant information about the available vessels, and what day rates the chartered vessels receive. This is information the customer can get hold of by talking to the shipbrokers. The oil companies know which rates they can expect for different vessels and can push the prices down if they know that more vessels are available. The shipowners also have access to the shipbrokers' information, and they use this to bid below each other.

To summarize, we consider the bargaining power of buyers in the Brazilian market to be high, mostly because one player have a huge market share. In the North Sea, there are more buyers and none of them have the same market share as Petrobras, thus we conclude that

² Based on financial statements from annual reports. (Deep Sea Supply, 2014, DOF ASA, 2014a, Havila Shipping, 2014, Olympic Shipping, 2014, Siem Offshore, 2014, Solstad ASA, 2014, K-Line Offshore, 2014)

the bargaining power of buyers in the North Sea is medium to high. Overall the bargaining power of buyers is medium to high.

4.6 Summary

The offshore shipping industry in Norway and Brazil is characterized by high competition among the players; this is to some extent reduced because of growth in the industry. The threat from new entrants is high, even though there are some entry barriers, especially in Brazil. The threats from substitutes have historically been non-existing, but rigs with new DP systems can pose a threat for the AHTS segment. The bargaining power of suppliers is high in Brazil because of low concentration among suppliers. In the North Sea the bargaining power of suppliers is lower due to a more developed supplier market. The bargaining power of buyers is high in both markets, because the concentration among OSV companies is low compared to the concentration among buyers. Overall, based on Porter's framework, the offshore support vessel industry does not look very attractive. But several of the factors are related to cycles within the industry, and the framework does not give an accurate picture of the profitability in the industry. A further growth in the industry will for example lead to higher attractiveness.

5 Country analysis - Norway and Brazil

The CAGE framework is developed by Pankaj Ghemawat (2007) and emphasizes to illustrate the differences between a target country and a home country. The framework helps making distances visible for managers and could be used to assess whether it is a good strategic fit for a company to enter into the target country. The framework is divided into differences in cultural-, administrative-, geographic-, and economic distance. Greater differences are usually associated with greater costs (Carpenter & Sanjyot, 2012).

We will in this section focus on the differences between Norway (home country) and Brazil (target country). We will use the framework to illustrate the differences between the countries, and highlight the most important factors Norwegian companies need to consider before entering the Brazilian market.

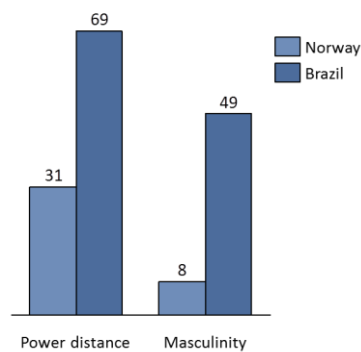
5.1 Cultural distance

Cultural distance includes differences in language, norms, values, trustworthiness and religion. Some of the factors like language and religion are easy to observe, but differences in norms and values are harder to identify. Hofstede's (2001) 5 dimensions of culture can be helpful to understand the cultural differences between Norway and Brazil. We will also base some of our statements about cultural differences on information we got through the interviews.

The most obvious cultural difference between Norway and Brazil is the language difference. In Norway, Norwegian is used both in the daily life and in the business environment, while Portuguese is the dominant language in Brazil. In both countries English is the second language and could be a way to communicate, but in many situations the English level among Brazilians is not high enough for this to be possible (EF, 2014).

Differences in norms and values and lack of trust are harder to identify. If we look at Hofstede's (2001) study we see that the power distance is higher in Brazil. This means that Brazilians are more acceptant of strict hierarchy and they do as they are told, even though they do not agree with the decision. This is important for leaders to understand when working with Brazilians. On the dimension masculinity Brazilians have a much higher score, meaning that they appreciate achievements and material rewards more than in Norway. An example is that Brazilians tend to switch jobs if they get marginally higher salaries. Another cultural difference several interview objects point out is that many Brazilians often try to find the easiest way to solve a task. In shipbuilding and ship repair accuracy is important, and what seems to be the easiest solution at the time can lead to problems and increased work in the future. The differences pointed out by Hofstede are shown in the graphic underneath.

Figure 5: Hofstede(2001) dimensions - Power distance and masculinity



(Hofstede, 2001)

5.2 Administrative distance

The administrative distance consists of differences in laws, government policies, currencies, or trade activities. Especially in industries that are considered vital for a country, government intervention may be a crucial factor (Carpenter & Sanjyot, 2013). Differences in bureaucracy and corruption can increase the cost of operating in a foreign country.

Administrative distances can be measured by indices such as “Doing business” created by the World Bank, indicating administrative barriers in several countries.

The administrative distance in Brazil is substantial compared to Norway. Looking at the “doing business index”, Brazil ranked 120 out of 189 countries, while Norway was ranked number 6 (The World Bank, 2013a). As seen in the table underneath, Brazil ranks worse than Norway in all aspects. The complexity of the tax system is especially challenging for shipowners expanding their operation to Brazil. For a mid-sized Brazilian firm, it takes 2,600 hours to prepare the annual tax return; almost ten times the global average (The Economist, 2013a). Several representatives from the shipowning companies we interviewed emphasized the complexity of the tax systems. Even the Brazilians do not understand it. Brazil ranks 123 (Norway 24) on “trading across borders”. This reflects a big issue for Norwegian shipowners in Brazil. Brazil is a protectionist country, and has high import taxes to protect their own industry. Because of a low presence of European and Norwegian suppliers in Brazil, the shipowners are forced to import a lot of spare parts and equipment for vessels, driving up the costs. Furthermore, Brazil is still regarded as a corrupt country, ranking 72 (Norway 7) out of 177 areas and economies (Transparency International, 2013).

The table underneath summarizes some of the rankings provided by Transparency International.

Table 3: The World Bank rankings - ease of doing business in Norway and Brazil

Economy	Starting a business	Dealing with Construction Permits	Registering Property	Paying taxes	Trading Across Borders	Enforcing Contracts
Brazil	167	174	138	177	123	118
Norway	22	27	5	15	24	8

(The World Bank, 2013a)

All the rankings mentioned show that there is a big administrative distance between Norway and Brazil. Offshore Shipping companies must expect higher costs related to dealing with these challenges. The administrative staff in offshore shipping companies in Brazil will definitely be larger than in Norway, driven mainly by more work related to tax issues and paperwork requirement from the main charterer. The oil industry is important for the Brazilian economy, thus the government has taken actions in order to protect and favor local workforce and industry. The industry will likely have more interventions from the government in the future. Petrobras, the main charterer of vessels in Brazil is controlled by the Brazilian government, making it easy for politicians to intervene in the oil and gas industry.

5.3 Geographical distance

The geographical distance is defined as physical distance, difference in size and climate, absence of country borders and time zones. Geographical distances can make business more difficult as well as more costly. A typical example is travel costs associated with meetings. Another major challenge is cooperation and communication between the office in Brazil and the office in Norway, because of differences in time zones.

The physical distance between Norway and Brazil is considerable; it is more than 10 000 km between the two countries and the travel time is on average 20 hours. This makes it difficult for people to commute between the two countries, and it is therefore hard to have direct control of the business in Brazil from Norway. Norway and Brazil are in different time zones, with Brazil being 5 hours behind Norway for most of the year. This means that the work day

in Norway ends before lunch in Brazil, and cooperation between the two countries must be done in the morning Brazilian time.

For offshore shipping companies the possibility to move your vessels from one region to another is important because this makes it possible to take advantage of good times in specific regions. However, the sailing time from Norway to Brazil is about 1 month, which means that vessels operating in Brazil are not easily moved to Norway.

5.4 Economic distance

The most important differences between Norway and Brazil that could create challenges for the Norwegian shipowners are the differences in cost or quality of information and knowledge, human resources and infrastructure.

Brazil, as opposed to Norway, has had a rapidly growing economy with a GDP growth above the world average since 2005, though with a decline in the years subsequent the financial crisis. While Norway is considered a well-developed country, Brazil is still considered to be an emerging market.

The most obvious source of economic distance in Brazil is related to human resources and knowledge. Brazil has over the last years had a lack of professional workers and seafarers, making it tough and expensive for the shipowners to recruit the right people for the jobs, both on the vessels and onshore. In terms of infrastructure in Brazil, this was ranked 114th out of 148 countries by World Economic Forum (The Economist, 2013b). The naval infrastructure is insufficient, there is a big lack of dry-docks for the offshore vessels, and some ports in Macae³ are not deep enough for the largest vessels, forcing them to sail to Rio to change crew.

However, the outlook for the oil and gas industry in Brazil is looking good. Petrobras forecasts a doubling of the production (activity) in Brazil within 2020, which should create a huge demand for offshore support vessels (ABRAN FGV Seminar, 2014).

³ Macae is a port North of Rio de Janeiro. Convenient to use for crew change because of its location.

5.5 Summary

There are several major differences between Norway and Brazil. The cultural differences are considerable, both because of different languages and several differences in norms and values. Big administrative differences related to dealing with tax issues and government regulations are important to acknowledge. The geographical distance between Norway and Brazil is also big, mostly because of the physical distance, but also the time zone difference plays an important role. The most important differences for offshore shipping companies are related to economical differences. The lack of skilled workforce has been (and still is to a certain extent) large in Brazil, and inefficient infrastructure is causing logistical issues along the value chain. In order to succeed when entering Brazil, Norwegian shipowners have to keep these factors in mind.

Part 2: Analysis of company specific factors

In this part we will analyze the drivers behind the operational and capital expenditures related to operation of OSVs in Norway and Brazil. We start by analyzing the OPEX followed by the CAPEX, with Norway as benchmark in both cases. Thereafter, a brief presentation of tax regimes and issues related to foreign currency is presented. We end this part with an investment case where we compare two scenarios, building and operating an AHTS in Brazil or building and operating an AHTS in Norway.

Throughout our interviews with the shipowners the main focus has been on the operational expenditures and the capital expenditures related to OSV-operations. We have had less focus on costs related to tax and currency even though these topics have been discussed. The reason why we have had this approach is because we believed it would be easier, both for us and the interview objects, to talk about the costs related to the operation of the vessels, and that we would receive more interesting information.

In the section about OPEX, our main focus has been on the costs directly related to the operation of the vessels. This comprises costs related to crewing, technical, insurance, breakdown, inspection, bunkers, port fees and pilot fees. Costs related to the management of the vessels and its crew, and administration costs related to other support functions onshore like HR, procurement, legal, accounting, etc. have not been prioritized. The reason for this choice is mainly that we do not have the capacity to cover everything, but also the complexity in relating these costs to specific vessels.

In the section about CAPEX, the main focus has been on costs related to building vessels and periodic maintenance (docking) of the vessels.

6 OPEX

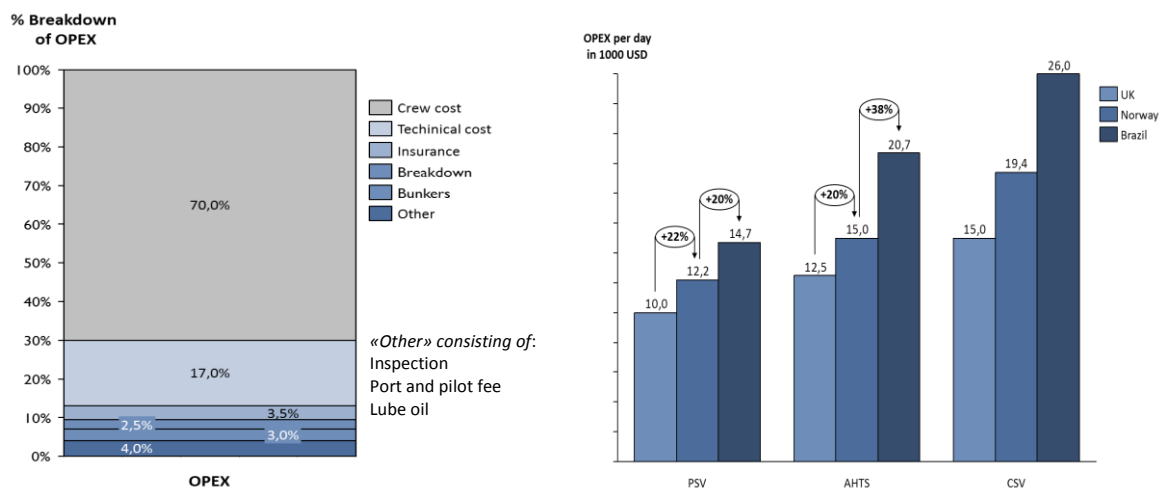
In the following chapter we will discuss in detail the different drivers of the operational expenditure (OPEX) for OSVs in Brazil and Norway (The North Sea). The North Sea is the

benchmark and will be presented first. If nothing else is stated, the analysis is based on information from interviews.

We have divided the OPEX into several groups; crew, technical, insurance, breakdown, bunkers and lube oil, port and pilot fess, inspection and other. We will discuss the different cost groups and the associated cost drivers separately, starting with the most important first. The graph on the left shows a breakdown of the OPEX for an OSV vessel. These are average numbers based on the interviews we have conducted, and vary from shipowner to shipowner. They do however give a good picture of the main cost group. The graph on the right shows the average total OPEX for vessels operating in Brazil, Norway and UK for different vessel segments (PSV, AHTS, CSV).

Figure 6: Average breakdown of OPEX for supply vessels in the North Sea and Brazil

Figure 7: Average daily OPEX (1000 USD) for PSV, AHTS and CSV



6.1 OPEX - Norway

The North Sea is mainly divided into 2 regions, the UK side (British continental shelf) and the Norwegian side (Norwegian continental shelf). We will refer to the two regions as UK and NCS. The North Sea is the most developed offshore region in the world; everything is set for the shipowners to engage their business effectively. There are no specific challenges that lead to a higher OPEX in the North Sea compared to other regions; it's rather the price and prosperity level in Western Europe that drives the operational costs. The OPEX is about 20% higher in Norway compared to UK, which is exclusively due to difference in crew cost. The higher crew cost arises because vessels on the NCS fly the NOR-flag and follow Norwegian wage-tariffs.

We will in the following section go into detail on the different operational costs in the North Sea and the key drivers behind the costs. As one can see in the breakdown of OPEX graphic above, the crew cost and the technical cost are the 2 most important costs; this is true both for the North Sea and Brazil. These costs are always covered by the shipowner himself. Insurance, breakdown and inspection costs are also covered by the shipowner, but represent a much smaller part of the total OPEX. Bunkers, lube oil⁴, port and pilot fees is covered by the charterer when the vessel is on a contract (Norwegian Shipowners' Association, 2014).

6.1.1 Crew

The crew cost accounts for 65-70% of the OPEX on OSVs working in the North Sea. With crew cost we include wages, cost related to training of crew, travel expenses, different types of social costs as well as food. The main drivers of the crew costs in Norway and UK are wage tariffs which is driven by the choice of flag, the number of people onboard the vessels and the shift system. Social benefits, inflation and the supply of professional workers also have an effect on the crew cost, but not in an extraordinary way.

Cost drivers

Flag regimes and wage tariffs

There is no flag requirement from the Norwegian government when operating on the NCS. Shipowners could use Norwegian (NOR) flag, Norwegian International Ship Register (NIS) flag or any international (INT) flag. The advantage with NIS/INT is that you do not have to follow Norwegian wage tariffs, but the disadvantage is that you are not under the net wage regime in Norway, and with NIS flag you cannot operate between two Norwegian ports. Most clients on the NCS require Scandinavian speaking crew, thus most shipowners have NOR-flagged vessels. Flying NOR-flagged vessels makes it easier to recruit Scandinavians. Statoil, who has more than 70% market share on the NCS has a Scandinavian language requirement. They will choose a NOR-flagged vessel over an INT-flagged vessel if they can. The reason for this is that Statoil want to eliminate any risks related to communication problems between the rigs and the vessels, ensuring a safe operation. Thus, all shipowners emphasize that they need NOR-flag when operating on the NCS, especially for PSVs and AHTS. For vessels in the spot market and for CSVs working on shorter contracts (projects)

⁴ Lube oil could an expense covered by the shipowner as well.

there are exceptions, these often have international flags. At the end of the day, the oil companies in Norway will actually take whatever tonnage is available in the market if they really need a vessel, even if that means chartering an international vessel. There are currently 200 vessels with NOR-flag in the North Sea and about 310 vessels with NIS or INT-flag. Most of the vessels without NOR-flag are working on the UK-side of the North Sea.

The NOR-flagged vessels must follow Norwegian wage tariffs, which are higher than the comparable tariffs in UK. Comparing two sister vessels (PSVs), operating in UK would cost around 50-55 thousand NOK per day, while operating in Norway costs around 70-75 thousand NOK per day. The difference of 15-20 NOK is exclusively related to differences in crew costs. The high wage tariffs are the main driver of the crew cost in Norway.

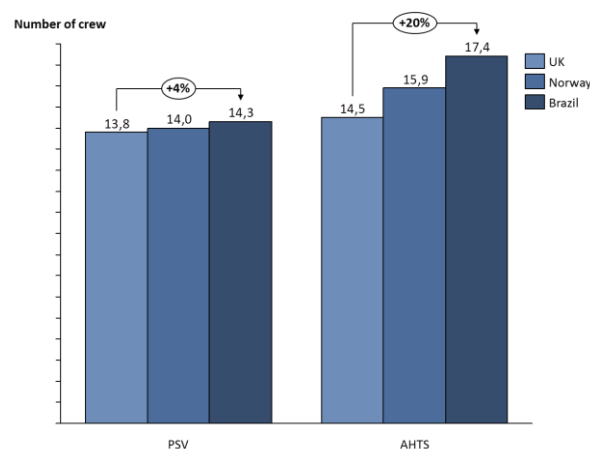
The crew salary level does not change substantially from one vessel segment to another, but the salaries are a little higher on more advanced and complex vessels. Nor is there a big difference between high ranked officers and low ranked officers. A captain normally earns from 800 000 to 1 million NOK, while a newly educated able seaman earn around 500 000 NOK. This is different from Brazil where the salary level change quite substantially from one segment to another and from low ranked positions to high ranked positions. Comparing UK with Norway, we see that the salary level for captains are pretty similar, but that the salary level for low ranked officers are much lower in UK, as shipowners are using Filipinos, Poles and other foreign workers to a larger extent.

Number of seafarers

The number of crew needed onboard a vessel is first of all dependent on the vessel type. CSVs have a much larger crew than AHTS and PSVs, leading to higher crew cost on more advanced vessels. Further, the size of the crew can vary from project to project and is normally specified in the contract. You need more people during an anchor handling operations than during a rig move. In addition to contract requirements, there are safe manning requirements, but these do not drive the crew costs as vessels always fulfill the minimum requirement. Most shipowners also have cadets onboard increasing the size of the crew. This is an extra cost for the shipowners, but they receive compensation from the Norwegian government for the training of the cadets.

Comparing UK with Norway we see that there are 1-2 more people on the vessels in Norway. This is driven by strict safety requirements from the charterers on the NCS. The number of people onboard different vessel varies from time to time, both in UK and on the NCS. In general, there are 12-15 people on a PSV, 12-19 on an AHTS and 20-35 on a CSV. The graph underneath show average numbers from the interviews we conducted with Norwegian shipowners, both in Brazil and Norway. We have decided to exclude number of crew on CSVs from the graph, since the size of crew varies a lot from the different types of CSVs.

Figure 8: Average number of crew on PSV and AHTS



(Interviews)

Shift systems

The shift systems on NOR flagged vessels is 4 weeks on and 4 weeks off. This is different in UK, because vessels in UK fly under different flag regimes. For international flagged vessels the shift system can vary from person to person. Filipinos for example, are normally offshore for a longer period than they are onshore. Overall, international flagged vessels change crew less frequently. The logistical costs related to going into port, changing crew and getting the crew to their homes becomes higher for vessels with more frequent crew changes. This leads to a higher crew costs on NOR-flagged vessels compared to other INT-flagged vessels. One issue in Norway is the costs that occur if the shipowner has to change the crew one day earlier or one day later than the original plan. In these cases the crew gets much higher wages, and it could cost as much as 100-130 thousand NOK, which is almost twice the daily OPEX for a PSV.

Supply of workers

There is a good and stable balance between the demand and supply of seafarers in the North Sea. The supply of seafarers, both Norwegian and international, vary from time to time, but the shipowners manage to get the manpower they need, and have thereby been avoiding abnormal salary increases way above inflation levels. There is however some competition for the labor from rig companies. The labor market for seafarers becomes tighter during booming times in the rig market. However, over the last few years, the development in seafarer salary has been healthy. One problem though, is a quite high turnover among the seafarers leading to high training costs for the shipowners. In addition, some shipowners see that the Norwegians have a tendency to have more sick leave than other nationalities.

Labor unions and social benefits

The labor unions for marine crew in Norway are divided into three associations; the “Offisersforbundet” for officers, “Maskinistforbundet” for engineers/electricians, and “Sjømannsforbundet” for able seafarers. The unions in Norway do not have any extraordinary power over the shipowners. They have the right to strike, but issues are usually dealt with before a strike becomes necessary.

The social benefits in Norway are normally 30-40% of the gross salary (Kunnskapssenteret, 2014). But due to the net wage regime used in Norway, Norwegian shipowners get income tax, employer payroll tax and social contribution benefit tax reimbursed from the government. The max reimbursement is 198 000 NOK per employee. The crew cost including benefits on INT-flagged vessels in UK is lower than on NOR-flagged vessel, even though they are not under the net wage regime.

Inflation

The average monthly inflation (Consumer price index) in Norway has been 1,95% the last 10 years (Norges Bank, 2014a) and will according to predictions from the Central Bank stay at this level, or a little above going forward. The Norwegian monetary and fiscal policy is built around the goal of achieving a yearly inflation of 2,5% for the entire economy (Norges Bank, 2014b). The part of the day-rate that is related to crewing is escalated every year according to inflation estimates provided by NSA. The increase in salary, in accordance to inflation, is not an issue for the shipowners at the moment.

6.1.2 Technical

Technical cost is the second biggest cost group of OPEX on OSVs. According to the different shipowners this cost group represents between 15 and 30% of the OPEX. The reason for this big interval is that different owners have different definitions of their technical cost. We define technical cost as all costs related to maintenance and repairs including the cost of importing consumables and spare parts. Lube oil is by some companies included in technical costs, making technical costs a higher share of the total OPEX. The lube oil cost represents about 2% of the total OPEX.

Like crew cost, technical cost in the North Sea is mainly driven by a general high price level. The supply of service engineers and support from suppliers is good, and there are no issues related to import of goods and services. The last three are big problems in Brazil and will be discussed later.

Cost drivers

The North Sea is surrounded by well developed countries with a high price level. The high price level means that procurement of spare parts and equipment becomes expensive. In addition to the high price level, the complexity of the vessel is somewhat driving the technical cost as well. More complex vessels, like diving support vessels or anchor handlers, have much more equipment, which increases the daily maintenance costs compared to smaller PSVs without much equipment.

By industry standard the shipowners have maintenance days in their contracts. Usually it is 0,5-1 day every month (the days can be accumulated over the year) that could be used for maintenance without losing the dayrate. In addition to this, the charterers in the North Sea normally let the shipowners do daily maintenance when the vessel is in port, when it is moving from A to B, or when it is waiting for its next task/project/operation. With these paid maintenance days during the year, and the ability to do daily maintenance when the vessel isn't operating helps the shipowners avoid extraordinary costs related to maintenance and repairs.

Norwegian seaman culture has historically been one of the best in the world, leading to good maintenance of the vessels, decreasing the chance of breakdowns during operation. There has however been a trend that Norwegians are becoming less dutiful, forcing

shipowners to hire a third party to do the repairs and maintenance, increasing the technical cost. This is however not a big problem in Norway (yet).

On the supplier side, the service given to the shipowners is good. There are normally docks and service engineers available when the vessels need support. Issues with import of goods and services, and customs clearance are not present. This is very different from Brazil where hiring service engineers could be expensive because of their inexistence (almost) in the country. Import issues arise often because of a complex tax regime and logistical inefficiencies. We will get back to this later.

6.1.3 Insurance

Insurance represent about 4% of the total OPEX. Ship insurance consist of two different insurances, marine insurance and protection & indemnity insurance (P&I). Marine insurance typically covers damage on the vessel, while P&I insurance covers damages the vessel causes the environment, such as pollution, fines due to pollution and removal of wracks. Commercial insurers offer the marine insurance, while the P&I insurance is offered by P&I clubs. A P&I club is a group of shipping companies that have agreed on covering each other's claims when they arise (Gard, 2014).

Cost drivers

The main driver of the insurance premium is the value and size of the fleet, in addition to the company's track record. The premium is somewhat affected by damage statistics for the industry as a whole, but companies are normally not penalized as a result of their competitors' injuries/damages. Other factors that influence the insurance premium on each individual vessel is: vessel age, vessel type, owner, operator, flag of vessel, composition of crew and contract terms. We will not go in detail on all of these, but only mention them to show that several factors influence the final premium. Shipowners get better premiums when they insure a large fleet, instead of only a single vessel. The insurance is normally administered centrally from Norway.

6.1.4 Breakdown

With breakdown we refer both to the costs related to failures of engines, thrusters or other severe equipment causing a 100% off-hire, and penalties received as a result of malfunction of equipment, however not leading to a 100% off-hire. Receiving penalties, for good or bad

reasons is typical for Brazil, and we will get back to that in the section about Brazil. In the North Sea however, shipowners do not receive penalties from the charterers. If one of the VHF (Very-High-Frequency) communication systems is down, this does not have any consequence on the up-time (utilization) of the vessel. In Brazil, this could lead to a certain percentage downtime, even though the operation continues as normal. Offshore shipping companies working in the North Sea, only get downtime if something severe happens that forces them to stop their operation completely. In these cases the emergency is normally dealt with in a fast and efficient way with support from service engineers that are easily available. Depending on the size of the accident, some of the costs related to breakdowns could be covered by insurance companies. Breakdown costs are not a big issue in the North Sea.

6.1.5 Bunkers and lube oil

Like port and pilot fees, bunkers is a cost that is covered by the charterer when the vessel is on a contract, both spot and term contracts. When vessels are working in the spot market the shipowner has to pay for fuel between spot contracts. The shipowners sell the stock of fuel they have onboard to the charterer when they start a contract, and buy back what is left when the contract is over. The charterer in general also covers fuel expenses when the vessel is doing periodic maintenance or dry-docking. This is different from Brazil, where Petrobras tries to push the fuel expenses over on the shipowner whenever they can. In the North Sea, the bunkers cost represents a small part of the total OPEX, on average around 3%.

The lube oil represents 2% of total OPEX. The lube oil usage is dependent on the complexity of the vessel; larger vessels with more equipment consume more lube oil than smaller less complicated vessels. The lube oil expenses are in some cases covered by the charterer but in other cases covered by the shipowner, depending on the contract terms. The shipowners normally have a deal with one supplier of lube oil for their entire fleet, where the price could vary from region to region.

6.1.6 Port and pilot fees

In the North Sea, the charterer covers port and pilot fees as long as the vessels are on term contracts. However, when vessels operate in the spot market the shipowner has to pay these expenses. The price of harbor and pilot fees represent an insignificant amount of the

OPEX for offshore support vessels. One port call in Norway costs a couple thousand NOK, and represents less than 1 % of the OPEX in Norway.

6.1.7 Inspection

Inspection cost in this sense is the cost related to classification of the vessel and the vessel's certificates. The cost of the classification could vary between the different classification companies, and it varies depending on which class the vessel is in. This is a minor cost for the owners and we have therefore not put any focus on this. This classification cost varies little between regions and are a bit higher in Brazil than in Norway.

6.2 OPEX - Brazil

The Brazilian continental shelf is not as mature as the North Sea, but one of the oil and gas regions in the world with the highest growth forecast. Because Brazil's oil industry and oil service industry is less developed than the North Sea industry, several challenges arise in the daily operation increasing the OPEX of the vessels. In general, the OPEX is 20% higher in Brazil, driven by a lack of qualified workers, taxation and importation issues and a challenging client.

Before starting the analysis of the drivers behind OPEX we will shortly describe some factors that are specific for the Brazilian market. All dimensions affect the operation of OSVs in Brazil.

6.2.1 Specific characteristics with the Brazilian market

"EBN" - Empresa brasileira de navegação (Brazilian Shipping Company)

Law 9432/1997, "Brazilian Shipping act" created restrictions to foreign owners and vessels to operate in Brazil. To be able to operate a vessel in Brazilian waters, companies must be registered with the National Regulatory Agency for Water Transportation ("ANTAQ" - *Agência nacional de transportes aquaviários*) as a Brazilian Shipping Company ("EBN"). The purpose of law 9432 is to assure that the Brazilian industry develops, so that Petrobras avoids dependency on too many foreign vessels (Jacobsen, 2014). There are several ways to get an EBN, one of them is building a ship in Brazil, while another is to buy a Brazilian flagged vessel. A third option is to enter into a bareboat agreement where you charter a Brazilian flagged vessel. The process of preparing the necessary paperwork takes between 3 and 6 months. Most Norwegian shipowners have their own EBN in Brazil, but there are

companies that go through third parties to charter their vessels to Petrobras. Havila Shipping and K-Line are examples of companies without an EBN, tendering their vessels through local Brazilian shipping companies like Asso Maritima or Bravante. Going through a third party is a way for the shipowners to “test out the waters”, and to learn how the market works, before investing long term in the region.

Import regime - REPETRO

The REPETRO regime is an import tax regime that makes it possible for international vessels to import goods without paying import tax. The import regime also allows the shipowners to bring vessels to Brazil without paying import tax (high tax of 30-60%). International flagged vessels need to pay an import fee of 3% of the vessel’s value when entering Brazil. This fee is called the state tax on circulation of goods and services (ICMS). There are currently discussions between shipowners and the government whether or not this fee needs to be paid every time the international vessel enters into a new contract. The law is difficult to interpret, so the decision is brought to court in several cases. After the vessel has paid the ICMS the vessel flies under the REPETRO tax regime.

There are several criteria that have to be met in order to fulfill the REPETRO requirements. This means that not all spare parts can be imported under the regime. The most important requirement is that the price of the spare part must exceed 25 000 dollars and it must be possible to identify the item, e.g. it needs a serial number. For goods that are not imported under the REPETRO regime the import tax is between 60% and 90% depending on the product. Brazilian flagged vessels do not have the opportunity to fly under the REPETRO regime and must pay import tax on all imported goods. The import tax for the Brazilian flagged vessels varies from 18% to 30% depending on the imported product and which state it is imported to.

Environmental regulations - IBAMA

IBAMA is the Brazilian Institute for the Environment and Natural Resources. Under the Brazilian law, the installation of an enterprise or activity potentially harmful to the environment must undertake environmental licensing beforehand. IBAMA operates mainly in the licensing of large infrastructure projects involving impacts in more than one state and activities of oil and gas on the Brazilian continental shelf, but inspections of offshore support vessels is part of their scope (The Brazil Business, 2014). IBAMA can deny vessel’s entry into

Brazil if they do not fulfill the environmental requirements specified by IBAMA. There are 3 basic requirements that have to be followed:

1. Education program for the crew: Crew need to be trained in environmental legislations (certain number of hours)
2. Pollution system onboard - Need to document that waste onboard the vessel end up in the right place.
3. Pollution system for waste going into the sea - Need to document that the system for waste filtering is working correctly.

IBAMA is giving several shipowners a hard time. In a worst case scenario the start of an operation could be delayed because the environmental inspector argues that you have the wrong color on your trashcan.

PEOTRAM

PEOTRAM is an excellence program that involves all Petrobras' maritime suppliers. In the program the suppliers are assessed on a comprehensive scope of audits across offices, operational bases and vessels. Good HSEQ records and commitment of doing business in Brazil are awarded. The companies are ranked on a scale from 0-100%, where 100% is the best. If a supplier receives a score lower than 40% they are not allowed to join tenders. With a score between 85 and 90% the supplier will have a 1% advantage on the daily rates offered in the tenders. Suppliers with scores higher than 90% will have a 2% advantage on the daily rate offered in the tenders (DOF Brasil, 2014).

Flag regimes in Brazil

There are three different flag regimes in Brazil, Brazilian flag (BRL), special Brazilian flag (REB) and international flag (INT). To be able to fly under the Brazilian flag the vessel must be built in Brazil. Vessels flying under the REB flag are vessels imported to Brazil. To be able import vessels under the REB regime you need to have 2 Brazilian flagged vessels per REB vessel. If you are building a vessel in Brazil you are able to have two international vessels flying the REB flag during the construction process. International flagged vessels are vessels flying under all other flags. Both INT-flagged vessels and REB-flagged vessel can operate under the REPETRO regime.

We will now go into detail on the different operational costs in Brazil and the key drivers behind the costs. As in Norway, crew costs and technical costs are the largest cost groups. Brazil is different from Norway due to the fact that Petrobras has a monopoly, and is therefore trying to push as much costs as possible over on the shipowners. They manage to do so in some cases, port and pilot fees being one example.

6.2.2 Crew

As in Norway, crew cost in Brazil represents the largest share of the total OPEX, accounting for 60-70%. The crew cost in Brazil is on average higher than in Norway.

Cost drivers

RN72

On October 10, 2006 the Brazilian ministry of labor introduced the normative resolution nr. 72 (RN72). This law regulates the employment of foreign professionals working on foreign flagged vessels or platforms. For OSVs the law states that after ninety days of operation $\frac{1}{3}$ of the crew must be Brazilians. After 180 days of operation half of the crew must be Brazilian and after 360 days of operation $\frac{2}{3}$ of the crew must be Brazilian. It is possible to postpone the process of finding Brazilian crew by applying for a waiver. These waivers are obtained individually by each company through an application to ANTAQ. Even though the waivers are obtained, Petrobras could give penalties to owners because they are not compliant with RN 72. Penalties reach as high as 30M\$(Westshore Shipbrokers, 2014). For Brazilian flagged vessels, there is no exception and they need to have 100% Brazilian crew

In Brazil, different government bodies interpret laws and legislations differently depending on where in the country you are and who processes your application. Most offshore companies interpret that RN 72 states that a share of the entire crew needs to be Brazilian, while the government tend to interpret the law as stating that a share of the crew on each section (department) of the vessel needs to be Brazilian. This means that vessels need Brazilians on the bridge, on deck and in the engine, and cannot run the operation solely with international officers as many do today.

The introduction of RN 72 in 2006, lead to a high demand for Brazilian seafarers. The demand for Brazilian Seafarers is still high today. When the demand from the market is

higher than the supply of labor, it becomes easier for the seafarers to negotiate higher salaries and better salary-benefits.

Inflation

The inflation in the Brazilian economy has been, and is still high (6%) (World Bank, 2013) compared to other regions. This leads to continuous increasing costs. Increase in crew salaries in the OSV market is driven, not only by the general inflation in the Brazilian economy, but also by competition among the different shipowners trying to attract the best qualified crew. This means that the actual inflation in crew salaries in some years has been more than double that of the Brazilian economy.

In Brazil, only the Navy can educate seafarers, and they have not been able to meet the growing demand for seafarers and officers from the OSV market. This has reinforced the increase in the seafarers' salary. In 2011 the inflation in crew salaries reached a top of 17% (Tradewinds, 2011), while the average increase in the Consumer Price Index (CPI) in Brazil that year was 6,5% (Inflation, 2014). Since 2013, the increase in crew salary has however started to stabilize. This year (2014), the increase in salaries negotiated through the unions was 7,2% (CPI+ 1,2%). There are several reasons for the current stabilization in crew salaries. First of all, in 2012 the Brazilian Association of Offshore Support Companies (ABEAM) started bargaining with the unions on behalf of all the offshore shipping companies in Brazil. This made it possible to obtain better deals for the shipowners. Secondly, the Navy started to educate more people, especially low ranked seafarers, after pressure from the offshore industry. One interview object explained the situation like this: "ABEAM made statistics where they showed the number of seafarers they planned to educate and the number of seafarers the industry would need. Then they understood that they had to educate more people." A last reason for the stabilization is the decreasing activity among the oil companies, leading to lower need for the offshore shipping companies and thereby lower pressure to recruit new crew.

Recruiting officers

Despite the stabilization seen in the labor market for crew today, the demand for well-educated officers in the Brazilian OSV industry is still higher than the supply. Many of the educated officers do not end up offshore and the quality of the ones who do is not high. Several OSV companies has pointed out that the education system in Brazil is not good

enough to educate high ranked officers. The reason why people do not end up offshore even though they have education from the Navy is that they have little “seafarer culture” in Brazil. People that are studying to be officers have actually never been on the sea and have no intention of working on a vessel. In Brazil, family is especially important and it is hard to combine family life with working shifts on an offshore vessel.

Another reason for the lack of well-trained officers is the hard competition from the rig companies to attract the best talents. The rigs typically pay 20% higher salaries than the OSV companies, and are offering better shift systems (14 days on and 14 days off instead of 28 days on and 28 days off). The OSV companies are therefore sometimes reluctant to provide their officers with enough training for them to be able to work on the rigs, which mean that not enough officers get sufficient job training to operate the most sophisticated vessels. Due to the difficulties of recruiting officers the wages for these positions have increased more than the wages for other seafarers.

The minimum wage for the crew on the different types of OSV is decided through a Collective Bargaining Agreement (CBA). The agreement is negotiated between ABEAM and the Seafarers’ Labor Union (SINDMAR). The minimum wage for low ranked seafarer is around 4500 R\$ (1800\$) per month, while for high ranked officers, like captains, it is around 25 000 R\$ (10 000\$) per month. For low ranked seafarers the actual salary they receive is close to the minimum wage, due to a sufficient supply of low ranked seafarers. The officers often have much higher salaries because they are in a better position when bargaining with the employer. The wages also differ among the officers depending on the size and the type of vessel they are operating. In the CBA, the officers are divided into four groups based on the size and complexity of the vessel, where each group has different terms and conditions. The difference is around 8-10% between each group.

Unions

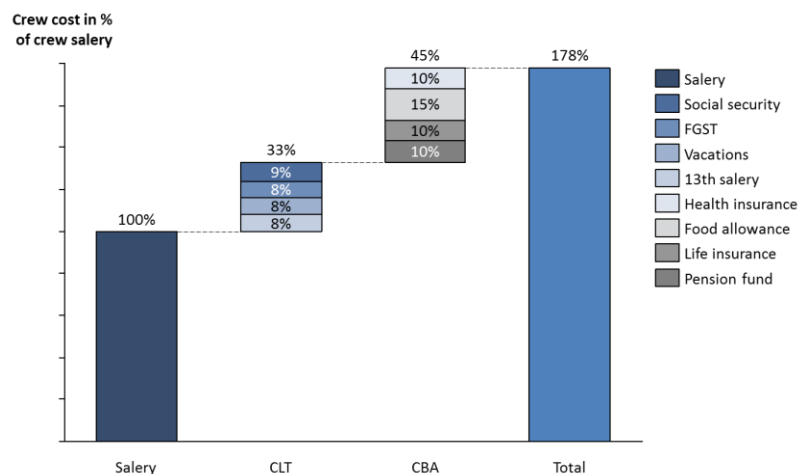
The Brazilian unions have a strong position in Brazil, and they have been able to negotiate high wages and several benefits for their members. According to several OSV companies the cost for the employer is 60-100% higher than the salary for the employee, caused by social benefits for Brazilian workers. The benefits are divided into the Consolidation of Labor Laws (CLT) and the Collective bargaining agreements (CBA). CLT benefits are determined by the

government and are calculated as a proportion of the base salary. There are four different benefits in the CLT.

1. The employee has to pay 9% of the salary in social security cost.
2. Each month the employer needs to pay 8% of the employee's salary into a fund. The money is locked to this fund until the employee either is dismissed or retires.
3. Each employee receive a 13th salary, which is a month extra salary, usually paid out in November as a kind of Christmas bonus.
4. Offshore workers also get 1 month extra salary as vacation money. This is compensation because they work on a shift system, and do not have normal holidays. If you get fired you will get your outstanding vacation money plus an additional 30%.

In addition to the CLT, the Brazilian workers get benefits through the CBA. Examples are food allowance, health care and dental insurance, life insurance and money the employer set aside in private pension funds. The CLT and the CBA decides what will be the minimum benefit for the crew. Companies can however offer more benefits if they wish in order to attract the best people (The Brazilian Business, 2014). The graphic underneath show how CLT and CBA agreements increase the cost of one employee, compared to base salary.

Figure 9: Breakdown of social benefits on top of crew salary in Brazil



Shift systems

Crew onboard OSVs work a 28 days on, 28 days off (28/28) shift system. It was possible to use a 35/35 days system before, but after negotiation with the labor unions this is not possible anymore. The Brazilian shift systems lead to more crew changes than in other parts

of the world, where the crew is onboard for a longer period of time. Since Brazil is a big country the crew changes implies transporting the crew over long distances, often by plane. This is costly, in particular when the crew needs to fly to the north of Brazil where there is little competition in the airline market. Plane tickets to the north of Brazil can cost up to 3000 Real (1150\$) for a round trip. The OSV companies we interviewed, estimated the average logistics cost to be around 500\$ per employee per crew change. If you have a crew of 15 people, changing it would then cost around 15 000\$ ($15 \times 2 \times 500$), which is about the same as the daily OPEX on a PSV.

Number of seafarers

More people are needed on vessels operating in Brazil than in other parts of the world. The Brazilian labor union is pushing to create more jobs, thus vessels operating in Brazil are sometimes forced to have more people on deck, in the kitchen and in the engine room. Vessels operating in Brazil conduct their operations differently than in the North Sea, driving up the need for crew. In the North Sea, where there is a well-developed spot market, vessels typically do one operation before they return to the harbor. In Brazil on the other hand, the vessels often do another operation directly after the first one without going back to the harbor (AHTS doing several rig moves in a row for example). To be able to have a safe operation and fulfill requirements from unions, more people are needed when several tasks are done consecutively. Strict requirements from Petrobras are another factor leading to more people on vessels operating in Brazil. Petrobras wants to increase the size of the crew to ensure a safe operation. A last reason for the crew being larger is that Brazilians are more inefficient than seafarers from other nationalities, creating a need for more people on the vessels. *Quote Chief Engineer: "If you see a chair you can be sure that it is occupied by a Brazilian"*

Not all shipowners agree that there are more people onboard vessels in Brazil than in other parts of the world. This might be because some shipowners have more skilled Brazilian crew than others. Another possibility can be that the Brazilian shipowners do not want to admit that there are more people on the vessels in Brazil, because this would be admitting that Brazilians are less efficient than international seafarers.

On Brazilian PSVs the average number of crew is between 13 and 16, and on AHTS' the average is between 18 and 20. There are however examples of AHTS with only 14 people, and with as much as 25 people. The reason for the big differences is that the vessels vary a lot in size, and the type of operation performed requires different amount of crew. Large vessels with very complicated operations need more people than smaller AHTS doing less complicated tasks (could be used as PSV). In Norway the size of the crew on a PSV is normally about 12-16, and on AHTS it is between 12 and 19 people.

Food

The general price level in Brazil is high compared to other parts of the world. This is also the case for food prices. The prices for food are therefore an additional driver for the crew cost in Brazil. The clients in Brazil also have more people onboard then what is typical in the North Sea, increasing the food cost and the need for people in the kitchen.

6.2.3 Technical

Technical cost is one of the most challenging costs in Brazil. Because of high importation taxes and difficulties with customs, the technical cost in Brazil is higher than in Norway and also harder to predict. The technical cost in Brazil represents between 15 and 25% of the total OPEX.

Cost drivers

Lack of suppliers leading to costs related to import of goods

Due to a very limited international supplier network and no international companies with spare-part stocks in Brazil a lot of the equipment needed to do maintenance and repairs is imported. Brazilian suppliers can be used, but the quality of the products you find in Brazil is worse than in Norway and can in some cases not be used. One interview object stated: "We have bought brand new filters here in Brazil, but the quality was so bad that the chief engineer threw them away." In addition, to fulfill warranty requirements new vessels often need to use original spare parts which cannot be found in Brazil. All these factors leads to increased costs for the companies due to high import tax, transportation costs and extra time spent in customs and elsewhere along the importation process. Suppliers have tried to set up warehouses in Brazil, but without any success. The suppliers are forced to pay full import tax, and are therefore not competitive on price compared to international vessels that can import goods under REPETRO.

When importing goods to Brazil customs clearance can be a major problem. One interview object put it this way: “If Petrobras is a problem, then customs are our nightmare.” The time used to get things through customs can be long, which is unfortunate when a vessel has a breakdown and spare parts are needed fast. Storing the products in customs is expensive; the storage is paid in advance, 10 days at the time. A good relation with an experienced customs agent is important in order to minimize risk related to imports. The OSV companies emphasize that a good customs agent can significantly reduce the risk of having problems declaring goods.

A few shipowners have said that they have lower technical cost on BRL-flagged vessels than on INT-flagged vessels because they do not import consumables, spares and other equipment, but purchase it locally, thereby reducing technical cost. This has again led to lower OPEX on the BRL-flagged vessels than on the INT-flagged vessels. Most companies do however argue that the quality on the local products is insufficient.

Unskilled labor driving maintenance cost

A key driver for the technical cost in Brazil, is the lack of maintenance done by the crew. This means that the companies need to use third party companies to do the maintenance when the vessel is in harbor, which increases the cost. This problem is especially big on vessels with 100% Brazilian crew. There are several reasons for this:

- The education of Brazilian seafarers is poor, and they do not get enough training and education before they start working on the vessel.
- Brazilians do not have any “seafarer culture”, thus they do not know how to take good care of a vessel and they do not see it as their responsibility to do maintenance on the vessel. On interview object stated: “The Brazilian chief engineer is often the guy with the cleanest work outfit.”
- Some shipowners have experienced that Petrobras deny the crew to do maintenance during operations. This is particularly true for large AHTS and CSV where Petrobras always have an inspector on board. For vessels that are in constant operation for a month at the time the risk of breakdown increases when you do not have the opportunity to do daily maintenance. Some years back, it was normal to

have a few “credit days” in the contract where the shipowner could do maintenance without losing the day-rate, like in Norway. This condition has been removed.

For international vessels with partial international crew the maintenance problem is smaller. International crew often has more experience and a culture where they take care of the vessel. They therefore do more maintenance than the crew on a vessel with 100% Brazilians. Several companies send Brazilian crew to Norway and other regions, so that they can gain more experience and learn more about seaman culture, before they come back to Brazil and start working on Brazilian flagged vessels. This can be quite expensive since Brazilian seafarers earn a lot more than e.g. Asians and the travel costs increase dramatically if they start working in the North Sea instead of the Brazilian continental shelf. Despite this, several OSV companies think it can be beneficial in the long run because the Brazilian crew gain important knowledge that could lead to a better operation of vessels in Brazil in the future.

Some of the shipowners we have talked to do not agree that Brazilian seafarers do less maintenance. A reason for this can be that some shipowners have a better-educated crew, that do more maintenance than other Brazilians, or that they don't want to blame Brazilians for doing less maintenance.

Lack of good service engineers

Another driver of the technical cost is the lack of good service engineers/technicians in Brazil. This is caused by a weak education system, with low education quality and not enough people being educated. The quality of the service done by Brazilian engineers is often poor. One interview object stated: “We have experienced that the vessel is in worse condition after the service than it was before.” As a result, service engineers often need to be brought in from Europe. This is expensive because of the travel expenses, and it also takes longer time which can be crucial if it's an emergency service. Due to Brazilian laws and regulation it can be problematic for the service engineers to get visas and it could take about 30 days to receive the visa. In addition, keeping the visa for more than one year is quite hard. The service companies therefore always need to have people with Brazilian visas, and the possibility to rotate these people. To be able to support the crew when technical support is needed some shipowners have their own onshore technicians. This increases the onshore staff, and wouldn't be necessary if the vendor's technical support was available (ABRAN FGV Seminar, 2014).

Climate challenges

The warm climate in Brazil leads to increased maintenance and repair costs. The warm and salty water combined with high humidity, exposes different parts of the vessel to rust. The rust can lead to breakdowns of equipment and harm the hull of the vessel. The rust can be prevented by buying good paint system. Marine growth on the hull is another problem that occurs because of the climate. If it first starts growing, the growths spread quickly. This can slow the vessel down and harm the vessel's hull. Good anti fouling paint can however prevent this from happening. One interview object stated: "The best investment you do here in Brazil is to buy the most expensive paint and anti fouling systems."

6.2.4 Insurance

Insurance represent approximately 2-5% of the total OPEX in Brazil. As mentioned before, there are two types of insurances, P&I insurance and marine insurance. The P&I insurance is done outside of Brazil, both for INT-flagged vessels and BRL-flagged vessels. For the marine insurance Brazilian flagged vessels are obligated to insure at least 40% of the vessel through a Brazilian insurance company. Thus, this insurance is written partly in Brazil and partly outside Brazil, where the conditions normally are better. The cost drivers in Brazil are the same as in Norway.

The insurance premium you pay is usually higher for vessels that operate in Brazil, both for the marine insurance and the P&I insurance. This is mainly because of the higher breakdown costs you have in Brazil and the penalties you face if you have an accident that harms the environment. In some cases, vessels that only caused minor damage to the environment, still received large fines from the Brazilian government. The crew composition could be another reason for a higher insurance premium in Brazil than in Norway. The Brazilian crew is not always as experienced and well educated as other international crew, thus the insurance companies look at this as a risk.

