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Superyacht Builders Association



ECONOMIC SIZE OF THE SUPERYACHT INDUSTRY

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Executive summary

The superyacht industry is a fast growing sector, which received, however, few attention in the scientific literature. Little is known, therefore, about the total size, growth and economic importance of this specific industry. This report aims to fill this gap by providing a comprehensive overview of the total industry (up until the year 2015) in terms of economic value added and of the monetary contribution of the superyacht sector to the economy as a whole. To this end, the main question this report answers is the size of *the yearly depreciated value added of the total superyacht fleet*, where superyachts are defined as yachts bigger than 30 meters, in other words, its economic impact.

This report addresses the economic value of the superyacht industry by looking at the two major costs elements of the industry: construction and maintenance costs. For the fleet's construction costs this report mainly looks at the total labour hours needed to construct the present fleet. The materials used were converted in labour hours as well. Maintenance costs are yearly recurring costs and consists of the 'normal' superyacht maintenance costs as well as operational costs (such as administration and crew salaries) and the—for this industry typical—refit costs.

The conclusions drawn from the analysis can be divided in three categories. First, the present worldwide superyacht fleet dates mostly from after the year 2000. If we compare the size and growth of the superyacht fleet with other vessel types then we see that the superyacht industry is small in terms of gross tonnage (about 0.5% of the other type of vessels we sampled) but a relatively large sector in terms of compensated gross tonnage (about 13% of that same sample). This large difference is mainly due to the large amount of labour hours needed for a superyacht's construction. Europe is still the area where most superyachts are built, with a share of 70% in the total number of vessels in the period 2000–2015.

Second, to construct the existing 30m+ fleet, slightly more than a million labour years were used, which amounts to 43 billion euros in wages worldwide. Stated differently, on average, a

superyacht requires more than 9.5 million euros in terms of labour costs (which, as it is argued, can be seen as a conservative estimation).

Third, for the yearly costs of replacement, we needed to depreciate the labour costs and add to that the total yearly maintenance and operational costs. In doing so, the total yearly costs of the superyacht fleet amounts to 11.3 billion euros. These costs then include everything that is spent on construction (e.g., on labour), maintenance and operational costs and served as a conservative estimate for the total **annual** monetary contribution of the superyacht sector to the economy as a whole.

Contents

Executive summary	3
1 Introduction	7
2 The worldwide superyacht fleet	9
2.1 Characteristics of the superyacht fleet	9
2.1.1 Age composition of the fleet	10
2.1.2 Relative importance of the fleet	11
2.1.3 Geographical origin of the fleet	12
3 Labor hours as compensated gross tonnage for superyachts	15
3.1 Methodology	15
3.2 Determinants of labour hours in the superyacht industry	16
4 Labor hours needed to construct the fleet	19
4.1 Total fleet	19
4.2 Total fleet in the period 2000–2015	21
5 Maintenance, refit & operational costs	23
5.1 Yearly maintenance costs	24
5.2 Refit costs	25
5.3 Operational costs	27
6 In conclusion	28
References	29

List of Tables

2.1	Number and tonnage of vessels built	10
2.2	Number of vessels across shipping industries	12
2.3	Production 2000-2015 by geographical area	14
3.1	Regression on log(labour hours)	17
4.1	Total labour hours for construction	21
4.2	Total labour hours for construction	21
5.1	Regression on various yearly costs	25
6.1	Construction and yearly operational cost of the total fleet	28

1 Introduction

The superyacht industry is an important economic sector and has witnessed large growth in recent decades. And, according to Forbes magazine, it is even “poised to growth” in the near future.¹ However, little is known about the total monetary value of the industry in terms of construction, operational and maintenance costs.

In this report, we therefore address the economic significance of the superyacht industry worldwide.² We do so by first looking at the construction costs which consists of labour hours and material costs. Note that labour hours needed can be seen as a measure for the value added by the sector. Operational costs—including maintenance costs—is taken into account as well, but we would like to stress that the results, given the limited data available, are less reliable than the results for construction costs.

In contrast with the impact of the ‘normal’ yacht industry (see, e.g., Alcover et al., 2011; Sariisik et al., 2011), little research has been done on the economic size of the worldwide superyacht fleet (some examples are Hughes, 1993, and McManus, 2004), although the construction costs needed, especially labour hours, is known to be larger for the construction cost of superyachts than for most other types of vessels (Hopman et al., 2010). Moreover, the operational costs including maintenance and refit costs are known as well to be larger than for other vessel types (relative to the size of the vessels). Therefore, estimating the significance of the superyacht fleet is severely *underestimated* when only looking at the number of vessels and taking gross tonnage conversion rates of other vessels (including ‘normal’ or conventional yachts) into account. This

¹See <http://www.forbes.com/sites/douggollan/2016/04/13/the-superyacht-industry-is-poised-for-growth/#6e916ab6786a>.

