

Sector Competitiveness Analysis of the UK Leisure Boatbuilding Industry

March 2006

1. Key Messages

The DTI commissioned KPMG to conduct a Sector Competitiveness Analysis of the UK Leisure Boatbuilding industry between February 2005 and January 2006. Below are the key findings:

- The UK leisure boatbuilding industry has achieved growth rates in revenues and job creation similar to those of its main international competitors. Competitiveness as measured by market share against the identified Italian and American brands has been maintained.
- There is a productivity gap between the UK brands and their major competitors in terms of value added per full-time equivalent employee. The average performance of UK boatbuilders is only 57 per cent of the leading brand, Ferretti.
- This simple comparison conceals a more complex picture of how these firms compete in the market. A high value added per full-time equivalent employee (FTEE) could be achieved by:
 - a higher price per tonne of boat weight
 - a lower cost of labour or material inputs
 - higher physical labour productivity measured by hours of labour required per tonne.
- Breaking down value added per FTEE into its components, we find that:
 - Ferretti's advantage is driven more by its ability to command a higher price premium over and above its material costs than other competitors.
 - Azimut's advantage is built on its high material efficiency and physical labour productivity. That Azimut has high capital intensity is likely to have contributed to its strengths.
 - Pershing and Sea Ray's advantage is driven more by their physical labour productivity which is higher than the industry standard.

- It is not possible to present similar results for individual UK brands due for reasons of confidentiality. However the following can be noted:
 - The performance of the UK brands varies according to the efficiency measure used
 - Two UK brands match Ferretti and have a median performance in material efficiency (measuring a firm's ability to convert material cost into revenue), with Azimut the leader
 - One UK boatbuilder has higher physical labour productivity than the industry standard and matches the leaders
 - The UK brands in general have lower capital intensity but deliver a higher capital productivity than the Italian brands

- The SCA also concludes that it is less profitable to build larger boats. This conclusion is based on the *strong* assumption that companies' cost profiles are typical for the average boat size they produce. This assumption may not hold in reality - only companies with their cost information by boat size can confirm if this conclusion is indeed true for them.

2. Background of the SCA

1. The overall objective of this sector competitiveness analysis (SCA) was to assess and analyse the UK's competitiveness in the leisure boatbuilding industry. The scope focuses on one sub-sector of the industry, leisure motorboats with overall lengths from 26 feet to about 125 feet, with retail prices ranging from \$85,000 to over \$14 million.

2. The UK sample is made up of four leisure boatbuilders: the Fairline, Princess Yachts, Sea Line and Sunseeker companies. Together they account for 80 per cent of UK production.

3. UK performance is compared with major international competitors as identified by the UK companies: the Ferretti Group and Azimut-Benetti in Italy together with Sea Ray in the USA. While the UK companies produce leisure boats under single brands, the Italian competitors manufacture a wide range of leisure boats under a number of different brand names. For the purpose of this SCA, therefore, the most comparable brands are Ferretti and Pershing in the Ferretti Group, Azimut in the Azimut-Benetti Group and those parts of Sea Ray's operation which are involved in boat building between 36 and 68 feet.

4. Interviews and research were conducted in the first half of 2005. Primary data were collected through a programme of interviews with executives at the individual boat builders, field visits to manufacturing plants where possible. Additional data for the UK, American and Italian companies has been obtained from published company information and market research reports together with interviews with suppliers, boat dealerships, industry consultants and key industry players.

5. All international comparisons in this report are expressed in US dollars and are sensitive to the exchange rates chosen for the currency conversions. The exchange rates used in this report were taken at 2 June 2005. Should the average rates for 2003 and 2004 have been used for converting euro and sterling figures respectively, the values for the Italian companies will be 7 per cent lower and the UK values 1 per cent higher than those reported in this SCA. This gives the degree of sensitivity of the results to the choice of exchange rates used.

3. Overall productivity comparisons

1. The UK leisure boatbuilding industry has achieved growth rates in revenues and job creation similar to those of its main international competitors. Competitiveness as measured by market share against the identified Italian and American brands has been maintained.

2. Looking at various productivity measures, the comparisons at first glance tell a different story. Table 1 presents a summary of key productivity indicators constructed for the sector based on 2004 data for the American

and UK brands and 2003 data for the Italian brands. To protect data confidentiality, UK companies are not individually identified. Instead the spread of their performance is recorded.

3. Table 1 suggests that there is a productivity gap between the UK brands and their major international competitors, and that the Italian brands consistently outperform. In terms of value added (VA) per full-time equivalent employee (FTEE), the UK brands achieve 75-81 per cent of the sample average, compared with 140 per cent and 124 per cent achieved by Ferretti and Pershing.