6.2.5 Breakdown

Breakdown costs occur when something on the vessel is not working according to the specification outlined by the charterer of the vessel. The breakdown cost is calculated as a percentage of the daily rate. If the vessel is not able to operate at all due to severe problems with equipment the vessel will get a 100% downtime. It is also possible to get smaller breakdowns while the vessel is under operation, e.g. if some equipment that is not in use do

not work. This is often called penalties. The main client in Brazil gives a lot of penalties to the shipowners, both with and without a legitimate reason, e.g. wrong type of milk in the fridge could for example lead to a certain % downtime. One shipowner put it like this: “It seems like giving penalties is the inspector’s hobby.” The breakdown cost for the companies we interviewed varied from 1-5% of the daily rate.

Cost drivers

Lack of maintenance, longer breakdowns

An important driver for the breakdown cost is the lack of maintenance done by the crew, as well as low quality on the services done by third party companies. The fact that vessels in Brazil usually are on long term contracts and do not have any maintenance days in the contract makes it difficult to do maintenance and repairs. The biggest problem however, is that a breakdown usually lasts much longer in Brazil than in the North Sea. The import of spare-parts, needed to repair the vessel, often takes a long time. In some cases service engineers from Europe is sent to help, which prolongs the process even more.

Petrobras

Petrobras is another reason for the high breakdown cost in Brazil. Since Petrobras mainly has vessels on long term contracts, the only way they can reduce their cost is by reducing the day rates. This is achieved by giving penalties to the shipowners. Several shipowners mentioned that Petrobras gives them penalties if not everything on the vessel is according to the contract, even if the vessel is operating perfectly. One interview object stated: “Petrobras can give you penalties if a winch is not working, even if they have no intention of using it. We had 100% utilization last year on vessels not operating with Petrobras, and to put it this way, we are not doing a better job on those vessels.” Reducing the day rate on the vessels through penalties is a way for Petrobras to save costs. Another interview object stated: “With a fleet of 450 vessels, 5% downtime is a big cost reduction for Petrobras.” A good relationship with the inspectors from Petrobras is important; you have to cooperate with them to be able to get as few penalties as possible. According to the shipowners the inspectors give more penalties now compared to only a few years back. Several of the inspectors are new in the job (the experienced people retired), and have little experience with the operation of offshore vessels.

The breakdown costs vary a lot among the different shipowners. The shipowners with less breakdown cost have pointed out several factors for this. First of all, modern vessels with a lot of redundancy systems tend to have fewer breakdowns than older vessels. Secondly, having a good relation with the inspectors from Petrobras could help reducing the level of breakdowns. A last reason can be that some shipowners have crew that take better care of the vessel, e.g. do more maintenance and other preventive work.

6.2.6 Bunkers and lube oil

Bunkers, like port and pilot fees, represent a small part of the total OPEX, normally 2-3%. The bunkers is covered by the charterer in all contracts, this is a standard within the industry. However, the shipowners have to pay for bunkers when the vessel is off hire, or when it is in docking. This is different from the North Sea where the charterer often pays the bunkers during both downtime and docking. Because most vessels in Brazil are on long term contracts with high utilization, the bunker cost is small for the shipowners.

The cost of lube oil in Brazil is usually covered by the shipowner, like in Norway. Some shipowners emphasize that they use a little bit more lube oil in Brazil, and that it could be caused by slightly higher prices or a slightly higher consumptions due to more salt in the water driving the need for more lube oil.

6.2.7 Port and pilot fees

The port and pilot fees is higher in Brazil than in Norway, but still only represent 2-5% of the total OPEX. Port fees are covered by the charterer in most contracts. But Petrobras is forcing the shipowners to pay this cost in new contracts, especially for CSV vessels. In order to include the port fees in the budget it is crucial for the shipowner to know how often they will have a port call. For international vessels it is also mandatory to have a pilot onboard, Brazilian vessels can avoid this. As for port fees, pilot fees are normally paid covered by the charterer. Pilot fees are high in Brazil because pilots have, as a result of a monopoly situation, managed to push their salaries sky high (Safe Seas, 2009). With active lobbying they have retained the monopoly without any disturbance from the government. One interview object stated: "Pilots live in Miami and come by helicopter to the vessel, takes a cup of coffee and flies back to Miami!" A pilot can easily earn up to 80 000 R\$ (30 770 \$) per month. Port fees including pilot cost approximately 20 000 R\$ (7 600\$) for each port call.

6.2.8 *Inspection*

See OPEX Norway

6.2.9 *Other costs*

EBN management fee

Companies that do not have their own EBN, must as previously mentioned use a third party, who has EBN status, to be able to operate their vessels in Brazilian water. This third party will charge a fee for this service, which could lead to higher OPEX for the shipowner.

Administrative Cost

The administrative costs are significantly higher in Brazil compared to Norway. There will in general be more onshore personnel per vessel in Brazil than in Norway. The higher administration cost is mainly driven by a complex tax system in Brazil and several documentation and paperwork requirements from Petrobras. To fulfill requirements from Petrobras many monthly reports are necessary: crew payment evidences, medical care evidences, fiscal obligations evidences, fuel consumptions controls, hazard evaluations and accident reports. The office teams must be large to cope with these bureaucratic client demands, complex and unstable fiscal scenario, complex labor regulations, logistics difficulties and importation processes. These are kind of hidden costs that the companies might not expect when they decide to enter the Brazilian market (ABRAN FGV Seminar, 2014).

6.3 Comparison and summary of OPEX

The OPEX is on average higher in Brazil than in the North Sea. This is mainly due to higher crew and technical costs. The crew cost is driven by more crew onboard the vessels in Brazil, especially on AHTS, and a higher average cost for each crew member, because of high officer salaries and high social benefits. The technical cost is driven by the lack of suppliers leading to importation of equipment. This increases the cost due to import tax and other costs related to the import process. A last factor increasing the OPEX in Brazil is demanding requirements from Petrobras, and frequent penalties received for good and bad reasons.

The OPEX in the North Sea is higher for NOR-flagged vessels than for INT-flagged vessels. This is solely due to higher crew cost on NOR-flagged vessels, mainly because these vessels

have to follow Norwegian wage tariffs, but also because vessels with INT-flag on average have less crew onboard than NOR-flagged vessels.

The OPEX in Brazil is also different based on which flag the vessel is flying. Because BRL-flagged vessels need 100% Brazilian crew, the OPEX is often higher for these vessels. However, we do not have numerical evidence supporting this; it is solely based on information received through interviews. Technical cost will also vary from INT-flagged vessels and BRL-flagged vessels, because they fly under different import regimes. It is ambiguous for whom this is an advantage.

7 CAPEX

In the following chapter we will discuss the cost drivers behind the capital expenditures (CAPEX) related to offshore support vessels in the North Sea and Brazil. We will first present the North Sea market and use this as a benchmark when analyzing the Brazilian market. If nothing else is stated, the analysis is based on information from the interviews.

We have divided the CAPEX into two groups; cost related to shipbuilding and cost related to periodic maintenance (hereafter referred to as docking). Even though dry docking costs occur continuously during the lifetime of the vessel, the costs are capitalized and therefore determined CAPEX.

7.1 CAPEX - Norway

We will first elaborate on the cost drivers of docking vessels in the North Sea. Thereafter, we present the cost drivers behind shipbuilding in Norway, as well as the advantages and disadvantages of building vessels in Norway. In the first part about dry docking, we look at the entire North Sea market, as the shipowners use the best available docking facility regardless of which country it is located in. In part two about shipbuilding, we solely focus on shipbuilding in Norway, as this is by far where most of the OSV shipyards in the North Sea are located and has been the focus in our interviews.

7.1.1 Docking

Description

A dry dock is a structured area wherein construction, repairs and maintenance of merchant vessels and boats are carried out. The unique construction allows water to be filled up in

that area, so that vessels can be maneuvered in and out of the dock. Once the vessel enters the dry dock, the gates are closed and the seawater is drained out so that hull and other areas of the ship which have been exposed to seawater for a long time are available for carrying out maintenance and repair works (Marine Insight, 2010). Dry docks could either be onshore or floating (in water). According to the International Convention for the Safety of Life at Sea (SOLAS) vessels must be dry-docked at least twice every 5th year, this is a requirement from the International Maritime Organization (IMO), and if these standards are not followed the vessel could lose its classification (IMO, 2014). Almost all vessels are classed by a classification society like the Norwegian company DNV GL. Without classification, the vessels could be uninsurable and might not be able to sail. Vessels are *in class* when their machinery, hull, structures and equipment correspond with the IMO standards.

In addition to the 5-year classification docks, dry docking is normally carried out before a vessel is sold or if an accident occurs. Shipowners are also required to do interim dockings. These are normally conducted every 2,5 (36 months) year, and does not necessarily need to be in a dry-dock (Marine Insight, 2010). It could simply be an inspection done in the port by divers, where they do smaller maintenance on the hull of the vessel. Reasons why some interim dockings are conducted in dry docks are that the vessel is old and needs maintenance more frequently, or that the shipowner wants to do an interim dry docking in order to have less maintenance to do during the 5-year classification dry dock.

The price of a dry-dock vary depending on whether the company is doing an interim docking or a 5 year classification dry dock. The 5 year dry dock service has a larger scope and is therefore more expensive than the interim docking. In addition to scheduled dockings, shipowners sometimes have emergency dockings because of equipment that break down on the vessel. This is unfortunate as the shipowner's costs increase and the company loses its day-rate because of downtime. The cost of an emergency dock varies depending on the scope of the breakdown and the availability of docks.

Docking in the North Sea

There are several docking facilities in the North Sea, both in Norway, Denmark, Netherland and in the UK. Which yard the shipowner decides to use varies depending on the location of

the vessel and the relationship they have to the different yards. However, since the sailing time no matter where you are in the North Sea is less than a day, the location of the vessel is not crucial when deciding where to do the docking.

Because of the Danish yards' good reputation, docking in Denmark is becoming more and more popular among the shipowners. Even though the sailing time might be a little longer compared to Norwegian yards the price for a docking in Denmark is lower. The quality is better and the time used to perform the docking is shorter in the Danish shipyards. Most of the workers at Danish yards are Danish with long experience docking vessels. This is different from Norwegian yards, where most of the workers are foreigners with less experience. Another reason why shipowners do the docking abroad is that an increasing number of Norwegian yards have switched focus from docking ships to docking rigs where the margins have been higher. Due to increasing newbuilding orders for vessels, several Norwegian yards, which earlier performed dockings, have refocused their business to do more shipbuilding. This has led to a drop of docking knowledge and services in Norway.

The price of docking a vessel in the North Sea varies a lot depending on several factors. First of all, the type of vessel is an important factor influencing the price of the docking. Vessels with more equipment have higher docking costs, PSVs being the cheapest and CSVs the most expensive. A five-year dock for a PSV normally cost from NOK 5-7 million (0,8-1,2M\$) , for a AHTS the price could be up to NOK 15 million (2,5M\$) while the price for a CSV docking could exceed NOK 20 million (3,3M\$).

Secondly the age of the vessel has a strong influence on the docking price. Older vessels typically have a higher docking cost, because there is more work that needs to be done. A 15 year classification dock for a PSV cost around NOK 20 million (3,3M\$) which is significantly higher than the price of a 5 year classification dock.

Mainly two factors are driving the cost of docking in the North Sea, the price of equipment and the price of labor.

Cost drivers

Equipment

Highly specialized parts are needed when doing maintenance on machinery like engines, thrusters and other equipment onboard the vessels. These parts are often made in industrialized countries like Norway where the production cost is high, driving up the cost of the docking. More advanced vessels have more equipment to maintain, and need more new parts in the docking process. This is the reason why the docking is more expensive for these vessels. Older vessels also require more new parts which partly explain the difference in docking cost between new and old vessels.

Labor force

The labor hours used in the planning process of the docking and during the docking process are expensive. Countries like Norway, Denmark, Netherlands and the UK are all industrialized countries with high living standard and high salaries. Much of the work that is done in a docking process needs to be done by professional workers with salaries much higher than the minimum salary in these countries. Even though the workers on North European yards are efficient compared to for example Brazilians the total labor cost is high.

The docking process takes from 2-3 weeks mainly depending on the age of the vessel. A 5 years classification dock usually takes around 2 weeks, while a 10 and 15 year classification dock takes around 3 weeks. The tasks done in a 10 and 15 year docking process are more time consuming, like pulling the shaft and maintaining the engines. The fact that the docking process is longer for older vessels is another reason why the docking cost increases with the age of the vessel. The docking process takes more time for more advanced vessels, which can be another explanation why the docking cost increases for more advanced vessels.

7.1.2 Shipbuilding

Shipbuilding status in Norway

The total fleet in the North Sea consists of around 510 vessels, and has been increasing steadily over the last decades (DNB, 2014). A major part of these vessels are controlled by Norwegian shipowners and around 200 of them fly the Norwegian flag (Norwegian Shipowners' Association, 2014).

There are between 15 and 18 shipyards in Norway building offshore support vessels, delivering from 20-25 vessels each year. The biggest player in the Norwegian shipbuilding industry is Vard with the total of 5 shipyards in Norway. Other companies like Kleven, Ulstein and Havyard are also delivering high quality vessels to the offshore industry.

Cost of building ships

The cost of building offshore support vessels in Norway is high compared to other regions.

The price for a PSV built in Norway is between NOK 250 and 350 million (40-60\$M) depending on the size of the vessels. The price for an AHTS varies from NOK 500-800 million (80-125\$M), also depending on size, but most of the vessels built in Norway are in the upper segment and the price for these types of vessels are between NOK 700 and 800 million (115-125\$M). The price for CSVs can vary from NOK 600 million (100M\$) and up to NOK 2 billion (335M\$) depending on size and complexity.

A big part of the vessel delivered from Norwegian yards is actually built outside Norway. The steel work and much of the pipe work is done in Eastern Europe in countries like Romania. The trend in the shipbuilding industry in Norway is that more and more of the work is done outside the country. To build an offshore support vessel usually takes about 2 years. The first 15 months of this period takes place in Eastern Europe, before the vessel is towed to Norway. The last 9 months is spent in Norway installing specialized equipment and ensuring that the vessel operates like it should.

Cost drivers

Labor cost

The most important cost driver related to shipbuilding in Norway is the cost of labor. To build an offshore vessel in Norway approximately 500 FTEs are needed. Norway has one of the highest average wages in the world which highly influence the price of building vessels (Statista, 2014). Especially educated people like electricians and engineers are expensive in Norway. These people are required in the finalization process of the vessels, driving up the labor cost. Even though a lot of the labor-intensive work is done before the vessel arrives in Norway, several work hours still remains, thus driving up the shipbuilding cost.

7.1.3 Advantages and disadvantages of building vessels in Norway

Advantages

The two biggest advantages of building vessels in Norway emphasized by all shipowners are that you will get a vessel with high quality delivered on time. The Norwegian shipyards are known for delivering advanced offshore support vessels with high standards. There are normally no problems with the vessels after delivery, and they manage to operate as promised. Norwegian yards are known for being the best in the world to build offshore support vessels, especially advanced vessels like large AHTS and CSVs. Building these vessels requires a great deal of experience and mistakes are not tolerable. The high quality of the vessels built in Norway makes the second hand value of the vessel high, potential buyers know that the vessel will last for a long period of time.

The advantage of having the vessel delivered on time is an important factor. If the shipowner is building the vessel based on a contract with an oil company, the shipowner will be forced to pay penalties to the charterer if the vessel is delayed. Even if shipowners build vessels on speculation a delay is costly, both because the financing costs are running and because a peak in the market can be missed.

Other advantages of building vessels in Norway are that the shipowners are close to the yards making it easier and cheaper to supervise the building process. There are examples of companies building vessels in China sending up to 40 people to supervise the process. This is an extra cost of building outside of Norway. The actual price for a vessel built in Norway is normally the same as the budget price presented when the contract was signed, creating less uncertainty.

Another advantage by building in Norway is the financing you get from GIEK and Export Credit Norway. With loans from Export Credit the down payment period can be up to 12 years, and the interest rates as low as 5%. Institutions like Export Credit are not unique for Norway. Several countries have similar institutions, and Brazil has a state of the art financing scheme.

Disadvantages

The biggest disadvantage of building vessels in Norway is the price of the vessel. The contractual building price for a PSV in Norway can be twice as high as in China. This is before

adding the extra costs that historically have occurred when building in China, e.g. delays and extra costs related to huge supervision teams needed during the building period. In the end the price difference can be as little as 10%, and the vessels have lower quality and usually also lower specifications than comparable Norwegian built vessels.

For more advanced vessels it is more difficult to compare the price, because the vessels built in China are less advanced than the one being built in Norway. But according to shipowners some yards in Vietnam and South Korea do manage to build vessels with similar specifications as in Norway with prices around 10% lower. If the vessel is built for operations in the North Sea the mobilization cost is high because it takes a long time to transport it from Asia. It normally costs 1-2 M\$ to get the vessel back to Norway, which is something the shipowners have to pay. This extra cost will reduce the cost advantages of building in the Far East. If you, on the other hand, plan to operate the vessels in the Far East or in Australia, the mobilization cost will be lower if the vessel is built in the Far East.

7.2 CAPEX - Brazil

We will in the following chapter discuss the drivers behind CAPEX related to operating vessels in Brazil. We will start by presenting the drivers behind the docking costs. Then we will discuss the cost drivers behind shipbuilding and the advantages and disadvantages of building vessels in Brazil.

7.2.1 *Dry Docking*

Cost of docking

According to the Norwegian OSV-companies in Brazil, a 5 year dry-docking could cost 30-50% more than in Norway. However, to determine an average price is difficult as it will depend on the vessel type, the vessel size, equipment onboard and the scope of the dry-docking. The cost of the interim docking is normally half of the 5 year-docking. All OSV-companies in Brazil emphasized that it is mainly two things that make the dry-docking more expensive, the first one being the rent of the dock and the second the cost of importing the necessary equipment. The cost of renting a dock in Brazil depends on the size of the dry dock. Lack of dry docks has led to high prices. The Norwegian shipowning companies in Brazil normally have medium and large OSVs. The rent of docks for these vessels could range from 20-30 000 dollars/day compared to only 5000 dollars/day in Denmark. One of

the shipowners put it this way when talking about dry dock prices: “Dock owners can take whatever price they want; it’s the only girl in town”. There are however several other factors leading to high dry docking prices in Brazil, these drivers will be explained in detail in the following section.

One of the shipowner summarizes the dry dock situation like this: *“Lack of shipyards, shipyards are very old and they have not been updated. So if you see a vessel dock in Norway, the way they treat the hull and paint the hull, if you see this in Brazil we are 30 years in difference; in performance, in equipment and technology. Takes longer, more costly....”*

Cost drivers

Access to the docks

The main driver of the dry docking cost in Brazil is the access to docks (docking capacity). Because there are only a few docks in Rio de Janeiro (“Rio”), it is not enough to cover the demand from the shipowners. As mentioned in the strategic profitability analysis earlier, there are only 2-4 docs that could be used for medium to large support vessels in the Rio de Janeiro area, Renave, Maua and Dockshore (floating dock) located in Niteroi, being the most reliable ones. The number of useable docks in Rio (and Brazil as a whole) depends on what risk you want to take. One shipowner considered only one dock in Rio to be 75% reliable, meaning that the quality of these docks is questionable. There are numerous other docking facilities, but these are either too small or lack the qualified people, equipment or technology to do the work in a reliable way. As mentioned earlier there are almost 500 OSVs in Brazil. With vessels needing a classification dry-docking every 5th year, it means that there could be around 100 classification dockings every year. In addition to this, several emergency dockings occur causing an even higher demand for docking capacity. To get an idea of the number of emergency dockings that occur every year, one shipowner said he had about 0,5 emergency dockings per vessel last year. In summary, the demand is much higher than the offer from the market, causing rent-prices for the dry docks to skyrocket.

In the future this might be better as new companies are entering the dry-docking service industry. As far as we know, there is currently one onshore dry dock and one floating dry

dock being built in Niteroi/Rio area by Embradock and Dockshore. Shipowners believe the prices will go down as the supply increases.

Time of docking process - delays

The time it takes to conduct a dry dock in Brazil is another important driver of the docking cost. A 5 year classification docking should normally take around 20-25 days. There are however several examples of dockings that took 30 and even 40 days. In Norway, it does not take more than 12-21 days when the dry-docking goes without problems. One factor prolonging the process of docking is unreliable shipyards. Yards could confirm to the shipowner that a space is available in the dock, thus the shipowner takes his vessel out of contract, but when the vessel arrives at the yard she does not necessarily get access to the dock right away. The total time of the docking process increase and potential revenues are lost.

Shipowners emphasize that it is important to plan the docking thoroughly to make sure that all the equipment and parts needed are in place when the maintenance starts. If a surprise occurs, a lot of time will be lost due to a slow import process. For example if an imported spare part arrive at the customs clearing warehouse on a Thursday, you might not get it before 4-5 days later because of lack of capacity and productivity in the customs office. In Møre and Romsdal in Norway you would probably be able to get this same part within hours. In Brazil, an undeveloped supplier industry, with a lack of qualified equipment leads to a lot of importations; this takes time if not planned properly.

Longer time in the dock means more days of dry dock rent payments, increasing the price of the docking substantially compared to Norway. The dry docking in Norway is not only faster, but the price of renting the dock is also lower.

Low quality leading to import of goods and services

Another important driver behind the dry-docking prices is the tax related to import of equipment and services from abroad. This issue is similar to what is explained as a driver of the technical cost (maintenance, repairs, etc.), in the section about OPEX in Brazil. In both cases, tax on import, transportation costs and the cost of the extra time spent is increasing the total cost of the docking.

Import of equipment and the use of technical teams from Europe to manage and conduct the dry-docking, is done by many OSV-companies. Lack of competence among Brazilian workers and lack of quality in Brazilian equipment lead to these importations. The extra cost related to the “import” of the “docking-team” is not substantial, but the cost related to the import of equipment could be big, especially when something unforeseen happens. If a repair that was not planned as part of the initial scope has to be done, it takes extra time due to the long importation process. The price of the equipment will be higher because the company does not have time to get the item(s) under REPETRO.

If one decides to use local services, another problem that can occur is that they are not doing the entire scope of the docking, forcing the company to make a new dry-docking after 2,5 years, or that they do maintenance that is outside of the scope increasing the cost of the docking. The lack of well trained and experienced engineers in combination with a lack of state of the art equipment and suppliers in Brazil is a big challenge for the shipowners.

Climate

As for technical cost, the climate in Brazil is also a driver of the docking cost. The warm and humid weather, in combination with very salty and warm water is a factor that increases the need of maintenance on the vessels. The Brazilian climate leads to corrosion and a faster formation of algae, tearing down both the vessel’s hull and the moving parts like propellers and thrusters. To avoid too much wear and tear shipowners need to spend more money on state of the art fouling and painting. The climate could lead to more frequent visits to the docks, especially for old vessels, increasing the maintenance (docking) cost for the fleet.

Alternatives to docking in Brazil:

Docking abroad can be an alternative to docking in Brazil. The attractiveness of this depends on whether the vessel has international or Brazilian flag, and also on the scope of the docking. The advantage of docking abroad is bigger for more complex and advanced dockings, e.g. if reconstructions and new installments on the vessel are necessary before the start of a new project. Abroad, the docking team will most likely be more competent and use better equipment and technology.

In terms of the cost, the price of dry-docking an AHTS in Brazil could be 5M\$ while it is only 3M\$ on Las Palmas in the Canary Islands. Shipowners have tried to dock both BRL-flagged

vessels and INT-flagged vessels abroad, and the two cases differ. Independent on flag, vessels need to be exported from Brazil in order to do the docking and then imported again afterwards. For the BRL-flagged vessels, the Brazilian shipping company has to pay about 40% tax on the services done in the dry-docking when receiving the invoice from the shipyard, eating up much of the price difference between Europe and Brazil. For vessels flying under an international flag the invoice can be sent to the vessel's home country, avoiding this import-tax. The risk in this scenario is that the shipowner can be forced to pay the 3% tax (ICMS) on the vessel's value when it is re-imported into the Brazilian waters. Some shipowners say it is possible to avoid this while others are not willing to take the risk.

Another downside for both Brazilian and internationally flagged vessels is that it takes more time to sail to a docking facility that is located abroad. Sailing to Las Palmas for example, takes 10-12 days, depending on the speed, leading to more days off-hire. Lastly, the shipyards in Brazil are also aware of the costs related to docking abroad and can therefore price their own docks accordingly, making sure that it is hard for the shipowners to take advantage of any arbitrage opportunities. The price of docking abroad is however helping to put a roof on the price of dockings in Brazil.

7.2.2 Shipbuilding

Shipbuilding status in Brazil

The fleet in Brazil has grown dramatically during the last 5-10 years. The first 5 years of this century less than 200 vessels were operating in Brazil. According to a report published by ABEAM (Brazilian Association of Offshore Support Companies) in June 2014, there were 492 OSVs operating in Brazil during the first half of 2014. 233 (47,4%) of these were flying under the Brazilian flag (BRL) while 259 (52,6%) were flying an international flag (INT). Looking at the different segments we see that the composition of Brazilian vs. international flag varies. For PSV there are 108 INT flagged vessels and 97 BRL-flagged vessels. For AHTS it is however only 20 BRL-flagged vessels while there are 78 INT-flagged vessels. The CSV-segment is dominated by international vessels (40 vs. 11) (Abeam, 2014).

According to Petrobras another 200 vessels will be needed within 2020 (ABRAN FGV Seminar, 2014). It will not be possible to build all of these vessels in Brazil, which means that if Petrobras manages to develop their fields as fast as they say, there will be a demand for

international vessels. Shipbrokers and shipowners we have talked with said that around 7-10 PSV will be built in Brazil every year going forward, and 10-12 AHTS will be built until 2019. The main companies ordering PSV are CBO and Edison Choest, who are building at their own shipyards. As mentioned already, this is not enough to cover the expected demand from Petrobras creating a room for international vessels.

Cost of Shipbuilding

The cost of building a vessel depends mainly on the type of vessel being built and where it is constructed and commissioned. It is cheaper to build vessels in Norway than in Brazil, and it is even cheaper to build vessels in China. Building a high-end PSV- 4,500 dwt with Norwegian standards in Brazil could cost 60-80M \$, while it would only cost 40-60M \$ in Norway, and as little as 30-35M \$ in China. The quality of the vessel and the time of construction could also vary depending on geographical region. The shipyards in Brazil are unfortunately known for being less reliable both in term of on-time delivery, and in term of the quality delivered.

Even though the price of building vessels in Brazil is currently at an all-time high, this has not always been the case. Between 2000 and 2010, the shipbuilding prices in Brazil were similar to what you would find in Norway. Shipowners say that the cost of building a PSV in 2002-2003 was 16-20 M\$, but that the prices have increased dramatically since then, especially between 2010 and 2013. According to shipyards the reason for this is that the vessels being built in Brazil today are more advanced and bigger than 10 years ago. The Brazilian yards are not dimensioned for such big vessels, and the workers do not have the skills required to build such advanced vessels. This has led to delays which is an important cost driver for the shipbuilding process.

For similar reasons as dry-docking, shipbuilding in Brazil is more expensive than in Norway. The cost drivers are explained shortly in the next section.

Cost drivers

Access to yards

A lack of slots in good shipyards makes it expensive to build ships in Brazil because the yards can charge premium prices when there is a high demand. This is similar to the case of dry docks. There are not enough slots in the shipyards making an imbalance between what the

shipowners demand and what the shipyards can supply. As discussed in the strategic profitability analysis, Brazil does not have many commercial yards.

Importation of equipment/undeveloped supplier industry

The supplier industry in Brazil is quite undeveloped, forcing shipowners to import a big share of their equipment from abroad in order to get the quality they want. When building vessels in Brazil it is quite normal that equipment like engines, winches, thrusters or cranes are imported. There is no law or regulation forcing the shipowner to have a certain amount of local content. All vessel built in Brazil can fly the Brazilian flag, independent on the amount of local content used under construction. The shipowners might however have a local content requirement in their contract with Petrobras. It is normal that 30-60% of the vessels value is related to equipment imported from abroad, on which a large amount of taxes are paid, causing an increase in the price of the vessel. It is possible to avoid this tax if the shipyard is able to document that similar type of equipment is unavailable in Brazil. But even though this is the case, you will still have to deal with transportation and logistics costs, customs and extra time spent during the importation process.

Time of construction - delays

The construction of a vessel in a Brazilian shipyard could easily take 30 months instead of 18, which is how fast it can be done under optimal circumstances. If the shipowner already has a contract with Petrobras, the delay could be very expensive. First of all, the shipowner would lose its day-rate. In addition, the shipowner has to pay a penalty of 50% of the day-rate each day the vessel is delayed. If the vessel is one year late the cost of the vessel is suddenly much higher than forecasted. Depending on the contract agreement between the yard and the owner, some of the costs related to the delay could be charged to the shipyard.

Lack of quality in labor force

Because qualified labor is a scarce resource in Brazil it is hard for the yards to get a well-educated workforce, especially good engineers. This low supply leads to high labor costs. In many cases, both the competence and the productivity of the Brazilians are worse than for comparable workers in other oil and gas regions, like the North Sea or Australia.

Having shortly described the drivers behind the shipbuilding cost in Brazil the question now is whether shipowners should build vessels in Brazil or not...?

7.2.3 Advantages and disadvantages of building vessels in Brazil

Most shipowners and brokers in Rio have said that there are few or **no advantages** related to building ships in Brazil. It's more costly, it takes more time and the quality is worse than in Norway. There are however some companies building, thus some advantages do exist. Siem Offshore got delivery of Siem Atlas in 2013 and will receive Siem Giant in 2014, both PSV 4,700 dwt. Deep Sea Supply got delivery of the PSV 4,700 dwt Sea Brazil in 2012/13, and DOF is building 2 PLSV and 2 AHTS with scheduled delivery between 2016-2017 and 2014-2015 respectively. DOF Brasil (Norskan + DOF Subsea) is the Norwegian shipowner with the largest amount of Brazilian flagged vessels, many of them built between 2003 and 2010. Few shipowners have plans of building vessels the next couple of years.

We will now take one step back, and evaluate the advantages and disadvantages of building vessels in Brazil with an objective perspective.

Advantages

The advantages related to building ships in Brazil are not measurable, thus it is hard to rank them. The impression we have from the shipowners is that the priority of the Brazilian flag, the financing and the ability to get higher rates because of local content are the 3 most important advantages.

Priority of BRL-flagged vessels and blocking opportunity

The priority of the Brazilian flag is based on rules made by ANTAQ - The National Agency of Waterway Transportation in Brazil (Westshore Shipbrokers, 2013). ANTAQ has created rules forcing all contracts between oil-companies and INT-flagged vessels to be circulated in the market every 12 month. This makes it possible for BRL-flagged vessels, with the same specifications, to block the contracts, and potentially steal it from the international vessels.

When a contract is blocked, the INT-flagged vessel must stop its operations until the blockage is removed. As long as the BRL flagged vessel complies with the specifications in the contract, it can block any INT-flagged vessel. This means that one vessel can potentially block an unlimited amount of vessels, causing a complete stop in Petrobras' operation. The shipowner blocking the contract forces Petrobras into direct negotiations. The shipowner with a BRL flagged vessel will normally not accept the same dayrate as the INT-flagged vessel had in the contract, as it is not enough to break-even because of the high CAPEX related to building in Brazil. But Petrobras does not take local content (Brazilian flag) at any

price, and will in some cases rather take a fight with ANP (Agência Nacional do Petróleo) who is the authority in these processes, and risk getting a fine instead of accepting a higher rate for a BRL-flagged vessel. Usually, Petrobras ends up with a solution where both the company blocking and the company getting blocked get a contract. It has, in fact, never happened that an INT-flagged vessel has lost its contract due to a blocking. The main reason for this is that Petrobras has needed all the vessels and because ending a contract with an INT-flagged vessel sends out a negative signal to the market. If an INT-flagged vessel loses its contract it would seem more risky for the foreign owners to bring their international vessel to Brazil and this could potentially reduce the competition among the shipowners.

Even though Petrobras have rejected BRL-flagged vessels because of their high dayrate requirements, the priority of the Brazilian flag and the ability to block gives the shipowners insurance that they will always have a contract. It is however not sure whether they will get a premium as a result of the local content provided by them to Petrobras. Some companies say that INT- and BRL-flagged vessel get the same dayrate, while other say that they get as much as a 20% premium and that Petrobras understands that a BRL-flagged vessel has a higher OPEX and a higher CAPEX compared to internationally built vessels. Whether the company receives a premium or not, also depends on the segment. In the AHTS and CSV segments competition is lower with few Brazilian flagged vessels making it possible to obtain good rates, especially for the high-end subsea vessels. The PSV-segment on the other hand, has been particularly difficult for the Norwegian shipowners. Several Norwegian shipowners have built expensive (75-80M\$) high-end PSVs with international specifications, while companies like Edison Chouest⁵ have built, and are building less complex and cheaper vessels adapted only to the Brazilian market and Petrobras' requirements. The strategy behind the Norwegians choice of vessel is that they want to build a vessel that potentially could operate in a different region. By building a vessel with high specifications this becomes easier. For Edison Chouest, who is building vessels for Petrobras specifically, it might be harder to move the vessel to another region. Both types of vessels have BRL-flag, but the Norwegian companies cannot compete on price with the vessels supplied by Edison Chouest. When owners with advanced features on their vessels require higher rates from the charterer (Petrobras), the charterer answers that they did not ask them to build a Ferrari

⁵ Edison Cheoust (BRAM) – One of world's largest OSV companies. American origin, but operate globally.

instead of a Volkswagen Golf. This makes it difficult for the Norwegian companies with expensive PSVs to obtain good day-rates. And an owner could risk not getting a contract on the BRL-flagged vessel, regardless of the flag priority. The value of the blocking ability is hard to price, but it should (in theory) be a guarantee for the shipowner that he will always have a contract.

Financing

The financing of vessels built in Brazil normally consist of financing from several institutions. The local content can be financed through a Brazilian bank like BNDES (The Brazilian development bank), using funds from FMM - Maritime Marine Fund. The company ordering the vessel must provide a bank guarantee from for example DNB to get the loan from BNDES, a corporate guarantee from the mother company is normally also provided. The international content of the vessel could be financed by Export Credit Norway or another financial institution. In the case of Export Credit Norway a bank guarantee from GIEK (Guaranty Institute Export Credit) and another bank like DNB must be provided as well (DNB Finance Seminar Rio Oil & Gas, 2014).

The shipowners in Brazil emphasize that the financing from FMM is world class. The cheap and long maturity loans from FMM are definitely a benefit of building ships in Brazil. For local content, FMM can provide loans covering 90% of the investment, with maturity up to 20 years and interest rate as low as 3%. This is very competitive compared to conditions offered by other financial institutions. As an example, the repayment period for loans with normal commercial banks is 6-10 years while it is 12 years with Export Credit/GIEK.

However, some of the shipowners we interviewed in Norway, pointed out that FMM had given out a lot of lucrative loans through BNDES the last 10 years, and that this had caused the terms and conditions on new loans to be worse than before, because of less capital left in the fund.

Local content

The protection and priority of the local content by ANTAQ described above is a measure to stimulate the development of the Brazilian shipbuilding industry. Oil companies in Brazil have requirements from ANP in terms of the amount of local content used in their projects. Over the years ANP has had 11 auctions of oil licenses. The last auctions had strict minimum requirements on local content, and the bidders were preferred if they used more local

content. As a consequence, some fields have local content requirement as high as 60-70%. These requirements make the BRL-flagged vessels more attractive than the INT-flagged vessels that have 0% local content. The cost for oil companies related to chartering OSVs is a quite small part of their total cost, but it is still an important way for the oil companies to satisfy their local content requirements. Especially for OSVs operating for international oil companies (IOC) that use international rigs without local content. Since the rate on offshore oil rigs is much higher than that of the OSVs, hiring Brazilian rigs is however a better way to cover the local content requirement. Lastly, we do want to stress that the day-rates are more dependent on the market situation, rather than the %-rate of local content in the vessel.

Easier to recruit qualified people

As mentioned earlier, finding the right crew is not easy in Brazil. There has been a lack of well-educated and trained officers leading to a big increase in salaries the last 10 years. Having a large BRL-flagged fleet gives an advantage to the shipowners in the recruiting process. On BRL-flagged vessels 100% Brazilian crew is required, meaning that not only the able seamen are Brazilian but the chief engineer and the captain too. The chance of becoming an officer in a company with a large BRL-fleet is much higher than in a company with only INT-flagged vessels. On INT-flagged vessels up to 67% BRL crew required (RN72), but the officers are often foreign. The fact that the chance of becoming a captain is higher on a BRL-flagged vessel attracts people, and gives the company a better opportunity to get the best qualified crew. This could potentially also put less pressure on crew salaries.

Ability to get EBN

As mentioned earlier a Norwegian shipowner must have an EBN to be able to enter into contract agreements with oil-companies in Brazil. With their own EBN the international shipping company avoids going through a third party. Building a vessel in Brazil is one of the ways to be recognized as an EBN.

No import cost on vessel

The INT-flagged vessels are imported to Brazil under the REPETRO regime. Under this regime the shipowners are obliged to pay 3% of the vessels value in tax (ICMS) to the Brazilian government. BRL-flagged vessels avoid this, but they do however pay higher taxes related to revenues and income, we will come back to this under disadvantages.

Showing signal of commitment to Brazil

This is probably more important than one might think. When a vessel is built in Brazil, it is built to operate in Brazil, otherwise it would have been better to build it elsewhere, with lower price and probably higher quality. This geographical inflexibility is in itself a disadvantage. But this means that companies building ships in Brazil show the Brazilian government (and Petrobras) that they are committed to their business in Brazil, and that they have a long-term perspective. Petrobras prefers doing business with companies that are committed to the industry. It means something for the Brazilians if companies will stay not only for years, but also for generations. Relations are important in the Brazilian culture, and is something that could make them value that companies are committed to their work and presence in their country.

Brazilian vessels use Brazilian equipment

A few shipowners have mentioned that it could be advantageous to have a BRL-flagged vessel rather than an INT-flagged vessel because of the high taxes related to import of goods and services on INT-flagged vessels. These shipowners say that their OPEX for the BRL-flagged vessels is lower than for the INT-flagged vessels because the technical cost for the INT-flagged vessel is high due to import of equipment and spares from abroad. The Brazilian vessels avoid this because they can use domestic suppliers. The reason why the INT-flagged vessels are forced to import could be company procedures or simply that they must do it for warranty reasons, or to make sure they get the same quality. The OPEX being lower on BRL-flagged vessels, like in this scenario, is nevertheless the exception rather than the rule.

Disadvantages

High CAPEX

As mentioned, the cost of building a high-end PSV in Brazil is between 60 and 80M\$ while it costs from 50-60M\$ (30-40% lower) in Norway. The building cost in Brazil could be more than twice as expensive as building in the Far East. In isolation, this is as an argument against building vessels in Brazil. Higher initial investment means that the company needs higher day-rates to break even. A world class financing from FMM/BNDES could, to a certain degree, compensate for the high CAPEX, but it is still not enough to justify the purchase of a vessel.

Time - Risk of construction delays

Most shipowners say that it is unpredictable to build vessels in Brazil; you have to expect delays. Some companies said the time could be exceeded by 50%. Normally, it should take about 2 years to build a vessel. In Brazil however, it could easily take closer to 3 years to finalize a vessel. DOF's financial report for Q1 2013 illustrates the issue of delays in Brazil. DOF had delays on all of their 3 AHTS under construction in Brazil at that time. Another example is Deep Sea Supply's Sea Brazil (PSV 4700 dwt) that was delayed about 9 months (Tradewinds, 2012). The construction delays increase the cost of building the vessel, and the companies also risk receiving penalties from Petrobras. If the vessel was supposed to start a contract with Petrobras the 1st of January but was not delivered on time, Petrobras penalize the shipowner with 50% of the day-rate every day that the vessel is late. Some of this could maybe be charged to the shipyard, depending on contract terms, but doing that is also a risk, because it could make the shipyard go bankrupt. Lately (2014), the shipyard EISA, where the Brazilian Shipping Company Astro Maritima is building vessels, closed down for several months showing how risky it can be to build vessels in Brazil (Hellenic Shipping News, 2014).

Quality

Initially one cannot say that the quality of a vessel built in Brazil is worse than on a Norwegian built vessel. Equipment like, generators, thrusters, engines and propellers (40-50% of vessel value) is normally imported from well-known suppliers like, Rolls Royce, Wartsila, Man, NOV, etc. The commissioning of the vessels' hull and its equipment is however not as good as in vessels built in Norway, and it is normal that shipowners experience problems with their vessels after delivery from the yard because of bad commissioning. The skills of the workers in Brazil are not world class, there is a lack of productivity and they lack the state of the art technology in order to commission and build the vessels in the same way as in Europe (Hellenic shipping news, 2014).

Increased OPEX

In general, Brazilian flagged vessels have higher OPEX than INT-flagged vessels. This means that the shipowner needs a higher day rate for his BRL-flagged vessels to break even, not only because of high CAPEX, but because of a higher OPEX. As this is already elaborated on earlier in the OPEX section, the details will not be discussed here.

Revenue tax and corporate tax

It is a disadvantage to have BRL-flagged vessels for tax purposes. As a Brazilian shipping company you have to pay tax on the revenues and on the net income of the company. For INT-flagged vessels up to 80% of the contract's value (the charter part) could be sent back to Norway without revenue and corporate tax. BRL-flagged vessels require a higher day rate to compensate for the tax, making it more expensive for Petrobras (and other IOC) to charter them. We will go more in detail on the tax system in Brazil in the next section.

In summary the most important advantages are the flag priority, blocking opportunity, financing conditions from FMM and the ability to recruit Brazilian officers. The most important disadvantages are the cost of the vessel, potential delays and quality. An investment case comparing a vessel bought in Norway and a vessel bought in Brazil is presented in chapter 9.

7.3 Comparison and summary of CAPEX

Both dry docking and shipbuilding is more expensive in Brazil than in the North Sea. The drivers behind the high dry dock prices in Brazil is mainly the lack of docking slots and the lack of professional workers, the cost related to importation of equipment, and the delays in the docking process. In North Sea on the other hand, the supply of docks and professional workers is high, and the dock owners are reliable. The docking process goes smoothly, without issues related to importation or getting a slot in the dock.

The main drivers behind the shipbuilding costs in Brazil is the lack of commercial yards, the lack of professional workers and the delays that often (always) occur when building vessels in Brazil. There is however some advantages related to building vessels in Brazil. Compared to Norway there are regulatory benefit given to the shipowner when building in Brazil, like the priority of the Brazilian flag, and the financing provided from FMM. But the price you pay for the vessel is high, the vessel is often not delivered on time, and you might not get the same quality as you would in Norway, where the world's leading builders of advanced offshore shipping vessels are located.

8 Tax and foreign exchange costs

8.1 Tax

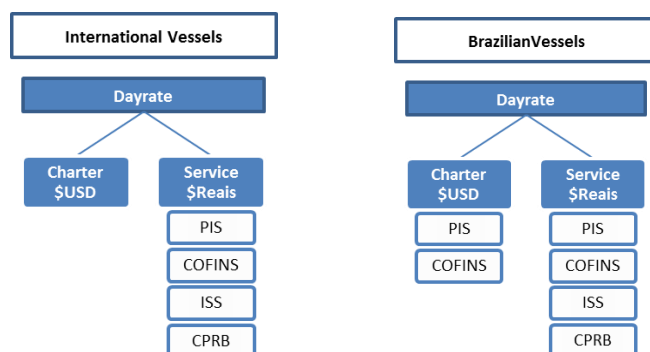
The Brazilian tax system is so complex that not even the Brazilians understand it. OSV companies in Brazil have just as many working with tax issues as they have in accounting, making the administrative staff larger than in Norway. Preparing a tax return in Brazil takes 2600 hours according to the World Bank, this is the worst of all the countries on their list, and it is 10 times as much as the average (World Bank, 2013b). The shipowners say that it is sometimes hard to know both what to pay and whom to pay to.

We will in the following section explain the contract structure between shipowners and oil companies and what type of tax is paid by the shipowner.

Contracts in Brazil are different for INT-flagged vessels compared to BRL-flagged vessels. The current structures are illustrated underneath, and will be explained in the following paragraphs.

Figure 10a: Contract structure and revenue tax for International vessels in Brazil

Figure 10b: Contract structure and revenue tax for Brazilian vessels in Brazil



In both cases the contract is divided in two, a charter part, and a service part. For both BRL-flagged and INT-flagged vessels, the charter is paid in USD, while the service is paid in Real. The split between charter and service is normally 70/30, but the charter part could be as much as 80%. For INT-flagged vessels the charter part goes directly to Norway without any tax, while the service part goes to the Brazilian Shipping Company (EBN), where a lot of taxes are paid. It could be tempting to put as much as possible of the contract as charter hire, so that you send more money to Norway, where the company is not paying taxes. But using this strategy, the shipowner risks having insufficient amount of money to cover its'

operational costs in Brazil. Having a deficit in Brazil several consecutive years could also lead to problems with the government. Some companies have been punished because the government believes they have been doing tax evasion (sending too much money home, high charter %). Each year, the contracts are escalated using the consumer price index in Brazil. It is only the service part of the contract that is escalated over the years. This escalation has been lower than the inflation rate causing operational margins to decrease over the years.

For the revenues paid to the Brazilian Shipping Company, there are 4 main taxes that could occur: PIS⁶, COFINS⁷, ISS⁸ and CPRB⁹.

PIS and COFINS are taxes paid both on the charter and the service contract. PIS, is 7,60% of gross revenue, while COFINS is 1,65% of gross revenue. In addition to PIS and COFINS, ISS and CPRB is also paid on the service part of the contract. ISS is a city tax and should be paid to the city where the service is performed. For the OSV-companies that are operating on the whole Brazilian continental shelf, one solution is to pay to the city where you have your headquarters. The ISS tax varies depending on the city it is paid to and what type of service that is conducted. ROV service has a different tax-rate than PSV-service for example. The rate is normally somewhere between 2,5% and 5% of gross revenues. The last tax is the CPRB, which is 1 or 2% of gross revenues. The CPRB tax is replacing a former tax on salaries, thus this change is beneficial for companies that have a lot of workers. OSV-companies profit from this change. Overall, more revenue tax is paid for the Brazilian vessels, than for the international vessels. The Brazilian flagged vessels pay between 10 and 15% on the service part and 9,25% on the charter part. The INT flagged vessels pay 10-15% on the service part and 0% on the charter part.

Petrobras has introduced a new contract structure for new Brazilian tenders. INT-flagged vessel are not affected by this, thus they have the same contract structure as before. The proposed contract structure for the BRL-flagged vessels is that there is only one contract

⁶ Contribution to the Social Integration Program (PIS)

⁷ Contribution to Social Security Financing (COFINS)

⁸ Tax on services (ISS)

⁹ Social Security Contribution on Gross Revenue (CPRB)

(Brazilian TC). Both service and charter is paid together in USD, where the taxes paid are only PIS, COFINS and CPRB, thereby avoiding the payment of ISS. This contract is designed by Petrobras, but is still involving some risk. The government could come after the OSV-companies at a later stage and require them to pay the service tax (ISS). The difference in tax payment as a result of this newly proposed contract structure is small.

Shipping companies in Brazil are also paying corporate tax of 34%, giving an incentive to Norwegian shipowners to have a lower surplus in Brazil and a higher one in Norway where the corporate tax for shipowning companies is almost 0% (only tonnage tax for shipowning companies).

8.2 Financial Cost - Currency - FX risk

The currency issue in Brazil is an important factor. Income received by the shipowners in Brazil is split between USD and Real as explained in the previous chapter. The OPEX is mostly paid in Real, especially for the Brazilian flagged vessels, where 100% of the crew is Brazilian and thereby receive their salaries in Real. Part of the CAPEX related to dry-docking is also paid in Real. This means that the company has a risk related to fluctuations in the exchange rate.

As earlier mentioned the contract is split in two parts. Since the service part is set in Real and the charter part in USD, the total USD dayrate will vary based on the USD/Real exchange rate. If the company is not able to cover all the Real cost with the service contract, dollars from the charter contract must be used to cover the extra cost.

The Real has been strong compared to the dollar the last couple of years, especially before 2012. Companies that are not able to cover their Real cost with the service part of the contract must cover the extra cost by exchanging the dollar part of the contracts to Real. Since the Real has been strong the dollar amount used to cover these extra costs has been high. A strong Real is thus driving the cost in Brazil. This is true both for operational costs and capital expenditures.

As seen in the graphic below, the USD/Real exchange rate has increased the last couple of years, meaning that the Real is weaker against the dollar. A weaker Real (increase in USD/Real exchange rate) has been good for the shipowners. A weaker Real makes the

salaries for the employees less expensive for the shipowners. Several shipowners believe that the Real should be even weaker in the future.

Figure 11: Development in USD/Real exchange rate last 3 years



(Bloomberg, 2014)

9 Investment case: Brazil vs. Norway

In this chapter, a comparison between two different business cases is done using the Net Present Value method. The question we are asking is: “Where should Norwegian offshore shipping companies invest in their next vessel, Norway or Brazil?”