²Note that we use economic significance here and throughout the report rather loosely. What we exactly mean is that we aim to measure all the costs that were and are needed for the present superyacht fleet. These costs consist of material costs from other sectors and the value added. The latter is in this case dominated by labour costs, whether in construction or for crew members. These costs measures can be argued to proxy revenues, as ‘normal’ profits are accounted for by superyacht prices for construction and maintenance. However, for a total economic welfare analysis we need to take consumer surplus—or the utility consumers derive—as well into account. This has not been done for this report.

leads to the need to take construction and operational/maintenance costs explicitly into account when estimating the economic significance of the worldwide superyacht fleet.

This report is broken down into four main parts. First, we discuss the data and especially its validity and discuss the size of the superyacht fleet in terms of the region where they were built, the year when they were built and the relation with other shipping industries.

Second, we estimate the labour hours needed for the construction of the superyacht fleet worldwide. We adopt a similar methodology as Hopman et al. (2010) and confirm their results, although we show that controlling for other factors is highly important in order to understand the relationship between gross tonnage and the construction costs (the so-called compensated gross tonnage).

Third, in Chapter 4 we use our estimations of Chapter 3 to estimate the missing labour hours for the total fleet (for vessels built in all years and in the period 2000–2015). On the basis of these estimations, we can then infer aggregate labour hours for the construction of the total fleet.

Fourth, in Chapter 5 we look at maintenance, refit and total operational costs. Here, we again estimate the missing observations to infer aggregate costs for the total fleet.

Finally, Chapter 6 provides a conclusion and brings all estimates together and thus provides a measure of the economic monetary significance of the superyacht industry worldwide and allows to compare the superyacht industry with other types of fleets as well.

This report includes sensible information and circulation is therefore restricted to SYBAss members only. Based on this full report, an article will be composed to share some conclusions with the wider industry and to be used by SYBAss to profile the yachting industry towards stakeholders in lobby activities.

Pages 9 through to 27 have been removed for confidentiality reasons

6 In conclusion

This report looked into and calculated the construction and yearly operational costs of the total fleet of superyachts until the year 2015. Table 6.1 gives an overview of the various cost components.

Table 6.1 – Construction and yearly operational cost of the total fleet

Cost component	Costs	Units
Construction costs	2,139,442,504	Labour hours
Maintenance costs	3,034,979,173	€
Refit costs	1,917,943,973	€
Operational costs	4,604,284,639	€

To do so, we made some assumptions, from which the following ones are the strongest. First of all, we only used labour hours to represent the construction costs. Obviously, this is an underestimate of the total construction costs, although subcontractors and the like were typically measured in terms of labour hours and not so much material costs. Secondly, although we could reasonably predict operational costs in general and maintenance costs specifically for the complete fleet, the estimate for an important cost element being refit costs, is not very reliable. Thirdly, throughout the report, we have implicitly assumed that multiplier effects are not present, in other words, we treated the superyacht industry as independent from other industries. Finally, our estimates suffer from the fact that we only had labour hours and yearly operational and maintenance costs for a small sample of superyachts (where we explicitly missed some information on the larger yachts).

Nevertheless, we confidently can draw the following conclusions. First, most superyachts have been built in the period 2000–2010 (so this is also the period where we can find the largest economic impact). Secondly, there are definitely economies of scale in the construction of superyachts, but they seem to be smaller than in the construction of other vessel types. And

when we take additional covariates into account, then the economies of scale in the cost structure seem to decrease with Northern Europe standing out as the most labour efficient superyacht building region.

Thirdly and finally, in total there are 2,139,442,504 labour hours invested in the existing fleet, or 1,172,940 labour years (with as conversion rate 1824 hours being equal to one working year). And if we assumed hourly labour costs of 20 euros per hour (which varies per country but is a conservative average; see, e.g., Yearbook (2012)), then we arrived at a total labour investment of 42,788,850,080 euros or almost 43 billion euros worldwide. This is the amount it would cost to *replace* the fleet world-wide. However, this is not the yearly costs of replacement. For that we needed to make some assumptions on average depreciation. If we assume linear depreciation over 10 years—in other words, we assumed that the fleet is completely refitted every 10 years—then on average the construction costs in terms of labour investment amounts to 4.3 billion euros. If we added to that the total yearly operational costs of 4.6 billion euros and the maintenance costs of 3 billion euros, we arrived at a total yearly value of 11.9 billion euros (for the period after 2000 this would be a total of 6.65 billion euro). As argued above, to come to this number we had to resort to some strong assumptions. However, it can reasonably be argued that this is an underestimation or a very conservative estimate, given the low average wage rate we assumed, the missing superyachts in our database and the missing observations about especially the larger superyachts. Therefore, it is very likely that the true value is somewhat higher than reported here.

The 11.9 billion euro constitute the total yearly costs that are made for the present fleet. These costs can be seen as a total output measure or as the monetary contribution of this sector to the economy as a whole. The total value is most likely much higher as consumer utility is not included. That is, consumers typically derive more benefits from their commodities than is governed solely by the priced they paid. And for superyachts, this accounts as well. So, for a total welfare analysis, we need to take consumer surplus into account as well. This is rather difficult as consumer surplus is notoriously hard to measure. But note that for the proud owners of superyachts, the real value can be significantly higher than the monetary value reported here.

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