Table 1: Comparisons of productivity performance

Brand	Country	Value added per FTEE ¹ Av = 100	Wealth Creation indicator ² %	NVA/FTEE ³ in \$'000	NVA as % of total assets	Profit margins (operating profit ⁴ as % of sales)	Returns on capital (operating profit as % of total assets)
Ferretti	Italy	140	115*	55	7	15	N/A
Pershing	Italy	124	187	44	28	13	23
Azimut	Italy	113	207	41	20	14	14
Sea Ray	US	107	154	30	N/A	8	N/A
UK	UK	75-81	117-137	10-15	7-16	3-10	2-15

¹ Value added = sales - cost of intermediate inputs; FTEE = full-time equivalent employees.

² Wealth creation indicator = Value added / (employment cost + depreciation).

³ NVA is Net Value Added which is (Value Added minus employment cost).

⁴ Operating profit = NVA - depreciation and amortisation.

* Ferretti appears to be the least efficient on this measure. This is due to a very high level of intangible assets in Ferretti accounts which drive a depreciation and amortisation charge of about 18 per cent of turnover against the industry norm of about 2 per cent.

Table 2: Performance of the UK companies

Brand	Country	Value added per FTEE Av = 100	Wealth Creation indicator %	NVA/FTEE ³ in \$'000	NVA as % of total assets	Profit margins (operating profit as % of sales)	Returns on capital (operating profit as % of total assets)
UK1	UK	81	136	10	16	3	15
UK2	UK	80	137	11	15	7	2
UK3	UK	78	130	15	10	6	6
UK4	UK	75	117	13	7	10	8

4. This simple comparison conceals the variation in performance among the UK companies. While the UK brands clearly underperform on VA/FTEE measure and on a wealth creation indicator, one, and in some cases two, of the UK brands matches the performance of their competitors on other measures such as profit margins and returns to capital (Table 2).

5. Data confidentiality means it is not possible to establish whether it is the same firm that performs consistently better than the rest of UK brands. Note that this means that the labelling of UK companies is not consistent across the comparisons on different measures, i.e. UK companies' performance should only be read by columns and not by rows.

6. Note that VA is only one among a number of performance measures. A lower VA per employee does not necessarily imply that a company is less profitable, or is doing something wrong. Variations in VA are only meaningful once they can be explained in terms of differences in firm, product and market characteristics.

7. Part of the variation in companies' performance presented in Table 1 can be explained by the differences in firm characteristics across countries in terms of business models and production methods.

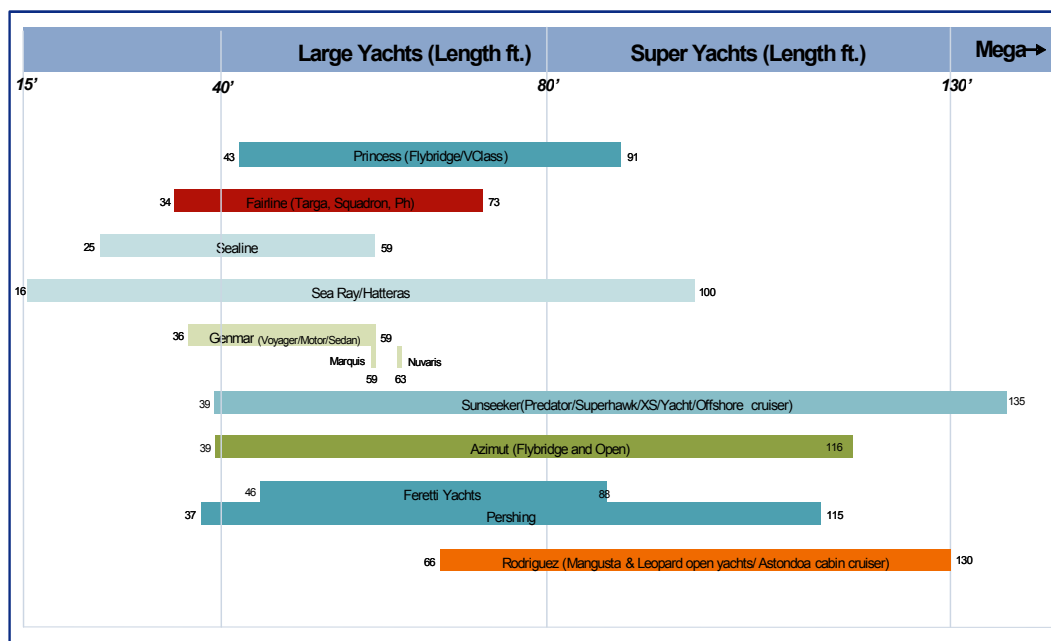
4. Differences in firm characteristics

1. The business model for the UK companies is relatively standard with an almost exclusive focus on a single brand. This contrasts with business models for the major international competitors, as identified in this SCA, with individual brands being part of corporate structures marketing a number of different brands combined with non-boatbuilding activities.