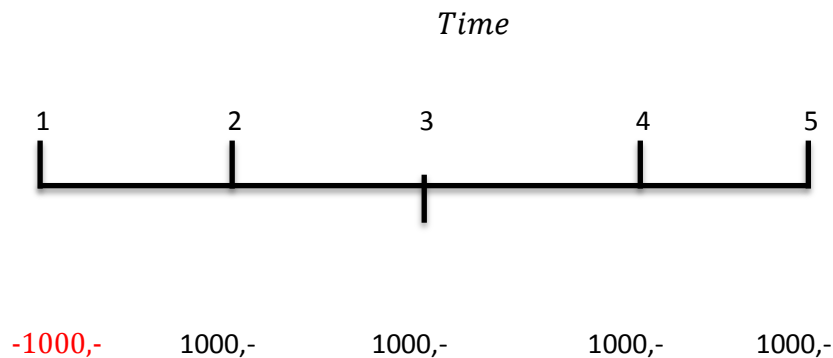
Thus, the first case is an investment in a Norwegian built vessel, meant to operate on an 8-year term contract in Norway, before it is sold in year 8. The second case is an investment in a Brazilian built vessel, meant to operate on an 8 year term contract in Brazil, before it is sold in year 8. The methods and assumptions used in the valuation of the two cases are presented first. Then the result is analyzed with the help of sensitivity analysis.

9.1 Methodology

To create an understanding of the methodology behind the valuation of the two investment cases, we will shortly describe the principles of valuation. This chapter is based on Berk and DeMarzos “Corporate Finance” (2011) unless otherwise stated.

Time Value of Money

A project that runs over a period of time will both receive payments and pay invoices. Since this inflow and outflow of cash will happen at different points of time during the project, we create a cash flow to gain the necessary overview. The stream of cash is presented over a timeline, as in the following example.



Cash flow

The cash flow above is an example, and every project will have a different timeline and cash flow structure. To be able to compare different projects we need an equal measurement at the same point in time. To move the cash flows back to the same period is known as compounding, and by doing this we will find the present value of the cash flow.

$$\text{Present value} = CF_0 + \frac{CF_1}{(1+r)} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_T}{(1+r)^T}$$

“CF” denotes the cash flow, “r” the discount rate and “T” represents the time. To find the present value, the rate could simply be the inflation of the currency of the cash flow. The rate however should incorporate all the risks and uncertainties of the project.

Internal Rate of Return

The internal rate of return (IRR) is the interest rate of which the present value of a cash flow is equal to 0. This measurement can be useful to find the expected total yield on the investment.

$$0 = CF_0 + \sum_{T=1}^N \frac{CF_T}{(1+IRR)^T}$$

It is important to note that different projects cannot be compared against each other based on the IRR. The method does not take into account the risks, the size of investments and the size of the cash flows.

Net Present Value

The two different projects that are under evaluation will not only vary in the aspects of time and cash flows, but also in various other areas. This can be related to regulations, operations, and markets. Even with the wide variety of elements in a project, it is still necessary to evaluate them on the same basis to make an informed decision.

These different elements of the project are accounted for in the discount rate. The discount rate should therefore be an expression for the return required for the firm to accept a project, based on its risk profile.

The traditional way of computing the required rate of return is with the Capital Asset Pricing Model (CAPM). If you can find a stock with the similar descriptions and risk profile as the project, you can use the market information to find the required return.

$$r = rf + \beta_i \times (E[R_{MRK}])$$

Where rf is the risk free rate, β_i is a measure of the risk relative to the market, and $E[R_{MRK}]$ is the expected excess return from the market.

To value the two projects we discount the free cash flow to equity (FCFE). The FCFE = Net income - Net CAPEX - Change in Net Working Capital + New Debt - Debt Repayments. Different discount rates will be used in the two investment cases, reflecting the risk related to the two projects.

As the investor in this scenario is a Norwegian shipowner the risk free rate used is the interest rate on a 10-year Norwegian government bond which is 2% (Trading Economics, 2014a). The risk free rate is reflecting the opportunity cost for the investors. One could argue that all investors could invest in any market and that it would make more sense to use a global risk free rate, like a 10 year US government bond. We have however decided to use the rate on Norwegian government bonds as most Norwegian shipowners are based in Norway. This is also in line with the study conducted by PwC and the Norwegian Society of Financial Analysts (NFF), where 50% of the participants said that they use 10 year

government bonds as the risk free rate (PWC, 2014). For investments with a short horizon 3-month NIBOR rate can be used as the risk free rate, but as the horizon of investment under evaluation is 8 years we argue that the 10-year Norwegian government bond rate better reflect the risk free rate.

Further, β_i is calculated using the average unlevered beta for all Norwegian offshore shipping companies on Oslo Stock Exchange. As we do not have any target capital structure, the levered beta is calculated using the average leverage ratio for the offshore shipping companies in the sample, resulting in a levered beta of 1,8. The market premium is 5% and is based on the study conducted by PwC and NFF (PWC, 2014). By using CAPM, this gives a required return on equity of 11% in Norway.

We argue that the investment in Brazil is related with more risk. This view is based on the analysis we have done throughout the thesis, where we have found several reasons why operating in Brazil is more risky. A challenging client could result in loss of hire due to more downtime. Delays in the docking process would also affect the utilization for the vessel. These factors are already accounted for in the cash flow. However, there are other country specific factors that increases the risk in Brazil compared to Norway. As an example, Brazil ranks a lot worse than Norway on the ease of doing business index. This is discussed more in detail in the CAGE-analysis in chapter 5. As a consequence of the additional risk in Brazil, a risk premium should be added to the discount rate.

By looking at Norway and Brazils credit ratings presented by Fitch, the credit rating for Norway is AAA while the credit rating for Brazil is BBB (Trading Economics, 2014b). This rating is measuring countries default risk, which is affected by many of the same reasons that drive the equity risk, for instance its currency, budget and trade balance and political stability (Damodaran, 2014). The difference in credit rating supports our decision of adding a country risk premium for Brazil.

For the investment in Brazil, we have decided to add a country risk premium of 2% to the discount rate used when valuing the project in Norway. This results in a required return on equity of 13%. In order to check the effect different discount rates have on the value of the project, we conduct a sensitivity analysis.

9.2 Assumptions

Some simplifications are done in the valuation of the two investments. The financial structure for investments like these is more complicated than what we explain, so is the escalation in dayrates and OPEX. The assumptions we take do however give a good picture of the reality and should thus be reasonable.

Net income

- The dayrates are averages calculated based on information from shipbrokers, while utilization and OPEX is based on information from interviews and financial statements. Sales, general and administration cost is excluded in the valuation of the investment case.
- The growth in the dayrates and OPEX is based on inflation. In Norway, only the dayrate related to OPEX is escalated, while the dayrate related to financial costs (depreciation + interest) and operating margin is not. The OPEX is escalated using an inflation of 2,5%, as this is the target inflation for the Norwegian Central Bank (Norges Bank, 2014a).
- In Brazil, 100% of the dayrate is escalated using inflation estimates. The long-term inflation forecast for Brazil is 4,6% (Inflation, 2014). The growth in dayrates have historically been a little under the inflation, thus 4% is used. The growth in OPEX however, has historically been above the inflation thus inflation + 1,0% is used.

CAPEX and depreciation

- The newbuildprice is an average number calculated based on information from shipbrokers. The price for the AHTS in Norway is 107\$M, while it is 125\$M in Brazil.
- Depreciation is calculated using a lifetime of 20 years; this is common in the industry. In both cases, 100% of the payment is done when the vessel is delivered. In reality, 20% is often paid when the contract is signed and 80% on delivery.
- The docking costs are based on information collected in interviews. Docking cost in Brazil is assumed to be 40% higher than in Norway.

- The second hand value of the vessel used in year 8 is the market value today of an eight year old vessel (\$85 500 000). In Norway the book value of the vessel in year 8 is \$64 200 000 while it is \$75 000 000 in Brazil due to higher purchasing price. Both book values are lower than the estimated market value of the vessel. The use of the market value instead of the book values in the valuation is still reasonable since this is the price you will receive in the market today. We have not escalated the sale price using an inflation index, even though the global price level, and thus the price of the vessel, most likely will increase in the future.

Financial Cash flows

- Financial cash flows are based on information provided by Export Credit and DNB.
- In Brazil, Export Credit normally finances the foreign content, while local content is financed by BNDES. For loans given from BNDES the financial terms depend on the vessel's local content. We assume that 60% of the vessel's total value is local content, thus 60% of the financing is done through BNDES and the rest (40%) is done by Export Credit. As a result, BNDES will be able to provide a finance program with 80% leverage, 16,5 years maturity, with interest rate of 4,5%. For the Norwegian content, Export Credit provides financing, with 70% leverage, 12 years maturity, with interest rate of 5,2% (Interest rate Export credit + Guarantee GIEK/BANK + fees) (Export Credit, 2014).
- In Norway the financing is normally done by Export Credit. We assume that 100% of the financing is done by Export Credit with the same terms as for Brazil, 70% leverage, 12 years maturity, with interest rate of 5,2%.

- The loans are paid back when the vessel is sold.

Other

- We have assumed no change in working capital during the project.

9.3 Analysis

See appendix for detailed valuation.

Case 1: Norway

Table 4: Valuation assumption Norway

Description	Data	Referecne
Newbuild price (\$USD)	107 000 000	RS Platou
<i>Salesprice estimate year 8 (\$USD)</i>	85 500 000	RS Platou
Day rates (\$USD)	55 000	RS Platou
Utalization	95 %	
OPEX (\$USD)	16 000	RS Platou/Interviews
Growth in Dayrate	1,7 %	
Growth in OPEX	2,5 %	
Financing cost	5,2 %	Export Credit
Leverage	70 %	Export Credit
Maturity (yr)	12	Export Credit

Table 5: Valuation result Norway

Valuation	
Required return on equity	11 %
Net present value (\$USD)	4 873 572
Internal rate of retrun	13,6 %

The FCFE method gives a positive net present value of +4,87M\$. This means that the shipowner should invest in the vessel in Norway as it creates value for the shareholders. The internal rate of return is 13,6%, which is higher than the required return on equity.

We believe that the parameters that most likely could change from the original scenario are the second hand value of the vessel and the growth in dayrates. Both of these depend on the market situation, and can change a lot from good to bad times. We have conducted two sensitivity analyses where these two parameters are changed, at the same time as the discount rate varies. The matrixes are shown in the appendix.

If we increase (decrease) the secondhand value of the vessel by 5 M\$, while the discount rate is kept constant at 11%, the NPV increase (decrease) by 2 M\$. If the vessel is sold at book value, the investment does not create value for the shareholders. Assuming that the vessel is sold for 85,5M\$ the discount rate must increase to 14% for the NPV to be negative.

With a discount rate of 11% the NPV is positive even with 0% growth in dayrates. At 1,7% growth in dayrates the NPV is positive as long as the discount rate is lower than 14%.

Case 2: Brazil

Table 6: Valuation assumptions Brazil

Description	Data	Referecne
Newbuild price (\$USD)	125 000 000	RS Platou
Salesprice estimate year 8 (\$USD)	85 500 000	RS Platou
Day rates (\$USD)	65 000	RS Platou
Utalization	90 %	
OPEX (\$USD)	20 000	RS Platou/Interviews
Growth in Dayrate	4,0 %	
Growth in OPEX	6,1 %	
Financing cost BNDES	4,5 %	DNB
Leverage BNDES	80 %	DNB
Maturity (yr) BNDES	17	DNB
Financing cost ExportCredit	5 %	Export Credit
Leverage ExportCredit	70 %	Export Credit
Maturity (yr) ExportCredit	12	Export Credit

Table 7: Valuation result Brazil

Valuation	
Required return on equity	13 %
Net present value (\$USD)	- 13 239 284
Internal rate of retrun	3,8 %

The FCFE method gives a negative net present value of **-13,2M\$**. This means that the shipowner should not invest in the vessel in Brazil as it destroys value for the shareholders. The internal rate of return is 3,8%, which is lower than the required return on equity.

We have conducted the same sensitivity analyzes as for the investment in Norway. The matrixes are shown in the appendix.

At 11% discount rate, the vessel would need to be sold for 115,5M\$ for the investment to be profitable. This price is pretty unrealistic as it is almost 35% higher than the current market value for 8 year old AHTS.

In the sensitivity analysis where the growth in dayrates and the discount rate is changed, the growth rate needs to increase a lot to get a positive NPV. With a discount rate of 13% the growth rate has to be 10% for the NPV to be positive. If we reduce the discount rate to 11% the growth rate still has to be 9% to give a positive NPV. Some investors might think this is a likely scenario, as Brazil and Petrobras is expecting a huge growth in the oil production the next 5-8 years.

There are several reasons why the investment in Brazil is not profitable. The three main reasons are the higher newbuild price, the higher cost of docking and the tax paid both on revenues and net income. The EBITDA margin in Brazil is decreasing quite a lot over the projects lifetime due to OPEX increasing more than the dayrate.

9.4 Recommendation

Based on the investment case, Norwegian offshore shipping companies should invest in an AHTS in Norway. The valuation result of the investment in Norway is mainly driven by the assumed secondhand value and the high utilization. The market situation in offshore shipping can change quickly which would have a strong impact on our assumptions and the profitability of the case.

It is harder to see how the project in Brazil could lead to value creation for the equity holders. This result is in compliance with what we have learned throughout our research both the acquisition and the operation of vessels are more expensive in Brazil. The shipowners are not always compensated in the dayrates even though the vessel flies the Brazilian flag and provide local content for the charterer. However, a boom in the Brazilian oil and gas industry could lead to a more attractive market and a different conclusion. Even though a booming market would increase the dayrates, it would also attract vessels from other regions and thereby increase the supply and push dayrates down again.

Part 3: Conclusion and further research

10 Conclusion

This study investigates the main drivers for operational and capital expenditures related to operation of PSVs, AHTS' and CSVs in Brazil and how this differs from the North Sea. The study also assesses where Norwegian shipowners should invest in their next OSV. Our analysis is based on interviews with 9 different shipowners, industry and annual reports as well as interviews with other key actors in the offshore shipping industry.

To better understand the cost drivers within the OSV industry, we have in the first part of our study analyzed the external environment offshore shipping companies are facing in Norway and Brazil. The result indicates that the outlook for the offshore shipping industry is challenging. The future demand for OSVs is uncertain due to predictions of low oil price and thereby reduced E&P spending and lower rig activity. Based on the strategic profitability analysis the industry does not look very attractive and there is no sign of "super profit" in the current market landscape. This is mainly because of high rivalry among the OSV companies, low entry barriers for new players and high bargaining power of buyers and suppliers. The country analysis revealed large differences between Brazil and Norway, which is something Norwegian shipowners have to acknowledge before deciding to enter the Brazilian market.

In the second part of the study, we perform an analysis of the drivers behind OPEX and CAPEX for offshore support vessel, and the differences between Brazil and the North Sea. Based on our analysis we conclude that both OPEX and CAPEX are higher in Brazil than in the North Sea.

The differences in OPEX are mainly related to crew and technical cost, which are the two major parts of the OPEX. The difference in technical cost is driven by costs related to importation of goods in Brazil. The difference in crew cost is mainly driven by governmental regulations in Brazil. Shipowners are forced to have a certain amount of Brazilians onboard their vessels and the crew cost is almost twice as high as the base salary because of social benefits. The lack of well-educated professionals both onboard the vessels and in technical

positions onshore, drives up the cost of the crew. Breakdown cost is an additional cost driving up the OPEX for vessels in Brazil. This cost has arisen due to strict rules created by Petrobras. The difference in OPEX between Brazil and UK is larger than the difference between Brazil and the Norwegian Continental Shelf (NCS). The difference between NCS and the UK is solely due to Norwegian wage tariffs on vessels flying the NOR-flag.

In terms of CAPEX, the cost related to both dry-docking and shipbuilding is higher in Brazil. Differences in dry-docking cost is mainly driven by the lack of dry-docks, but also by costs related to importation of goods needed in the docking process. The differences in shipbuilding cost are driven by few commercial yards present in Brazil, lack of professional workers, as well as big delays in the building process mainly due to little experience among the Brazilian shipbuilders.

The result of our study indicates that operation of offshore support vessels in Brazil is both more challenging and more expensive than in the North Sea. Based on the investment case we conducted in the end of our study we see that shipowners should not invest in a new vessel in Brazil, which supports our findings and shows that the dayrates received in Brazil are not high enough to cover the extra costs. By looking at the investment case, investing in a vessel in Norway looks quite attractive given our assumption. A change in the market situation can however change these assumptions substantially. At the moment we see rough waters ahead for offshore shipping companies.

11 Limitations of the study and further research

Limitations

The scope of our study was defined in the beginning of our thesis. A lack of resources and time meant that we would not be able to perform an analysis on a global level. To simplify the task, we decided to focus only on two regions within the oil and gas industry, the North Sea and Brazil. Further, the scope was limited only to Norwegian offshore shipping companies that provided offshore support services to oil companies.

Including companies from other countries than Norway would add value to the study, but would also require more time and resources. Because of our focus only on Norwegian controlled companies our sample of shipowners becomes small (9), and we cannot

necessarily use this study to draw conclusions about offshore shipping companies originating from other countries than Norway.

Our analysis of OPEX and CAPEX was performed using a qualitative approach. It was based on semi structured interviews with shipowning companies, and other players within the offshore shipping industry. This means that we have little or no quantitative data backing up our findings, only some average numbers provided by the interview objects, and industry experts.

In the analysis of OPEX the main focus was on the costs directly related to the operation of the vessels. Costs related to administration and management, in addition to tax and foreign exchange costs had less attention. This limitation means that we might not have been able to cover “the whole picture”.

Further research

There are several studies in this area that could be interesting to carry out in the future. The same study, as we currently have completed, could be carried out with a larger scope, including companies originating from different countries, or with a focus on different regions.

Further, the same type of study could be conducted using a quantitative approach. A quantitative study would make it possible to test the findings in our study, while mapping the average cost level in the industry and for the industry peers. The study would generate additional value for the shipowners, as it makes them aware of their own performance compared to the rest of the industry and the industry peers. A quantitative benchmark study would require certain participation from the shipowning companies, for the results to remain anonymous, and a professional clearinghouse would be needed in order to conduct the study in a proper way, as no company specific information can be shared across the participating companies.

Lastly, because the “rules of the game” in the offshore shipping industry change frequently, especially in Brazil, a study similar to this one could be conducted again in 2-4 years with different results.

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13 Appendix

Appendix 1: Interview guide	113
Appendix 2: Valuation Norway	117
Appendix 3: Sensitivity analysis discount rate and secondhand value Norway	117
Appendix 4: Sensitivity analysis discount rate and growth in dayrates Norway	117
Appendix 5: Valuation Brazil	118
Appendix 6: Sensitivity analysis discount rate and secondhand value Brazil.....	118
Appendix 7: Sensitivity analysis discount rate and growth in dayrates.....	118
Appendix 8: Beta calculation	118

Appendix 1: Interview guide

Interview subject

Name:

Company:

Position:

Age:

Sex:

Introduction

Purpose/parts of the interview

1. Analyze the cost structure for PSVs, AHTS' and CSVs in Brazil and the related cost drivers, and how the costs differ from Norway.

2. Market outlook

Define scope

In our study we will focus on PSV, AHTS, CSV.

The focus is mainly on the operational costs, costs related to docking and shipbuilding, tax and finance costs.

1. Cost Structure

Part 1: Cost groups and drivers

- What is the average daily OPEX in Brazil per vessel type? (PSV, AHTS, CSV)

1) Crewing.

- a) Approximately how much does crewing represent of the total OPEX Brazil, and is this portion different from Norway?
- b) How many people are there on average on each vessel type?
- c) What are the main drivers for crewing cost, and are they different in Norway?
- d) How does the crewing cost differ for the different vessel types, and is this different in Norway?

2) Technical costs.

- a) Approximately how much of the total OPEX is related to technical cost in Brazil, and is this portion different in Norway?
- b) What are the main drivers for technical cost, and are they different in Norway?
- c) How does the technical cost differ for the different vessel types, and is this different in Norway?

3) Insurance

- a) Approximately how much of the total OPEX is related to insurance cost in Brazil, and is this proportion different in Norway?
- b) What are the main drivers for insurance cost, and are they different in Norway?
- c) Do you have the same insurance on the entire fleet or do you have different insurance in each region.

4) Breakdown.

- a) What type of breakdown cost do you have and approximately how much of the total OPEX is related to breakdown in Brazil, and is this proportion different in Norway?
- b) What are the main drivers for breakdown cost and are they different in Norway?
- c) Is it normal to have breakdown more often on some vessels than others

5) Port and pilot fees, lube oil, bunkers and inspection.

- a) Approximately how much of the total OPEX is related to port and pilot fees, lube oil, bunkers and inspection cost in Brazil? Is this proportion different in Norway?
- b) What are the main drivers for port and pilot fees, lube oil, bunkers and inspection cost, and are they different in Norway?
- c) How do the port and pilot fees, lube oil, bunkers and inspection cost differ for the different vessel types? Is this different in Norway?

CAPEX

1) Dry dock

- a. How much does it cost for a 5-year dry dock service for the different vessel types in Brazil and is this different from Norway?
- b. What are the main drivers for a dry dock, and are they different in Norway?

2) Shipbuilding: What are the advantages and disadvantage of building ships in Brazil, and what do you see as the best option, building in Brazil or Internationally?

Other cost groups we want to discuss

3) Tax:

- a) How does tax affect the decisions one are taking as a shipowner in Brazil?
- b) How does the tax system affect the profitability of the business in Brazil, and what do you do to minimize the taxes?

4) Currency:

- a) How are you affected if there are big changes between REAL and USD?

2 MARKET OUTLOOK

OSV Market now and going forward (Not all the questions were asked in all interviews)

1. How has the type of oil fields and production units are used in Brazil/North Sea changed over the years?
2. How has development for OSV in Brazil/North Sea been the last decades?
3. Who are the main players (Shipowners) in the Brazilian/North Sea market today? And what is the competition like in the different segment? (High, medium, low)
4. How do the entry barriers differ for PSVs, AHTS, and CSVs? (High, medium, low)
5. Is it a competitive advantage to be able to provide the whole specter of OSV, instead of e.g. just PSV?
6. How is the relationship/power between the shipowners and the suppliers (yards and equipment suppliers)? (High, medium, low)

7. How is the relationship/power between the shipowners and the customers? (High, medium, low)
8. Is there any backward integration in the industry? E.g. shipowners buying yards, or oil companies buying offshore shipping companies.
9. What will drive the demand for offshore support vessel in the short and long term? Do you see any differences between Brazilian and international flagged vessels?
10. Do you see a change in the demand for AHTS, after the introduction of rigs with DP-systems?
11. How do old vessels differ from new vessels in terms of safety, capacity, fuel efficiency, reliability? How does this impact the attractiveness of the vessel in a tendering process?
12. What will happen to the supply of vessels? Are shipowners building more or less vessels than before in Brazil/Norway?
13. How has the average utilization of the vessels developed over the years in your company, do you see a better or worse future?
 - Is this common for the whole industry?
14. What are key challenges going forward in the offshore support industry?

Appendix 2: Valuation Norway

Numbers in \$USD

Year	0	1	2	3	4	5	6	7	8
Investment cost	107 000 000								
Loans Export Credit	74 900 000	68 658 333	62 416 667	56 175 000	49 933 333	43 691 667	37 450 000	31 208 333	-
Dayrates (Revenue)		19 071 250	19 402 031	19 738 550	20 080 905	20 429 198	20 783 532	21 144 012	21 510 745
OPEX		5 840 000	5 986 000	6 135 650	6 289 041	6 446 267	6 607 424	6 772 610	6 941 925
EBITDA		13 231 250	13 416 031	13 602 900	13 791 864	13 982 931	14 176 108	14 371 403	14 568 820
EBITDA - margin (%)		69 %	69 %	69 %	69 %	68 %	68 %	68 %	68 %
Depreciation		5 350 000	5 350 000	5 350 000	5 350 000	5 350 000	5 350 000	5 350 000	5 350 000
EBIT		7 881 250	8 066 031	8 252 900	8 441 864	8 632 931	8 826 108	9 021 403	9 218 820
Interest expense Export Credit		3 718 161	3 394 843	3 071 524	2 748 206	2 424 888	2 101 569	1 778 251	808 296
Net Income before tax		4 163 089	4 671 189	5 181 376	5 693 658	6 208 043	6 724 539	7 243 152	8 410 524
Net income after tax		4 163 089	4 671 189	5 181 376	5 693 658	6 208 043	6 724 539	7 243 152	8 410 524

NPV year 0 4 873 572,24

IRR 13,6 %

Appendix 3: Sensitivity analysis discount rate and secondhand value Norway

NPV year 0 (M\$)		Second hand value						
4,87		65 500 000	70 500 000	75 500 000	80 500 000	85 500 000	90 500 000	95 500 000
Re	4%	12	16	19	23	26	30	33
	5%	9	12	16	19	22	25	29
	6%	7	10	13	16	18	21	24
	7%	4	7	10	13	15	18	21
	8%	2	5	7	10	12	15	17
	9%	0	3	5	7	10	12	14
	10%	-1	1	3	5	7	9	11
	11%	-3	-1	1	3	5	7	9
	12%	-4	-3	-1	1	3	5	6
	13%	-6	-4	-2	-1	1	3	4
	14%	-7	-5	-4	-2	-1	1	2
	15%	-8	-6	-5	-4	-2	-1	1

Appendix 4: Sensitivity analysis discount rate and growth in dayrates Norway

NPV year 0 (M\$)		Growth in dayrate						
4,87		0,0%	0,5%	1,0%	1,5%	2,0%	2,5%	3,0%
Re	4%	19	21	23	25	27	29	32
	5%	15	17	19	21	23	25	27
	6%	12	14	16	18	20	21	23
	7%	9	11	13	14	16	18	20
	8%	7	8	10	11	13	15	17
	9%	4	6	7	9	10	12	14
	10%	2	4	5	6	8	9	11
	11%	0	2	3	4	6	7	8
	12%	-2	-0	1	2	4	5	6
	13%	-3	-2	-1	0	2	3	4
	14%	-5	-3	-2	-1	-0	1	2
	15%	-6	-5	-4	-3	-2	-1	1

Appendix 5: Valuation Brazil

Numbers in \$USD									
Year	0	1	2	3	4	5	6	7	8
Investment cost	125 000 000								
Loans BNDS	60 000 000	56 363 636	52 727 273	49 090 909	45 454 545	41 818 182	38 181 818	34 545 455	-
Loans Export Credit	35 000 000	32 083 333	29 166 667	26 250 000	23 333 333	20 416 667	17 500 000	14 583 333	-
Dayrates (Revenue)		21 352 500	22 206 600	23 094 864	24 018 659	24 979 405	25 978 581	27 017 724	28 098 433
Revenue after tax		19 163 869	19 930 424	20 727 640	21 556 746	22 419 016	23 315 777	24 248 408	25 218 344
OPEX		7 300 000	7 741 650	8 210 020	8 706 726	9 233 483	9 792 109	10 384 531	11 012 795
EBITDA		14 052 500	14 464 950	14 884 844	15 311 933	15 745 922	16 186 472	16 633 193	17 085 638
EBITDA - margin (%)		66 %	65 %	64 %	64 %	63 %	62 %	62 %	61 %
Depreciation		6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000
EBIT		7 802 500	8 214 950	8 634 844	9 061 933	9 495 922	9 936 472	10 383 193	10 835 638
Interest expense BNDS		2 618 182	2 454 545	2 290 909	2 127 273	1 963 636	1 800 000	1 636 364	777 273
Interest expense Export Credit		1 737 458	1 586 375	1 435 292	1 284 208	1 133 125	982 042	830 958	377 708
Net income before tax		3 446 860	4 174 030	4 908 643	5 650 451	6 399 161	7 154 431	7 915 871	9 680 657
Net income after tax		2 274 928	2 754 860	3 239 705	3 729 298	4 223 446	4 721 924	5 224 475	6 389 234
Change in Debt									
New loans		95 000 000							
Repayment BNDS	-	3 636 364	- 3 636 364	- 3 636 364	- 3 636 364	- 3 636 364	- 3 636 364	- 3 636 364	- 34 545 455
Repayment Export Credit	-	2 916 667	- 2 916 667	- 2 916 667	- 2 916 667	- 2 916 667	- 2 916 667	- 2 916 667	- 14 583 333
CAPEX									
Add back depreciation		6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000	6 250 000
Interim/Classification docking				7 000 000		16 800 000		8 400 000	
Sales price yr 8									85 500 000
CF Equity	-	30 000 000	1 971 897	2 451 829	4 063 326	3 426 268	12 879 584	4 418 894	3 478 555
									49 010 446
NPV year 1									
	-	13 239 284							
IRR		3,8 %							

Appendix 6: Sensitivity analysis discount rate and secondhand value Brazil

NPV year 0 (M\$)		Second hand value						
-13,24		95 500 000	100 500 000	105 500 000	110 500 000	115 500 000	120 500 000	125 500 000
Re	4%	7	10	14	17	21	24	28
	5%	4	7	10	14	17	20	23
	6%	1	4	7	10	13	16	19
	7%	-1	2	5	7	10	13	16
	8%	-3	-0	2	5	7	10	12
	9%	-4	-2	0	2	5	7	9
	10%	-6	-4	-2	0	2	5	7
	11%	-7	-6	-4	-2	0	2	4
	12%	-9	-7	-5	-3	-2	0	2
	13%	-10	-8	-7	-5	-3	-2	0
	14%	-11	-9	-8	-6	-5	-3	-2
	15%	-12	-10	-9	-8	-6	-5	-3

Appendix 7: Sensitivity analysis discount rate and growth in dayrates

NPV year 0 (M\$)		Growth in dayrate						
-13,24		6,5%	7,5%	8,0%	8,5%	9,0%	9,5%	10,0%
Re	4%	9	13	15	17	19	21	23
	5%	6	10	12	14	16	18	20
	6%	4	7	9	11	12	14	16
	7%	1	5	6	8	10	11	13
	8%	-1	2	4	6	7	9	10
	9%	-2	0	2	3	5	6	8
	10%	-4	-1	-0	1	3	4	6
	11%	-6	-3	-2	-0	1	2	4
	12%	-7	-5	-3	-2	-1	0	2
	13%	-8	-6	-5	-4	-2	-1	0
	14%	-9	-7	-6	-5	-4	-3	-2
	15%	-10	-8	-7	-6	-5	-4	-3

Appendix 8: Beta calculation

	Havila	DOF	Siem*	DESS*	Farstad	Solstad	Eidsvik	Average
Levered beta	1,12	1,75	1,57	1,85	1,92	1,68	1,12	
Debt (1000 NOK)	6 321 788	26 399 000	1 108 815	179 460	10 659 091	10 070 858	3 351 910	
Equity (1000 NOK)	2 021 605	6 346 000	793 888	257 220	6 877 974	4 954 275	2 348 288	
Unlevered beta	0,27	0,34	0,66	1,09	0,75	0,55	0,46	0,59
Debt/Equity	3,13	4,16	1,40	0,70	1,55	2,03	1,43	2,06

*Debt and Equity in 1000 USD

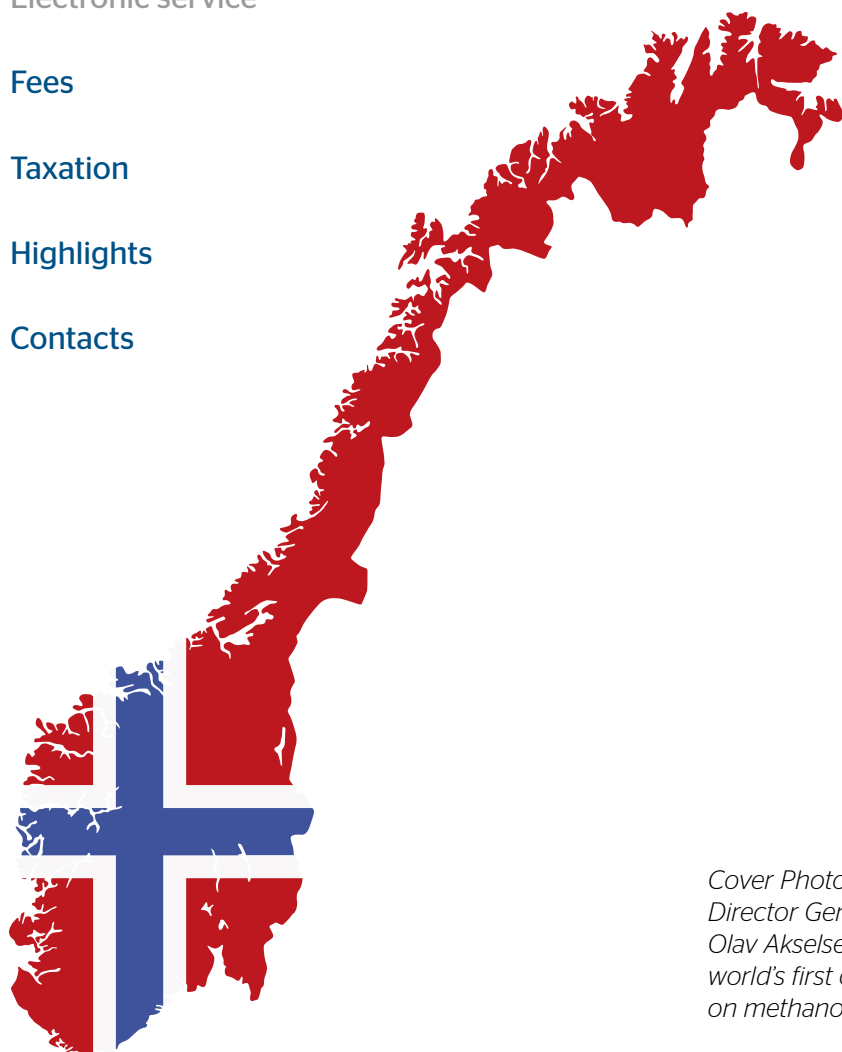
Levered Beta 1,80

The Norwegian International Ship Register

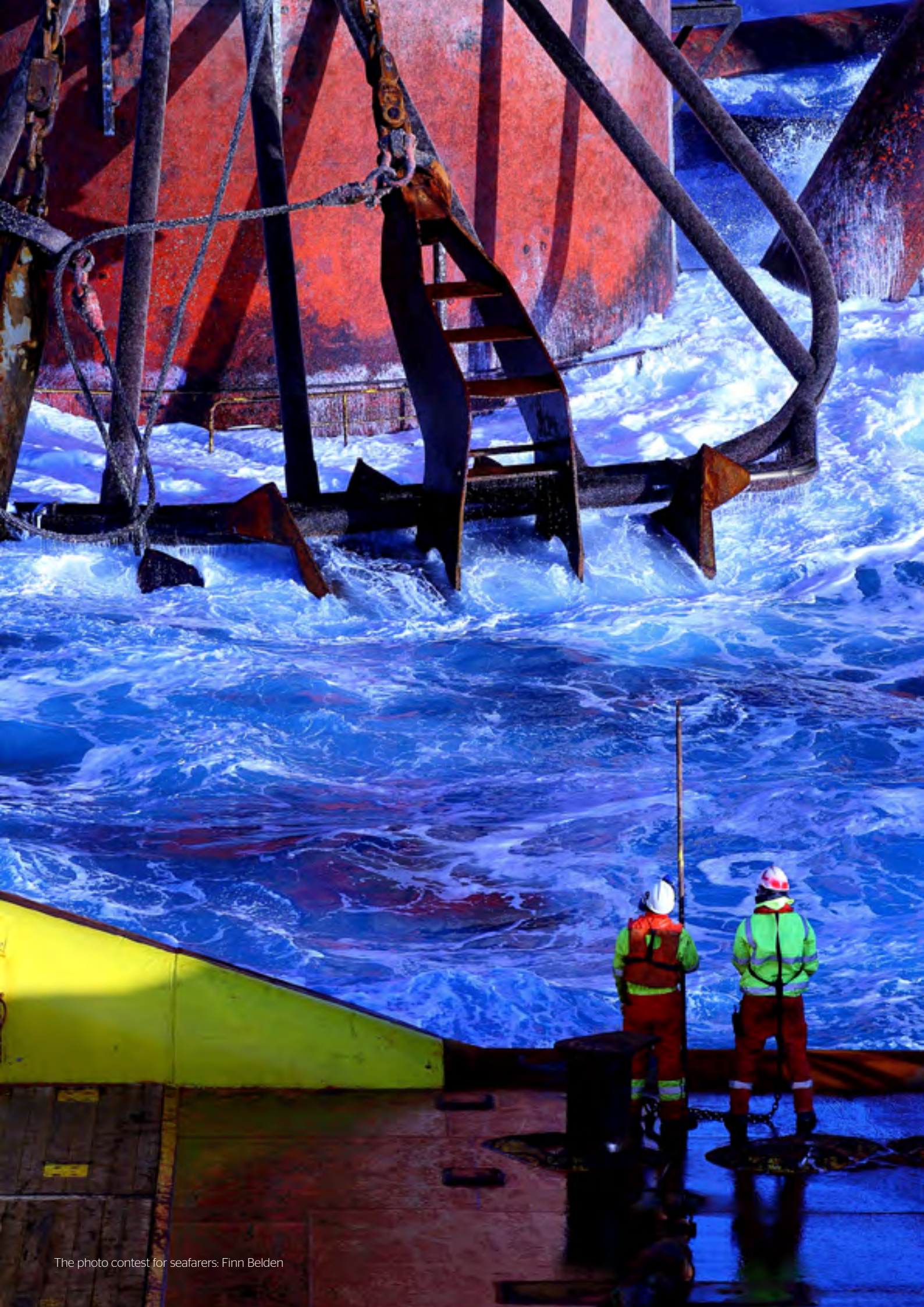


Contents

Introduction to the Norwegian Maritime Authority (NMA)	4
Organization	4
Organization chart	5
The Complete Maritime Cluster	6
The Norwegian International Ship Register (NIS)	7
Regulations	8
Vessel Safety and Manning	9
Safety Requirements	9
Recognized Classification Societies	9
Manning	10
Personal certificates	10
Registration	10
Reimbursement Scheme	11
Service	12
Emergency preparedness for maritime accidents and reports of incidents at sea	12
The Department of Ship Registration's officer on duty	12
The Norwegian Consular Service	13
Electronic service	14
Fees	15
Taxation	16
Highlights	18
Contacts	20



Cover Photo:
Director General of Shipping and Navigation,
Olav Akselsen, attended the naming ceremony for the
world's first ocean going ships capable of running
on methanol. They both fly the Norwegian flag.



Introduction to the Norwegian Maritime Authority (NMA)

The Government's vision is that Norway shall be a world leading maritime nation providing the most innovative and environmentally friendly solutions and maritime "know-how". The Norwegian Maritime Authority is subordinate to The Ministry of Trade, Industry and Fisheries (NFD) and the Ministry of Climate and Environment.

Organization

The Authority holds jurisdiction over ships registered in Norway and foreign ships arriving in Norwegian ports. In accordance with the Government's maritime strategy, we work to ensure that Norway is an attractive flag state for Norwegian and foreign owners with the highest safety standards to protect life, health, the environment and property.

The Authority's headquarter is in Haugesund with the Department of Ship Registration based in Bergen. 7 regional and 10 coastal offices are situated along our coast. All in all, the NMA employs approximately 320 people. Roughly one-third of the personnel are working outside our headquarter.

The NMA's central responsibilities include:

- Supervision of working and living conditions on board and issuing certificates for seafarers.
- Registration of ships and rights in ships in the Norwegian International Ship Register (NIS) and the Norwegian Ordinary Ship Register (NOR).
- Promotion of the Norwegian flag.
- Administration of the reimbursement scheme for seafarers.
- Supervision of Norwegian registered vessels and their owners, in addition to issuing certificates.
- Supervision of foreign ships calling at Norwegian ports.
- Developing Norwegian and International legislation
- Actively participate in international organizations in order to promote Norway's view on shipping policies and legislation.
- Recording and follow-up of accidents.



Organization chart

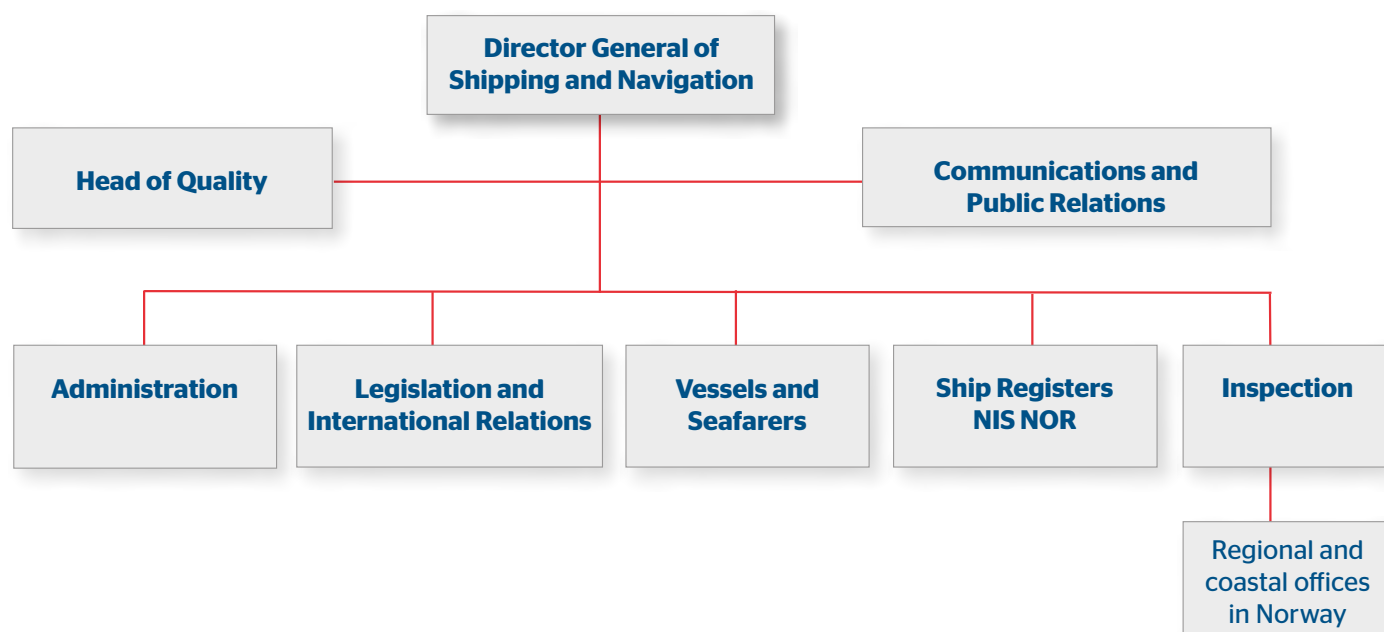


Photo: Sjøfartsdirektoratet/Steinar Haugberg

The Complete Maritime Cluster

The NMA is proud to be part of Norway's maritime cluster. Development of expertise and products is a result of close interaction between the various elements of the maritime sector and transport is at the very core of this complex.

Norwegian shipbuilding industry continuously accommodates the needs and challenges in the industry. Today, Norwegian-owned shipyards serve the global shipping market with production of high-value, specialized vessels.

The yards are professionals in adapting vessels to meet changing market needs and the range of ships include offshore supply ships, seismic research vessels, reefers, high speed crafts and ferries.

The offshore industry is focused on smaller fields, involving development of new types of technology. Today, the Norwegian offshore service industry is one of the largest in the world.

Manufacturers of ship's gear have co-operated with the shipyards and ship owners through the years.

These companies are recognized world-wide for the quality and technical sophistication of their products.

Norway is at the forefront in the use of information technology at sea. The Norwegian research and development institutions deliver marine services throughout the world. The major customers are shipping and shipbuilding, the offshore marine industry, fisheries, aquaculture and marine industry.

By means of joint effort, the Norwegian maritime cluster has managed to get different groups together. This interaction strengthens the individual enterprise as well as the maritime sector as a whole. Participation in the NIS opens a channel to the advanced and varied expertise concentrated in Norway's maritime cluster.





The Norwegian International Ship Register (NIS)

Since its establishment in 1987, the NIS has provided the industry with a high quality option for registration. Ships registered in the NIS fly the Norwegian flag and are subject to Norwegian jurisdiction. This implies that the ordinary shipping legislation applies to ships registered in the NIS with some exemptions and special rules.

Norway's comprehensive code of maritime law assures creditors that it represents a secure and professional alternative.

Our country's maritime law is known for its sophistication and predictability.

Great emphasis has been placed on maintaining a quality register which ensures that vessels operating under the NIS regulations meet highly acceptable safety and working standards. To ensure this, the rules are based on the obligations accepted by Norway, particularly with regard to IMO (the International Maritime Organization) and ILO (International Labour Organization) conventions.

Norway appears on the Paris MoU and Tokyo MoU White Lists. This clearly shows that the Norwegian flag is a quality flag worldwide. Ships must have a flag on the White List in order to be able to qualify as a low risk ship in the region.

1. prize The photo contest for seafarers 2012: Svein Angell



Regulations

As a main rule, self-propelled passenger and cargo ships, hovercrafts, drilling platforms and other mobile installations may be entered into the Norwegian International Ship Register, provided that they are not entered in the registry of another country.

According to the NIS-Act foreign shipping companies may register their vessels in the NIS. Ships owned by foreign shipping companies must be operated by a Norwegian shipping company with its head office in Norway.

Operation is understood to mean either:

- technical management (manning, outfitting, maintenance, etc.) or
- commercial operation (chartering, marketing, etc.)

The vessel can also be operated wholly or partly from management offices abroad which are owned by a Norwegian shipping company with its head office in Norway.

Certain restrictions are imposed by the NIS-Act on the areas where vessels in the register can trade.

The Ministry of Trade, Industry and Fisheries has issued regulations concerning special trading areas for vessels and mobile offshore units engaged in the petroleum industry.



Vessel Safety and Manning

By focusing on vessel safety and manning qualifications, The Norwegian Maritime Authority work together with responsible shipowners to:

- To ensure and contribute to Norwegian ships keeping the highest level of safety and environmental standards.
- To ensure and contribute to seafarers on board Norwegian ships having good qualifications and good working and living standards.
- To ensure that foreign vessels in Norwegian waters and ports keep in line with national and international laws and regulations.

Safety Requirements

Norway has ratified most IMO/ILO Conventions, Protocols and Amendments which also apply to the NIS, such as the Safety of Life at Sea Convention (SOLAS), including the International Safety Management Code (ISM), the Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW) 1978 as amended, the Marine Pollution Prevention Convention (MARPOL), ILO Convention No. 147 Merchant Shipping (Minimum Standards). The ILO's Maritime Labour Convention 2006 has also been ratified by Norway.

Recognized Classification Societies

Ships to be registered in the NIS must meet Norwegian and international recognized technical and nautical standards. The Norwegian Maritime Authority is in charge of supervision of Norwegian ships. Inspections and supervisions may, however, be delegated to the recognized classification societies. The following six societies are authorized to carry out inspections and supervisions on behalf of Norwegian authorities:

- American Bureau of Shipping- ABS
- Bureau Veritas- BV
- DNV GL AS
- Lloyds Register of Shipping- LR
- Nippon Kaiji Kyokai- ClassNK.
- RINA S.p.A- RINA



The photo contest for seafarers: Paul Milburn



The photo contest for seafarers: Håkon Kjølmoen

Manning

Pursuant to the Norwegian regulations of 18 June 2009 No. 666 concerning the manning of Norwegian ships, the number and composition of the minimum safe manning of ships are based on evaluation of each individual ship. Safe manning will, therefore, vary in accordance with trading area and requirements. In addition to these statutory manning requirements, the master and/or owner shall determine the number of crew required for the industrial part of the ship's operation.

The Norwegian legal system has no restriction on employment of non-Norwegian seafarers with the exemption of the master, who should hold EEA (European Economic Area) citizenship. However it is possible to apply to the Norwegian Maritime Authority for dispensation from this requirement.

Seafarers serving on NIS vessels are covered by Norwegian law. Collective agreements on wages and other conditions may be signed with Norwegian or foreign unions. Unions must be bona fide. The other contracting part will be the Shipowners' Association or the individual shipping company.

Personal certificates

Seafarers may now apply for personal certificates using our e-forms service. Documentation on seafaring experience, medical and educational certificates and other confirmations from the shipping companies are submitted to our database by the issuer. This information is then coordinated with the received applications. Both application for certificates and endorsements are available online. The applicable fee may be paid online upon submission of an application.

Registration

The Department of Ship Registration administers the Norwegian International Ship Register (NIS) and the Norwegian Ordinary Ship Register (NOR). Ships, and their ownership and encumbrances are documented by the department in Bergen. Working in partnership with our clients is essential in order to ensure a smooth registration process. Each registration is allocated a case officer in charge who will follow that specific registration. Great emphasis is placed on offering comprehensive and complete information at the initial point of contact and pre-clearance of documents is always encouraged. Several search-options are available on our web-site, free of charge: www.sdir.no

Grant scheme for the employment of seafarers

Ships registered in the Norwegian International Ship Register (NIS) may apply for grants based on their payments of Norwegian advance tax deductions, social security contributions and employer's contributions. The purpose of the grant scheme is to safeguard Norwegian maritime competence and the recruitment of Norwegian seafarers, as well as ensure competitive framework conditions for the companies. There are two different grant schemes for ships in the NIS.

Grants for ships in the NIS:

The company will receive grants equivalent to 26% of their paid Norwegian advance tax deductions, social security contributions and employer's contributions for each employee entitled to grants.

In this scheme, an addition is given for training positions.

- Junior officers: Addition of 100% of the grant. (The total grant will then be: 26% multiplied by 2)

- Cadets: Addition of 50%. (The total grant will then be: 26% multiplied by 1.5)
- Trainees: Addition of 150%. (The total grant will then be 26% multiplied by 2.5)

Grants for construction vessels in the NIS:

The company may receive grants equivalent to 34,666 NOK per term based on their paid Norwegian advance tax deductions, social security contributions and employer's contributions for each employee entitled to grants.

In order to receive grants from this scheme, the company must have on average two training positions per ship. It is possible to apply for exemption from the requirement for training positions.

Please see www.sdir.no and the Regulations for more information on the grant scheme. Grants for the employment of employees at sea (Regulations 2016-02-26 No. 204).



The photo contest for seafarers: Bjarne Hovland

Service

The Norwegian Maritime Authority's employees shall provide a high level of service. The NMA is ISO 9001:2008 certified.

Employees will provide good service based on the main principles of openness and accessibility and communicate in a user-friendly language. All matters are to be handled in compliance with the prevailing regulations applicable to government administrations.

A high level of service also implies swift and precise answers to enquiries and making necessary information readily available through our communication channels. Predictability and accessibility for our users is important to ensure good, constructive collaboration.

Officer on call for urgent matters and inquiries outside of regular office hours.

You may contact our officer on call on phone-number + 47 52 74 50 00, around the clock, including weekdays and holidays. When an accident or an incident has taken place it is often important that the ship's management, on board and/or ashore, are able to contact the NMA for assistance concerning the situation. The officer on call will provide guidance and advice relating to maritime problems as well as the relaying of messages or requests to co-operating authorities.

The Department of Ship Registration's officer on call

The parties involved in ship registrations often find themselves in different countries and time zones. To ensure that registrations take place as

scheduled, the department has an officer on call from 7 a.m. until midnight. For planned deliveries, changes of flag to or from Norway, change of ownership or registration of mortgages, an appointment may be made with our officer on call to be present in the office. Our case handler will be available to examine documents and receive confirmations and instructions from the parties when registration is to take place. Upon registration, all necessary certificates are issued swiftly.

Our officer on call is also prepared to be available outside office hours on short notice. Deliveries may be postponed and drafts and revised documents in need of approval.

The general public is also in constant need of guidance and may be assisted by the officer on call.

This service is available all days except Sundays and International Holidays.

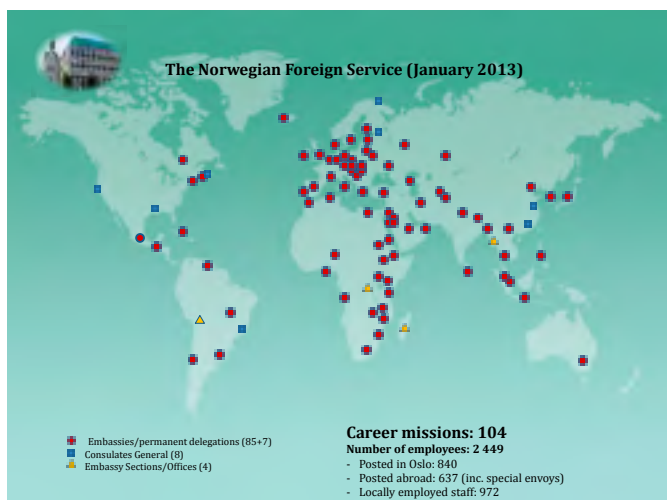


Photo: Haakon Nordvik



Photo: Haakon Nordvik

The Norwegian Consular Service



A visual outline of Norway's Consular Services abroad
Source: Ministry of Foreign Affairs

Shipping is an international business and the authorities of the flag state may be needed to be contacted in various parts of the world. Norwegian Embassies and consular stations in 164 countries world-wide are available to offer assistance to Norwegian flagged ships and their crew. These services are very often utilized by the Register in connection with issuance of Provisional Certificates of Nationality and they are also often involved in endorsement of manning certificates on behalf of the Authority.

Electronic services

Via the e-government portal “Altinn”, users can submit an increasing number of forms related to seafarers, vessels and accidents.

Electronic submissions

- Health Certificates
- Declaration of unfitness
- Certificates from educational institutions

Electronic applications, seafarers

- Application for Norwegian maritime certificates
- Application for endorsements

Electronic verification

- Norwegian maritime certificates
- Endorsements

Electronic services for shipowners

- Application for reimbursement for the employment of Norwegian seafarers
- Reporting on time of sea service
- Reporting on employment conditions
- Electronic ship drawings



The photo contest for seafarers: Knut Revne

Fees

Below is an example of fees payable for a cargo ship of 11 000 NT.
All numbers are quoted in Norwegian Kroners (NOK). Fees as of January 2016.

Example of fees payable the NMA for a cargo ship of 11 000 NT

Initial fee for NIS registered ships and annual fee for classed NIS and NOR registered ships of 500 GRT and more.

Initial Fee (Fees regulations S. 16.4.3 and the Tarriff of Fees S. 4.3)

Basic amount			12 000
for the first (5.000 NT)	5 000 NT	5,0 NOK per NT	25 000
for the next (5.000 NT)	5 000 NT	4,0 NOK per NT	20 000
for the next (20.000 NT)	1 000 NT	3,0 NOK per NT	3 000
for the next (40.000 NT)	0 NT	2,0 NOK per NT	0
Total	11 000 NT		
The amount thus calculated shall be multiplied by a factor	1,4592		
Total initial fee (the NMAs tariff of fees) *			87 551
Fee for new registration in the NIS			3 211
Total initial fee			90 763

Annual Fee

Basic fee for ships of < 30 000 NT			15 000
Basic fee for ships of > 30 000 NT but <= 70 000 NT			0
Basic fee for ships of > 70 000 NT			0
for the first (30.000 NT)	11 000 NT	2,0 NOK per NT	22 000
for the next 40.000 NT)	0 NT	1,5 NOK per NT	0
for tonnage > 70.000 NT	0 NT	1,0 NOK per NT	0
Total	11 000 NT		
The amount calculated shall be multiplied by a factor of	1,6704		
Total annual fee (The NMAs tariff of fees)			61 806
Annual Fee (regulations concerning registration of ships in the NIS)			9 057
Total annual fee the year after registration **			70 863

* Initial fees are not to be paid for ships that have previously been registered in the NIS/ NOR.

** For new registrations in the NIS/ NOR, no annual fee is to be paid in the year of registration.

Please see the applicable regulations

Regulations of 2 February 1996 No. 115 on collection of fees to the Treasury for surveys, issue of certificates, etc. (Fees Regulations)

Regulations of 21 December 2009 No. 1738 on fees payable for services provided by the Norwegian Maritime Authority (Tariff of Fees)

Regulations of 21 December 2009 No. 1739 on fees for issue of certificates and endorsements to maritime personnel and of boating licences to masters

Taxation

The Norwegian special taxation arrangement (tonnage tax system) available for shipping is considered competitive in relation to similar shipping taxation arrangements in other European countries, both with regards to the tonnage tax level as well as other regulations.

In general, the same rules for taxation will apply for ships registered in the NIS as for ships in Norway's traditional register or under foreign flag. It is the responsibility of entities and persons to clarify their own tax responsibility.

Instead of normal tax on general income, a company under the special tax arrangement pays a tonnage tax based on the net tonnage of relevant vessels.

A revised tonnage tax arrangement was adopted in 2007, and implies that for incomes generated from that year and onwards, the tonnage tax is the final tax and income can be distributed to shareholders without further taxation.

The special tax arrangement is available for companies formed in accordance with the Norwegian Joint-Stock Company Act or the Norwegian Joint-Stock Public Company Act. In order for a company to be eligible for special tax arrangement assessment, the company must comply with requirements regarding qualifying assets and activities of the company.

Foreign owners established abroad, and participating in a partnership with a Norwegian partner owning [NIS registered ships], will normally not

be liable to tax in Norway. However, owners in countries where there is a tax treaty in place with Norway will as a main rule be liable to taxation in Norway when effective management of the operation of the ship is conducted from Norway.

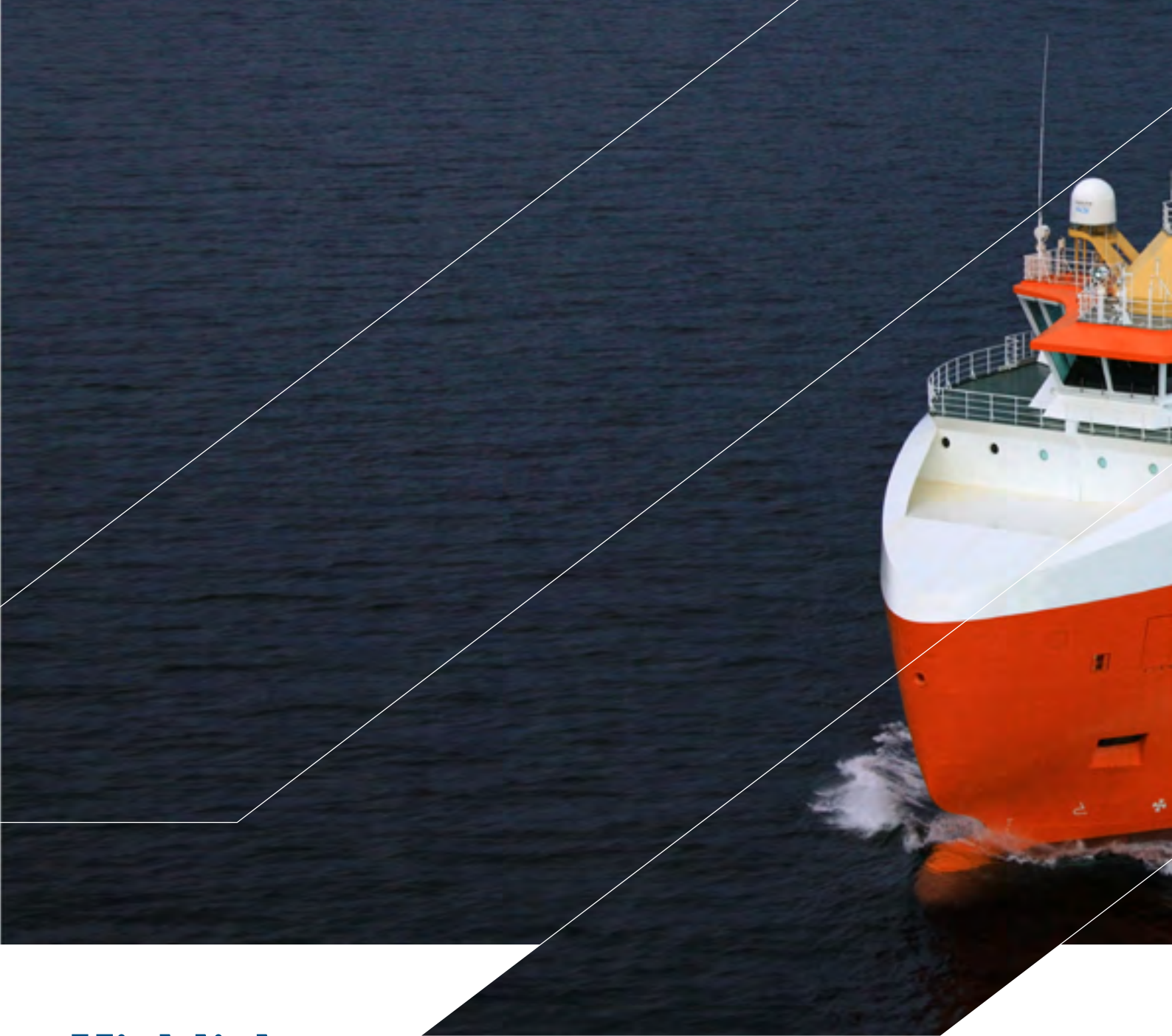
The establishment of a Norwegian management partnership by non-Norwegians to take care of the daily management of operations does not trigger taxation in Norway of the foreign owners, except when Norway has the exclusive right to tax the income according to tax treaty.

Foreign seafarers working on NIS registered ships and resident outside the Nordic area, are exempted from taxation in Norway. Norwegian seafarers are taxed in Norway according to general tax rules, but are granted a seafarer's deduction from taxable income.

Income from employment aboard a ship received by Norwegian seafarers who reside outside Norway are taxable to Norway unless they can demonstrate that they pay taxes in their country of residence, or unless Norway has waived the right to taxation in a tax treaty with the country of residence.







Highlights

- Leading the way in green shipping and fuel development
- Norway offers respectable framework, longevity and stability.
- The NMA offers a high level of service and is ISO 9001:2008 certified.
- Ships registered in the NIS fly the Norwegian flag and are subject to Norwegian jurisdiction.
- Norway's comprehensive code of maritime law assures owners, managers and creditors that the NIS represents a secure and professional alternative.
- The Authority actively works for fewer detained ships and is currently among the top ten countries on the Paris MOU White List and has been qualified for the U.S. Coast Guard's "Qualship 21" program.



Photo by: Harald M. Valderhaug

- The Authority carries out audits of safety management systems (ISM) on board ships, offshore mobile units and the operational organisations.
- The Authority supervises the working and living conditions for our seafarers.
- The Authority offers a highly developed welfare service for seafarers.
- The Authority strives for clear, user-friendly and accessible legislation.
- The Authority has an officer on call, round-the-clock,, for urgent matters and inquiries.
- Registration of vessels, their ownership and encumbrances is possible from 7 a.m. until midnight every day except Sundays and International Holidays.
- Norway has consular stations in 164 countries world-wide.

Contacts

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www.sdir.no

Ministry of Trade, Industry and Fisheries

Tel: + 47 22 24 90 90
E-mail: postmottak@nfd.dep.no

<http://www.regjeringen.no/nb/dep/nfd/>



*Together for safety at sea
in a clean environment*

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Postboks 8008 Dep.
0030 Oslo

Your ref.

Our ref.
/

Oslo
07.09.2017

LCT/IK

Re-notification of the tonnage tax scheme

Further to follow-up questions to our letter of 28 August 2017 we would like to bring forward additional information and argumentation.

1 Flag link requirement

The proposal for a 20 percent flag link requirement to qualify for the tonnage tax regime would restrict the operational freedom of shipowners and operators. While sometimes a shipowner has little choice in which flag the vessel has to fly, in general, this choice is determined by the overall standards and professionalism practiced by the flag administration as well as by the costs and bureaucracy connected with the flag. EU/EEA flags might not always provide the most attractive commercial framework for shipowners, and a strict requirement could lead to increased operating costs or lack of market access. Too rigid an insistence on the location of the flag may be counterproductive in discouraging the use of EU/EEA flags. The consequence may be that over time, the EU/EEA registers will lose further ground to international shipping centres. This would be contrary to the stated objective of the SAGs.

A couple of examples serve to highlight this point. When ships are chartered in to meet a temporarily demand for extra transport capacity, the chartered vessel already has a flag, and changing the flag can be cumbersome, time consuming and costly. In case of cabotage or other maritime services at sea outside the EU, the ship often is obliged to fly the flag of the country where the services are performed.

Furthermore, the economic value of belonging to a quality EU/EEA-register has to some extent been eroded by the high level of international harmonisation on safety and environmental factors. Hence, by insisting on a stricter flag link eligibility requirement, the EU will lose attractiveness and may over time lose operational and ownership activities. The attached (1) graph suggest that the correlation between the share of operational activities and the size of the EU/EEA-flagged fleet is non-existing, and that the argument of the flag link being a prerequisite for increased economic activity in the EU may be obsolete.

Setting a stricter flag link requirement then what is the case today may thus create rather than solve a problem.

We would also like to use the opportunity to reiterate what was submitted by the Norwegian Shipowners' Association to the 2012 consultation on the Community guidelines for state aid to maritime transport:

The most relevant and fundamental factors relating to the presence of a shipping business in a particular state or the use of a particular nation's ship register or flag are those governing the business and reputational environment for a shipping operation. The competition from other shipping centers throughout the world (particularly in Asia at the present time) is both active and fierce. A shipping company operating in international trade thus faces several options as to how and where to set up the different components of the business. The location of the company's headquarters or main shore establishment and the choice of register or flag of the ships it is operating are two of the 8 most critical considerations. The degree to which that a country (or a regional grouping such as the EU) encourages shipping companies to locate these elements within its territory will determine the success of that country (or regional grouping) as a maritime centre and/or as a flag state. Those political and economic decisions are crucial to success in this context and many subsidiary factors are necessary to underpin that. These include inter alia:

- *The assurance of stability in the fiscal, employment and operational regime governing shipping in the country in question;*
- *The particular government's international integrity and effectiveness in setting and enforcing proper standards;*
- *It's educational structures contributing to the required future skills base;*
- *It's efficiency in running the national shipping administration;*
- *It's understanding of and receptiveness to the concerns of maritime business (with its particular operating circumstances)*

In this context, the existence of the Maritime Guidelines and the willingness of both the European Commission and individual Member States, and Norway, to apply them in a practical and flexible manner are, and will continue to be a Community interest worthy continued support at EU level.

2 The EEA fleet by control and flag

Attached (2) is a report by Oxford Economics, *The Economic Value of the EU Shipping Industry*.

Figure 2.2 on page 16 presents information on the country of control and flag of the EEA fleet. In terms of gross and deadweight tonnage, around 40 per cent is both EEA controlled and EEA flagged. Just over half of the fleet in terms of gross and deadweight tonnage is controlled from EEA countries, but operates under a non-EEA flag. Seven per cent of the fleet is EEA flagged, but controlled in a non-EEA country

The EU-EEA flagged share of the tonnage within the Norwegian tonnage tax regime is high, and has been around 70 per cent in recent years (2013: 71,65 %, 2014: 68,71 %, 2015: 68,34 %). And this is also the case for the EU-EEA flagged share of our members' total fleet of vessels, cf. attachment 1 to our letter dated 28 August 2017.

Consequently, the EU-EEA flagged share of the tonnage within the Norwegian tonnage tax regime is considerable higher than the EU-EEA flagged share of the EEA controlled fleet. This goes to show that there is no need for a stricter flag link requirement in the Norwegian tonnage tax regime.

3 The importance of Norwegian ownership for new technology

It is very important that vessels are owned from the EU-EEA. Ownership is *i.a.* important for the development of new technology, including environmental technology. An example is the use of gas engines on vessels. The development and use of gas engines has taken place in cooperation with Norwegian shipowning companies. New technology was first used on smaller vessels, and is now also being used on larger deep sea-vessels. Below are links to some articles that shows this:

<https://www.tu.no/artikler/endelig-har-rolls-royce-fatt-solgt-en-gassmotor-utenfor-norge/222721>

<https://www.tu.no/artikler/norge-har-ledet-an-pa-lng-skip-na-kommer-verden-etter/223059>

Consequently, several of the most environmentally friendly ships in the world are Norwegian:

<https://www.tu.no/artikler/ni-av-de-ti-mest-miljovennlige-skipene-i-verden-er-norske/223184>

This is for example the case for Nor Lines' vessel MS Kvitbjørn:

<https://norlines.no/nyheter/nytt-miljskip-pa-vei-gledens-dag-for-nor-lines-as>

<http://www.skipsrevyen.no/ms-kvitbjorn/>

Other examples of Norwegian ship-owners that use new technology when building new vessels are Fjord Line, Color Line and Hurtigruten:

<http://www.skipsrevyen.no/ms-stavangerfjord/>

<https://ulstein.com/news/2017/color-line-inng%C3%A5r-intensjonsavtale-om-bygging-av-verdas-st%C3%B8rste-hybridskip>

<http://www.itromso.no/nyhet/2016/09/08/Dette-er-Hurtigrutens-st%C3%B8rste-enkeltinvestering-noensinne-13299643.ece>

4 Deep sea vessels – Norwegian content

We have previously shown that there is a substantial Norwegian content when constructing an offshore vessel. This is also the case for some deep-sea vessels, using new Norwegian environmental technology, as well as deliveries from other Norwegian service providers (cf. the examples above).

Below is a link to a report from Menon, *Norwegian Maritime Equipment Suppliers 2016*. On page 18 of the report, it is emphasized that maritime equipment suppliers have become more independent of the offshore industry.

<http://www.menon.no/wp-content/uploads/2016-Norwegian-Maritime-Suppliers-2016.pdf>

If ship owning companies are established outside the EU-EEA, we are concerned that fewer shipping companies will build new vessels in Norwegian and other European yards – and that fewer shipping companies will buy equipment from Norwegian and European suppliers. Furthermore, we are worried that this could also weaken Norwegian and European maritime

technology communities. It is therefore important that the regulatory framework facilitate that shipowning companies can remain in the EU-EEA.

We remain at your disposal for any further questions.

Yours faithfully,
NORWEGIAN SHIPOWNERS' ASSOCIATION
Lars Christian Tønder
(sign.)

OXFORD ECONOMICS

The economic value of the EU shipping industry

**A report for the European Community
Shipowners' Associations (ECSA)**

April 2014



**OXFORD
ECONOMICS**

Contents

Executive Summary	3
Infographic	6
1 Introduction and definitions of terms used in the study	7
2 The evolution of the EU shipping fleet.....	12
3 The economic impact of the EU shipping industry	25
4 The economic impact of measures adopted under the Community guidelines on state aid to maritime transport	44
5 The contribution of maritime academies	53
Annex A: An overview of input-output tables	59
Annex B: Data sources	61

Executive Summary

The EU shipping fleet

- At the start of 2014, the EU controlled fleet (which comprises ships whose ultimate ownership or control lies in an EU country, but which may be flagged in a different country) comprised of 660 million deadweight tonnes, 450 million gross tonnes, and 23,000 vessels. For the purposes of this report, the EU includes the 28 EU countries plus Norway.
- Between the start of 2005 and the start of 2014, the EU controlled fleet expanded by more than 70 per cent in terms of both gross and deadweight tonnage. The number of vessels grew at a much lower rate, reflecting the trend towards larger ships which offer greater economies of scale.
- At the start of 2014, the EU controlled 40 per cent of world gross tonnage and 39 per cent of world deadweight tonnage. This is a slight decrease from 41 per cent in 2005 (on both measures), reflecting that EU shipping companies continue to face strong competitive pressure from other rapidly-growing centres of world shipping, particularly those in Asia and the Middle East.
- Greece has the largest controlled fleet within Europe, equivalent to 36 per cent of gross tonnage, or 43 per cent of deadweight tonnage. Germany represents a further 21 per cent of gross tonnage, or 19 per cent of deadweight tonnage.
- The EU controlled fleet is dominated by three types of vessel: bulkers (28 per cent of gross tonnage), oil tankers (25 per cent) and container ships (25 per cent). The EU controls 60 per cent of the world's container ships in gross tonnage terms.
- Within the EU controlled fleet, the strongest growth between 2005 and 2014 was recorded amongst offshore vessels. The EU's share of the world offshore fleet increased from 28 per cent in 2005 to 37 per cent in 2014 (in gross tonnage terms).

Economic impacts estimated in this study

- This study estimates the economic impact of the shipping industry across three channels: the **direct impact** of the shipping industry itself; the **indirect impact** of shipping firms' expenditure on inputs of goods and services from their EU supply chain (such as port services, ship repairs, insurance, and shipping-related financial and legal services); and the **induced impact** of spending by employees in the shipping industry and its supply chain.

Direct impact

- In 2012, the EU shipping industry is estimated to have directly contributed €56 billion to EU GDP, employed 590,000 people, and generated tax revenues of €6 billion.
- It is estimated that around four-fifths of posts, or 470,000 jobs, are based at sea. It is tentatively estimated that around 40 per cent of these seafarers are EU or EEA nationals.
- Shipping is a high productivity industry: each worker is estimated to have generated €88,000 of GDP, significantly above the EU average of €53,000.
- The skills and experience of seafarers are vital to the smooth functioning of the shipping industry, and are also highly valued by firms in the wider maritime cluster and beyond.
- Indicative estimates suggest there were approximately 38,000 students/cadets in maritime academy – type training in 2012, an 11 per cent increase from 2004.

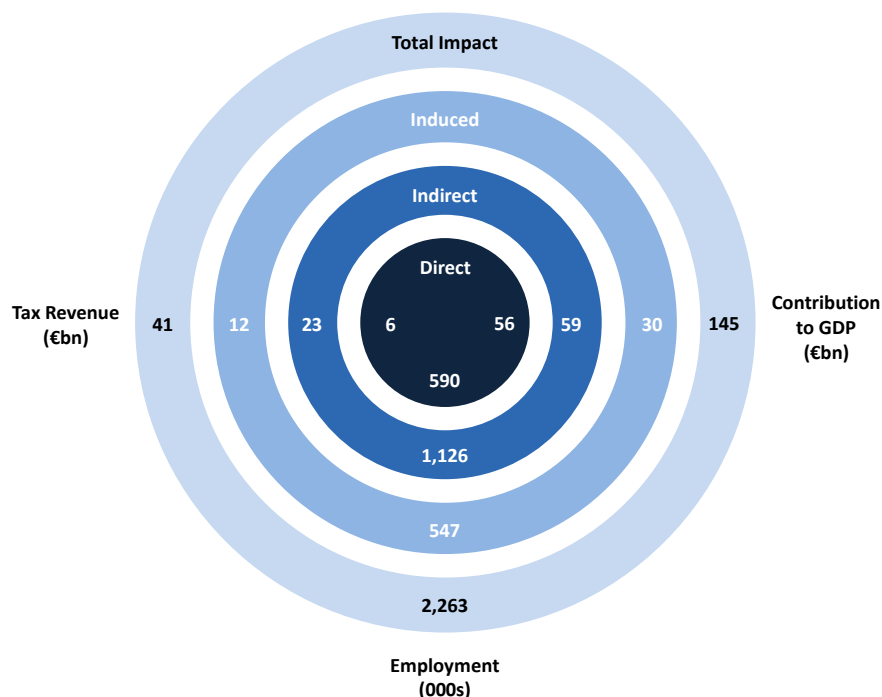
Indirect and induced impacts

- The shipping industry indirectly supported an estimated €59 billion contribution to GDP and 1.1 million jobs through its European supply chain in 2012.
- The spending of wages by those employed in the shipping industry and its supply chain supported an estimated additional €30 billion of GDP and jobs for 550,000 people.

Total economic impact

- Taking all of the impacts together, direct, indirect and induced, the total GDP contribution of the European shipping industry in 2012 is estimated to have been €145 billion.
- For every €1 million the European shipping industry contributes to GDP itself, it creates another €1.6 million elsewhere in the European economy.
- The industry also supported employment for an estimated 2.3 million people and tax revenues estimated at €41 billion.

The total economic impact of the European shipping industry, 2012



Impact of measures adopted under the Community guidelines on state aid to maritime transport

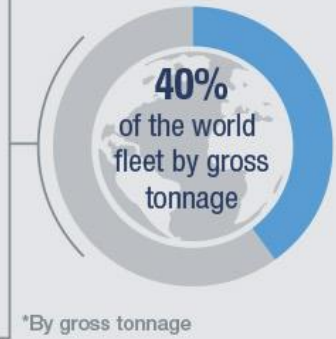
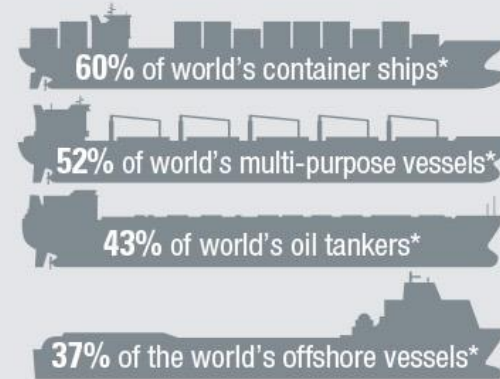
- The shipping industry has a number of unique features which provide a rationale for a more favourable taxation policy than is available to other industries. The industry is, by its very nature, highly mobile and activity can easily be moved to countries which adopt more favourable taxation and regulatory regimes. A healthy and competitive shipping industry forms the core of the wider European maritime cluster and supports development of the EU's international trading linkages. It is also strategically important, for example in ensuring a secure energy supply and in providing capacity to support military operations in times of crisis or in peacekeeping missions.

- Recognising such arguments, and in response to intense international competition from third country shipping registers and global shipping centres, EU governments have introduced a range of state aid measures to support shipping, most notably in the form of tonnage tax and reduced income tax and social security contributions for seafarers. This approach has been guided by policy at the European level through the Commission's guidelines on state aid.
- Based on an illustrative counter-factual scenario using trends in fleet data for nine EU countries, it is tentatively estimated that the total economic contribution of the European shipping industry could have been around 50 per cent lower in 2012, in terms of GVA and employment, if the countries in the analysis had not introduced tonnage tax regimes and other state aid measures.

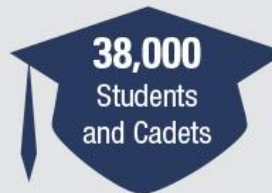
The economic value of the EU shipping industry

The EU controlled shipping fleet in numbers

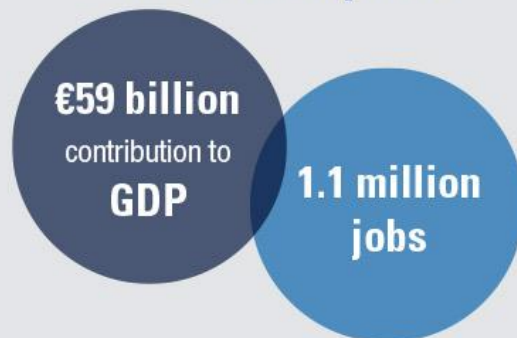
70% growth
in tonnage



Direct economic impact



Indirect impacts



Induced impacts



Total economic impact



For every **€1 million** of GDP the shipping industry creates, another **€1.6 million** is created elsewhere in the EU economy

50% Amount by which the total economic contribution of the EU shipping industry could have been reduced in the absence of EU-approved state aid measures.¹

¹ Based on illustrative counter-factual scenarios for nine EU countries

1 Introduction and definitions of terms used in the study

1.1 Purpose of the study

This report has been prepared for the European Community Shipowners' Associations (ECSA), the trade association representing the national shipowners' associations of the EU and Norway. The study aims to provide an understanding of the economic value generated by the EU shipping industry, both directly and through its interactions with other parts of the economy. As well as analysing the contribution of the industry, the study reviews the recent development of the EU shipping fleet; estimates the impact of state aid measures permitted under the Community guidelines on state aid; and outlines the contribution of maritime academies in training seafarers.

1.2 Geographical coverage

Throughout this document results are reported for the '*EU shipping industry*' which is defined as the industry within the 28 EU member states plus Norway. Where data are presented over time, information for all 29 countries is presented for the entire time period to avoid distortions caused by new member countries joining the EU. In a small number of cases information is only available for the European Economic Area (EEA), which includes Iceland and Liechtenstein, as well as the EU countries and Norway.

1.3 Defining the shipping industry

The brief for the study was to assess the economic contribution of the shipping industry, defined by ECSA as:

- **the transport of goods by sea** (both containerised and non-containerised);
- **the transport of persons by sea** (both on ferries and on cruise ships);
- **service and offshore support vessels**, such as ships laying or repairing undersea cables or pipelines; prospecting for oil; conducting oceanographic research; diving assistance; undertaking undersea work; servicing offshore wind farms, oil and gas platforms; and
- **towage and dredging** activities at sea.

To analyse the economic contribution of the EU shipping industry it is necessary to identify the best possible fit between this preferred definition of the industry, and the categories for which economic data are available.

Eurostat categorises economic activity according to its NACE¹ system. This identifies a number of sectors which include activities that predominantly fall within the preferred definition of the shipping industry set out above (see Table 1.3a). Using these definitions it has been possible to gather information from the Eurostat national accounts and Structural Business Statistics datasets on

¹ Nomenclature statistique des activités économiques dans la Communauté européenne

gross value added and employment in passenger transport, freight transport, and the renting and leasing of water transport equipment.

Wherever possible, the Eurostat data have been complimented with information provided by ECSA members drawn from previous economic impact studies and national sources. Where such figures have been used, they have been adjusted to match the Eurostat categories as closely as possible.

Table 1.3a: Eurostat NACE categories included in this study

NACE code	Category	Includes	Excludes
50.1	Sea & coastal passenger water transport	<ul style="list-style-type: none"> - transport of passengers over seas and coastal waters - operation of excursion, cruise or sightseeing boats - operation of ferries, water taxis etc. 	<ul style="list-style-type: none"> - restaurant and bars on board ships, when provided by separate units - renting of pleasure boats and yachts without crew - renting of commercial ships or boats without crew - operation of "floating casinos"
50.2	Sea & coastal freight water transport	<ul style="list-style-type: none"> - transport of freight over seas and coastal waters - transport by towing or pushing of barges, oil rigs etc. - renting of vessels with crew for sea and coastal freight water transport 	<ul style="list-style-type: none"> - harbour operation and other auxiliary activities such as docking, pilotage, lighterage, vessel salvage - cargo handling - renting of commercial ships or boats without crew
77.34*	Renting & leasing of water transport equipment	<ul style="list-style-type: none"> - renting and operational leasing of water-transport equipment without operator: commercial boats and ships 	<ul style="list-style-type: none"> - renting of water-transport equipment with operator - renting of pleasure boats

* adjusted by Oxford Economics to remove elements relating to inland waterways

Some elements of the preferred definition of the shipping industry cannot easily be identified within the Eurostat classification. This is a particular issue for service and offshore support vessels, for which output and employment are often incorporated within the categories for the type of activity they support (most notably in the energy sector). A similar issue arises in the case of dredging, which is included within Eurostat data for the mining and quarrying sector.

For these sub-sectors it has not been possible to obtain information across all EU countries. Nonetheless, a number of national shipowners' associations hold information for their own country on offshore support vessels and dredging. This has been included in the estimates of employment and GVA wherever it is available², as indicated in Table 1.3b, below.

Table 1.3b: Countries providing employment and/or GVA data for service and offshore support vessels, and dredging

Sub-sector	Countries for which information available
Service and offshore support vessels	Denmark, France, Italy, Netherlands, Norway, Portugal, UK
Dredging	Belgium, Denmark, Italy, Netherlands, Norway, Spain, UK

² This approach will tend to underestimate the overall size of the EU shipping industry in terms of employment and GVA, since data on service and offshore support activities and dredging, are not available across all countries. Nonetheless, consultation with ECSA members suggests that the countries with the largest amount of activity in these sub-sectors have provided data on their size. We do not, therefore, believe the amount of activity that has not been captured will significantly affect the overall results.

In many cases the time periods data are available for do not precisely correspond to the needs of the project and a degree of estimation has been necessary to generate consistent time series across countries. Details of the sources used are set out at Annex B.

1.4 Gross and deadweight tonnage

There are a number of ways of measuring the size of a country's shipping fleet. Two main measures are used in this study:

- **gross tonnage (GT)** - a measure of volume inside a vessel; and
- **deadweight tonnage (DWT)** – measures how much weight a ship can safely carry. It is the sum of the weights of cargo, fuel, fresh water, ballast water, provisions, passengers and crew.

When looking across the entire European shipping fleet it is not clear which measure is most appropriate: gross tonnage tends to give a greater weighting to passenger, cruise, roll-on roll-off and container vessels. Deadweight tonnage tends to give greater weighting to freight vessels. In some cases data are only available on the basis of one measure, but wherever possible this report includes fleet data based on both measures.

1.5 The channels of economic impact

The economic value of the EU shipping industry is examined across three metrics of impact:

- the **gross value added contribution to GDP** measures the contribution to the economy of each individual producer, industry or sector. It is a measure of output and is aggregated across all industries or firms to form the basis of a country's Gross Domestic Product (GDP), the main measure of the total level of economic activity;
- **employment**, measured on a headcount basis; and
- **tax revenues** flowing to EU governments.

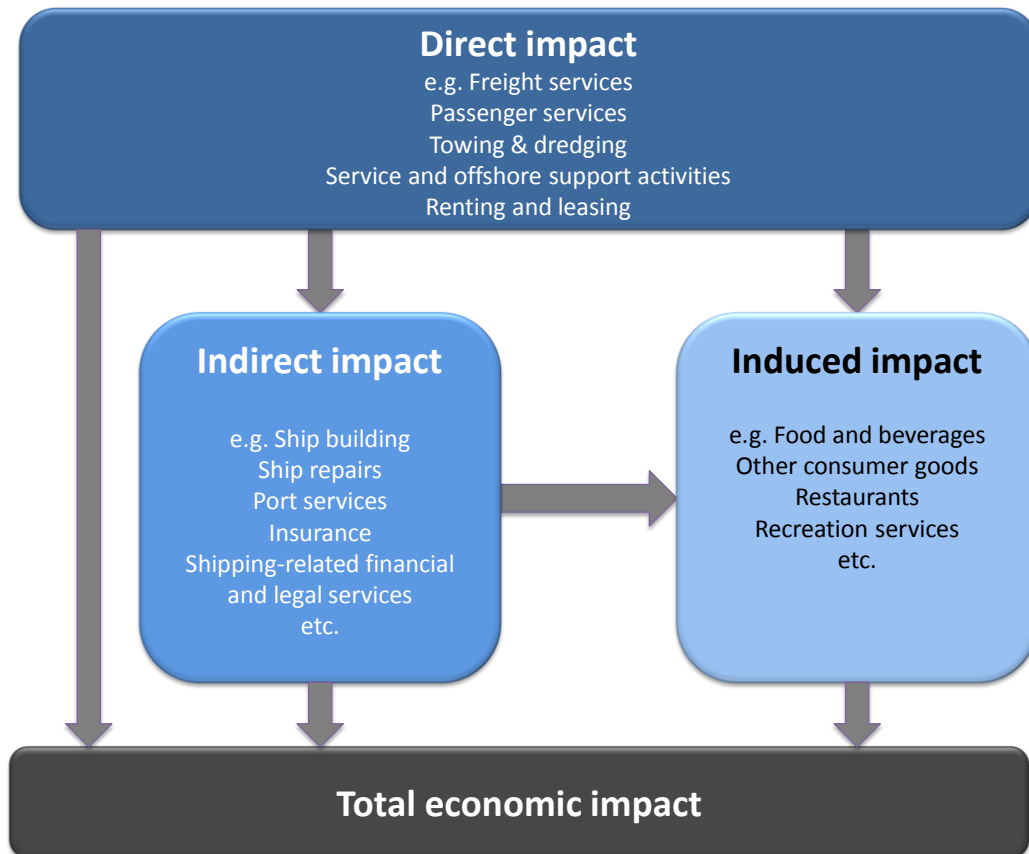
The economic impacts measured in this study are quantified across three channels:

- **direct** impacts reflect the economic contribution of the shipping industry itself;
- **indirect** impacts occur as a result of shipping firms' expenditure on inputs of goods and services from their EU supply chain. Economic activity in this category could include, for example, ship building, ship repairs, port services, insurance, and shipping-related financial and legal services; and
- **induced** impacts arise as employees in the shipping industry and its supply chain spend a proportion of their wages on consumer goods and services. These impacts are first felt at the retail and leisure outlets close to where these employees live, but also ripple out through the supply chains of the businesses selling consumer goods and services.

Our calculations of these impacts are on a *gross* basis. They therefore make no allowance for what the people and other resources deployed by the shipping industry and its suppliers would have contributed to the economy if the industry did not exist³.

³ This is a standard procedure in the analysis of the economic impact of individual industries.

Figure 1.5: The economic impact of the EU shipping industry



Some studies of this type also assess ‘catalytic effects’, whereby the shipping industry creates positive spillovers that enhance output and productivity in other sectors. This report includes analysis of the contribution of maritime academies, but other types of catalytic effect are beyond the scope of this work.

1.6 Report structure

The remainder of the report is structured as follows:

- **Section 2** analyses the evolution of the EU shipping fleet;
- **Section 3** presents the assessment of the economic impact of the EU shipping industry;
- **Section 4** estimates the impact of the state aid measures on the EU shipping industry; and
- **Section 5** reviews the contribution of maritime academies.

2 The evolution of the EU shipping fleet

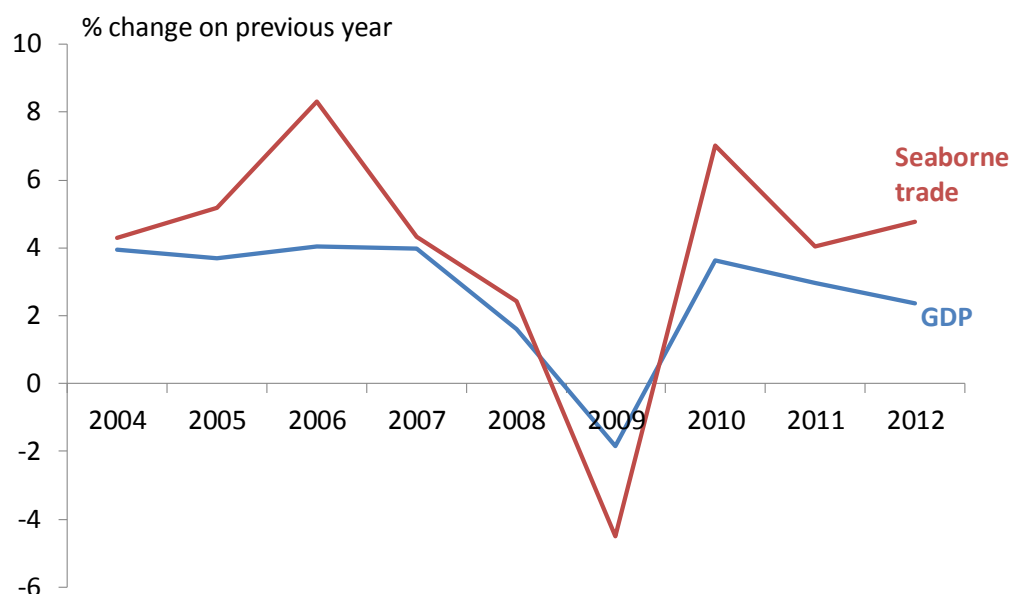
Key points

- At the start of 2014, the EU controlled fleet (which comprises ships whose ultimate ownership or control lies in an EU country, but which may be flagged in a different country) comprised of 660 million deadweight tonnes, 450 million gross tonnes, and 23,000 vessels. For the purposes of this report, the EU includes the 28 EU countries plus Norway.
- Between the start of 2005 and the start of 2014, the EU controlled fleet expanded by more than 70 per cent in terms of both gross and deadweight tonnage. The number of vessels grew at a much lower rate, reflecting the trend towards larger ships which offer greater economies of scale.
- At the start of 2014, the EU controlled 40 per cent of world gross tonnage and 39 per cent of world deadweight tonnage. This is a slight decrease from 41 per cent in 2005 (on both measures), reflecting that EU shipping companies continue to face strong competitive pressure from other rapidly-growing centres of world shipping, particularly those in Asia and the Middle East.
- Greece has the largest controlled fleet within Europe, equivalent to 36 per cent of gross tonnage, or 43 per cent of deadweight tonnage. Germany represents a further 21 per cent of gross tonnage, or 19 per cent of deadweight tonnage.
- The EU controlled fleet is dominated by three types of vessel: bulkers (28 per cent of gross tonnage), oil tankers (25 per cent) and container ships (25 per cent). The EU controls 60 per cent of the world's container ships in gross tonnage terms.
- Within the EU fleet, the strongest growth between 2005 and 2014 was recorded amongst offshore vessels. The EU's share of the world offshore fleet increased from 28 per cent in 2005 to 37 per cent in 2014 in gross tonnage terms.

2.1 Context

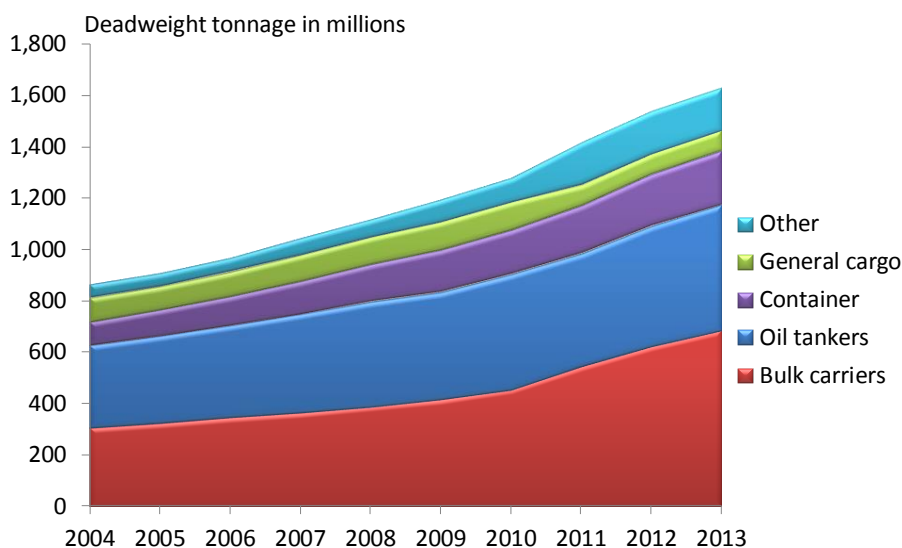
Global GDP recorded average annual growth of 3.9 per cent between 2004 and 2007, before recession took hold in 2008 in 2009 (Figure 2.1a). Global GDP growth has recovered since 2010, although has not returned to pre-recession rates. This reflects the slow pace of recovery in developed economies, particularly within the EU, and, more recently, slower growth in developing economies.

Over the last decade, seaborne trade has tended to grow more strongly than GDP, reflecting the increasingly globalised nature of production and consumption, particularly as developed country firms have outsourced production to lower cost manufacturing centres in Asia. Nonetheless, the pattern of growth in seaborne trade has tended to broadly follow that of GDP. The rate of growth in trade volumes fell sharply in 2008 and 2009, but has since rebounded.

Figure 2.1a: World GDP and seaborne trade flows⁴, 2004 to 2012

Source: Oxford Economics, UNCTAD

The global merchant fleet increased by 78 per cent between 2004 and 2013 (in deadweight tonnage terms, Figure 2.1b), and within this total, bulk carriers and container ship tonnage more than doubled. The “other” category comprises all other propelled sea-going merchant vessels of at least 100 gross tonnes, including cruise ships, ferries and vessels supporting the offshore energy sector⁵.

Figure 2.1b: World merchant fleet by type of ship, 2004 to 2013

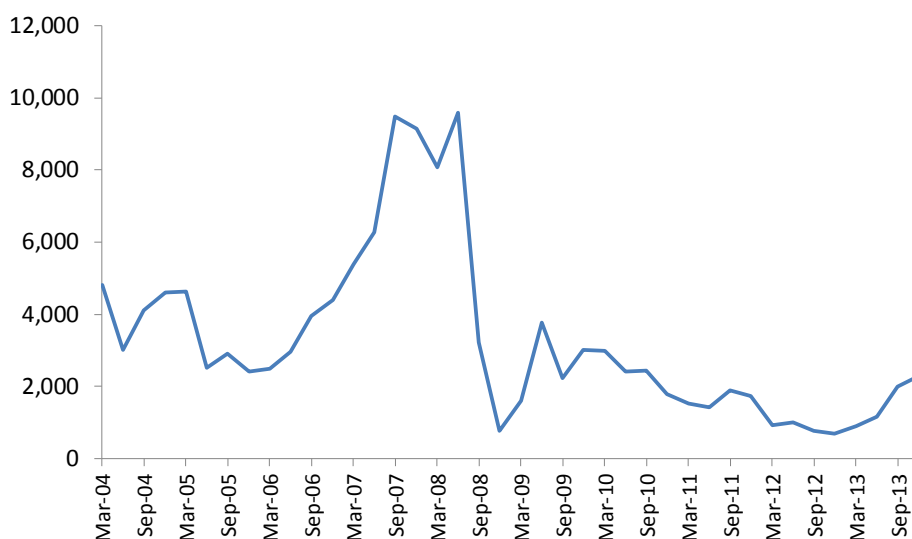
Source: UNCTAD

⁴ World seaborne trade based on UNCTAD series for total goods loaded, in millions of metric tonnes

⁵ Although the “other” category recorded the strongest growth rate between 2004 and 2013, this result should be treated with caution due to a change in the definition of the underlying data series from 2011 onwards.

The impacts of the 2008-09 recession, combined with steady and continuous growth in the global fleet have led to an industry-wide challenge of over-capacity, which has put pressure on freight rates. By way of illustration, Figure 2.1c shows the Baltic Dry Index which measures the cost of moving major raw materials by sea, as assessed by a panel of shipbroking houses around the world, on a per tonne and a daily hire basis, and across a range of routes. The Index suggests global shipping rates fell by 85 per cent between the final quarter of 2004 and the final quarter of 2012 (although some of this fall was subsequently reversed as conditions improved during 2013).

Figure 2.1c: Baltic Dry Index, quarterly values from March 2004 to December 2013



Source: Baltic Exchange, Reuters

In addition to sharp falls in freight rates, shipping companies have faced significant increases in fuel prices. Based on the benchmark Rotterdam 380 centistoke measure, marine fuel costs increased from an average of \$234 per tonne in 2005 and to \$640 per ton in 2012⁶. Fuel costs can account for 50 to 60 per cent of operating costs⁷, and so can have a significant impact on profitability.

⁶ Source: UNCTAD Review of Maritime Transport, 2013

⁷ World Shipping Council (2008) *Record fuel prices place stress on ocean shipping*, quoted in UNCTAD Review of Maritime Transport, 2013

2.2 What is the EU fleet?

There are three main ways of measuring the EU fleet, each with its own merits and drawbacks.

Firstly, the **‘controlled’** or **‘beneficially owned’ fleet** includes ships whose ultimate ownership or control lies in an EU country, but which may be flagged in a different country. It is imperfect as a measure of economic activity since the country of ownership or control (to which dividends and profits flow) does not necessarily align with where the direct operational activity and employment associated with the fleet takes place. Whilst imperfect, some data are available to assess the size of the EU fleet in terms of the number of vessels and tonnage on this basis.

Secondly, the **‘operated’ fleet** comprises ships operated by companies (or legal entities) based in the EU, which have substantive shore establishments within the EU, and which are subject to EU laws and taxation. The operated fleet includes ships operated under EU flags, plus non-EU flagged ships operated by EU shipping companies. The shore establishments may be a company’s headquarters, but they may also be the European or national subsidiary of the company in question. Nonetheless, they are the centre of commercial management of the business that takes decisions on day-to-day operations and employment, even if all or part of their shareholding is abroad.

The operated fleet is likely to align most closely with the industry’s economic impact in terms of gross value added and employment, as discussed in the next section of the report. However, only very limited data are currently available to measure the size of the EU operated fleet.

Finally, the **‘flag’ fleet** comprises ships operating under the flag of an EU country. Flagging is an embodiment of the legal principle that every ship should belong to a state. Flag country is important since it determines which country’s jurisdiction a ship and its crew falls under in terms of legal matters. The cost of complying with a flag state’s legal and regulatory requirements is just one of a wide range of factors that may influence a shipowner’s choice of flag state. Other factors include the type of vessel (some countries have registry practices tailored to specific sectors); a flag state’s reputation for upholding safety and other standards; the provision of naval protection; and marketing considerations. A flag state, or a group of potential flag states, may also be specified by a ship’s charter, financing organisation, or insurer.

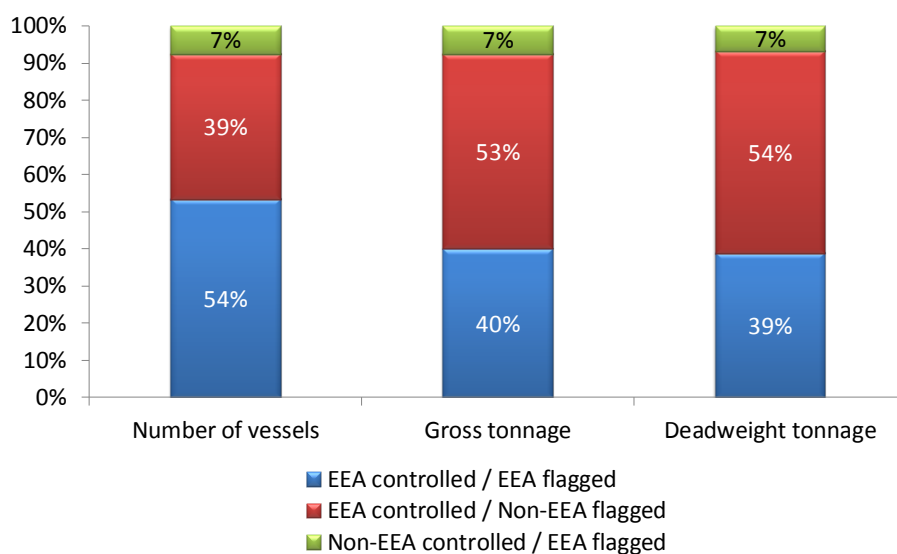
There may be some link between country of flag and the location of economic benefit due to reasons of cultural closeness or geographic proximity, but in many cases there may be little or no link. Nonetheless, the registration process creates very good data sets, which go back over 30 years in some cases.

The EU controlled fleet is the main focus of the analysis in this report. This definition has been chosen as the preferred measure of the EU fleet because it provides the best balance between data availability and alignment with economic impact.

Figure 2.2 presents information on the country of control and flag of the EEA fleet. In terms of gross and deadweight tonnage, around 40 per cent is both EEA controlled and EEA flagged. In terms of the number of vessels, the proportion of the fleet that is both controlled and flagged in an EEA country is slightly higher at 54 per cent.

Just over half of the fleet in terms of gross and deadweight tonnage is controlled from EEA countries, but operates under a non-EEA flag. Seven per cent of the fleet is EEA flagged, but controlled in a non-EEA country.

Figure 2.2: The EEA fleet by control and flag, 2013

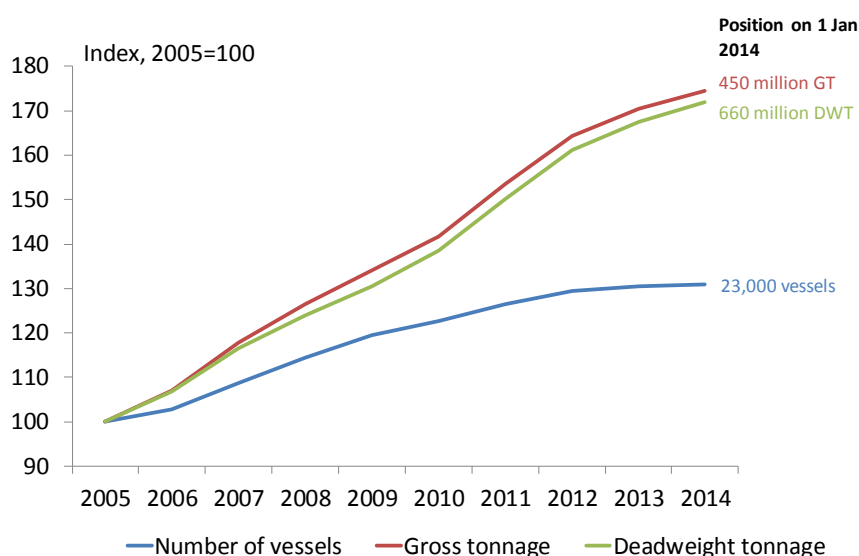


Source: Clarkson Research Services Ltd., ECSA

2.3 The EU controlled fleet

The EU controlled fleet has grown strongly since 2005 (the earliest year for which data are available on a consistent basis for all EU countries). Between the start of 2005 and the start of 2014, the fleet expanded by 74 per cent in gross tonnage terms, and by 72 per cent in terms of deadweight tonnage (Figure 2.3a). Growth in the number of vessels was much lower, at 31 per cent, reflecting the trend for shipping companies to invest in larger vessels that offer greater economies of scale. It should be noted that this analysis includes all 28 EU countries and Norway for the entire duration of the time series. The growth trend shown is not, therefore, influenced by the accession of Bulgaria, Romania and Croatia to the EU during the period shown.

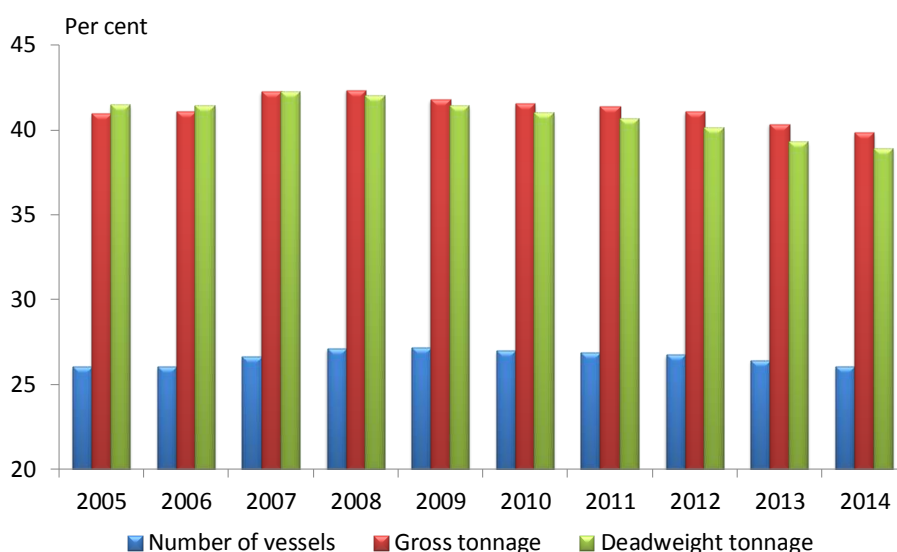
Figure 2.3a: The evolution of the EU controlled fleet, 1 January 2005 to 1 January 2014



Source: Clarkson Research Services Ltd.

The world fleet has also grown over the last decade, and at a slightly higher rate than the EU fleet, reflecting that other centres of world shipping, particularly in Asia and the Middle East, continue to expand rapidly. As a result, the EU controlled share of the global fleet has declined slightly from 41 per cent in 2005 to 40 per cent in 2014 in gross tonnage terms, or to 39 per cent by deadweight tonnage (Figure 2.3b). Nonetheless, the EU controls 26 per cent of the world's vessels, the same proportion as in 2005. The fact that the EU controlled share of the number of vessels has remained constant whilst its share of tonnage has decreased slightly reflects that growth elsewhere has been particularly concentrated on very large vessels.

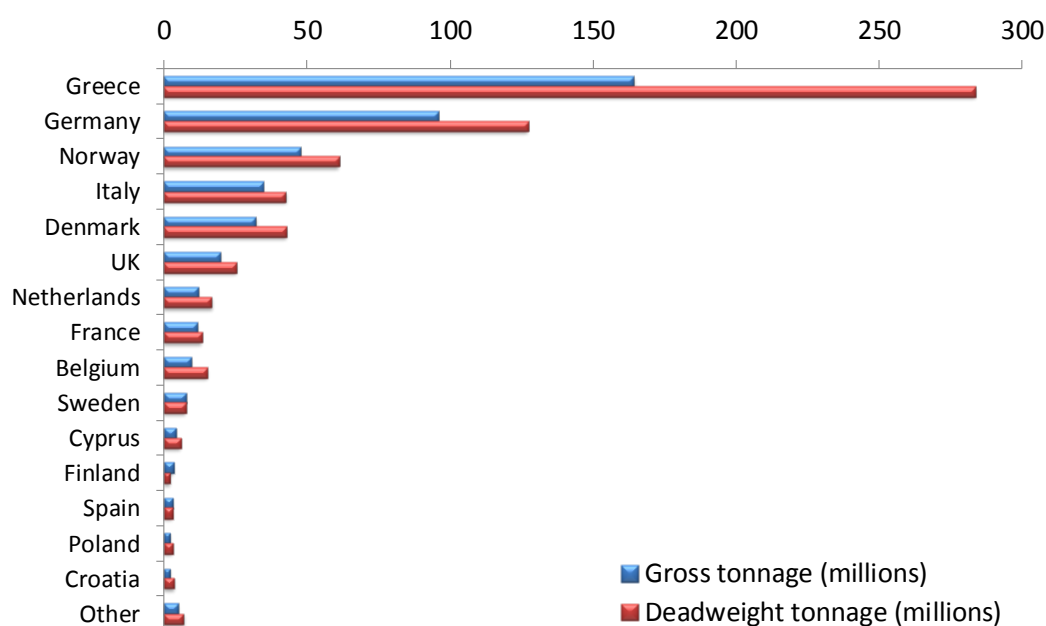
Figure 2.3b: The EU controlled fleet as a proportion of the world fleet, 1 January 2005 to 1 January 2014



Source: Clarkson Research Services Ltd.

Within Europe, Greece has the largest controlled fleet, comprising 164 million gross tonnes, or 284 million deadweight tonnes (Figure 2.3c). This is equivalent to 36 per cent and 43 per cent of the total EU controlled fleet respectively. Germany represents a further 21 per cent of EU controlled gross tonnage, or 19 per cent of deadweight tonnage.

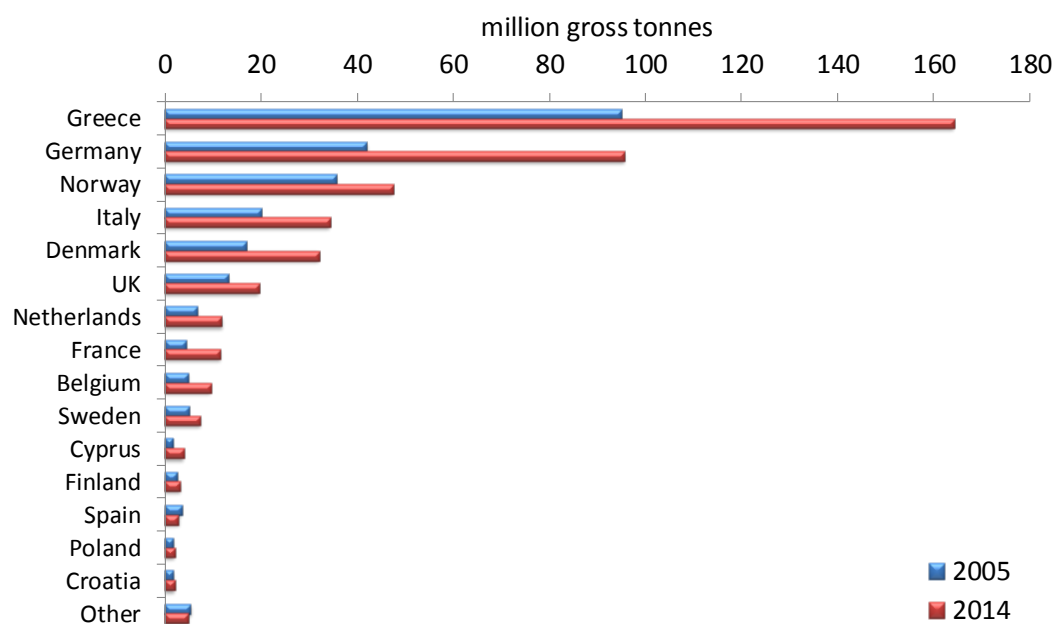
Figure 2.3c: The EU fleet by country of control, 1 January 2014



Source: Clarkson Research Services Ltd.

The rate of growth in the Greek controlled fleet between 2005 and 2014 was broadly in line with the EU average (73 per cent in gross tonnage terms, Figure 2.3d). The growth rate in Germany, however, was even stronger at 128 per cent over this period. In proportionate terms, the French and Belgian controlled fleets also grew more quickly than the EU average, by 169 and 96 per cent respectively.

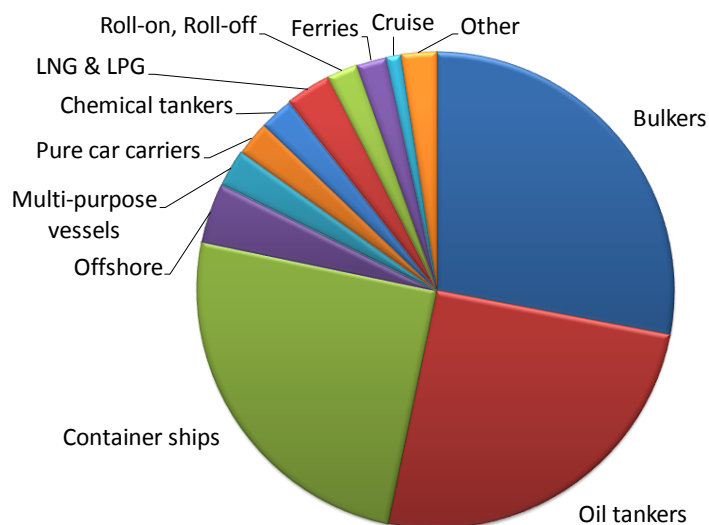
Figure 2.3d: The EU fleet by country of control, 1 January 2005 and 1 January 2014



Source: Clarkson Research Services Ltd.

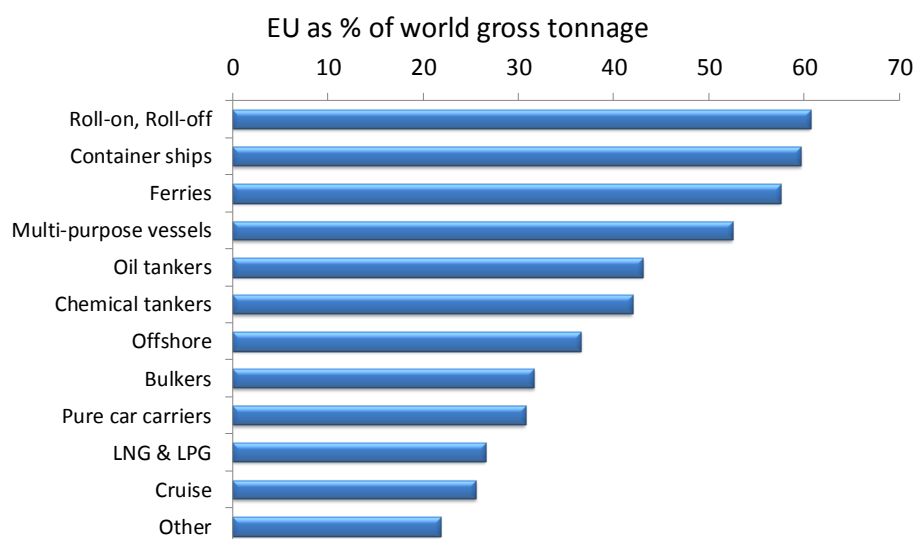
The EU controlled fleet is dominated by three types of vessel (Figure 2.3e): bulkers (28 per cent of EU controlled gross tonnage), oil tankers (25 per cent) and container ships (25 per cent).

Figure 2.3e: The EU controlled fleet by type of vessel, by gross tonnage, 1 January 2014



Source: Clarkson Research Services Ltd.

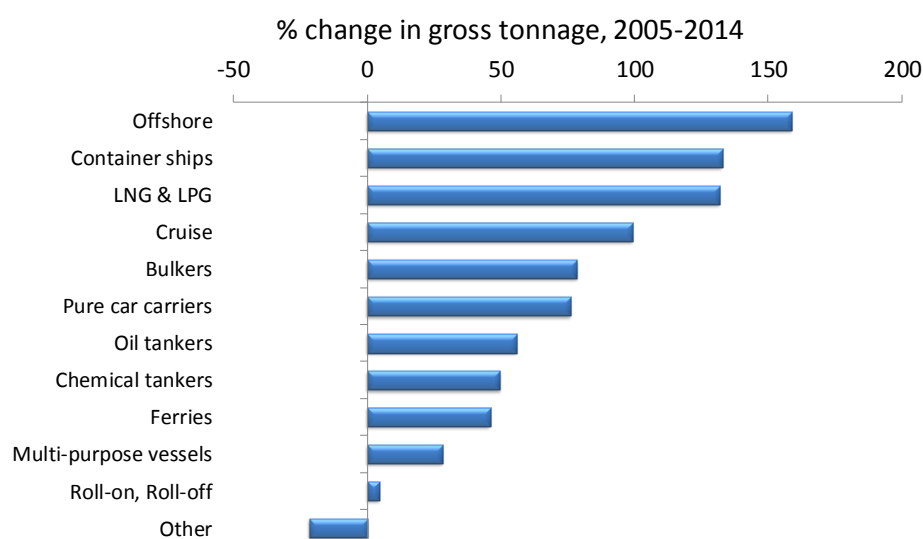
As discussed above, the EU controlled fleet represents 40 per cent of the world's gross tonnage. In some types of vessel, however, the EU controlled share is much higher (Figure 2.3f). Most notably, the EU controls 60 per cent of the world's container ships. Although smaller in terms of their significance within the EU fleet, EU countries control 61 per cent of roll-on roll-off vessels, 57 per cent of ferries and 52 per cent of multi-purpose ships.

Figure 2.3f: The EU controlled share of the world fleet, 1 January 2014

Source: Clarkson Research Services Ltd.

The strongest growth rate between 2005 and 2014 was recorded amongst offshore vessels (Figure 2.3g). The global offshore industry has also grown strongly over this period, but the EU's share of the world fleet nonetheless increased from 28 per cent in 2005 to 37 per cent in 2014 (in gross tonnage terms). This sector is particularly important in terms of economic impact because it is more labour-intensive than many other sub-sectors, and many of the jobs created are high-skill, high-value positions.

The EU controlled fleet of container ships, LNG & LPG tankers, and cruise ships also achieved particularly strong growth over the period: gross tonnage increased by around 100 per cent or more for each of these types of vessel.

Figure 2.3g: Growth in the EU controlled fleet by type of vessel, 1 January 2005 to 1 January 2014

Source: Clarkson Research Services Ltd.

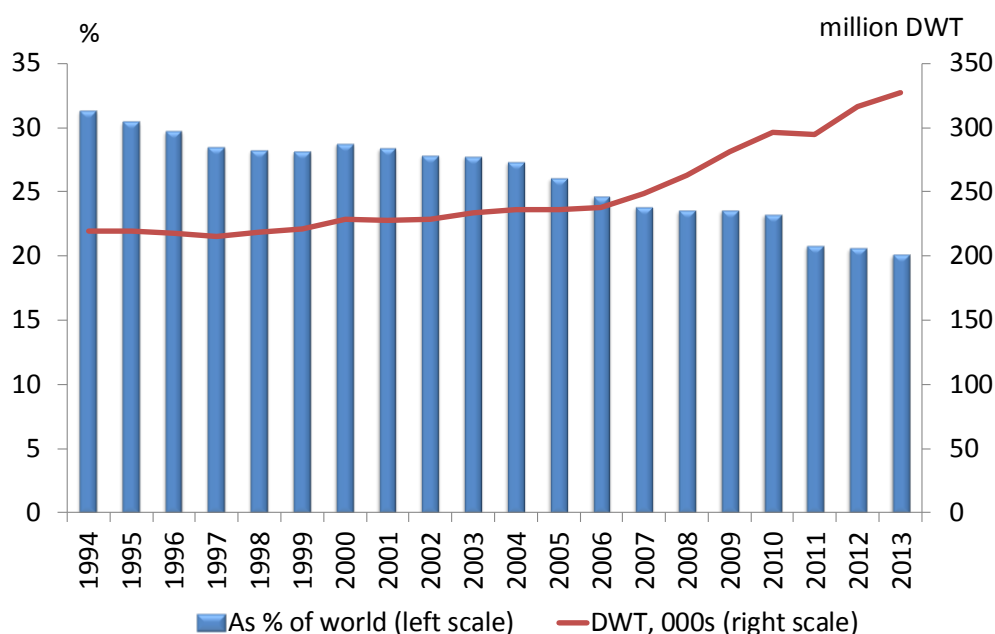
2.4 The EU flagged fleet

Although less closely aligned to economic impact than the controlled fleet, information on the flagged fleet is available for a much longer period (this is particularly useful when considering how policy changes may have affected the attractiveness of flying the flag of an EU Member State on vessels managed by European shipowners, for example). As with the analysis of the controlled fleet, the chart and commentary below is based on a fixed definition of the EU and Norway, so the trends apparent in the time series are not affected by the accession of countries to the EU during the period⁸.

The red line in Figure 2.4a plots the evolution of deadweight tonnage operating under an EU flag since 1994. On this basis, little growth was recorded during the 1990s and early 2000s (deadweight tonnage increased by just nine per cent between 1994 and 2006). Since then, the EU flagged fleet has expanded more quickly, by 38 per cent between 2006 and 2013. Nonetheless, this was well below the 69 per cent expansion in the world fleet recorded over the same period and the EU flagged share of the world fleet has continued to decline. In 2013, 20 per cent of the world fleet was operated under the flag of an EU country.

The reduction in the EU *flagged* share of the world fleet since 2005 is more pronounced than the slight decline in the EU *controlled* share of the world fleet over this period (as shown in Section 2.3). To the extent that changes in the EU's share of the world fleet reflect policy measures, this may suggest that policies such as tonnage tax have been relatively effective at keeping shipowners in Europe, but other factors that determine choice of flag, such as the service levels of maritime authorities, have been less effective in stabilising the share of the European flagged fleet.

Figure 2.4a: The EU flagged fleet by deadweight tonnage, 1994 to 2013

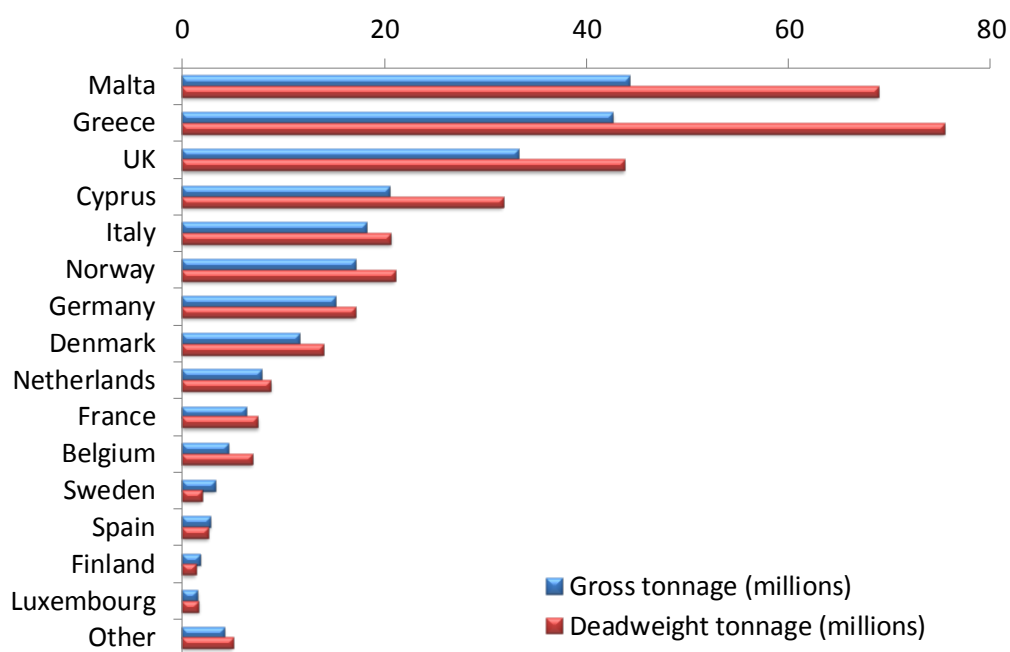


Source: UNCTAD

⁸ To enable a consistent comparison over a longer time period, the series shown in Figure 2.4a excludes Slovakia in all years. Slovakia accounted for 46,000 DWT in 2013

Within Europe, there is a large degree of consistency between the largest flagged fleets and the largest controlled fleets (as shown in Section 2.3). The main exception to this is Malta, which accounts for 19 per cent of the EU flagged fleet by gross tonnage, or 21 per cent by deadweight tonnage (Figure 2.4b). In contrast, Malta does not appear in the top 15 countries for the EU controlled fleet. This reflects that while Malta has a large amount of tonnage registered to its flag, much smaller amounts are under the control of Maltese operators or owners. Similarly, Cyprus has a much higher rank in terms of flagged fleet than for controlled fleet.

Figure 2.4b: The EU fleet by country of flag, 2013⁹

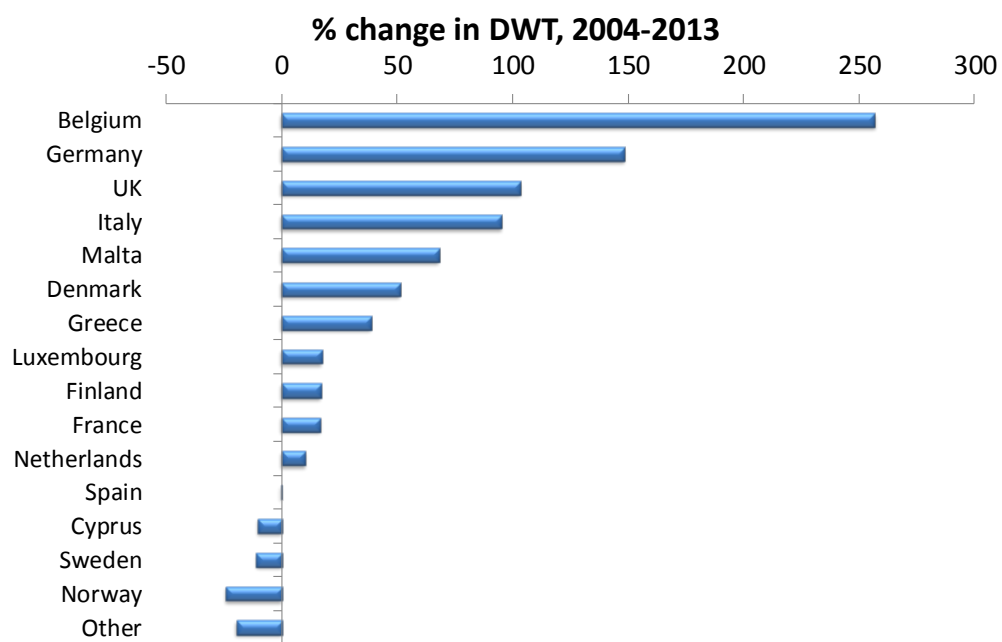


Source: UNCTAD

The strongest growth in terms of flagged fleets between 2004 and 2013 occurred in Belgium, which has seen extensive 're-flagging' following the introduction of tonnage tax in 2002 (Figure 2.4c). Germany and the UK also saw their flagged fleets more than double over this period, and Italy saw an increase of 95 per cent.

⁹ UK includes Isle of Man

Figure 2.4c: Growth in the flagged fleets of EU countries, 2004-2013

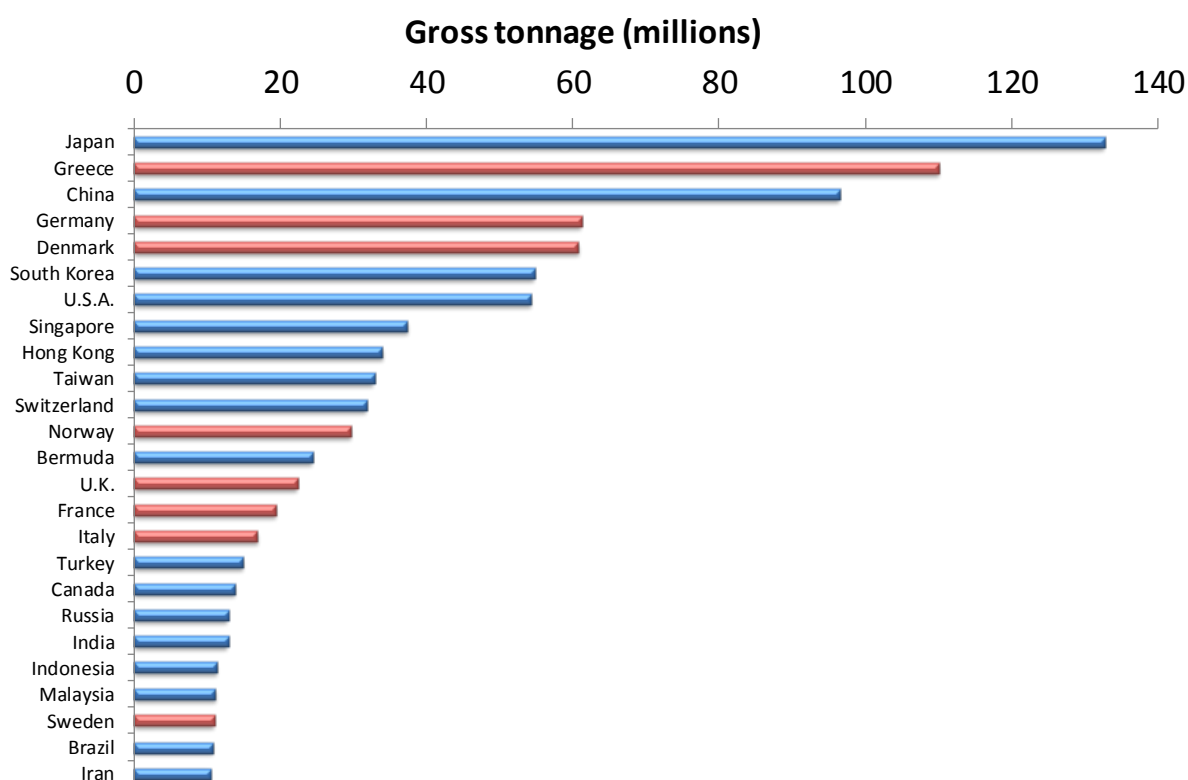


Source: UNCTAD

2.5 The EU operated fleet

Very few data were available to the study to analyse the EU operated fleet. Nonetheless, the EU plays a prominent role in the world fleet by this measure. Eight of the top 25 largest operated fleets in the world belong to EU countries (Figure 2.5). Within this, Greece, Germany and Denmark fall within the top five largest operated fleets in the world.

Figure 2.5: Merchant fleet by operator domicile – 25 largest countries by gross tonnage, 1 July 2013



Source: IHS Fairplay

3 The economic impact of the EU shipping industry

Key points

- In 2012, the EU shipping industry is estimated to have directly contributed €56 billion to GDP, employed 590,000 people, and generated tax revenues of €6 billion.
- It is estimated that around four-fifths of posts, or 470,000 jobs, are based at sea. It is tentatively estimated that around 40 per cent of these seafarers are EU or EEA nationals.
- Shipping is a high productivity industry: each worker is estimated to have generated €88,000 of GDP, significantly above the EU average of €53,000.
- The shipping industry indirectly supported an estimated €59 billion contribution to GDP and 1.1 million jobs through its European supply chain in 2012. The spending of wages by those employed in the shipping industry and its supply chain supported an estimated additional €30 billion of GDP and jobs for 550,000 people.
- Taking these effects together, the total GDP contribution of the European shipping industry in 2012 is estimated to have been €145 billion. The industry also supported employment for an estimated 2.3 million people, and tax revenues estimated at €41 billion.
- For every €1 million the European shipping industry contributes to GDP itself, it creates another €1.6 million elsewhere in the European economy.

3.1 Direct impacts

3.1.1 Approach to estimating direct impacts

To estimate the industry's direct impact it is necessary to collect data that corresponds as closely as possible to the definition of the shipping industry discussed in Section 1.3. Where possible, the study draws on information provided by ECSA members based on previous economic impact studies and national sources. For other countries, information has been drawn from the Eurostat national accounts and Structural Business Statistics datasets on gross value added and employment.

In many cases the data available do not precisely correspond to the needs of the project and a degree of estimation has been necessary to ensure consistency across countries, and to generate time series that cover both 2004 and 2012. Details of the sources used for each country are set out at Annex B.

3.1.2 Direct contribution to employment

ECSA members have provided detailed employment data for the following countries: Belgium, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, and the UK. Comparison of Eurostat data and this more detailed country-specific information suggests the Eurostat figures tend to underestimate total employment in the shipping industry. It is difficult to be certain of the precise reasons for this, but our research and consultation with national experts and Eurostat suggests the most likely reason is that the Eurostat data do not capture some proportion of workers who work on ships, many of whom may not be subject to income tax in the EU state from which their vessel is managed.

As a result, for those countries for which detailed national figures are not available, it has been necessary to estimate this 'missing' section of the workforce using a combination of GVA statistics and productivity data.

Overall, it is estimated that the European shipping industry directly employed 590,000 people in 2012. This means that shipping employs more people than travel agents and tour operators; forestry and logging; and air transport (Table 3.1.2).

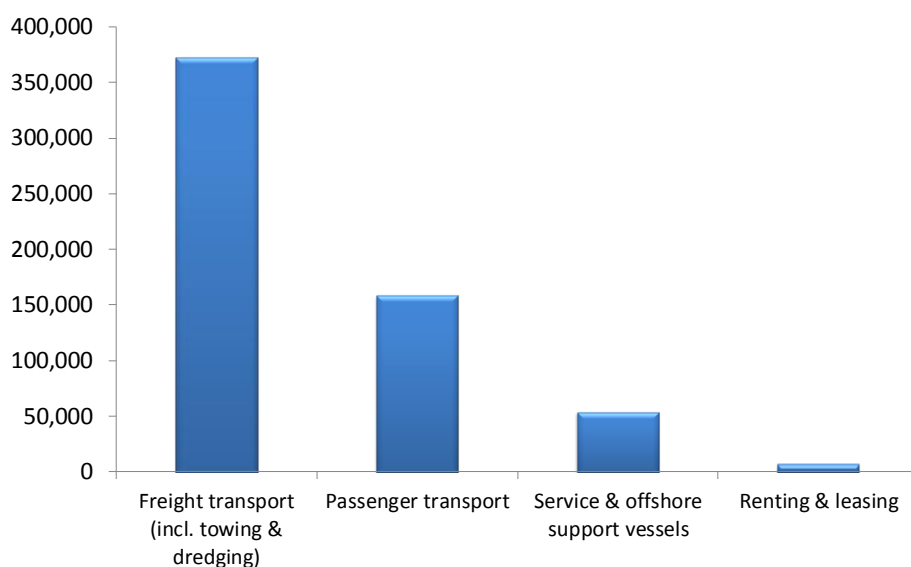
Table 3.1.2: Direct employment in the EU and Norway – shipping and comparator industries, 2012

Industry	Employment (000s)
Paper manufacturing	653
Pharmaceutical manufacturing	598
Shipping	590
Travel agents and tour operators	533
Forestry and logging	502
Air transport	425

Source: Eurostat, Oxford Economics

Within the total shipping employment figure, 63 per cent of workers are involved in freight transport (including towing and dredging); 27 per cent are involved in passenger transport; and 9 per cent work in service and offshore support activities. Just under 7,000 people are employed in renting and leasing, equivalent to one per cent of employment (Figure 3.1.2a).

Figure 3.1.2a: Direct employment in the EU shipping industry by sub-sector, 2012

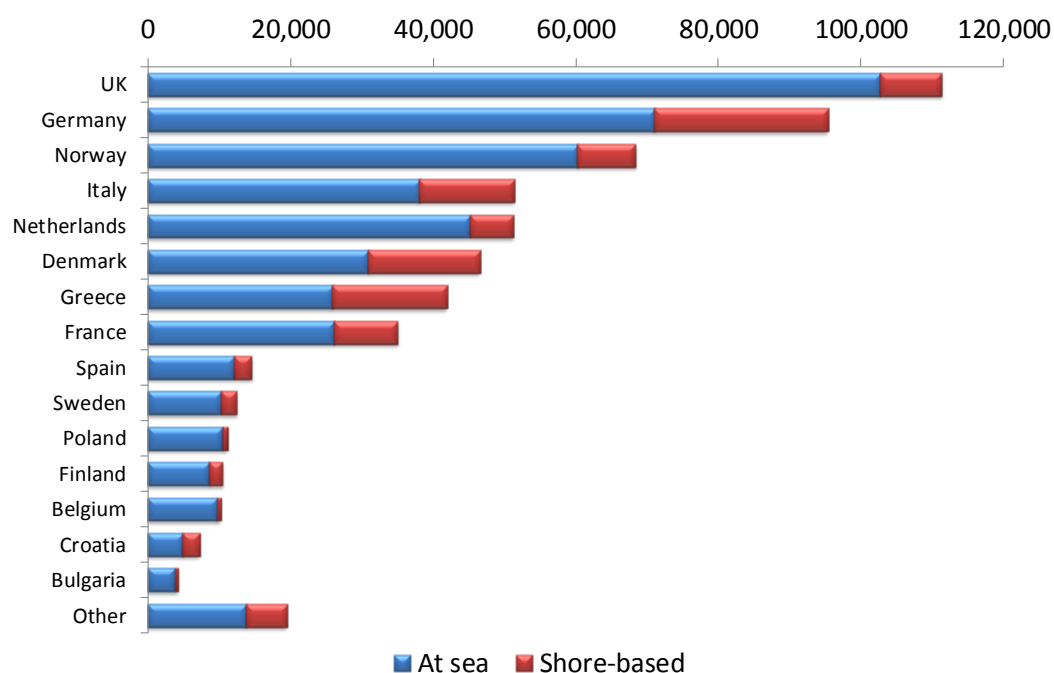


Source: Oxford Economics

A proportion of employment in the freight, passenger, and services and offshore support sub-sectors comprises seafarers who generally work at sea. This element of employment in these sub-sectors has been estimated using information provided by national associations and ECSA. For countries where no such data are available, the number of workers at sea has been estimated using the average split of land-based and sea-based employment in the countries for which data are available. It is assumed that all of the employment in the renting and leasing sub-sector is

shore-based. On this basis it is estimated that around four-fifths of European shipping industry employment consists of positions at sea (Figure 3.1.2b).

Figure 3.1.2b: Total employment in the EU shipping industry by place of work, 2012^{10,11}

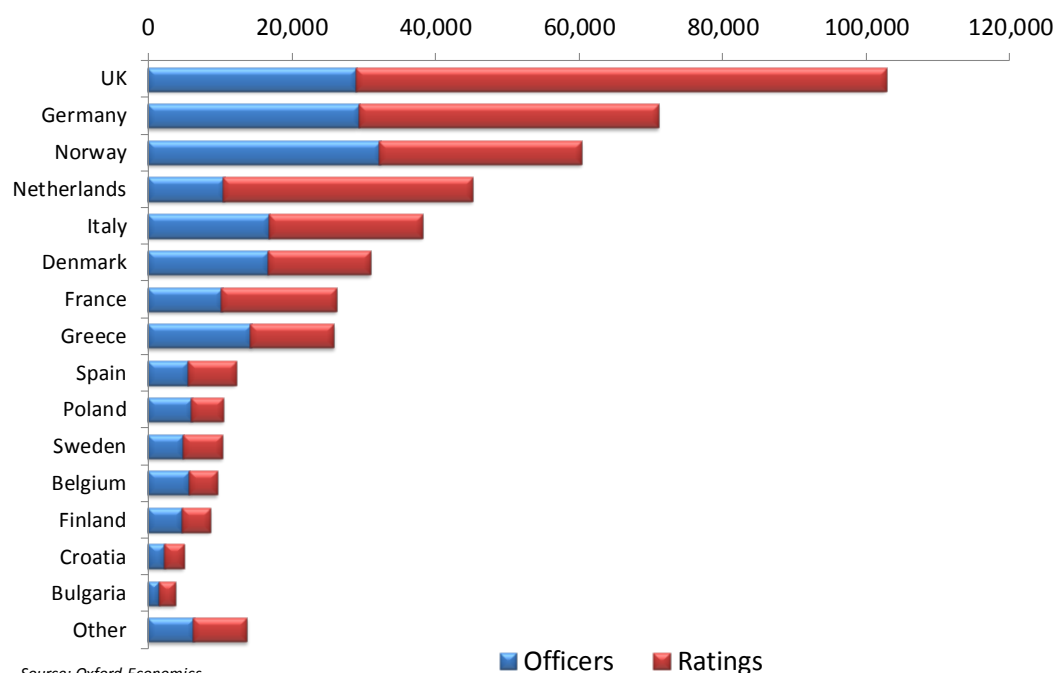


Officers account for an estimated 41 per cent of positions at sea, and ratings 59 per cent¹². The estimated split by country is shown in Figure 3.1.2c. Noticeable in the chart is the large number of UK ratings, which includes a significant number of hospitality employees in the country's cruise fleet. The Netherlands also has a high proportion of ratings amongst its seafarers, once again reflecting large numbers of hospitality ratings on cruise ships.

¹⁰ This chart includes both EU and non-EU seafarers

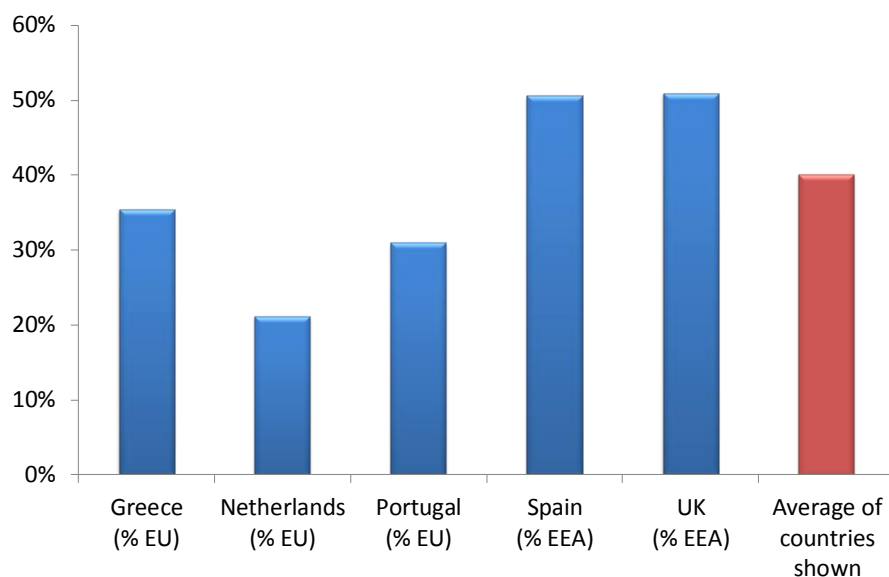
¹¹ The sea-based employment figures for Greece only include those working on ships flying the Greek flag, and a small proportion of Greek controlled ships operating under foreign flags but affiliated with the Greek NAT Seamen's Pension Fund. The use of these data is consistent with the previous national study by the Boston Consulting Group (see <http://www.bcg.gr/documents/file146826.pdf>). However, it is likely to result in an under-estimate of total employment in Greek shipping industry. This point is acknowledged in a 2013 report by the Foundation for Economic and Industrial Research titled 'The contribution of ocean-going shipping to the Greek economy: performance and outlook'. That study suggested that "total employment in Greek-owned ships exceeds 60,000 jobs".

¹² The split between officers and ratings was estimated using information from ECSA members or, where none was held, from ISF/BIMCO data presented in the European Commission Study on Seafarers Employment, available at: <http://ec.europa.eu/transport/modes/maritime/studies/doc/2011-05-20-seafarers-employment.pdf>

Figure 3.1.2c: Employment at sea split by officers and ratings, 2012¹³

The international nature of the shipping industry means that a wide range of nationalities are employed on board ships. For a small number of countries data are available on the share of seafarers that are from an EU or EEA country (Figure 3.1.2d). Taking a weighted average for these three countries suggests 40% of employees working at sea were EU or EEA nationals. It is not possible to robustly calculate the equivalent figure across the entire EU fleet, but if the same proportion applied across the countries for which data are not available, around 195,000 of the estimated 473,000 seafarers on EU ships would have been EU/EEA nationals in 2012.

¹³ This chart includes both EU and non-EU seafarers

Figure 3.1.2d: Proportion of seafarers that are EU or EEA nationals¹⁴

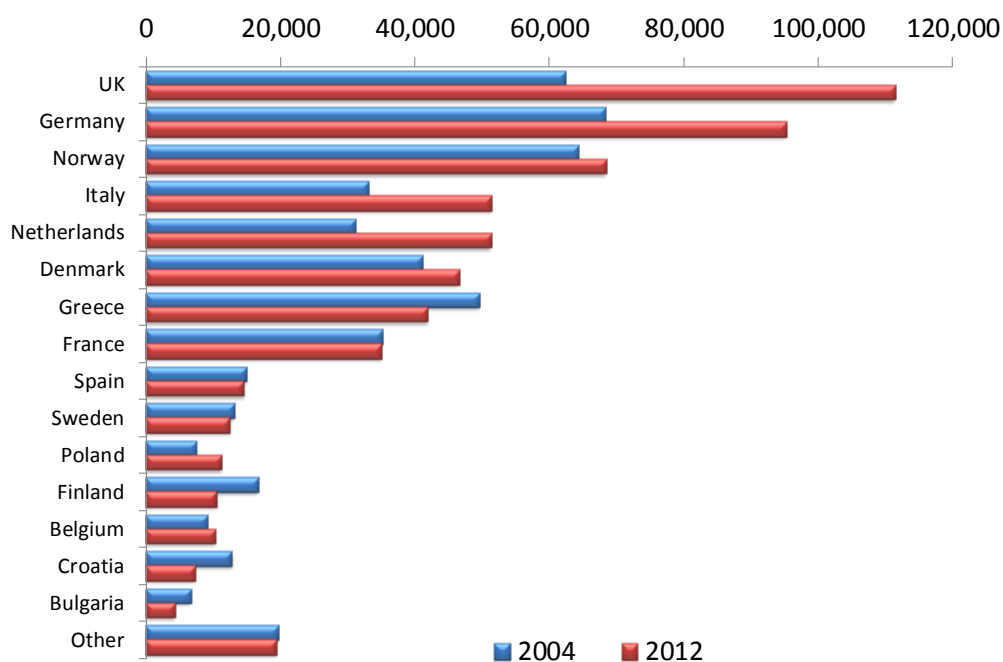
Source: Oxford Economics

As discussed in Section 2, the EU fleet grew strongly between 2004 and 2012. This was accompanied by growth in employment, from 484,000 in 2004 to 590,000 in 2012. The increase in employment was proportionately less than the increase in both controlled and flagged tonnage, indicating that productivity also increased over the period so that fewer workers are now needed per tonne of the fleet. This is perhaps unsurprising, given that newer ships entering the fleet are likely to incorporate more modern technology and automated systems than the older vessels they replace.

There was a mixed picture in terms of employment growth amongst European countries (Figure 3.1.2e). The UK, the Netherlands, Italy and Germany, in particular, recorded strong employment growth rates between 2004 and 2012, reflecting large increases in the fleets controlled by these countries. In 2012, the UK accounted for 111,000¹⁵ workers, or 19 per cent of employment in the EU shipping industry. Germany accounted for 95,000 workers, or 16 per cent of EU shipping industry employment. Norway accounted for a further 12 per cent of employment.

¹⁴ The relatively low proportion of EU nationals for the Netherlands reflects that large numbers of non-EU ratings are employed on the cruise vessels of the Holland America Line

¹⁵ The UK employment estimates are based on results from the UK Chamber of Shipping (CoS) survey of members. Survey results are grossed up to reflect that CoS membership does not cover the entire UK shipping industry. In previous national studies a grossing factor of 1.7 was applied based on consultation with the UK Office for National Statistics (ONS). However, research in this area is ongoing and more recent evidence suggests this may result in an over-estimate. At the same time, applying no grossing factor would result in an under-estimate. Following consultation with the UK CoS it was decided that the most appropriate approach for this study was to apply a grossing factor of 1.35, at the mid-point of the plausible range. It is recommended that this issue should be revisited in any future national study.

Figure 3.1.2e: Direct employment in the EU shipping industry by country, 2004 and 2012^{16, 17}

Source: Oxford Economics

3.1.3 Direct contribution to GDP

The total direct gross value added contribution to GDP of the European shipping industry in 2012 was €56 billion. This means that the direct contribution of shipping to GDP is greater than that of postal and courier services, the manufacture of transport equipment (excluding motor vehicles), and the air transport industry.

Table 3.1.3: Direct GVA in the EU and Norway – shipping and comparator industries, 2012

Industry	GVA
Sports and recreation	€57.5 billion
Advertising and market research	€56.6 billion
Shipping	€55.8 billion
Postal and courier services	€53.5 billion
Manufacture of transport equipment (excluding motor vehicles)	€53.5 billion
Air transport	€30.1 billion

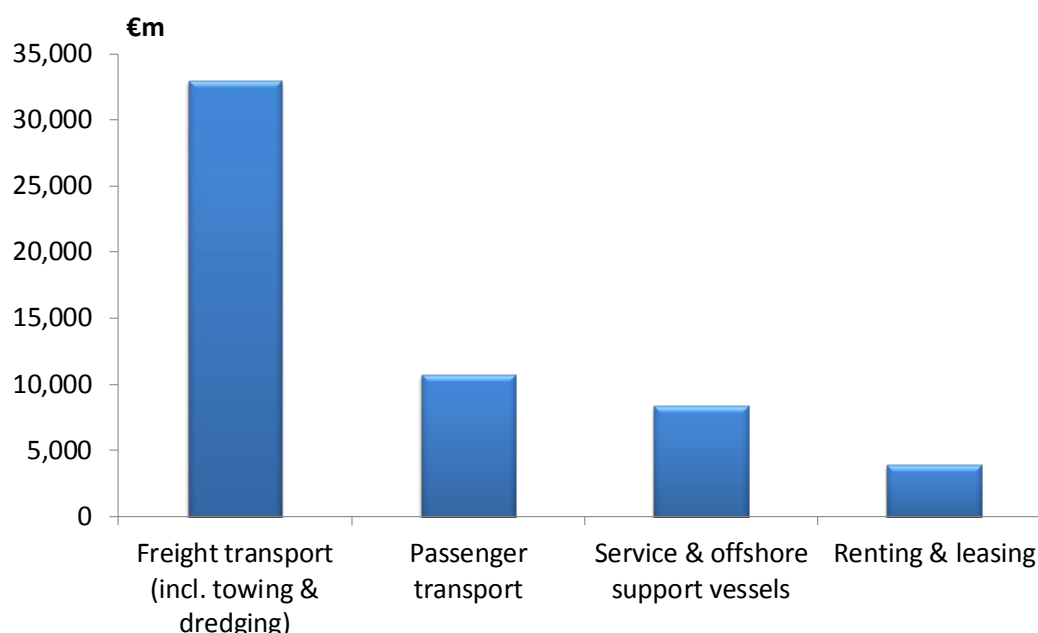
Source: Eurostat, Oxford Economics

¹⁶ Includes workers who are land-based and those at sea

¹⁷ The employment figures for Greece only include seafarers working on ships flying the Greek flag, and a small proportion of Greek controlled ships operating under foreign flags but affiliated with the Greek NAT Seamen's Pension Fund. The use of these data is consistent with previous national studies, such as that by the Boston Consulting Group (see <http://www.bcg.gr/documents/file146826.pdf>). However, it is likely to result in an under-estimate of total employment in Greek shipping industry. This point is acknowledged in a 2013 report by the Foundation for Economic & Industrial Research titled 'The contribution of ocean-going shipping to the Greek economy: performance and outlook'. That study suggested that "total employment in Greek-owned ships exceeds 60,000 jobs".

Within the total contribution to GDP, freight transport (including towing and dredging) accounted for €33 billion or 59 per cent (Figure 3.1.3a). Passenger transport contributed 19 per cent, and service and offshore support activities contributed 15 per cent. The remaining 7 per cent came from renting and leasing.

Figure 3.1.3a: Direct gross value added contribution to GDP of the EU shipping industry by sub-sector, 2012



Source: Oxford Economics

Germany accounted for €11 billion of the European shipping industry's direct GVA contribution to GDP in 2012, equivalent to 20 per cent of the EU total (Figure 3.1.3b). Norway contributed a further 17 per cent, Greece 13 per cent, and the UK 11 per cent.

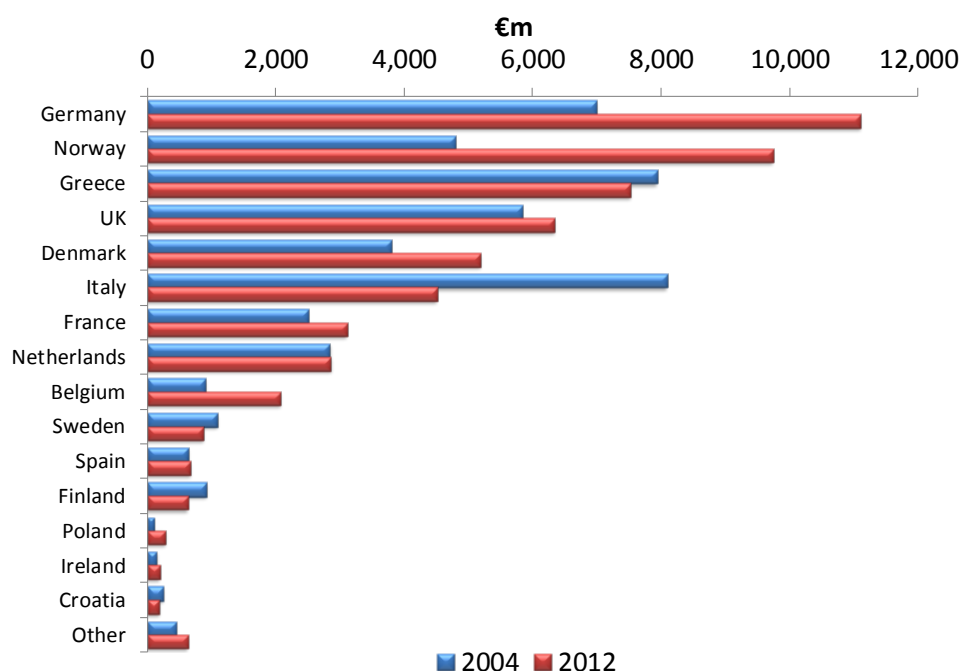
Germany's share of EU shipping industry GVA is broadly in line with its share of the EU controlled fleet. Norway's 17 per cent share of EU shipping industry GVA in 2012 compares to a 10 per cent share of gross tonnage in that year (or 9 per cent in deadweight tonnage terms). This reflects that the Norwegian shipping industry is orientated towards higher value added activities, particularly support of the offshore energy sector. The UK's share of EU shipping industry GVA, at 11 per cent, is more than twice its share of tonnage, again reflecting an orientation towards higher-value sectors such as offshore support vessels and cruise shipping.

In 2004 the EU shipping industry made a direct gross value added contribution to GDP of €47 billion¹⁸. This means the industry's direct contribution to GDP increased by around 18 per cent over this period. Whilst the EU fleet grew more strongly between 2004 and 2012, growth in the industry's GDP contribution has been held back by the challenging trading conditions discussed in Section 2. In particular, global over-capacity and the associated drop in freight rates have hit profitability since the third quarter of 2008.

¹⁸ This value is expressed in current (non-inflation-adjusted) terms. As discussed in the Section 2, there have been large fluctuations in global shipping rates between 2004 and 2012. This has led to considerable year-to-year volatility in GDP deflators for the water transport sector which make it difficult to draw clear conclusions regarding the evolution of the shipping industry's direct GDP contribution over the period when data are expressed in real (inflation-adjusted) terms.

Nonetheless, there is again a mixed picture amongst European countries (Figure 3.1.3b). The shipping industry's direct gross value added contribution to GDP in Germany, Norway and Belgium increased strongly between 2004 and 2012. In contrast, the direct contribution to GDP declined by 5 per cent between 2004 and 2012 in Greece, where the industry has faced adverse conditions as a result of the severe economic crisis. Italy saw an even sharper fall in shipping industry GVA between 2004 and 2012, reflecting the orientation of its fleet towards large tankers and bulk carriers, which have been particularly hard hit by the challenging conditions in the industry since 2008¹⁹.

Fig 3.1.3b: Direct gross value added contribution to GDP of the EU shipping industry by country, 2004 and 2012

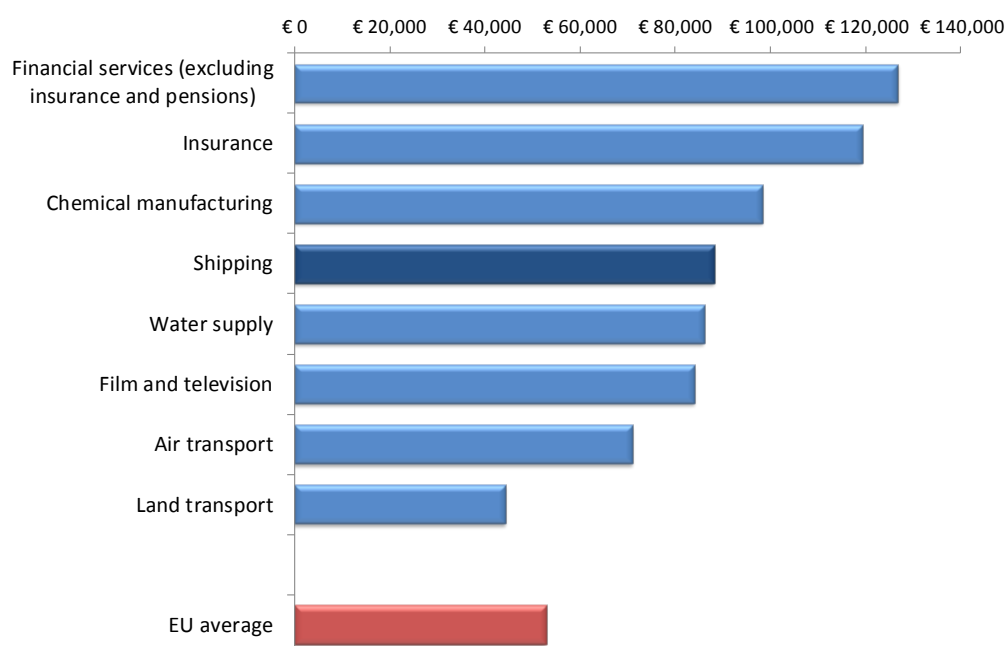


Source: Oxford Economics

Combining the results for the direct employment and gross value added contributions suggests productivity levels are relatively high within the European shipping industry: each worker generated an average of €88,000 of gross value added in 2012 (Figure 3.1.3c)²⁰. This compares to an average figure for the EU and Norway of €53,000 across all industries.

¹⁹ A methodological change in the Italian GVA statistics also contributed to the reduction in shipping industry GVA between 2004 and 2012. However, we understand from the Italian Shipowners' Association that the bulk of the decline is attributable to the composition of the country's fleet.

²⁰ Because of the likely under-estimation of employment in the Greek shipping industry, Greece has been excluded from the shipping industry productivity calculation.

Figure 3.1.3c: Productivity in EU shipping and comparator industries, euro per employee, 2012

Source: Oxford Economics

High productivity means the shipping industry contributes an above-average amount to Europe's GDP for each worker employed and therefore helps to raise living standards. Based on the estimate above, productivity in the shipping industry is higher than for the water supply industry (€86,000), the film and television industry (€84,000 per worker) and the air transport sector (€71,000 per worker). Productivity in the land transport sector is €44,000 per worker, less than half the figure for shipping.

3.1.4 Direct contribution to tax revenue

In addition to contributing to employment and GDP, the shipping industry generates tax revenues for member state governments. The analysis for this project has estimated the value of revenues generated in the form of employee and employer social security contributions, income tax levied on the earnings of the workforce, VAT on the spending of employees, and corporation and tonnage tax revenues from shipping firms²¹.

To estimate income tax and social security payments, OECD data on social security contributions and income tax rates have been applied to average industry wages in each country. It is assumed that all onshore workers are subject to tax and social security at the usual rates. In contrast, some proportion of workers at sea are likely to be exempt from income tax and social security payments because they are non-EU nationals, and/or because they spend a large proportion of their time at sea. In addition, some countries have schemes in place to reduce income tax and social security contributions for seafarers. National associations have provided information to indicate the proportion of seafarers who do not pay tax, or who are non-EU nationals and therefore unlikely to pay tax. For other countries, it is assumed that the proportion of non-taxpayers is in line with the average amongst those countries for which data are available.

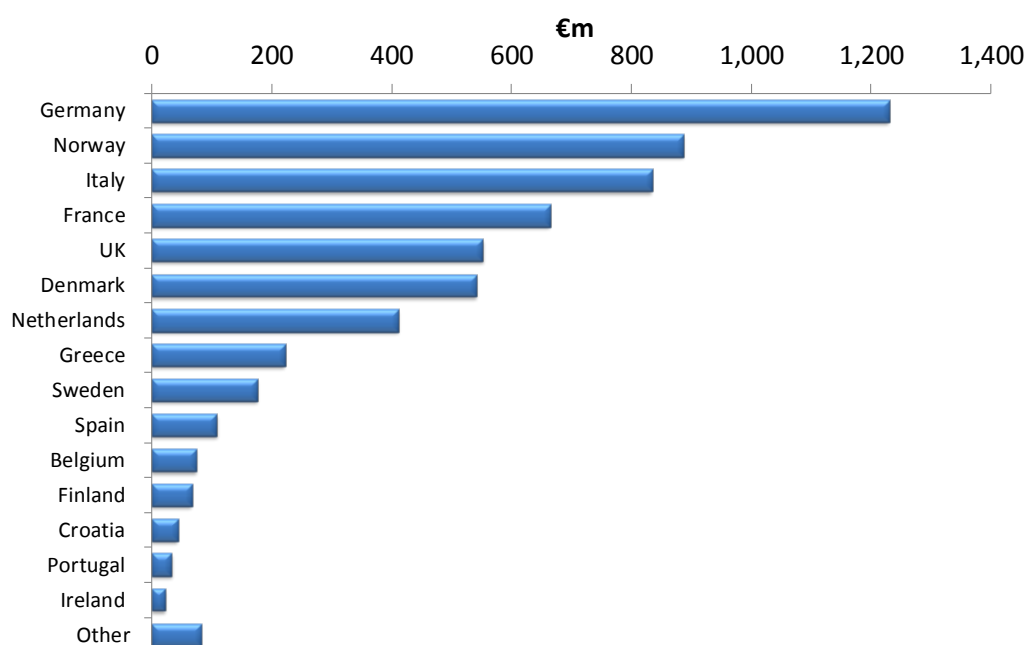
²¹ It should be noted that the shipping industry also benefits from government expenditure in European countries. The estimation of this expenditure is beyond the scope of this study.

To estimate VAT revenues, the consumption expenditure of shipping industry employees working on shore and EU nationals working at sea is estimated based on average wages, and Eurostat information on the savings rate in each country. Eurostat data on VAT receipts as a proportion of consumption expenditure in each country have then been used to estimate the VAT on the spending of shipping industry employees.

Tonnage tax revenues for countries with a tonnage tax regime have been estimated based on revenue information provided by a small sample of national associations. It is assumed that the renting and leasing sub-sector is subject to regular corporation tax, and the tax revenues from these activities have been estimated using information on average profitability and corporation tax rates in each country. For countries with no tonnage tax, it is assumed companies in the freight and passenger transport sub-sectors are also subject to corporation tax at the average rate for each country.

Using this approach, it is estimated that the EU shipping industry directly generated €6 billion in tax revenues in 2012. Almost four-fifths of this total was attributable to just six countries: Germany, Norway, Italy, France, the UK and Denmark.

Figure 3.1.4: The direct tax contribution of the EU shipping industry, 2012



Source: Oxford Economics

3.2 Indirect and induced impacts

3.2.1 Indirect and induced impact on GDP

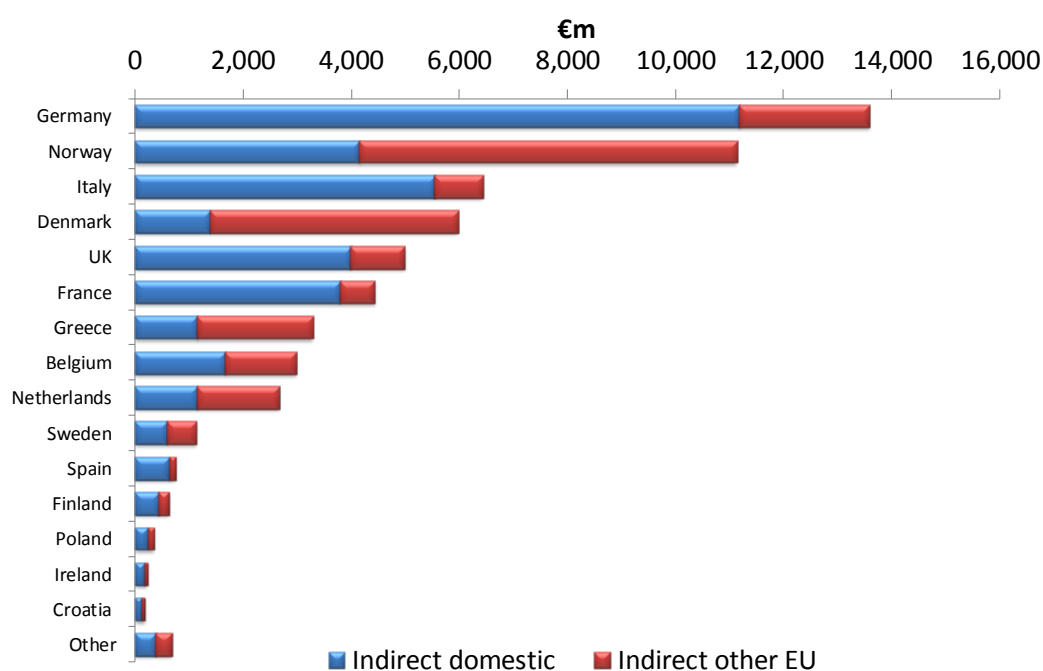
The indirect, or supply chain, impacts of the shipping industry are estimated using 'input-output' tables which map the inputs required by firms in a sector to produce a unit of output. To illustrate this concept consider the following simple example: to provide shipping services that sell for €5 million, a shipping firm may need to purchase fuel for €1 million, port services for €1 million and professional and technical services for €0.5 million. In this example the shipping firm has generated €2.5 million of gross value added (the value of its output less the value of inputs), and has generated €2.5 million in turnover for other firms in the supply chain.

The estimation of indirect GDP impacts for this project has been undertaken using Oxford Economics' Global Input-Output model. This not only allows the estimation of supply chain effects within countries, but also captures cross-country impacts amongst European countries. For example, this would detect the impact of, say, a Dutch shipping firm purchasing insurance from a firm in the City of London and computer software from a company in France²².

Overall, it is estimated that the indirect gross value added contribution to GDP of the European shipping industry in 2012 was €59 billion. As with the direct contribution to GDP, the largest figures were recorded for Germany and Norway. Figure 3.2.1a presents a breakdown of the indirect contribution to GDP according to whether it occurs domestically, or within another European country. For Germany, Italy, the UK, and France, at least four-fifths of the indirect impact is estimated to have occurred within the same country as the direct impact. However, a number of countries have very internationalised supply chains. For example, in Denmark around 77 per cent of the indirect impact occurred elsewhere in Europe, and for Norway the equivalent figure is 63 per cent.

²² There is further discussion of the input-output methodology at Annex A.

Figure 3.2.1a: Indirect gross value added contribution to GDP of the EU shipping industry by country, 2012

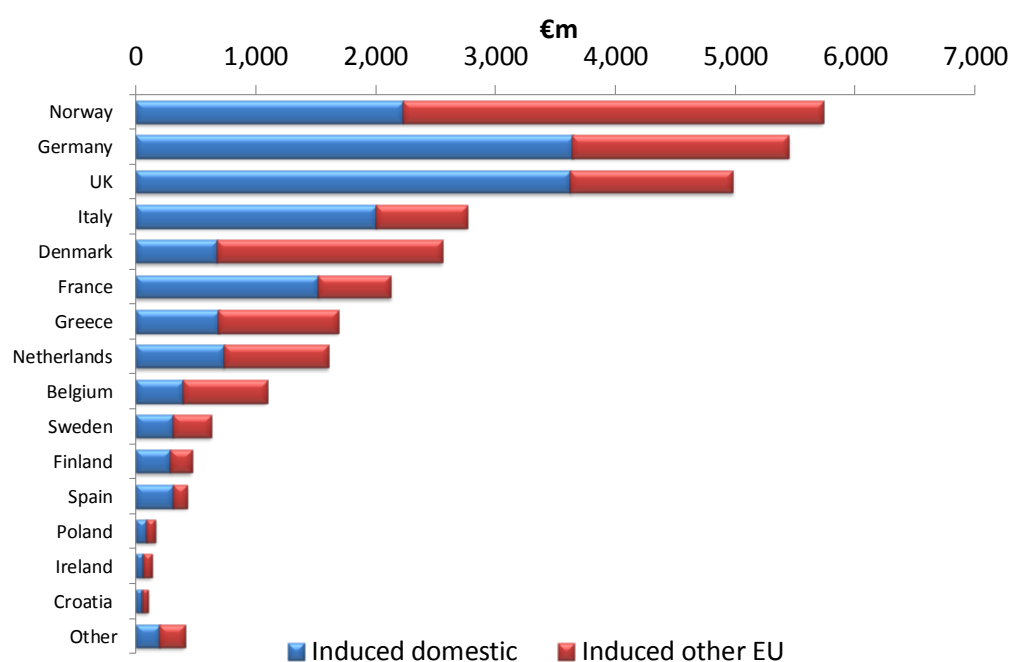


Source: Oxford Economics

Induced impacts result from the spending of workers employed in the shipping industry or its supply chain. The impacts are mainly felt in sectors serving households such as hotels, restaurants and shops. Within the Input-Output model, the induced GDP impact is estimated through ratios which estimate the value of wages generated by the activity associated with the direct and indirect contributions to GDP. From there it is possible to estimate consumer expenditure, and the induced contribution to GDP associated with this expenditure.

The total induced gross value added contribution to GDP of the European shipping industry is estimated to have been €30 billion in 2012. As with the indirect contribution to GDP, it is possible to split out whether induced expenditure impacts occur within the same country as the direct GDP impact, or elsewhere in Europe. This time, an estimated 74 per cent of the induced contribution to GDP from the Danish shipping industry is felt in other European countries. In Norway the equivalent figure is 61 per cent. These figures imply that a large amount of consumption expenditure in these two countries is on goods that are either imported from other European countries, or actually occurs in other EU countries, perhaps in the form of personal travel or cross-border shopping.

Figure 3.2.1b: Induced gross value added contribution to GDP of the European shipping industry by country, 2012

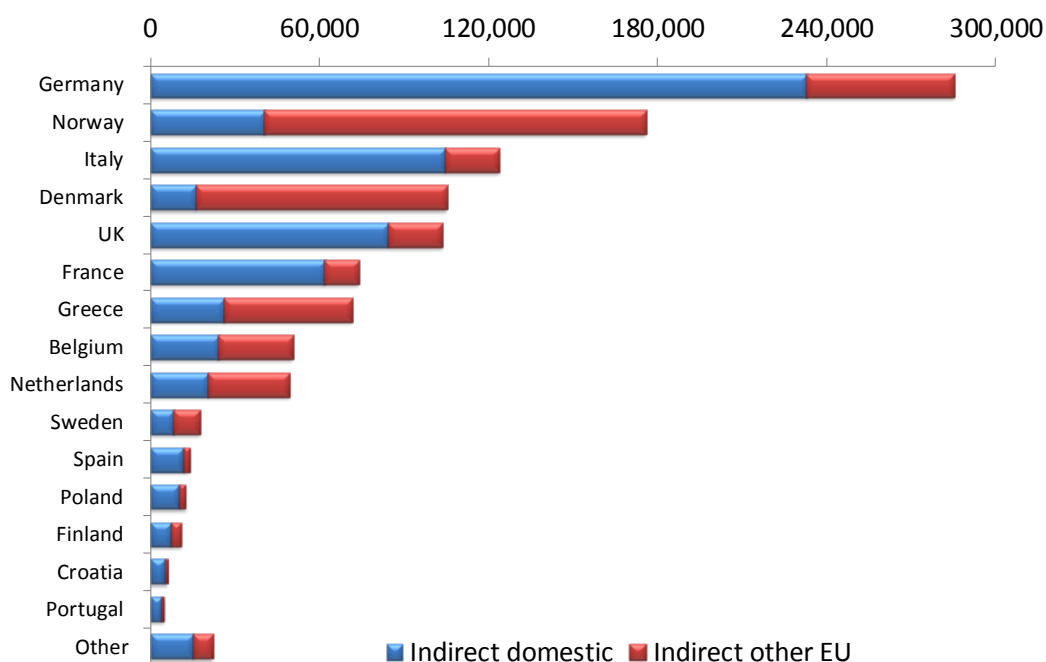


Source: Oxford Economics

3.2.2 Indirect and induced impact on employment

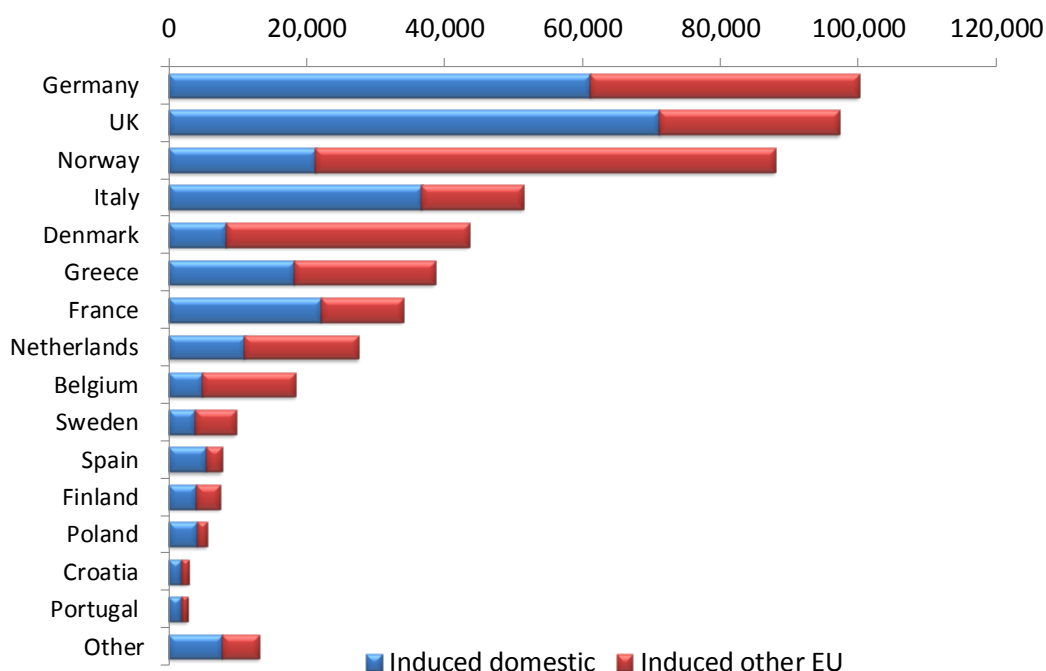
Once the indirect and induced impacts have been estimated in GVA terms, productivity data can be used to estimate the number of jobs created in the supply chain and in sectors where direct and indirect employees spend their wages. As with the GDP impacts, the employment impacts can be divided into those which occur within the same country as the direct impact, and those which occur elsewhere in Europe. In total, the indirect employment contribution of the European shipping industry is estimated to have been equivalent to around 1.1 million jobs across Europe in 2012.

Figure 3.2.2a: Indirect employment impact of the EU shipping industry by country, 2012



Source: Oxford Economics

The induced impact of the European shipping industry in 2012 is estimated to have been 547,000 jobs. Just over half of these jobs were created in the same country that the direct impact occurs, and just under half were created in other European countries.

Figure 3.2.2b: Induced employment impact of the EU shipping industry by country, 2012²³

Source: Oxford Economics

3.2.3 Indirect and induced impact contribution to tax revenue

To estimate the value of employment taxes associated with the indirect and induced impacts of the EU shipping industry, average tax and social security rates have been applied to the estimated amount of indirect and induced employment in each country. This includes cross-border effects so that, for example, the calculations are based on the number of people employed in France not only as a result of the indirect and induced effects of the French shipping industry, but also those employed in France as a result of the indirect and induced effects of the industry in other EU countries.

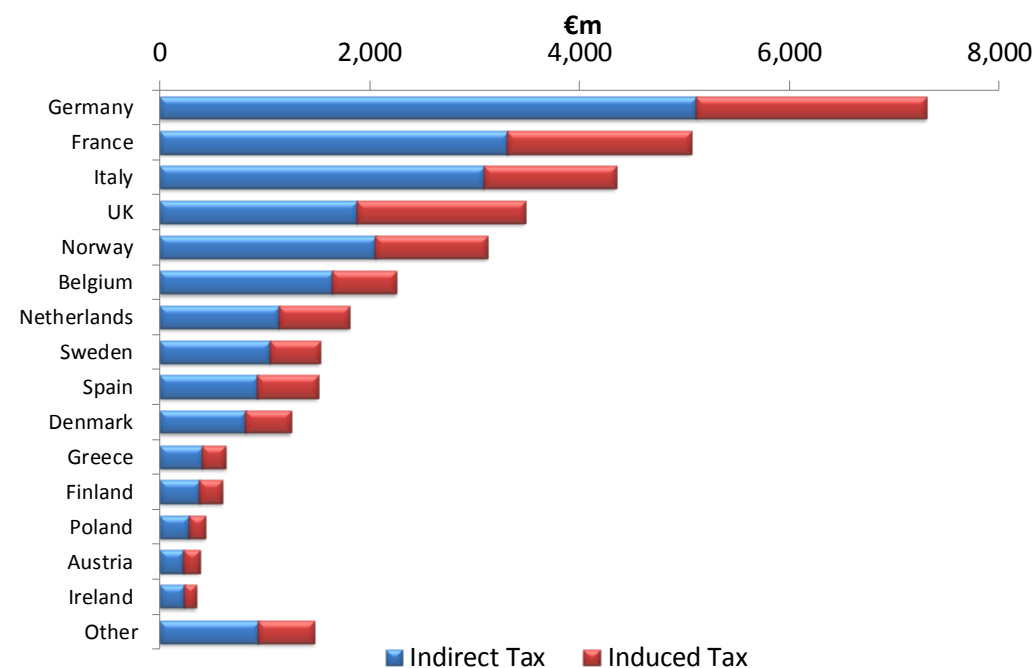
Consistent with the direct tax impact, VAT on the spending of workers has been estimated by applying average VAT rates from Eurostat to the estimated amount of spending, taking into account wages and savings rates.

Corporation tax revenues have been estimated by applying average profit margins and corporation tax rates to the indirect and induced GVA effects which occur within each country.

Using this methodology, it is estimated that the EU shipping industry supported €35 billion in tax revenues as a result of activity in its supply chain, and the induced spending of its employees and those in the supply chain (Figure 3.2.3).

²³ The Union of Greek Shipowners has noted that the Oxford Economics approach results in more conservative estimates of indirect and induced employment in Greece than the 2013 report by the Foundation for Economic and Industrial Research titled 'The contribution of ocean-going shipping to the Greek economy: performance and outlook'. The latter estimates that the indirect and induced employment impact of the Greek shipping industry was around 160,000 in 2009. That figure relates only to impacts occurring within Greece and does not incorporate any cross-border effects.

Figure 3.2.3: Indirect and induced tax contribution of the EU shipping industry, 2012²⁴



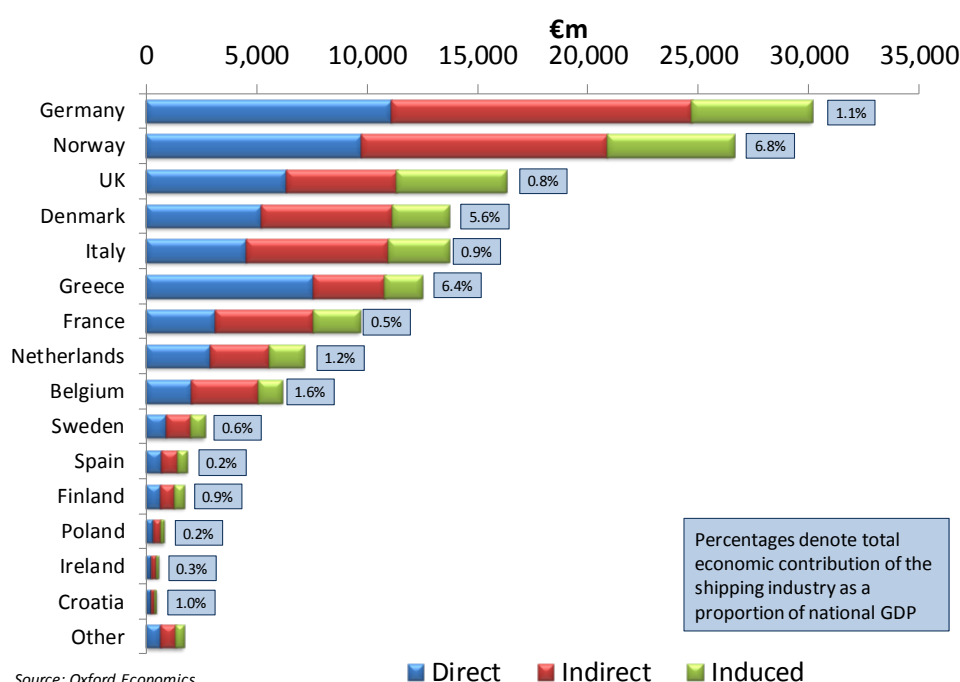
²⁴ For certain countries, notably Denmark, Greece and Norway, a large proportion of the indirect and induced GVA impact is estimated to occur in another EU country. This has contributed to the ranking of these countries being lower for the indirect and induced tax contribution, than for the direct tax contribution.

3.3 Total economic impact of the EU shipping industry

Adding together the direct, indirect and induced impacts described above gives the total economic contribution of the European shipping industry. The total gross value added contribution to GDP from the EU shipping industry is estimated to have been €145 billion in 2012. €57 billion, or 39 per cent of this total came from just two countries: Germany and Norway (Figure 3.3a). Altogether, 99 per cent of the total impact was generated by the 15 largest countries.

The blue boxes in Figure 3.3a indicate the total contribution of the shipping industry relative to the total GDP of each country. Overall, the total economic contribution of shipping is equivalent to 1.1 per cent of EU GDP, but in some countries it can be considerably greater: between 5 and 7 per cent in Norway, Greece and Denmark.

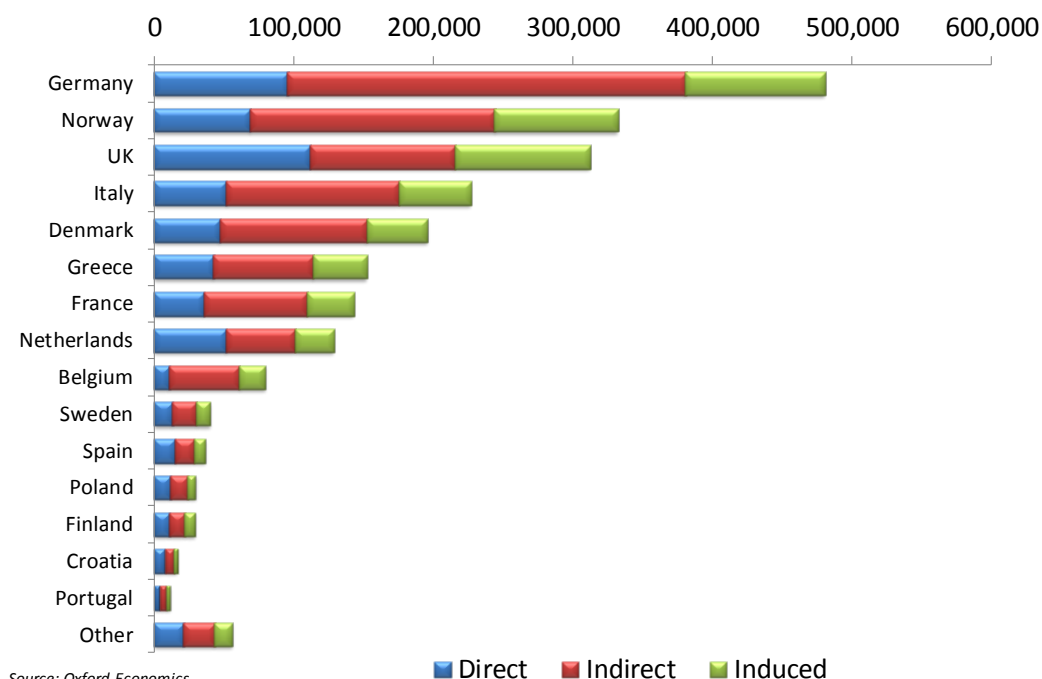
Figure 3.3a: Total gross value added contribution to GDP of the EU shipping industry by country, 2012



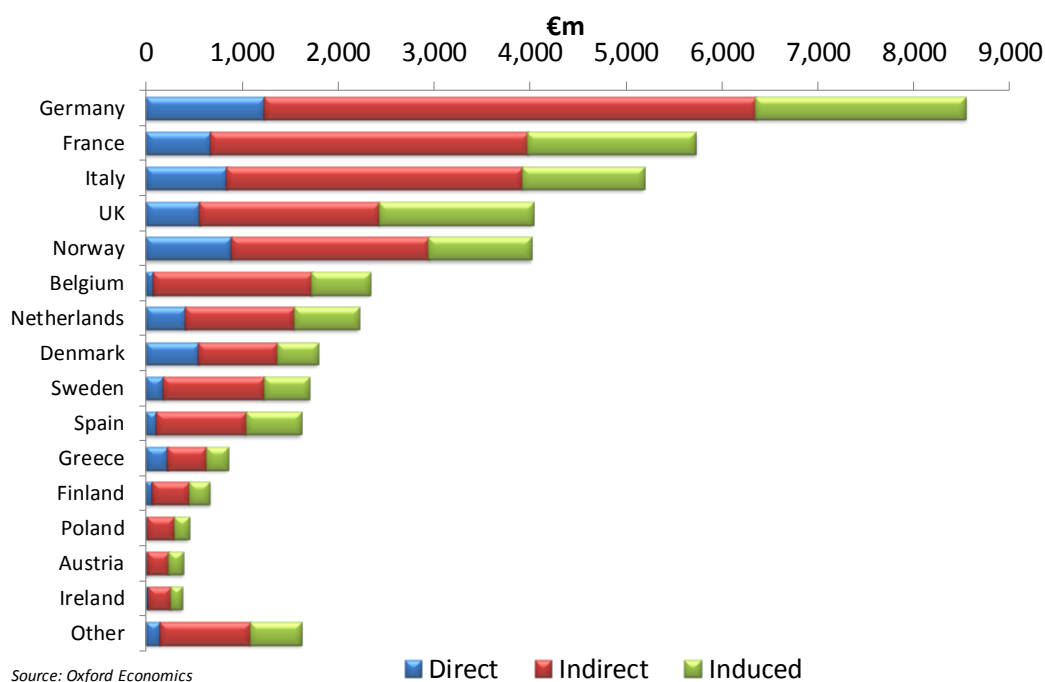
For every €1 million the European shipping industry contributes to GDP itself, it creates another €1.6 million elsewhere in the European economy. This means that that industry's GDP multiplier is 2.6²⁵.

Following a similar approach, the European shipping industry is estimated to have supported a total of 2.3 million jobs in 2012, either directly through its own activities, or through its supply-chain or the induced expenditure of its employees and those in its supply chain. For every direct job the industry creates, another 2.8 are created elsewhere in the European economy. This means the shipping industry's employment multiplier is 3.8. Half of the total employment contribution of the shipping industry occurs in Germany, Norway and the UK (Figure 3.3b).

²⁵ The multiplier is calculated as: (Direct GDP + Indirect GDP + Induced GDP) / Direct GDP

Figure 3.3b: Total employment impact of the EU shipping industry, 2012


The EU shipping industry is estimated to support a total of €41 billion in tax revenues, either directly, through its supply chain, or through the induced spending of its employees and those in the supply chain (Figure 3.3c).

Figure 3.3c: Total tax contribution of the EU shipping industry in 2012


The total economic contribution of the European shipping industry is summarised in Figure 3.3d. Equivalent figures for 2004 are presented in Figure 3.3e.

Figure 3.3d: The total economic impact of the EU shipping industry, 2012

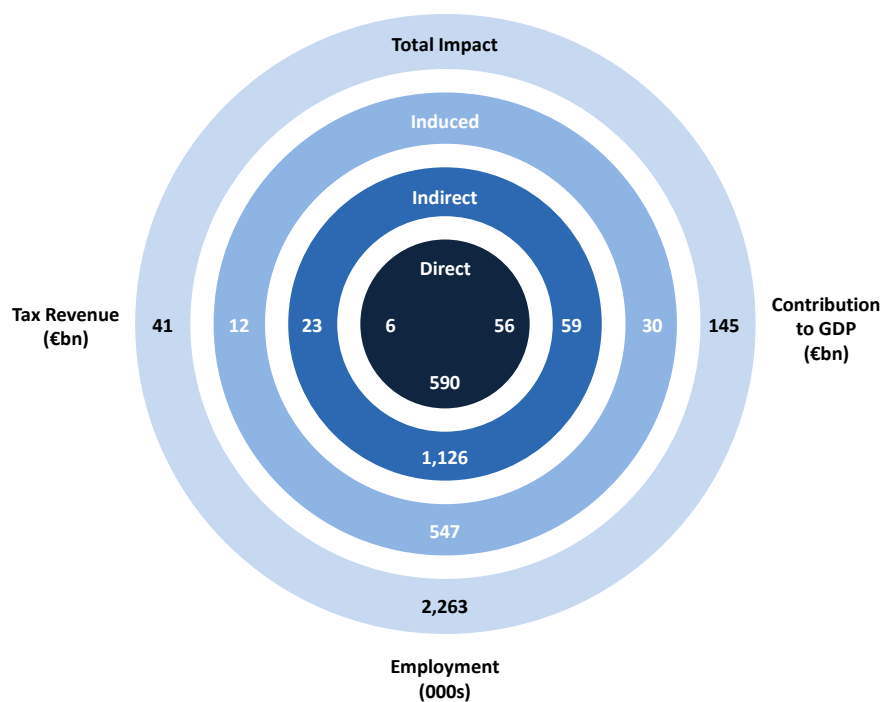
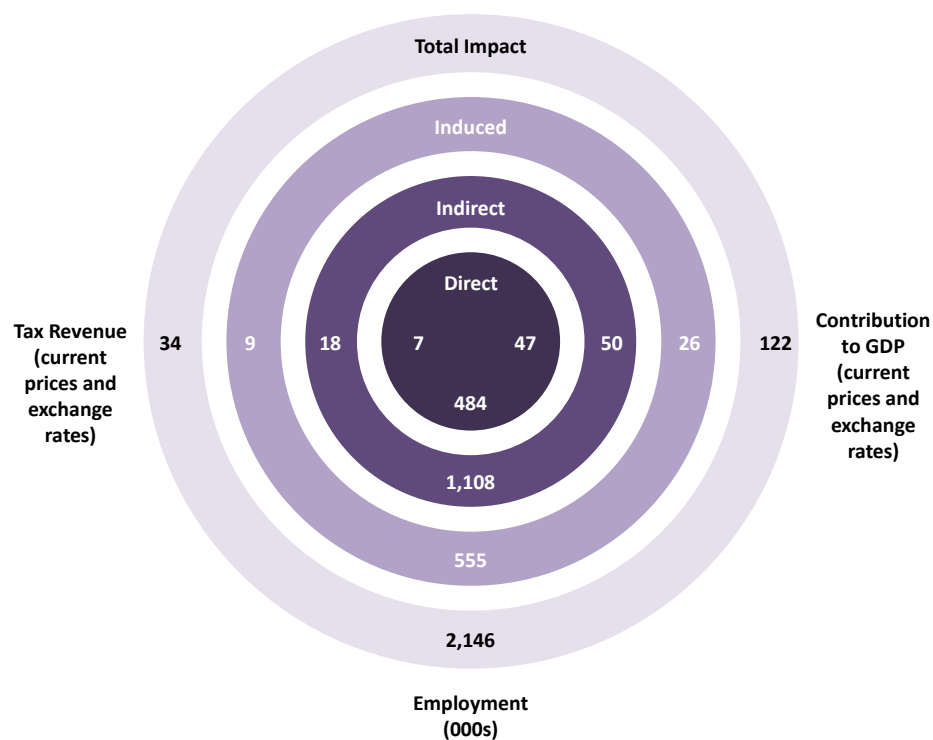


Figure 3.3e: The total economic impact of the EU Shipping industry, 2004



4 The economic impact of measures adopted under the Community guidelines on state aid to maritime transport

Key points

- The shipping industry has a number of unique features which provide a rationale for a more favourable taxation policy than is available to other industries. The industry is, by its very nature, highly mobile and activity can easily be moved to countries which adopt more favourable taxation and regulatory regimes. A healthy and competitive shipping industry forms the core of the wider European maritime cluster and supports development of the EU's international trading linkages. It is also strategically important, for example in ensuring a secure energy supply and in providing capacity to support military operations in times of crisis or in peacekeeping missions.
- Recognising such arguments, and in response to intense international competition from third country shipping registers and global shipping centres, EU governments have introduced a range of state aid measures to support shipping, most notably in the form of tonnage tax and reduced income tax and social security contributions for seafarers. This approach has been guided by policy at the European level, through the Commission's guidelines on state aid.
- Based on an illustrative counter-factual scenario using trends in fleet data for nine EU countries, it is tentatively estimated that the total economic contribution of the European shipping industry could have been around 50 per cent lower in 2012, in terms of GVA and employment, if the countries in the analysis had not introduced tonnage tax regimes and other state aid measures.

4.1 The state aid guidelines and the economic rationale for their implementation

The shipping industry has a number of unique and specific features which provide a rationale for a more favourable taxation policy than is available to other European industries.

Shipping is, by its very nature, a highly mobile activity and it is very easy for shipowners to register vessels under the flag of the country with the lowest corporate tax burden. This has resulted in intense international competition in taxation and regulatory regimes to attract shipping firms to 'open registries', which do not place nationality requirements on ship owners or shipping company employees.

For example, Singapore is actively attempting to become the world's maritime hub and has adopted a favourable taxation regime that provides tax exemptions on shipping income from the operation of Singapore-flagged ships, and on foreign flagged ships plying international waters where the control and management of the fleet is based in Singapore. Countries including China, Dubai and Hong Kong are also making significant efforts to become international centres of shipping.

A large amount of the activity undertaken by EU shipping firms involves cross-trades between two non-EU ports. It may make little difference to operations to move land-based activity to a country with a more favourable taxation and regulatory system. As well as leading to the loss of jobs within the EU shipping sector, this can have negative impacts on the wider maritime cluster, including high value onshore jobs in associated industries such as finance and insurance.

International competition to attract shipping firms could also have wider implications for international trade. A number of European countries have a long and successful history of maritime activity and possess a competitive advantage in some aspects of the sector. Such countries may be able to provide shipping services more efficiently or cheaply than other countries, encouraging international trade growth. However, this competitive advantage could become distorted by international tax competition, and the benefits to European trade may be lost.

At the same time, the shipping industry is strategically important for the EU. As well as enabling international trade, the shipping industry helps secure the EU energy supply through imports of oil and other fuels. The EU merchant fleet may also be called upon to support military operations in times of crisis, or in peacekeeping missions.

More broadly, the global shipping industry, and wider society, benefit, from an EU fleet that upholds the highest safety, security and social standards, as set out by international bodies such as the International Maritime Organisation and the International Labour Organisation.

There are also wider benefits to society from having a highly trained workforce of seafarers who may go on to work in other parts of the maritime cluster or the wider economy after they finish working on board ships²⁶ (this is discussed in more detail in Section 5).

Recognising the need to support the international competitiveness of the EU shipping industry in the face of intense international competition, national governments have introduced a range of measures to support the shipping industry, particularly in the form of tonnage tax and reductions in income tax and social security contributions for seafarers. The first European country to introduce a tonnage tax was Greece, during the 1950s. The current Greek regime was introduced in 1975, and it has remained largely unchanged since then. A number of European countries have followed this example over the last two decades (Table 4.1).

The steps national governments have taken have been guided by policy at the European level: the European Commission introduced its first set of state aid guidelines for the shipping sector in 1989 in an attempt to encourage consistency in the policy stances of member states. However, this proved relatively ineffective and the flagged fleets of many EU countries continued to decline. New guidelines were introduced in 1997, revised in 2004 and confirmed in 2013 (following a public consultation in 2012), again with the aim of encouraging a more harmonised approach to supporting the EU shipping industry amongst member states. More specifically, the 2004 guidelines aim to increase transparency and support the European Union's maritime interests by clarifying the kinds of state aid schemes that European governments may introduce. In general any such benefits may only be granted to ships flying the flag of a member state, although aid may also be granted to non-EU flagged ships that comply with international standards and EU law, which are operated from within the EU, and which are owned by a company established within the EU.

²⁶ Economists refer to this as a "positive externality" – the benefit to ship-owners of training seafarers is lower than the total benefit to society. Left to their own devices, shipowners would tend to train fewer seafarers than may be optimal from society's perspective

Table 4.1: Year of introduction of national tonnage tax regimes

1957	Greece (adapted in 1975)
...	
1963	Cyprus
...	
1973	Malta
...	
1996	Netherlands, Norway
...	
1999	Germany
2000	UK
...	
2002	Belgium (adapted in 2004); Denmark (slightly amended in 2004, 2005 and 2007); Latvia; Spain
2003	France (adapted in 2004); Ireland
...	
2005	Bulgaria; Italy
2006	Poland
2007	Lithuania
2008	Slovenia
...	
2012	Finland

The main types of aid that can be granted under the guidelines are:

- tonnage tax, whereby a shipowner pays tax linked to the amount of tonnage they operate, regardless of the profit or loss generated. Tax relief is applicable to shipowners, but can also be applied to ship managers under certain circumstances;
- reduced income tax and social security contribution rates for seafarers employed on board ships;
- aid with the training of seafarers or cadets on board ships; and
- support with the set-up costs for short-sea shipping between EU member state ports.

The following sections consider how the EU shipping industry and its economic contribution might have evolved in the absence of such state aid measures.

4.2 Developing an alternative scenario: how might the EU shipping industry have evolved in the absence of national state aid regimes?

This section of the report compares the estimates of the economic impact of the EU shipping industry presented in Section 3 with an illustrative counterfactual scenario in which shipping firms are assumed to have been subjected to more traditional tax regimes.

Counter-factual scenarios have been constructed across a number of countries by assuming the trend in a country's fleet observed before the introduction of state aid measures would have continued had the measures not been introduced. The analysis uses information on either the flagged or controlled fleet for each of the countries, depending on data availability and the definition of the fleet that is most closely related to GVA trends.

The output from this analysis is an estimate of the percentage by which the national fleet could have been smaller in the absence of state aid measures. It is assumed that the economic contribution of the shipping industry in that country would have been reduced in proportion to this.

This section of the analysis should be regarded as purely illustrative. It is extremely difficult to know what would have actually happened in the absence of state aid measures, not least because the evolution of national shipping fleets is influenced by a wide range of other factors within countries, in the wider shipping industry, and in the global economy. This task is further complicated by the global recession and its impact on the shipping industry, which have introduced a strong cyclical component into recent data trends.

To summarise, the aim of this part of the analysis is to show what *could* have happened under the assumption that the pre-state aid trend in a country's fleet continued to 2012, and assuming a proportionate effect on the economic impact of the shipping industry in that country. It should not be regarded as a formal assessment of what *would* have happened.

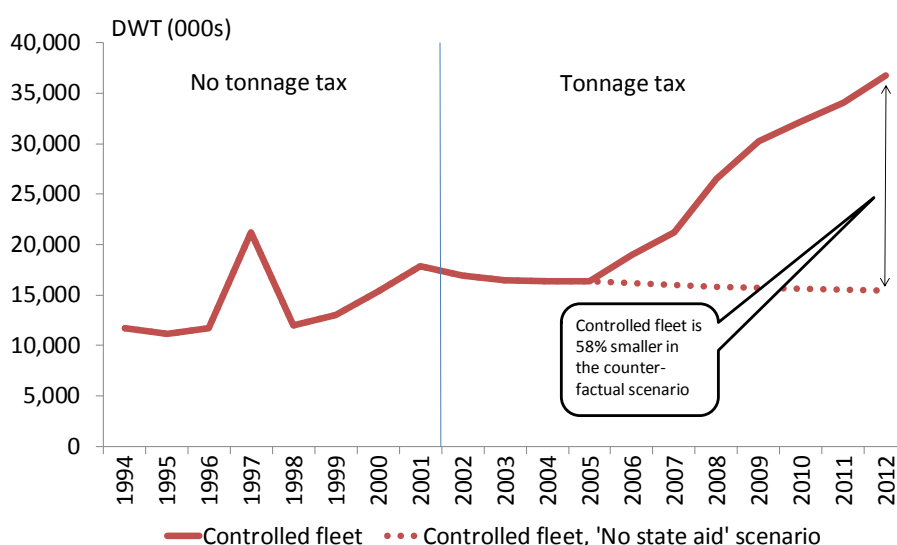
4.3 Assessing the economic impact of state aid regimes in individual countries

This section of the report presents case studies for four countries to examine the impact of the introduction of state aid measures on national fleets. A fifth case study is then presented for Sweden, a country with employment tax incentives, but no tonnage tax regime.

4.3.1 Denmark

Denmark introduced a tonnage tax regime in 2002, and this was slightly amended in 2004, 2005 and 2007. The Danish controlled fleet initially continued to decline in 2002. There was an increase in 2005, mainly as a result of A.P. Møller-Maersk buying P.O. Nedlloyd, but the Danish controlled fleet has continued to record strong growth since 2006. In addition to the tonnage tax, the development of Denmark's fleet has been supported by the government's 2006 strategy to develop the country as a leading shipping nation. This has resulted in a large number of measures to support the industry, including research, the removal of special technical rules, other tax adjustments, and education initiatives.

Figure 4.3.1: Denmark controlled fleet, 1994 to 2012



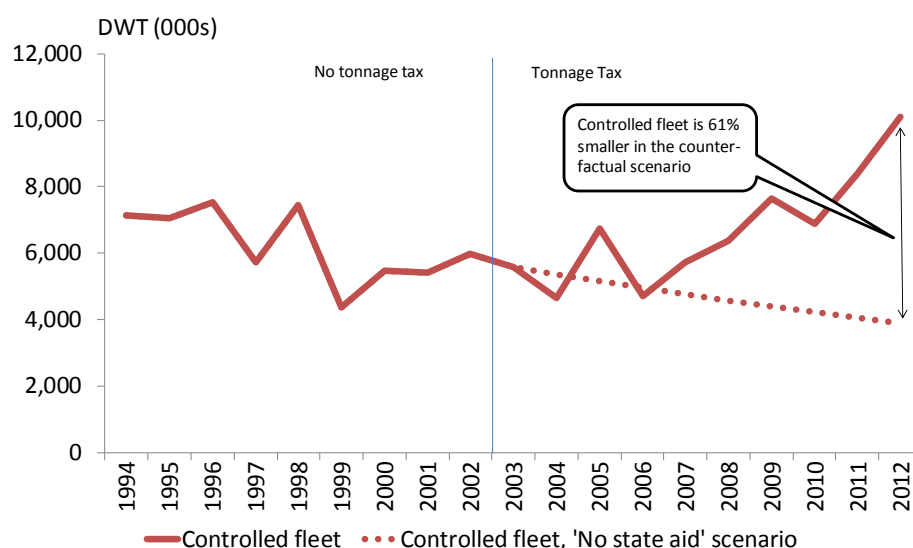
Source: ISL Bremen; counter-factual scenario estimated by Oxford Economics

For the counter-factual scenario, it is assumed that if the tonnage tax regime (including the subsequent amendments) and the government's other support measures had not been implemented, the trend in the Danish controlled fleet observed between 2001 and 2005 would have continued. Had this been the case, in 2012 the fleet would have been 58 per cent smaller in the counter-factual scenario than in reality. If the economic impact was proportionate to the impact on the Danish controlled fleet, the industry's direct contribution to Danish GVA would have been around €3 billion lower in 2012.

4.3.2 France

France introduced tonnage tax in 2003, and adapted the scheme in 2004. Between 2001 and 2005 France also applied a separate system to reimburse social security contributions and charges to shipowners, subject to certain conditions relating to training, employment and fleet evolution. From 2006, all ships that face international competition have been exempted from social security contributions. While there appears to have been no immediate response in the size of the controlled fleet to the introduction of tonnage tax in 2003, or the 2004 changes, there is a clear upward trend in the controlled fleet from 2006 onwards, suggesting the simplified social security exemption may have played an important role in encouraging renewed growth in the French controlled fleet.

Figure 4.3.2: France controlled fleet, 1994 to 2012



Source: ISL Bremen; counter-factual scenario estimated by Oxford Economics

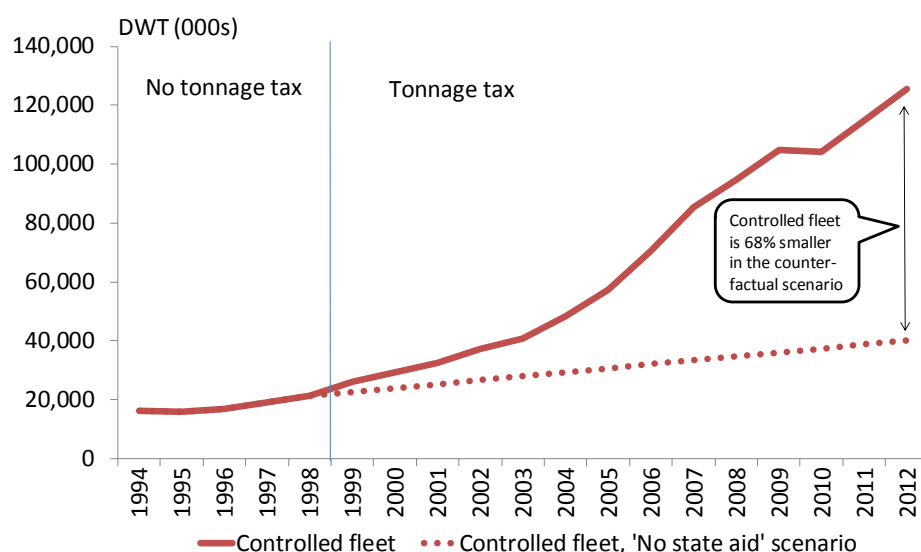
For the counter-factual scenario, it is assumed that the French controlled fleet would have continued to decline at the rate observed between 1994 and 2002 if state aid measures had not been introduced (Figure 4.3.2). Had the pre-2003 trend continued, it is estimated that the French controlled fleet would have been 61 per cent smaller by 2012. If the economic contribution of the French shipping industry was also 61 per cent smaller in 2012, there would have been 21,000 fewer jobs in French shipping, and the industry's direct contribution to French GDP would have been £1.9 billion lower than in reality.

4.3.3 Germany

Germany introduced a tonnage tax regime in 1999. In the same year, it also introduced a separate wage tax retention scheme, which allows the employer of crew members serving on board German flagged merchant ships to retain 40 per cent of the wage taxes they would otherwise have paid to the tax authorities. The introduction of these measures appears to have supported a noticeably

stronger growth rate amongst the German controlled fleet, particularly since 2003. By 2012, the German controlled fleet was almost four times as large as in 1999.

Figure 4.3.3: Germany controlled fleet, 1994 to 2012



Source: ISL Bremen; counter-factual scenario estimated by Oxford Economics

To estimate a counter-factual scenario, it is assumed that if the state aid measures had not been implemented, the German controlled fleet would have continued to grow at the rate observed between 1994 and 1998. As a result, by 2012 the fleet would have been 68 per cent smaller than the size actually observed in 2012.

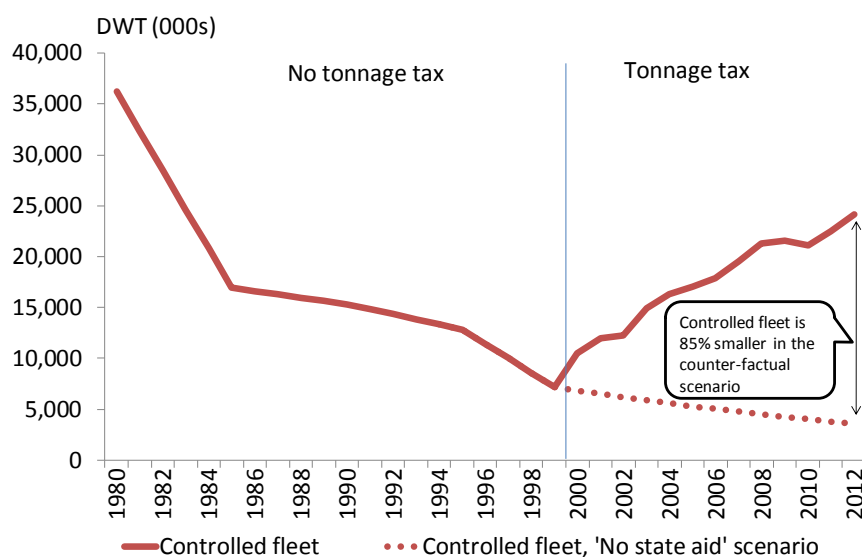
The direct GDP contribution of the German shipping industry in 2012 was €11 billion. In the counter-factual scenario, which assumes a much more modest progression of the German controlled fleet and a proportionate reduction in economic impact, the direct contribution of the German shipping industry to German GDP in 2012 would have been just €4 billion. There would also have been around 65,000 fewer jobs in the German shipping industry 2012.

4.3.4 The UK

Tonnage tax was introduced in the UK in July 2000, with the objective of creating a positive fiscal environment for international shipping based in the UK, in line with other major maritime countries. To join the system, a company must have “*strategic and commercial management*” of its fleet in the UK, and the ship must be over 100 tonnes and be seagoing. The UK regime brings a requirement that a shipping company must recruit and train one new cadet each year for every 15 officer posts in the tonnage tax fleet, and the cadet must be ordinarily resident in the UK (there is further discussion of training in Section 5 of this report).

The UK controlled fleet declined steeply during the 1980s and 1990s, and by 1999 it was just one fifth of its size in 1980 (Figure 4.3.4). However, there was a clear reversal of this trend following the introduction of tonnage tax: the fleet increased strongly and steadily after 1999, and by 2012 it had more than tripled in size. This meant the UK controlled fleet was at its largest since the early 1980s.

Figure 4.3.4: UK controlled fleet, 1994 to 2012



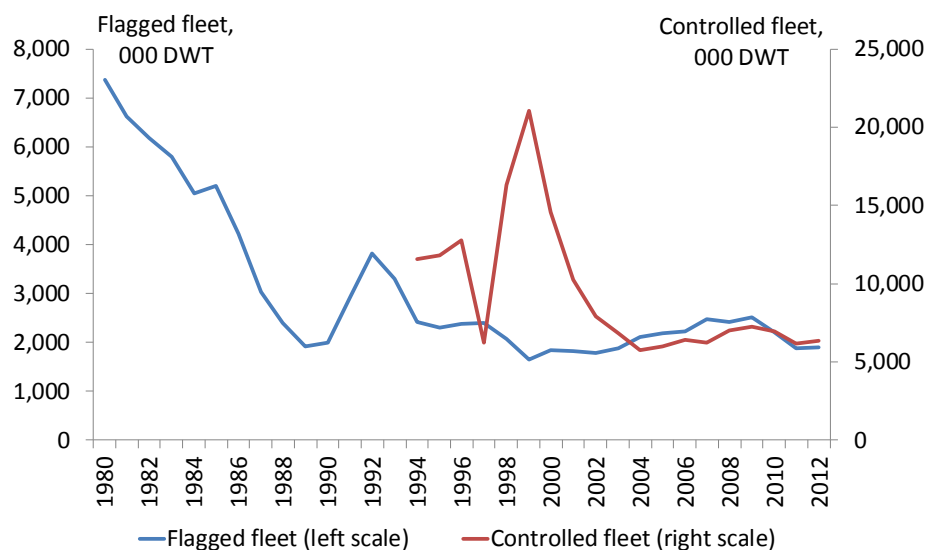
Source: UK Chamber of Shipping, Oxford Economics

For the counter-factual scenario it is assumed that the pre-1999 trend in the controlled fleet would have continued in the absence of tonnage tax. As a result, in 2012 the fleet is 85 per cent smaller than was observed in reality. Assuming a proportionate impact on the industry's economic contribution, this implies that the direct contribution to UK GDP from the shipping industry would have been around €5 billion lower in 2012 in the counter-factual scenario. Employment in the UK shipping industry in 2012 would have been 95,000 below the level actually observed.

4.3.5 Sweden

The final case study example looks at the experience in Sweden, which in 2001 introduced a system of social security and income tax incentives for Swedish flagged ships. However, in contrast to the countries discussed above, Sweden has not introduced a tonnage tax regime.

The Swedish flagged fleet declined sharply during the 1980s (Figure 4.3.5). After a temporary recovery in the early 1990s, the Swedish flagged fleet has been relatively flat at around two million deadweight tonnes since 1998. Figures for the Swedish controlled fleet exhibit considerable volatility in the late 1990s, but between 2004 and 2012 the controlled fleet was relatively flat at between six and seven million deadweight tonnes.

Figure 4.3.5: Sweden controlled fleet, 1994 to 2012

Source: UNCTAD, ISL Bremen

The most striking difference between the experience in Sweden and that in the countries discussed above, is that those countries which have introduced a tonnage tax have experienced strong fleet growth over the last decade, whereas the Swedish fleet has remained relatively flat. Given that the world fleet has also grown strongly over the last ten years, this means that the Swedish flagged share of the world fleet has fallen from 1.1 per cent in 1980, to just 0.1 per cent in 2012. The Swedish Shipowners' association reports that at least three shipowners have moved their head offices to other EU countries between January 2010 and January 2014.

4.4 Illustrative assessment of the economic impact of state aid regimes across the EU

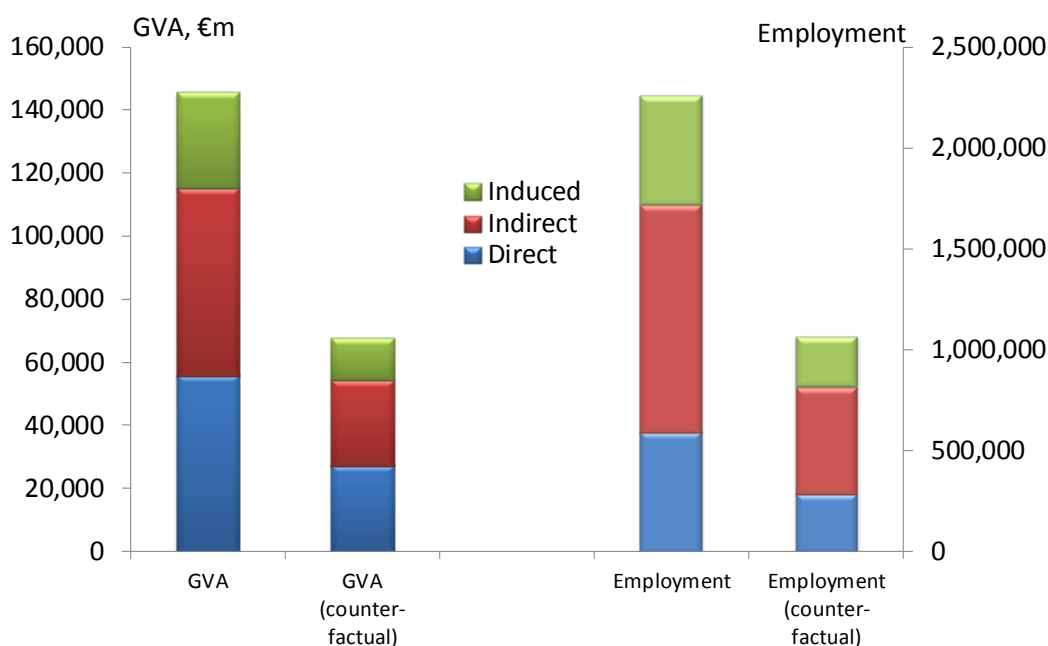
Following the same methodology used in Sections 4.3.1 to 4.3.4, it has been possible to estimate the impact of state aid regimes in a number of other countries: Belgium, Ireland, the Netherlands, Norway and Poland. It was not possible to estimate counter-factual scenarios for all countries that have introduced tonnage tax regimes and other state aid measures, either because data series are not available for a sufficiently long time period, or because there is too much 'noise' in the data to be able to identify clear changes in long-term trends.

To estimate an EU figure for the economic impact of state aid regimes, the direct economic contribution of each of the countries has been reduced in proportion to the reduction in fleet size under each country's counter-factual scenario. By applying the multiplier estimates from the Oxford Economics Input-Output model it is also possible to estimate the indirect and induced impacts in the counter-factual scenario. The results are presented in Figure 4.4, below.

In this illustrative counter-factual scenario, the direct GVA contribution of the EU shipping in 2012 is €27 billion, or 52 per cent, lower than in our main estimate. Once indirect and induced effects are included, the total GVA contribution of the EU shipping falls from €145 billion to €68 billion, a reduction of 54 per cent.

The direct employment contribution of the shipping industry is 287,000 in the counter-factual scenario, 51 per cent lower than in reality. Including indirect and induced effects, it is estimated that the total employment contribution of the EU shipping industry in 2012 would have been around 1.1 million, compared to 2.3 million in reality.

Figure 4.4: The total economic impact of the EU shipping industry, 2012



Source: Oxford Economics

5 The contribution of maritime academies

Key points

- The skills and experience of seafarers are vital to the smooth functioning of the shipping industry, and are also highly valued by firms in the wider maritime cluster and beyond.
- Indicative estimates suggest there were almost 38,000 students/cadets in maritime academy-type training across the EU and Norway in 2012, an 11 per cent increase from 2004.

5.1 The economic importance of trained seafarers

It is essential that seafarers are properly trained and have a thorough understanding of the intricacies and complexities of working in a maritime setting. This is important in terms of safety, efficiency and ensuring the maritime environment is protected. Ultimately, it is the professionalism of seafarers that ensures the smooth running of the shipping industry and, in turn, global maritime trade.

The training of seafarers also brings benefits away from ships and ports. Their skills are highly valued by firms in the wider cluster of maritime-related industries across Europe, as outlined in a 2009 study by the Copenhagen Center of Shipping Economics and Innovation²⁷. An earlier survey by Gardner *et al.*²⁸ in the UK showed that for around 16,000 jobs it was preferred to hire a former seafarer and considered essential for half of these positions.

More broadly, seafarers enjoy a genuinely international career and in an increasingly globalised world such experience is highly valued beyond maritime-related companies.

5.2 The number of students/cadets in training in the EU

Given the benefits trained seafarers bring to the shipping industry and wider economy, national governments have made provisions to encourage greater investment in maritime education. Aid with the training of seafarers is also covered by the 2004 Community guidelines on state aid to maritime transport.

This section analyses the contribution of maritime academies over the last decade. This task is complicated by the lack of a single consistent dataset for the number of seafarers trained in each European country. Nonetheless, it has been possible to develop an estimate of the total number of students/cadets in maritime academy-type training across the EU and Norway.

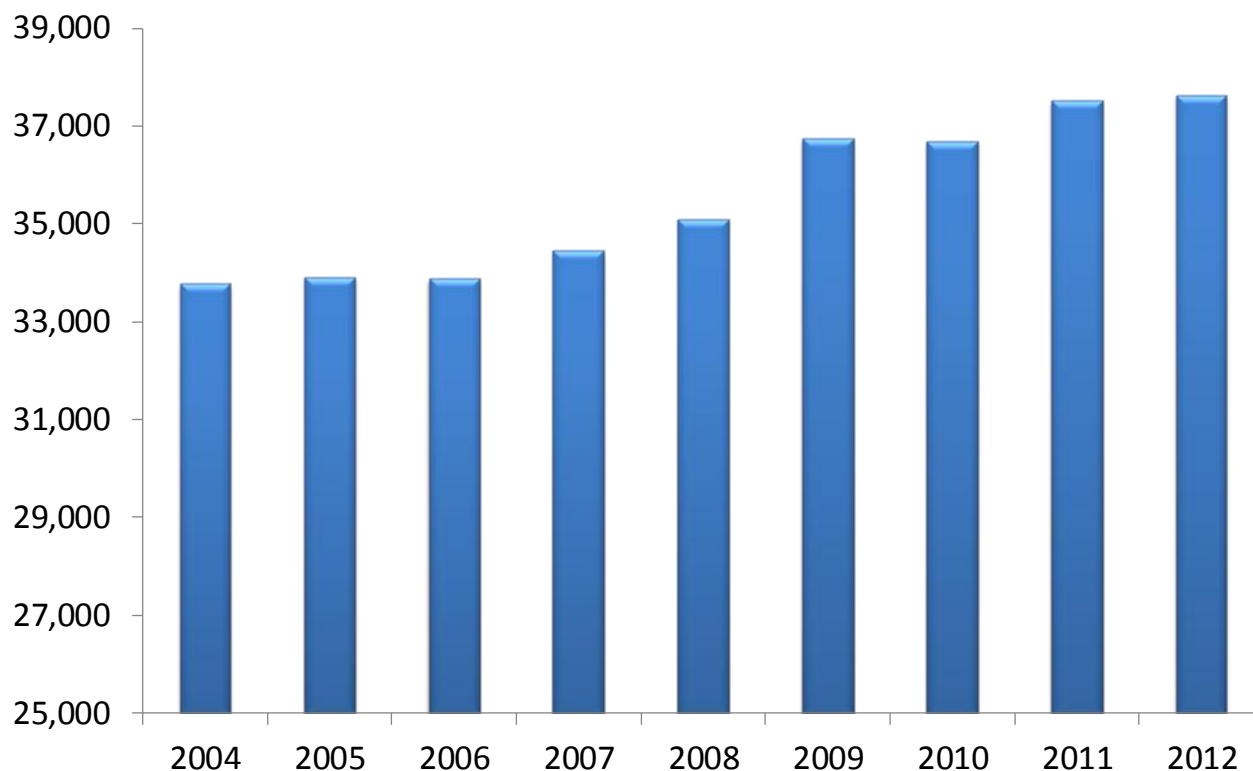
Information for some countries has been provided by ECSA members, and this has been complemented with data from previous research in this area. This information has been used to generate an indicative estimate of the number of students/cadets in other countries, using information on the average ratio of students/cadets to people employed in freight and passenger

27 Sorn-Friese, H and Iversen, M (2009) Evermore, the Times They Are A-Changin': Expounding the Challenge of Offshoring in the International Shipping Industry, Mercator Media Forum, December 2009, pp. 143-147

28 Gardner, BM, Marlow, PB, Naim, MM, Nair, RV and Pettit, SJ (2003), The UK economy's requirements for people with experience of working at sea 2003, Department for Transport

water transport²⁹. The analysis suggests there were approximately 38,000 students/cadets in 2012, a 11 per cent increase in over the estimate for 2004 (Figure 5.2).

Figure 5.2: Indicative estimates of the total number of students/cadets in maritime academy –type training across the EU, 2004 to 2012



Source: Oxford Economics

²⁹ Based on Eurostat official statistics

5.3 Analysis of maritime students and cadets by country

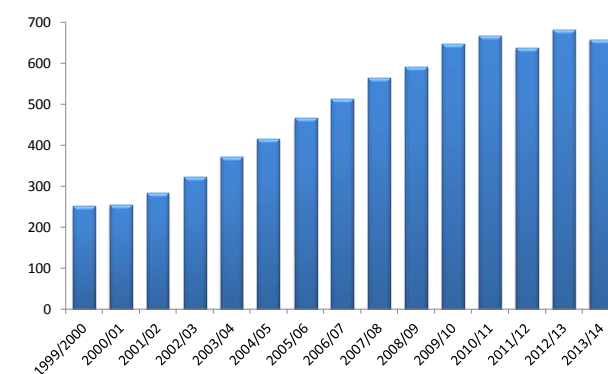
This section sets out summary data for individual countries. As discussed above, there is little consistency of data definitions between countries, hindering comparison between countries on a like-for-like basis. Nonetheless, this analysis is informative in highlighting recent trends within specific countries.

Belgium

Since the introduction of a tonnage tax regime in 2002 (adapted in 2004), Belgium has seen a significant increase in the size of its flagged and controlled fleets. This growth has been reflected in a substantial increase in the number of students registered at the Antwerp Maritime Academy.

Looking at the entire period for which figures are available, the number of students registered at the Antwerp Maritime Academy expanded from 251 in 1999/00 to 657 in 2013/14, an increase of 162 per cent.

Number of students registered at Antwerp Maritime Academy



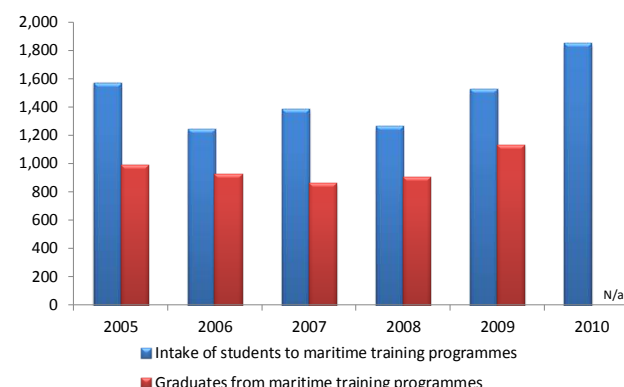
Source: Antwerp Maritime Academy

Denmark

In 2005, just under 1,000 people graduated from maritime training programmes in Denmark. This figure declined slightly in subsequent years, before increasing to 1,100 in 2009. The number of students entering programmes also increased noticeably in 2009 and 2010.

The increased intake in the latter years' data may reflect the impact of the "World Careers" publicity campaign launched by the Danish Shipowners' Association in 2008.

Number of graduates and entrants in Danish maritime training programmes



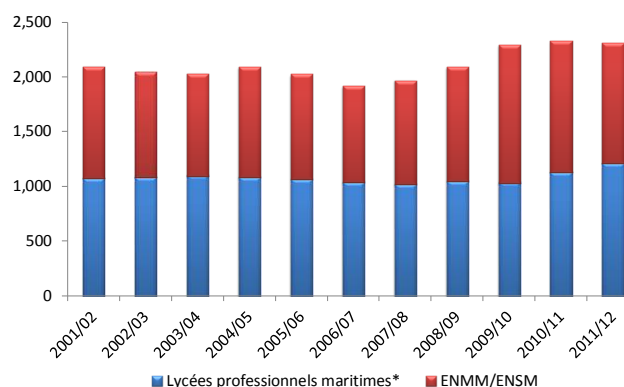
Source: Danish Maritime Authority

France

Education and training courses for seafarers are provided by the *lycées professionnels maritimes* (ratings) and the *Ecole Nationale Supérieure Maritime* (officers; previously called Ecoles Nationales de la Marine Marchande).

The total number of trainees remained relatively stable between 2001/02 and 2008/09, but has picked up since then. In 2011/12 there were 1,200 students at lycées professionnels maritimes and 1,100 at the Ecole Nationale Supérieure Maritime.

Trainees in French national schools of the merchant navy



Source: Armateurs de France

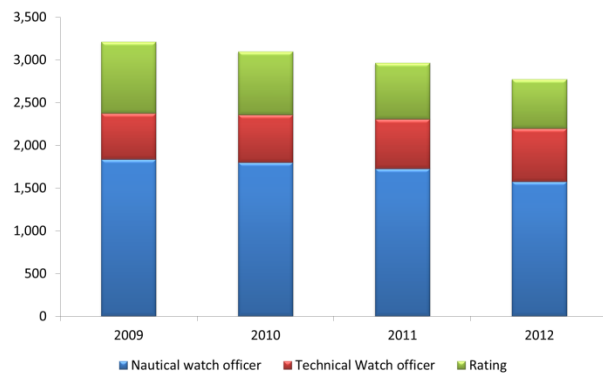
*Only includes trainees on courses directly related to merchant marine activities

Germany³⁰

The number of students/cadets in maritime academies has gradually decreased from 3,200 in 2009, to 2,800 in 2012.

Across this period, just under 60 per cent of students/cadets were undertaking nautical watch officer training. The proportion undertaking rating level training fell from 26 per cent in 2009 to 21 per cent in 2012. In contrast, the proportion undertaking technical watch officer training increased from 17 per cent in 2009 to 23 per cent in 2012, reflecting efforts by the German Shipowners' Association to promote this type of training to young people.

Total number of students/cadets in German maritime academies

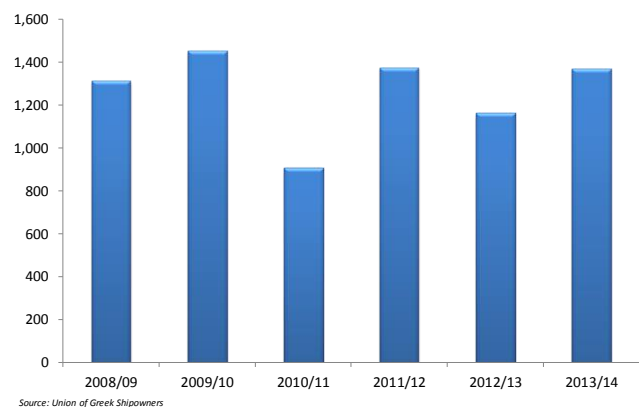


Source: Standing working group of the coastal states for maritime training and education

Greece

The number of trainees in Greek national merchant marine academies fluctuates year to year, but between 2008-09 and 2013-14 there have been an average of around 1,260 trainees per year. This average is dragged down by an unusually low number of trainees in 2010-11. In the current, 2013/14, academic year there are almost 1,400 trainees at merchant marine academies in Greece.

Trainees in Greek national merchant marine academies



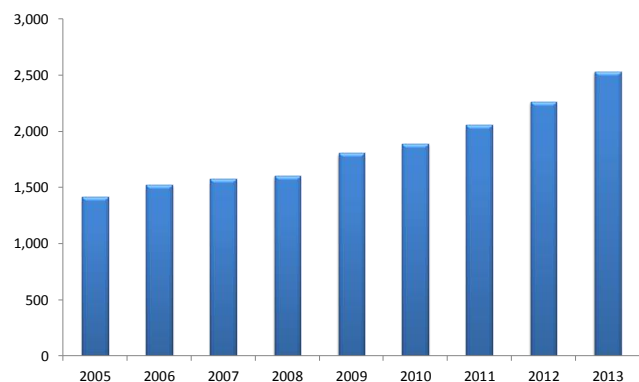
Source: Union of Greek Shipowners

Italy

In 2005, the introduction of tonnage tax imposed a requirement to train at least one cadet on board each ship on the International Italian Register that adopts the tax regime. This condition helped to increase the number of cadets by 79 per cent between 2005 and 2013.

To date there is no sign that the trend is levelling off: in 2013 there were just over 2,500 cadets in training, the highest number on record.

Number of cadets training in Italy



Source: Accademia Italiana della Marina Mercantile of Genoa, ITS Giovanni Caboto of Gaeta and Nautical Technical Institutes

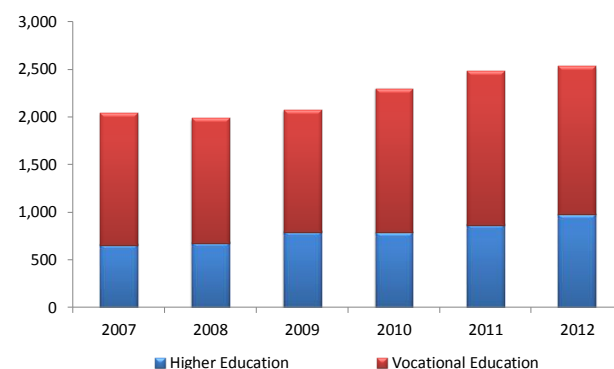
³⁰ Oxford Economics has been advised by the German Shipowners' Association that maritime training within Germany is difficult to accurately estimate, due to its flexible and complicated nature. As such, the above figures should be treated as indicative estimates.

Netherlands

In 2007 there were just over 2,000 students at Dutch maritime academies. This had increased to over 2,500 by 2012. This increase was primarily driven by a 48 per cent increase in higher education students; vocational students increased by just 12 per cent.

In 2012, around 490 trainees were serving on board ships through on board traineeships taking place in the 3rd and 4th year of study. The number of trainees on board ships in 2012 was down slightly from 530 in 2007.

Students at Dutch maritime academies



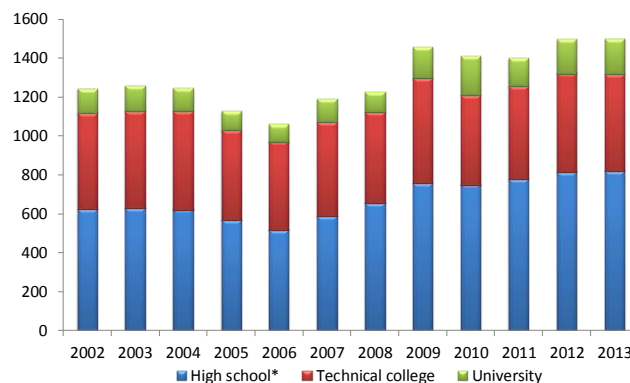
Source: Royal Association of Netherlands Shipowners

Norway

The number of students in maritime education in Norway declined from 1,240 in 2003 to 1,060 in 2006. However, in 2007 the Norwegian Maritime Forum launched a recruitment campaign to highlight maritime sector opportunities to young people. Since then, the total number of students has increased by 42 per cent to reach 1,500 in 2013.

In the most recent year, 55 per cent of all maritime students were at high school, 33 per cent studied at technical college, and 12 per cent were at university.

Students in maritime education in Norway



Source: Maritime Opplæringskontor

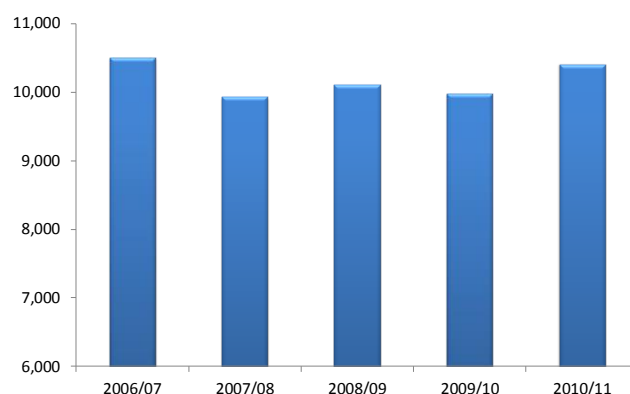
*High school figures are for the academic year starting in the calendar year indicated

Poland

Poland produces the largest number of maritime academy graduates amongst EU countries. The annual number of graduates is too great to be absorbed by the Polish fleet, and many go on to work on ships owned by or flagged in other EU countries.

Although there was some year-to-year fluctuation, the total number of maritime students in Poland remained reasonably stable between 2006/07 and 2010/11 at around 10,000.

Students at maritime academies in Poland



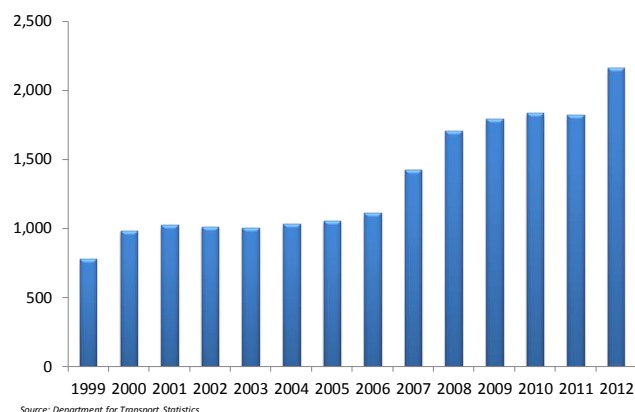
Source: Polish Statistical Yearbook of Maritime Economy

UK

In the UK there is a direct link between membership of the tonnage tax regime and training. This imposes a minimum requirement that a shipping company must recruit and train one new cadet each year for every 15 officer posts in the tonnage tax fleet, and the cadet must ordinarily reside in the UK.

The number of officer cadets in training has risen strongly from 780 in 1999 to almost 2,200 in 2012.

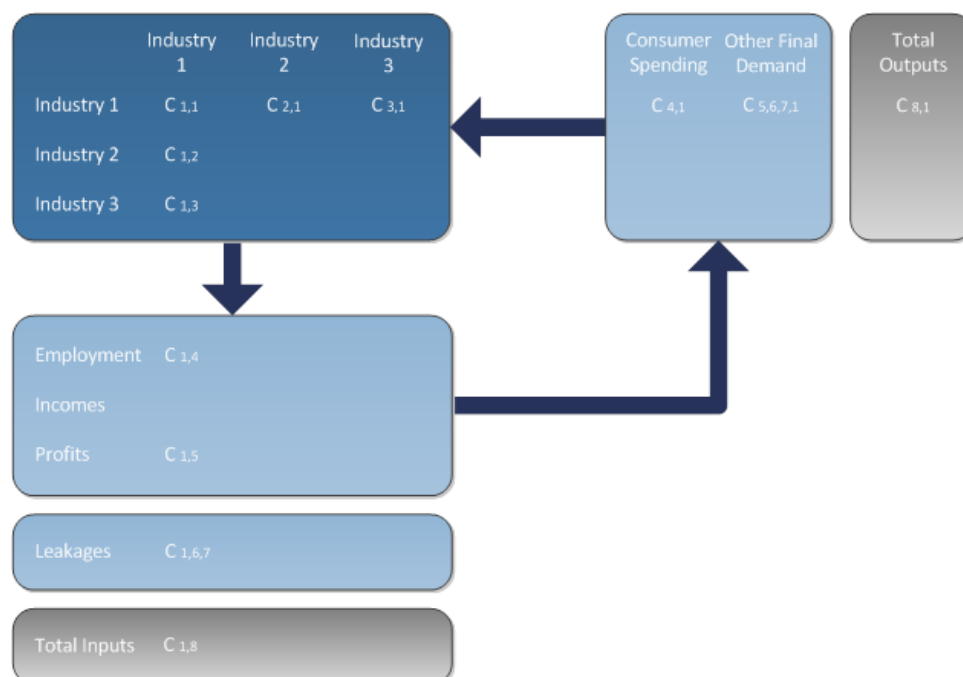
Officer cadets in training in the UK



Annex A: An overview of input-output tables

An input-output model gives a snapshot of an economy at any point in time. The model shows the major spending flows from “final demand” (i.e. consumer spending, government spending investment and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain in other words); how much of that spending stays within the economy; and the distribution of income between employment incomes and other income (mainly profits). In essence an input-output model is a table which shows who buys what from whom in the economy.

Figure A1: A simple input-output model



Traditionally input-output tables are produced on a national basis, with the linkages recorded for a single economy only. However, the World Input-Output Database, funded by the European Commission, has developed a series of global input-output tables that reflect the linkages between economies, as well as within them. Consequently, such tables enable supply chains to be tracked across multiple countries. For example, a Dutch shipping company may purchase a vessel from Germany, which in turn uses steel from Spain, the supplier of which uses an IT provider based in France. Under a traditional input-output table the purchase of a vessel from Germany would be a ‘leakage’ and be removed from the model. As a consequence, the economic activity created in Germany, Spain and France would not be captured. The World Input-Output Database’s global input-output table captures all of these transactions, and consequently provides a greater degree of coverage and accuracy in an impact assessment.

This study has used the Oxford Economics’ Global Input-Output model, which is based on the World Input-Output Database global input-output table. Norway and Croatia are not covered by the World Input-Output Database as standard, but Oxford Economics has undertaken bespoke modelling to incorporate them into its model, based on national input-output tables and trade data.

Input-output tables can be used to generate industry multipliers by using the Leontief system.³¹ Under the Leontief system, industry multipliers are achieved through a series of manipulations of the input-output matrix. The first of these manipulations is the creation of a new base coefficients matrix (A matrix) for global economy. The second manipulation is the creation of an identity matrix (I matrix), within which all values are zero except for when the consuming industry (columns) and the producing industry (rows) are the same; these cells are given a value of 1. The third stage of the manipulation is the subtraction of the A matrix from the I matrix. The final stage is the inversion of the matrix produced in the third stage. The result of these manipulations is a matrix in which the values represent the individual cross-multipliers for each industry, showing the impact on each producing industry (row) of an increase in 1 unit of output in a consuming industry (column). The total multiplier for each consuming industry is the sum of the multipliers in the relevant column.

³¹ Leontief, W. (1986). *Input-output economics* (2nd ed.). New York: Oxford University Press

Annex B: Data sources

Freight Transport - GVA													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													Policy Research Corporation
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													PWC
Estonia													
Ireland													
Greece													The Boston Consulting Group
Spain													DBK & Instituto Nacional de Estadística
France													
Italy													Federazione del Mare
Cyprus													
Latvia													
Lithuania													
Luxembourg													
Hungary													
Malta													
Netherlands													'De Nederlandse Maritieme Cluster' Monitor
Austria													
Poland													
Portugal													
Romania													
Slovenia													
Slovakia													
Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Menon Business Economics
Croatia													

	Country specific study
	Oxford Economics estimate based on Eurostat data
	World Input - Output Database
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Shipping export growth rate applied
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Passenger Transport - GVA													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													PWC
Estonia													
Ireland													
Greece													The Boston Consulting Group
Spain													DBK & Instituto Nacional de Estadística
France													
Italy													Federazione del Mare
Cyprus													
Latvia													
Lithuania													
Luxembourg													
Hungary													
Malta													
Netherlands													'De Nederlandse Maritieme Cluster' Monitor
Austria													
Poland													
Portugal													
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Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Menon Business Economics
Croatia													

	Country specific study
	Oxford Economics estimate based on Eurostat data
	World Input - Output Database
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Shipping export growth rate applied
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Towage and Dredging - GVA													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													Policy Research Corporation
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													
Estonia													
Ireland													
Greece													
Spain													Spanish Shipowners' Association
France													Armateurs de France
Italy													Federazione del Mare
Cyprus													
Latvia													
Lithuania													
Luxembourg													
Hungary													
Malta													
Netherlands													'De Nederlandse Maritieme Cluster' Monitor
Austria													
Poland													
Portugal													Associação de Armadores da Marinha de Comércio
Romania													
Slovenia													
Slovakia													
Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Menon Business Economics
Croatia													

	Country specific study
	Oxford Economics European Model growth rate applied
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Offshore Support Vessels - GVA													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													
Estonia													
Ireland													
Greece													
Spain													
France													Armateurs de France
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Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Menon Business Economics
Croatia													

	Country specific study
	Oxford Economics European Model growth rate applied
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Renting and Leasing of Water Transport Equipment - GVA													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													
Germany													
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Finland													
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United Kingdom													
Norway													
Croatia													

	Oxford Economics estimate based on Eurostat data
	Oxford Economics European Model growth rate applied

Freight Transport - Employment													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													Policy Research Corporation
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													PWC & German Shipowners' Association
Estonia													
Ireland													
Greece													The Boston Consulting Group
Spain													Spanish Shipowners' Association
France													
Italy													Federazione del Mare
Cyprus													
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Luxembourg													
Hungary													
Malta													
Netherlands													De Nederlandse Maritieme Cluster Monitor
Austria													
Poland													
Portugal													
Romania													
Slovenia													
Slovakia													
Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Norwegian Ship owners' Association
Croatia													

	Country specific study
	Oxford Economics estimate based on Eurostat data
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Estimated using productivity assumptions from the World Input Output Database
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Passenger Transport - Employment													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													PWC & German Shipowners' Association
Estonia													
Ireland													
Greece													The Boston Consulting Group
Spain													Spanish Shipowners' Association
France													
Italy													Federazione del Mare
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Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Norwegian Ship owners' Association
Croatia													

	Country specific study
	Oxford Economics estimate based on Eurostat data
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Estimated using productivity assumptions from the World Input Output Database
	Oxford Economics estimate based on a combination of Eurostat, national sources and Oxford Economics proprietary data
	Interpolated

Towage and Dredging - Employment													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													Policy Research Corporation
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
Germany													
Estonia													
Ireland													
Greece													
Spain													Spanish Shipowners' Association
France													Armateurs de France
Italy													Federazione del Mare
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Slovenia													
Slovakia													
Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Norwegian Ship owners' Association

	Country specific study
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Interpolated

Offshore Support Vessels - Employment													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													Danish Maritime Authority
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Slovakia													
Finland													
Sweden													
United Kingdom													UK Chamber of Shipping
Norway													Menon Business Economics
Croatia													

	Country specific study
	Eurostat growth rate applied
	Oxford Economics European Model growth rate applied
	Interpolated

Renting and Leasing of Water Transport Equipment - Employment													
Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Source of country specific study
Belgium													
Bulgaria													
Czech Republic													
Denmark													
Germany													
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Sweden													
United Kingdom													
Norway													
Croatia													

	Oxford Economics estimate based on Eurostat data
	Oxford Economics European Model growth rate applied

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ECONOMICS







			Totalt antall	EU/EØS	EU/EØS reg. nt. i	Antall EU/EØS
Type rederi	Rederi	Total nt.	skip	reg. nt.	% av total nt.	reg. skip
Deepsea	Rederi1	710 929	28	710 929	100 %	28
Deepsea	Rederi2	267 288	16	267 288	100 %	16
Deepsea	Rederi3	263 364	4	263 364	100 %	4
Deepsea	Rederi4	227 768	21	227 768	100 %	21
Deepsea	Rederi5	210 507	8	210 507	100 %	8
Offshore	Rederi6	197 849	22	197 849	100 %	22
Deepsea	Rederi7	128 715	4	128 715	100 %	4
Shortsea	Rederi8	125 084	6	125 084	100 %	6
Deepsea	Rederi9	88 335	5	88 335	100 %	5
Shortsea	Rederi10	60 890	18	60 890	100 %	18
Offshore	Rederi11	18 285	16	18 285	100 %	16
Shortsea	Rederi12	16 302	10	16 302	100 %	10
Offshore	Rederi13	13 550	7	13 550	100 %	7
Offshore	Rederi14	12 859	10	12 859	100 %	10
Offshore	Rederi15	12 368	3	12 368	100 %	3
Deepsea	Rederi16	9 564	7	9 564	100 %	7
Offshore	Rederi17	9 198	2	9 198	100 %	2
Offshore	Rederi18	9 187	7	9 187	100 %	7
Shortsea	Rederi19	9 136	2	9 136	100 %	2
Offshore	Rederi20	9 061	8	9 061	100 %	8
Offshore	Rederi21	7 358	5	7 358	100 %	5
Deepsea	Rederi22	6 021	2	6 021	100 %	2
Offshore	Rederi23	5 815	2	5 815	100 %	2
Offshore	Rederi24	5 340	4	5 340	100 %	4
Offshore	Rederi25	5 313	4	5 313	100 %	4
Shortsea	Rederi26	4 948	4	4 948	100 %	4
Deepsea	Rederi27	3 818	1	3 818	100 %	1
Offshore	Rederi28	3 797	3	3 797	100 %	3
Shortsea	Rederi29	3 628	4	3 628	100 %	4
Offshore	Rederi30	2 497	2	2 497	100 %	2
Shortsea	Rederi31	1 969	1	1 969	100 %	1
Offshore	Rederi32	1 520	3	1 520	100 %	3
Offshore	Rederi33	1 476	3	1 476	100 %	3
Deepsea	Rederi34	1 069	1	1 069	100 %	1
Offshore	Rederi35	1 018	3	1 018	100 %	3
Offshore	Rederi36	989	1	989	100 %	1
Shortsea	Rederi37	950	1	950	100 %	1
Shortsea	Rederi38	948	2	948	100 %	2
Offshore	Rederi39	634	1	634	100 %	1
Shortsea	Rederi40	604	2	604	100 %	2
Offshore	Rederi41	124	1	124	100 %	1
Shortsea	Rederi42	45 072	16	43 161	95,8 %	14
Offshore	Rederi43	52 421	22	49 738	94,9 %	20
Deepsea	Rederi44	464 503	31	433 714	93,4 %	29
Offshore	Rederi45	26 146	11	23 918	91,5 %	9

Offshore	Rederi46	17 915	10	16 150	90,1 %	9
Deepsea	Rederi47	972 670	42	850 930	87,5 %	33
Offshore	Rederi48	19 539	6	16 660	85,3 %	5
Shortsea	Rederi49	8 713	6	7 344	84,3 %	5
Offshore	Rederi50	32 182	23	27 062	84,1 %	19
Offshore	Rederi51	110 710	59	92 484	83,5 %	45
Deepsea	Rederi52	163 557	12	136 544	83,5 %	10
Offshore	Rederi53	51 342	25	42 113	82,0 %	22
Offshore	Rederi54	16 187	6	13 189	81,5 %	4
Offshore	Rederi55	35 753	25	28 041	78,4 %	20
Offshore	Rederi56	11 925	8	8 897	74,6 %	6
Offshore	Rederi57	38 850	28	27 680	71,2 %	20
Offshore	Rederi58	35 650	23	25 399	71,2 %	16
Deepsea	Rederi59	470 775	46	316 660	67,3 %	28
Offshore/shuttle	Rederi60	1 183 072	40	758 740	64,1 %	30
Shortsea	Rederi61	47 130	15	29 930	63,5 %	10
Offshore	Rederi62	84 670	57	53 734	63,5 %	32
Deepsea	Rederi63	1 265 591	48	802 889	63,4 %	22
Deepsea	Rederi64	280 615	8	170 408	60,7 %	5
Deepsea	Rederi65	143 473	7	83 853	58,4 %	5
Offshore	Rederi66	15 641	10	9 086	58,1 %	5
Offshore	Rederi67	23 227	15	13 254	57,1 %	7
Offshore	Rederi68	4 949	7	2 537	51,3 %	4
Offshore	Rederi69	3 264	5	1 494	45,8 %	1
Shortsea	Rederi70	19 228	11	8 787	45,7 %	6
Shortsea	Rederi71	21 013	17	9 473	45,1 %	6
Offshore	Rederi72	117 699	65	49 197	41,8 %	31
Deepsea/shuttle	Rederi73	474 501	17	174 694	36,8 %	7
Deepsea	Rederi74	147 385	8	49 628	33,7 %	3
Offshore	Rederi75	10 175	6	3 021	29,7 %	2
Shortsea	Rederi76	4 330	3	1 161	26,8 %	1
Deepsea	Rederi77	810 201	41	196 553	24,3 %	11
Offshore	Rederi78	15 812	12	3 530	22,3 %	3
Deepsea	Rederi79	202 866	21	43 631	21,5 %	4
Deepsea	Rederi80	47 031	4	8 648	18,4 %	1
Deepsea	Rederi81	279 421	15	49 734	17,8 %	2
Shortsea	Rederi82	18 490	13	3 127	16,9 %	2
Deepsea	Rederi83	42 710	15	5 000	11,7 %	2
Offshore	Rederi84	39 990	13	2 995	7,5 %	1
Shortsea	Rederi85	9 032	12	662	7,3 %	1
Deepsea	Rederi86	39 141	9	2 101	5,4 %	2
Offshore/shuttle	Rederi87	959 527	26	959 527	0 %	0
Deepsea	Rederi88	294 241	20	0	0 %	0
Deepsea	Rederi89	142 488	8	0	0 %	0
Deepsea	Rederi90	58 677	3	0	0 %	0
Deepsea	Rederi91	50 635	21	0	0 %	0
Deepsea	Rederi92	48 987	4	0	0 %	0
Deepsea	Rederi93	38 308	3	0	0 %	0
Offshore	Rederi94	28 278	10	0	0 %	0
Offshore	Rederi95	18 450	7	0	0 %	0

Shortsea	Rederi96	11 569	7	0	0 %	0
Offshore	Rederi97	5 593	1	0	0 %	0
Offshore	Rederi98	600	2	0	0 %	0

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ABRAN – OUTLOOK REPORT

NOV - 2016

Rio de Janeiro

Brazil

RICARDO CESAR FERNANDES

1- Introduction

The year is coming to the end and the retrospect evidenced 2016 was a challenging year, not only for Brazil, but to the entire world. Wars, terrorist attacks, refugee crisis, reflect increasing geopolitical uncertainty and unpredictability affecting economies spanning to commodity prices and financial markets across borders.

Low inflation and slow growth in advanced economies has been hard to tackle with negative interest rate and monetary stimulus. In addition, Chinese economy is reducing economic growth and shifting from foreign to domestic consumption affecting global trade growth.

BREXIT and unexpected victory of Donald Trump in the US presidency election highlights the sentiment of frustration from the traditional middle class workers of UK and USA with the effects of and dynamics of post-cold war globalization. Criticism on immigration policies in Europe and US are abundant and reflect protectionist trends that are likely to threaten several multinational agreements, such as COP 21, TPP, NAFTA, just to mention a few.

Meanwhile, Brazil is struggling to leave behind unprecedented economic recession caused by a long last wrongful economic policy that have lead the Country to lose investment grade, reduce confidence from investors, upward inflation and increasing unemployment rate.

In fact, there are already some signs of economic recovery driven by an increased index of confidence from industry and consumers, lower than expected inflation, evaluation of currency and asset prices, bullish stock market, favorable balance of trade, and new investments.

On the political arena, despite constant threatening of turmoil caused by “*lava jato*” the Government has managed to reestablish good relationship and communication with parliament and has been successful on approving strategic reforms, such as the proposal to amend the Constitution limiting public expenditure for 20 years. The proposal was sent to the Senate and is already

scheduled to be voted on the 29th November and 13th December and is likely to be easily approved.

From the industry, following Rio Oil & Gas 2016, in October, with its optimistic opening speeches from the authorities, the sector undertakes strong transformation lead by the divestment plan of Petrobras and its new attitude towards the local content policy. The company and its partners have requested ANP waiver of local content requirements for new production units to be installed in Libra, Sepia and Búzios.

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2- ABRAN updated news

ABRAN have engaged in several initiatives during 2016 on behalf and defending interests of Norwegian shipowners in the Country. As such, ABRAN was in direct and permanent contact with the main stakeholders of the shipping industry, both in the Country and in Norway. Also, due to the strong connection with NSA, ABRAN was actively part of the international institutions dealing with the most important topics of the industry, such as new regulations on GHG, STCW, COP 21, among others.

During 2016, several meetings and seminars were attended and organized by ABRAN with presence of important players of the industry, including Petrobras, IBP, ANTAQ, Maritime Court, Directorate of Ports and Coasts (DPC), Superintendent of Maritime Education, Tax Authority, Norwegian Authorities, Team Norway and its members.

The meetings with were held on regular basis in order to keep the agency and members updated on new regulations, main issues and update market condition. As such, the first meeting with ANTAQ was held in January, in Brasilia, with charter manager, Rômulo Araújo, with an agenda focused on challenges on blocking procedures, clarifying requirements requested by ANTAQ to register foreign flag vessels on Brazilian flag special regime (REB). Additionally, updating market condition, contributions from members presented at the meeting, profiling Norwegian shipowners and reinforcing a trustful and valuable relationship with the Brazilian regulatory agency.

ABRAN have also met with the President of Maritime Court, Vice Admiral Marcos Nunes de Miranda, and invited Rear Admiral Hildebrandt, Head of registration department, to discuss with ABRAN's members concrete matters related to the REB regime, within Maritime Court's rules, in order to better understand the legal framework.

ABRAN have met twice this year with the new Director of Ports and Coasts (DPC), Vice Admiral Wilson Pereira de Lima Filho to discuss concrete issues of ABRAN's members including authorization to stay in the Brazilian Jurisdiction Waters (AJB), REB regime, maritime education and training issues, Port State Control inspections and also profiled ABRAN's members to the Representative of the Maritime Authority.

Another important event was the Legal and Tax committee meeting with Tax Authority, Head of REPETRO, auditor Luis Henrique Guimarães, to discuss concrete issues of the especial regime and clarify specific regulatory aspects presented by ABRAN's members.

It is worth to mention that on the occasion Mr. Guimarães informed that Brazil is negotiating with some countries, such as USA and Argentina, Mutual Recognition Agreements (MRA) enabling Authorized Economic Operators (AEO) and therefore the guarantees could be dismissed. According to the European commission:

The objective of mutual recognition of AEO status is that one customs administration in one Country:

- *recognizes the AEO authorization issued under the other program and*
- *Agreed to provide substantial, comparable and, where possible, reciprocal benefits/facilitations to the mutually recognized AEOs.*

ABRAN have discussed this matter with NSA, Norwegian authorities and members since it was considered relevant to the members and development on that topic will be raised on future occasion.

ABRAN have discussed with NSA Competence Department strategies to induce the work of the Human Resources Committee to benefit members in the market

downturn of increasing operational challenges driven by a reduced number of vessels chartered from Petrobras and IOC. ABRAN HRC members were encouraged to discuss alternatives to optimize efficiency during IOC inspections, sharing innovative practices and smartly reduce training costs.

On the 5th of April it was organized by Team Norway the Norway Brazil Business Compliance Seminar serving as a platform to the Norwegian companies to identify challenges and opportunities of the Brazilian new anti-corruption regulation and the importance of implementing comprehensive internal compliance policies and correlated administrative structure.

The annual meeting of NSA was held on the 7th of April in Oslo and the title was **#TheNewblue**, reflecting the importance of the Ocean Space with its abundant and unexplored resources. The NSA Maritime Outlook Report 2016 was released and showcased during the presentations with the following highlights: Norway is ranked the 6th merchant fleet by market value, behind Japan, Greece, China, Germany and USA; there were more than 100 OSV in layup on the Norwegian Continental Shelf (NCS), as from January 2016; more than 3.000 employees were laid off and terminated during 2015. Mr. José Roberto Neves, President of ABRAN, have attended the event.

ABRAN have met with FGV Law School, together with the Consul General of Norway, Innovation Norway and Research Council on the 5th of May to discuss the planning process of the *II Brazil x Norway – maritime transport seminar focused on regulatory challenges*.

The HRC invited, on the 18th of May, representatives of Kongsberg Maritime training center to present for the committee members the training requirements for the offshore industry and discuss impacts of the upcoming entering in to force of the STCW Manila Convention, as from January 2017.

ABRAN's members have met with the Superintendent of the Maritime Education of DPC, on the 14th of June, to discuss the entering in to force, as from 1st January 2017, of the STCW Manila Convention and the lack of training courses in the Country, such as Engine Room Resource Management, High Voltage, among others. ABRAN presented suggestions and asked DPC to

reflect on the impacts of providing certificates limiting competence without considering the availability of the courses in the Country. Following the meeting ABRAN have collaborated with Brazilian Maritime Authority providing subsidies to the required education and training programs.

ABRAN have met, 11th July, with Consul General, Innovation Norway and the Research Council to discuss the maritime transport seminar ABRAN x FGV and a draft program was prepared including Norwegian authorities that would be invited to the event. Also, it was discussed that the seminar would be a platform to reflect on the recently signed MoU on maritime transport. The MoU coordination committee meeting would be held in Brasilia on the same week.

On the 22nd of July ABRAN and NBCC have met to discuss the participation of a Brazilian Delegation during Nor Shipping 2017. It was agreed that ABRAN will firstly meet with the new Director of Nor Shipping and set up the draft framework of the program.

On the 25th of July ABRAN attended a seminar organized by FIRJAN x FGV with the presence of the Finance Minister Henrique Meirelles, President of FIRJAN, FGV, business leaders and researchers to discuss the initiatives and reforms that have been taken and proposed by the new Government to organize the economy allowing a new cycle of economic growth.

On the 3rd of August ABRAN have met with DPC-20, Rear Admiral José Luiz and staff to discuss the new procedures adopted by DPC/ANTAQ/Maritime Court to the REB register and its impacts on the shipping companies.

During the Olympic Games, ABRAN have attended several network social events with the Norwegian delegation and authorities including meeting the Crown Prince of Norway at the Consul General residence. Also, during August, ABRAN have met with Petrobras CEO's advisors in order to prepare a meeting in Norway during the stay of the CEO in Stavanger.

ABRAN and NSA have organized together with INTSOK a meeting on the 29th of August, between the CEO of PETROBRAS, Mr. Pedro Parente, the Director of E&P, Ms. Solange Guedes, and Executive Manager, Mr. Mauricio Diniz, with

major players (members of ABRAN and INTSOK) of the offshore and shipping industry. The meeting was held on the Stavanger Concert Hall, same place where NSA and DNV GL were hosting the ONS opening concert. The meeting was considered extremely relevant since it was the first business trip of Mr. Parente outside Brazil and a great opportunity to learn the new strategy of Petrobras going forward.

During the visit to Norway, ABRAN have met with Nor-Shipping new Director, Ms. Birgit Liodden and NSA to discuss the frame program of the Brazilian participation at Nor-Shipping 2017. Also, ABRAN have met with NSA and discussed with the Director of Competence Department, Ms. Karin Gjerløw Høidhal and Advisor Mr. Jostein Vaagland the Manila convention and its impacts to the Norwegian shipping companies operating in Brazil. In addition, ABRAN have met with NSA Communication Department Benedikte Næss and discussed the new website project that will be linked to NSA platform.

ABRAN have also met with Ms. Kristine Pedersen to update the current market condition in Brazil and discussed ongoing initiatives connected with the MoU on maritime transport. On the occasion, Ms. Pedersen informed her intention of coming to Brazil in August to meet with the coordination committee group of the MoU.

Back to Brazil, ABRAN have met on regular basis with the Consul General and Innovation Norway to discuss the maritime seminar that has been organized by ABRAN and FGV and would be held on the 25th of October at FGV in order to make sure the Deputy Minister of Petroleum from Norway, Ms. Ingvil Smines was coming to Brazil and that a representative from the Ministry of Trade and Industry would also attend. In addition, the Consulate General has agreed to financially support the seminar.

ABRAN have met with the Brazilian group of Nor-Shipping to give the opportunity to the new Director of Nor-Shipping present the new concept, goals and also learn what we would like to collaborate.

On October ABRAN was informed by the Director of Innovation Norway in Brazil that they have decided to shut down the incubator office as from January 2017.

As such, ABRAN and NSA started to look for alternatives in the market to replace the current office space.

NSA and ABRAN have discussed, during 2016, with the Norwegian authorities strategies to establish a coordination committee and permanent agenda derived from the MoU on maritime transport that was signed on 2015 during the Crown Prince of Norway visit to Brazil. The idea was to use the maritime seminar as a platform to discuss important and concrete regulatory issues and potential areas of collaboration between the two Countries, but unfortunately, the meeting couldn't be organized this year, as planned, due to Brazilian Ministry of Foreign Affairs delay on answering requests from Norway for such encounter.

Also in October ABRAN, during Rio Oil & Gas, ABRAN have organized for the second time with FGV, supported by the General Consulate of Norway, Innovation Norway and The Research Council of Norway, *The II Seminar Brazil x Norway: The transition of the Brazilian Oil & Gas activities and its challenges on the regulation of the maritime and offshore shipping*. It was attended by more than 120 people and it was an excellent opportunity to share from the knowledge of Brazilian and Norwegian authorities, Business Leaders and Experts from Academia regarding market condition, challenges, opportunities and regulatory aspects of the oil & gas and maritime offshore shipping industry.

The seminar was opened by the President of FGV Professor Carlos Ivan Simonsen Leal and Deputy Minister of Petroleum and Energy from Norway Ingvil Smines Tybring-Gjedde. Petrobras Executive Manager Logistics Mauricio Diniz, ANTAQ Superintendent of regulation Flavia Takafashi, Vice Dean of FGV Direito Rio, Professor Sergio Guerra, Norwegian shipowners, among other Guest Speakers presented different views and insights of the industry and its regulatory challenges.

In November, ABRAN have met with Nor Shipping committee to discuss the agenda of Brazil @ Nor Shipping 2017, mainly the details of the Brazilian Party, accommodation details, guest speakers list and the frame program of the seminar.

During the year 2 General, 4 Board meetings, 10 committee meetings were held in addition to the meetings with Team Norway, Nor Shipping, members, NSA, Brazilian and Norwegian authorities, OAB, seminars and innumerable events.

The table underneath summarizes the main events:

Month	Description
January	ANTAQ HQ meeting 19 th // meeting with members // Team Norway meeting 29 th
February	Maritime Court 4 th // Superintendent of Maritime Education – DPC 18 th // Tax Authority – REPETRO 29 th // Legal & Tax Committee meeting 29 th // Meeting with Team Norway 2 nd
March	Directorate of Ports and Coasts 3 rd // Board meeting 16 th // Team Norway 11 th and 29 th // General Consulate 15 th // OSV Seminar Kincaid 17 th // NBCC Seminar Bridge to the Future (Moreira Franco) 18 th // FGV-IBRE seminar 21 st // LTC meeting 28 th // NBCC annual meeting 30 th
April	Business Compliance Seminar and dinner with Nordic investors 5 th // NSA Annual meeting 7 th // ANTAQ meeting 12 th // ABRAN General Meeting 18 th
May	Consulate General of Norway 5 th // meeting with FGV Direito Rio 5 th // Compliance seminar FIRJAN 10 th // LTC meeting 13 th // Consulate General 16 th // NBCC Norway Day seminar with President of IBP 17 th // Human Resource Committee meeting 18 th // Meeting with DPC 18 th //
June	Meeting with new Director of Innovation Norway 2 nd // NBCC Legal seminar arbitration and mortgage decision 9 th // FGV-IBRE seminar 13 th // Consulate General of Norway 13 th // Meeting with Maritime Education Superintendent of DPC 14 th // Meeting with Consulate General and Innovation Norway maritime seminar 15 th // Meeting with Team Norway 17 th //

July	Meeting with Consulate General 11 th // Nor Shipping 2017 planning meeting 22 nd // Seminar FIRJAN x FGV with the presence of Finance Minister Henrique Meirelles //
August	Meeting with Consul General 1 st // Meeting with DPC – 20 3 rd // travel to Norway and visit ONS 2016 29 th – 31 st // Meetings with Petrobras 29 th , members and NSA // Meeting with Norwegian Ministry of Trade and Industry – MoU on maritime transport
September	Meeting with Board members 8 th // Meeting with Consul General and Innovation Norway 14 th // Meeting with Team Norway and Nor Shipping 15 th // ABRAN Board member 21 st // Meeting with FGV referred to the II Seminar Brasil x Norway 26 th // Meeting with ANTAQ and OAB 27 th // Meeting with Team Norway 29 th // LTC meeting 30 th
October	Meeting with ANTAQ in Brasilia 4 th // Meeting with General Consulate 6 th // Meeting with OAB 11 th // Meeting with webpage designer 13 th // Meeting with the General Consulate 17 th // Meeting with Klavness 18 th // Seminar Westshore 19 th // Meeting with DNB 20 th // Meeting with Eksport Kreditt 24 th // Meeting with Team Norway 24 th // II Seminar Brazil x Norway at FGV 25 th // NBCC ROG 2017 Network dinner 26 th // Seminar Innovation GCE Norway 27 th // Meeting with Kincaid 27 th //
November	Meeting with Nor Shipping 3 rd and 4 th // Board meeting 9 th November // OAB – CDPM meeting 17 th // MPE Norway – MME meeting (local content Brazil x Norway) 22 nd Nov

3- Political picture in Brazil, with relevance for the maritime sector

With the final approval of the impeachment process of President Dilma Rousseff on the 31st of August and also the ouster of Congressman Eduardo Cunha on the 12th of September from the Lower House of Representatives the political

scenario has become less agitated and more predictable, underlining the alliance already built by President's Temer Government, during its term in office.

The strong economic team led by Finance Minister Henrique Meirelles and Central Bank President Ilan Goldfajn have been able to communicate with the market, building trust, and presenting proposals to recover growth in the economy, following several years of wrongful economic policies.

11

With a proactive agenda of reforms efficiently communicated the Government seems slowing attracting new investments from private sectors. As such, a program of investments, partnership and concession, called PPI, directly linked to President Temer was created and is currently managed by one of his strongest allies, Moreira Franco, and is already offering business opportunities in several areas such as: airports, railroads, ports, mineral mining, oil & gas industry, water treatment, among others, with attractive and competitive legal and economic framework.

The new CEO to Petrobras, Mr. Pedro Parente, and BNDES, Ms. Maria Silvia Bastos, has been able to implement adjustments on their companies that have been well accepted and obtaining, in return, strong evaluation on its shares.

Also, Foreign Ministry, led by Mr. José Serra, was strengthened and shifted from an ideological and partisan policy towards focusing on integration and commercial trades with full support of President Michel Temer. In October, Mr. Temer visited India and Japan, strengthening ties of friendship, signing bilateral agreements and reinforcing the strategic partnership of the BRICS during the Countries during the meeting of the group in Goa.

In the meantime, "*lava jato*" operation is undergoing with several collaboration agreements (*plead guilty*) being negotiated and signed with federal prosecutors, unveiling payment of bribes in exchange of profitable contracts with Petrobras, State owned companies and public works. These agreements are constantly threatening traditional politician, both from Government and opposition, with accusations being leaked to the press and coming public with headlines and magazine covers.

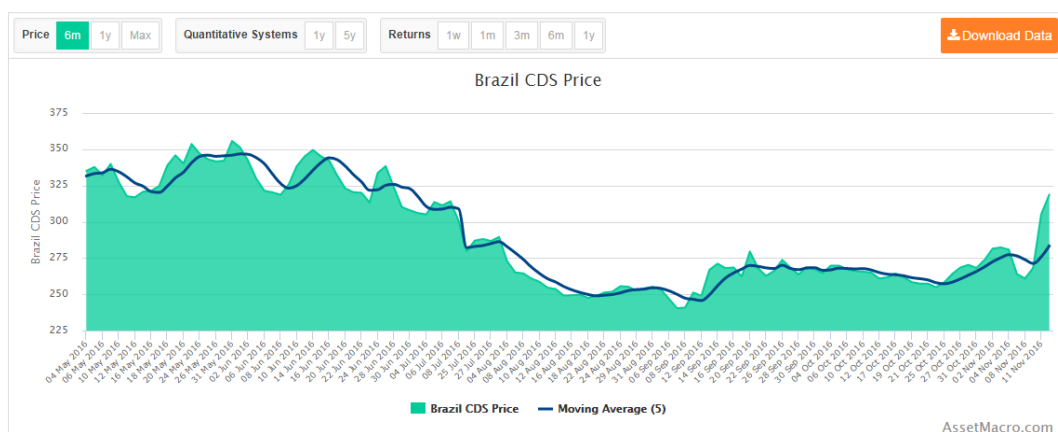
On the 17th of November former Governor of Rio de Janeiro, Sergio Cabral was arrested with former allies under charges of money laundering, bribery schemes involving construction companies, among other allegedly crimes. Mr. Cabral is another well-known and high ranked politician arrested on course of operation “lava jato”.

4- Business climate and Economic picture/outlook in Brazil, with relevance for the maritime sector

12

Brazil is apparently leaving behind an unprecedented recession already lasting 9 quarters with accumulated negative growth of more than 9%. More than 12 million jobs were lost and unemployment rate is at 12%. The reasons for such negative scenario were mainly driven by the domestic political turmoil, bad political decisions and slowdown on world economy affecting commodities prices.

Since the acceptance, by the Lower House of Representatives, of the impeachment process of President Dilma Rousseff the market started to change Brazilian risk perception and CDS (Credit Default Swap) 5 years has been reduced from 500 to 250 points with a recent upward driven by Trump’s election, as such the exchange rate was evaluated on 25% from BRL 4.00 x 1.00 USD to BRL 3.30 x 1.00 USD.



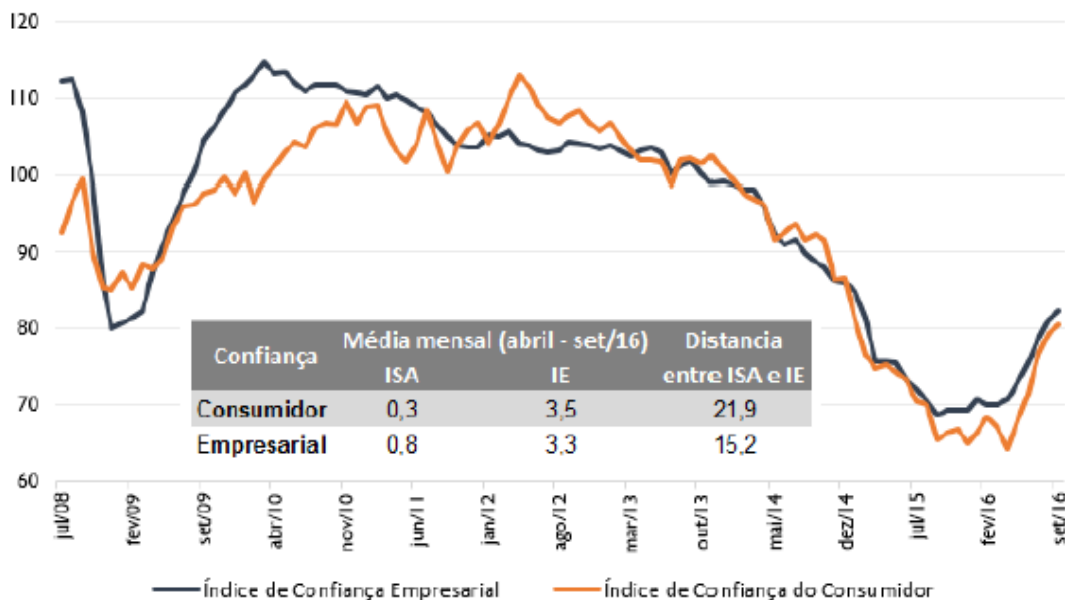
Source: Assetmacro

President Temer’s Government presented an economic plan with proposals of macro and microeconomic reforms to adjust fiscal deficit limiting for 20 years

real growth of public expenditure. The bill of amending the Constitution was already approved for vast majority by the Lower House of Representatives, 10th and 24th October, and is schedule to be voted by the Senators on the 29th of November and 13th December. The approval of the bill is considered crucial to reduce long term, reduce interest rate and induce economic growth. Also, the Government has announced the intention to propose pension reform, establishing minimum age of retirement of 65 years for men and 63 for women.

Temer also approved changes in the pre-salt law, an ideological landmark for the workers Party, eliminating the mandatory requirement of Petrobras minimum stake of 30% of pre-salt fields and also of being sole operator. The initiative was applauded by the industry, since it will give Petrobras the right to choose to participate or not in a given bid round and will increase attractiveness of the Country for foreign investors.

According to FGV-IBRE last survey on confidence index of consumers and industry the indication is signaling the strongest reversion since it started to decline, as it is illustrated on the underneath chart in blue and orange colors.



Source: IBRE

Also according to the survey analysis, the industry (blue line) confidence index got away from the minimum registered on August 2015, with better indicators of

stocks and foreign demand; the industry perspectives for employment is still negative, but they were better in May for first time since 2013; the scenario of reducing the pace of negative growth until the end of this year is compatible with the recovery of the confidence index. So far, the recovery of the indicators is anchored on expectations.

The FGV-IBRE forecasted inflation for 2016 is 7.1% and still above of the targeted limit of 6.5%. However, it is more than 3 points lower than 2015 and the forecasted inflation for 2017 is within the target limits. The forecasted GDP growth for 2016 is negative 3.4% and for 2017 neutral, but can be revised for a modest growth of less than 1%.

A side effect of the current economic crisis is the balance of foreign trade which has been positively affected by the exchange rate whilst the Brazilian products became more attractive and competitive pricewise. At the same time, the increased cost of imported products and foreign debts negatively impacted some industries, in particular the oil & gas.

There has been a slight recovery on the international oil price after its steep drop from 100 USD per barrel, September 2014, to less than 40 USD in April 2016. The Brent is currently traded around 48 USD per barrel, increasing chances of sanctioning of new investments from international oil companies.

The Norwegian shipping companies operating locally have been affected by the economic slowdown, Petrobras cash flow challenges, local content requirements and preference to Brazilian Flag vessels. To adapt and overcome such difficult scenario some shipping companies are reflagging their foreign flag vessels to REB (Brazilian flag special register), but under the current weak market condition even Brazilian flag vessels are suffering to get contracts from Petrobras.

In this regard, it is worth to mention the work of ABRAN towards the National regulatory agency, ANTAQ, Brazilian Maritime Authority, Maritime Court, Petrobras and stakeholders to discuss, suggest and defend interest of ABRAN's members, profiling and reinforcing the importance of maintaining first class shipping companies operating in the Country.

The market expectations for the Brazilian economy are presented on the following table, extracted from 21st of November 2016 FOCUS Bulletin, of the Central Bank, shows the market expectations to some important indicators for 2016 and 2017. The Deficit in the current account has been mainly financed by the Foreign Direct Investment (FDI).

Market expectations for 2016			
Median - Aggregate	2016		
	4 weeks ago	1 week ago	Today
Inflation index - IPCA (%)	6.89	6.84	6.80
Exchange Rate - end-of-period (R\$/US\$)	3.20	3.22	3.30
Over SELIC target – end-of-period (% p.a)	13.50	13.75	13.75
Net Public Sector Debt (% of GDP)	44.90	45.42	44.90
GDP Growth (% growth)	-3.22	- 3.37	- 3.40
Current Account (US\$ billion)	-18.00	-18.80	-19.00
Trade Balance (US\$ billion)	48.06	47.59	47.42
Foreign Direct Investment (US\$ billion)	65.00	65.00	65.00

Source: BACEN

Market expectations for 2017			
Median - Aggregate	2017		
	4 weeks ago	1 week ago	Today
Inflation index - IPCA (%)	5.00	4.93	4.93
Exchange Rate - end-of-period (R\$/US\$)	3.40	3.40	3.40
Over SELIC target – end-of-period (% p.a)	11.00	10.75	10.75
Net Public Sector Debt (% of GDP)	49.70	50.10	49.90
GDP Growth (% growth)	1.23	1.13	1.00
Current Account (US\$ billion)	-25.00	-26.00	-25.35
Trade Balance (US\$ billion)	45.00	45.00	45.00
Foreign Direct Investment (US\$ billion)	68.00	70.00	70.00

Source: BACEN

As from the tables above the forecasted inflation will end 2016 with more than 3 points lower than 2015 and will further reduce as from 2017. Also, the Country will experience another negative GDP growth this year with slow recovery in 2017. The speed of recovery could be accelerated if the increasing confidence index from the industry and consumers reflects on the economy, driven by a successful agenda of reforms from the new Government.

5- Figures and facts of offshore and maritime industry

The shipping industry is cycling industry and that is reflecting on the recent rally in dry bulk earnings driven by coal deficit in China and elsewhere, increasing commodity prices combined with restocking, all time high US grain shipments and low fleet growth.

In the tanker segment following all time high rates in 2015 the activities were reduced to all time low in 2016 and is recovering again with a more balance tonnage, but the recent election of Donald Trump adds great level of uncertainty to the shipping industry.

In Brazil, the president of Petrobras, Pedro Parente, said the oil and gas industry in Brazil is undergoing a new moment and that there is no place in the world with better opportunities for E&P in the coming years. According to Mr. Parente *"If we take into consideration Petrobras' divestments and the measures the government is taking, I clearly see a new moment for the sector, despite the difficulties. We are changing Petrobras' game,"* he said at the close of the four-day Rio Oil & Gas 2016 expo and conference.

Mr. Parente emphasized that the company is open to partnerships, including downstream and logistics, and stressed this would be good as a way to improve governance and reduce business risks. *"We want to give a new dimension to the partnership program."*

Also, Mr. Parente mentioned in his presentation that Petrobras currently has the third largest corporate debt and that the cost reduction program and the sale of assets would have to be implemented anyway, due to the lower international oil prices. *"What really calls my attention is that Petrobras, in one way or another, would have to do this, just like all the other oil companies".*

Petrobras business plan (2017 – 2021) targeted a divestment plan of US\$ 19 billion following US\$ 15 billion (2015 – 2016) spinning off great opportunities to international and local players.

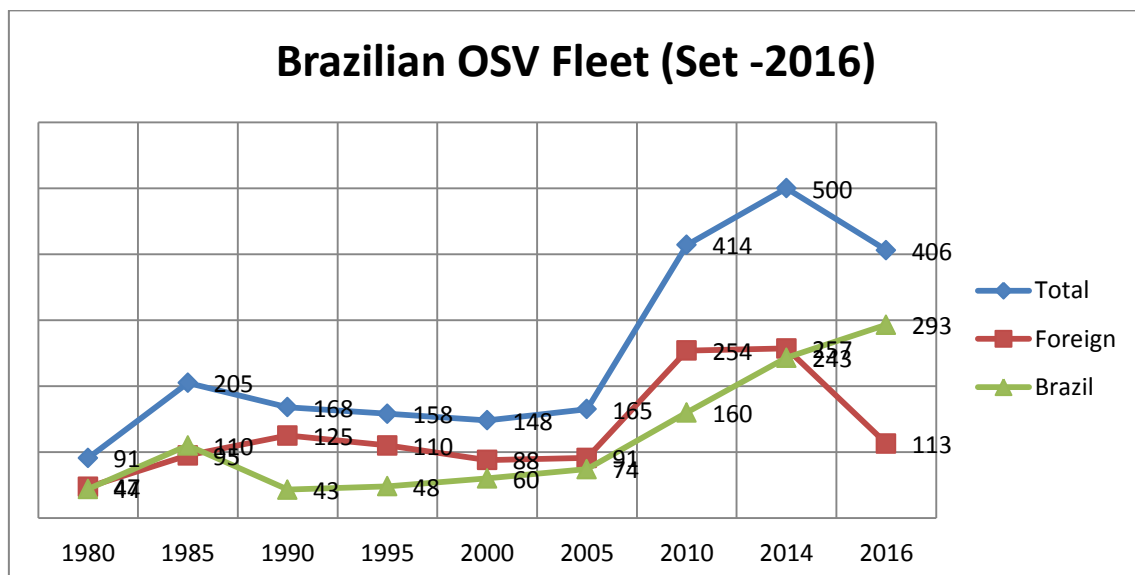
In this regard it is important to mention the acquisition from Statoil of Petrobras stake on “Carcará” block, for USD 2.5 billion, located on the pre-salt area. With

this purchase Statoil will be the first IOC which will be the operator on the pre-salt.

Despite of the reduction on its offshore investment, Brazil is still one of the major markets and with promising expectation of growth in the years to come. Since 2005 the Brazilian oil production increased 38%, from 1.691.016 MBOE/day to 2.333.880 MBOE/day, according to ANP, the National Agency of Petroleum.

Promising changes have been implemented on the regulatory framework in the Country, including more flexible local content policy and eliminating the mandatory requirement of Petrobras to be sole operator of pre-salt fields with minimum stake of 30% on every auction. Three bid rounds will be held next year, including one in the pre-salt and this will help to bring new investments to the Country.

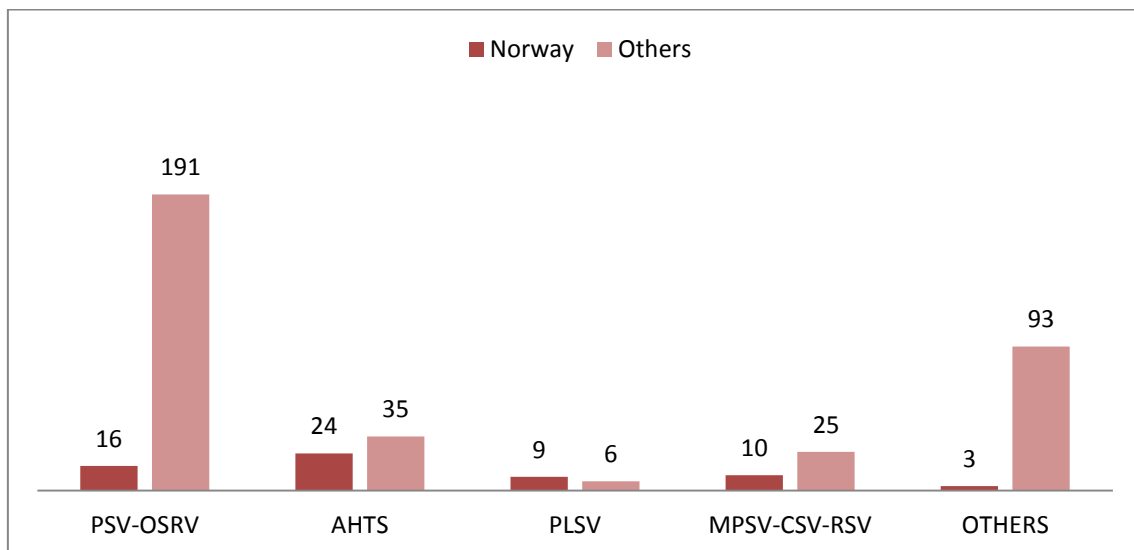
Driven by such challenging scenario the Brazilian OSV fleet has been recently reduced for the first time in the recent years. The number of OSV vessels operating in Brazil since 2014 is down 20%, from 500 to 406. The reduction of the foreign flag fleet was 54%, from 254 to 113, and the increase of the Brazilian flag vessels was 20%, from 243 to 293, as per the underneath chart.



Source: ABEAM

Although the number of Brazilian flag vessels have increased recently due to new building vessels and reflagging process, the current number of Brazilian flag vessels without contract, according to estimates, is around 50 vessels and will only be reduced when Petrobras and IOC start to sanction new projects and chartering OSV vessels. Nevertheless, despite of the overcapacity there are still 28 ongoing shipbuilding Brazilian flag vessels.

The Norwegian OSV owned and controlled fleet has been recently reduced following the weak market condition, but still holding a strong market share, especially in the most technologically advanced vessels, such as MPSV-CSV-RSV-PLSV-AHTS, as illustrated in the following charts. There are some Norwegian shipowners with a consolidated market share and others that reduced their fleet mainly due to blocking of Brazilian flag vessels and termination of contracts.



Source: ABEAM

Due to the economic slowdown, political uncertainties and negative oil & gas scenario, the local shipbuilding industry has been strongly impacted, with the tightening credit market and reduced demand for new buildings. The order book has been cancelled and/or reduced by clients and some shipyards have been forced to reduce its workforce.

6- Employment and competence of the maritime industry

The maritime workforce is also suffering from the current scenario with lay-offs, mainly related to the offshore and drilling rigs segments. The supply and demand of maritime officers, recently threatened of shortage, currently experience an opposite scenario facilitating the recruiting process of the shipping companies and reducing the upward pressure of wages.

The National Council of Immigrants established for each shipping segment a minimum requirement of Brazilian seafarers following a certain period of local operation. For the OSV segment after 1 year of operation on the Brazilian continental shelf the crew must have at least 2/3 of Brazilians seafarers, in the officers and ratings positions. In this sense, the reduced number of foreign flag vessels is also negative for the Brazilian seafarers.

The Brazilian Navy has the prerogative of heading maritime education in Brazil and 2 academies (CIAGA, in Rio de Janeiro, and CIABA in Belém do Pará) were graduating approximately 800 cadets each year. The importance of the shipping companies offering internship programs to Cadets is still crucial to increase the entire certification cycle and the current weak market condition also affects that activity.

ABRAN and its members are committed to keep competence and high standards of operation sharing best practices and adopting innovative initiatives to reduce costs. In the critical scenario collaboration is essential and ABRAN has been used as a platform to share competence and best practices developing initiatives that could reduce costs of seafarers training.

In that sense, during the year ABRAN and its members have met with the Maritime Authority – maritime education department, and explained the challenges that the shipping companies were experiencing connected to the new ammendment of STCW that will be enforced as from January 2017. ABRAN provided subsidies for education and training programs, for Engine Room Resource Management (ERRM), High Voltage, Eletrotechnical Officer all related to the certificates that will be required from that date on.

7- Final remarks

ABRAN's activities during 2016 were very intense reflecting the importance of the association to its members, to the Brazilian and Norwegian authorities and stakeholders. Meetings, seminars, reports, presentations and events were held and prepared in order to give the members updated and constant support on its activities in the country, during the challenging market scenario.

The political scenario of the Country which was a major obstacle to growth for more than 2 years is finally less agitated and more predictable with the final decision of the impeachment of President Dilma and ouster of former Speaker of the House and Congressman Eduardo Cunha. With the strong political ability of President Temer and his allies important macro and microeconomic reforms are likely to be approved shortly, paving the way to recover economic growth.

The Government is managing to slowly reverting negative perception from foreign investors and domestic market and signs of economic recovery have been seen on the economic indicators, mainly driven by expectations anchored on the credibility of the new economic team, the Government's willingness to approve an agenda of reforms and the political majority to approve reforms.

Promising changes, on the regulatory framework has been discussed and even approved in the Country, including more flexible local content policy and eliminate the requirement of Petrobras to be sole operator of pre-salt fields with minimum stake of 30% on every auction. Three new bid rounds are expected for 2017, including for the pre-salt fields, which will help to bring new investments to the Country.

The new investment plan (2017 - 2021) was recently released and considered, by the market, the more realistic plan ever, reflecting new premises of oil price and exchange rate and the goal of Petrobras to reduce its debt leverage from 5.3 to 2.5 until 2018. Also, the company established a new target index to reduce in 36% the total recordable injury frequency rate and announced an ambitious divestment plan of USD 19.5 billion from 2017 – 2021, following its target of USD 15.1 from 2015 -2016.

The Brazilian oil and gas production increased 8.1% in 2015 compared to 2014 mainly driven by the high productivity of the pre-salt fields. The Equatorial margin will be the main exploratory offshore frontier in the short term, concentrating 54 from the 98 maritime blocks. In 2016, it is estimated that 5 new projects in the Country will add 530 mil b/d of oil and gas production derived from new units installed in: Lula Central, Lula Alto, Lapa and Libra.

The Norwegian shipping companies operating locally have been affected by the economic slowdown, IOC cash flow challenges, local content requirements and preference to Brazilian Flag vessels. To adapt and overcome such difficult scenario some companies are reflagging and registering foreign flag vessels on REB, cutting costs and rethinking strategies to compete. In addition, Norwegian shipping companies, from different segments, have also opportunities in the Brazilian market, in connection with the potential growth of the economic activities and changes on the regulation in areas such as: shuttle tankers, chemicals, LNG, bulk carriers, car carriers, cruise lines and short sea.

The maritime workforce is also suffering from the current weak market condition with lay-offs, mainly related to the offshore and drilling rigs segments. The supply and demand of maritime officers, recently threatened of shortage, currently experience an opposite scenario facilitating the recruiting process of the shipping companies and reducing the upward pressure of wages.

During the last edition of Rio Oil & Gas, Brazil was recognized one of the biggest offshore markets and is undergoing an impressive transition on its business environment that, at the end, will contribute to create a more transparent and predictable market. In addition there are promising opportunities for the more traditional segments, such as deep sea, short sea and tankers, since the country is highly dependent on its seaborne routes.

ABRAN will keep its work focusing on giving the best added value to its members endeavoring efforts to profile Norwegian shipping companies and create a more sustainable and profitable business environment within the country.

Scores of foreign flag vessels set to lose out in Brazil

Tue 06 Oct 2015 by David Foxwell



Foreign flag owners are losing out as Petrobras terminates their contracts early


Contracts for as many as 70 foreign flag vessels could be terminated by Petrobras, Brazil's state oil company, says a shipping consultant in the country. As highlighted recently on the *OSJ* website, Petrobras has been holding 'reverse auctions' on a number of 'blocked' vessels. The reverse auctions are held for international (non-Brazilian flagged) vessels that have their certificates of charter authorisation (CAAs) blocked. Under Brazilian legislation, Brazilian-flagged vessels can 'block' foreign flag vessel when their CAAs come up for renewal.

The consultant, who did not wish to be named, told *OSJ* that many foreign flag vessels could see their charters ended prematurely by the end of 2015. He suggested that the only option for owners is to bolster their fleets with 1-2 Brazilian flag vessels or move one or two ships to the Special Brazilian Flag (Registro Especial Brasileiro, or REB). With Petrobras a two-year plus two-year contract no longer signifies a long term commitment, he suggested, and foreign flag owners might not even get the two years, never mind the options, because the 'circularisation' process kicks in annually and Brazilian flag owners can 'block' the continuation of a foreign flag contract.


A manager at a well-known foreign-flag OSV operator said: "We believe it will be more than 50 and possibly as high as 70. I think that, further down the line, when Petrobras is desperate for tonnage again, companies will remember this period. Many OSV operators are deciding to leave Brazil now rather than hang around."



Petrobras cancels Havila OSV charter


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Petrobras has terminated its contract for Havila Shipping's multipurpose offshore support vessel (OSV) *Havila Faith*, which was due to terminate in August 2017.

"The contract was blocked by local tonnage and the certificate needed for operation in Brazil was not renewed," Oslo-listed Havila said today. The company did not disclose how the cancellation would affect its revenue.

In Brazil, vessels must have their Certification of Charter Authorisation (CAA) and Registration Certificate of Temporary Foreign Vessels (AIT) certificates renewed annually in order to operate in Brazilian waters under a foreign flag.

Under Brazilian law, when a foreign-flagged vessel comes to renew its CAA and AIT certificates, the renewal can be 'blocked' by an unemployed Brazil-flagged ship that is built to the same specification, which can take over the foreign vessel's employment contract.

In February (<http://splash247.com/petrobras-cancels-its-charter-of-two-dryships-psvs/>), Petrobras cancelled its charters of two platform support vessels (PSVs) owned by DryShips.

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