2. The Italian manufacturers appear to offer larger motorboats whereas most of the UK manufacturers are very firmly positioned in the large yacht segment where they produce their volume motorboats (Figure 1). The trend is for the Italian manufacturers to offer larger and larger craft to the market every year.

3. This complicates the analysis because (a) we need to compare like with like, (b) some data varies by boat characteristics such as size, and some by firm, eg revenues, costs, average size of boat. This means that it is not always possible to prove whether differences in productivity performance are due to boat or firm characteristics.

Figure 1: Boat builder products by length of boat (LOA)



4. The Italian boatbuilding business model is heavily based on a flexible labour model with a major element of sub-contract labour while the UK companies rely on an employed workforce (Table 3). But as a response to increasing scale, investment, technology change, and evolving employment regulation, the proportion of sub-contract labour in the Italian boatbuilders is falling.

5. To improved comparability, the size of the workforce in this SCA is measured by full time equivalent employees, which is the total number of equivalent full time employment plus the number of sub-contractors used at different parts of the value creation process.

Table 3: Total workforce sizing and sub-contract levels

	Employees as a percentage of FTEEs	
	2003	2004
Ferretti	68	76
Pershing	52	53
Azimut	62	69
Sea Ray	91	91
UK brands	100	100

Table notes:

(a) All brands outsource certain and differing functions and activities. However the differences were not found to have a material impact and therefore, apart from corporate and sub-contracting policies, FTEEs have been taken as employees.

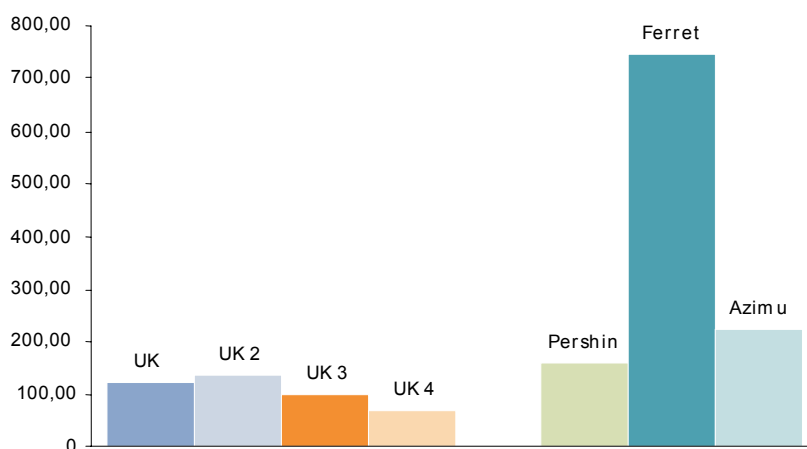
6. Available data on total assets per FTEE in \$ suggest that the Italian sector has a higher level of capital intensity than the UK counterparts (Figure 2). This appears to support the anecdotal evidence that the Italian builders have invested more in production technology than the UK builders. The significantly higher levels of capital expenditure by the Italian brands in the last few years will further widen such divergence. An increase in capital

intensity increases value added per employee because it tends to replace labour with capital.

7. In Figure 2, Sea Ray is not included because a breakdown of asset values was not available between the plants that build boat sizes within the scope of the SCA and those that focus on smaller boats. Ferretti appears to have significantly more assets per employee. But this is due to the very high level of intangible assets in its accounts, which is far above the industry norm. Excluding Ferretti, total assets per FTEE range from \$66,000 to \$222,000. Azimut's capital intensity is 1.6 times that of UK2 in Figure 2, the most capital-intensive UK builder.

Figure 2: Capital Intensity

Total assets per FTEE (\$)



8. Analysing the cost of bought in goods and services (BIGS) reveals that Pershing and Ferretti have significantly higher material costs per tonne than the rest of the boat builders (Figure 3).

9. Given that all the boatbuilders have similar levels of material intensities, measured by the weight to volume ratio, the data on material costs per tonne point to higher sophistication, better quality and design of the Pershing and Ferretti boats. As the Italian brands also build larger boats, it is not possible to determine whether this is a relationship between boat size and material cost per tonne or these are specific attributes that distinguish the Italian brands in the market.

10. It is theoretically possible that UK boatbuilders could build larger boats at a lower cost per foot than the Italian boatbuilders. However it is more likely that if they attempted to compete at the large boat end of the market, they would also have to incur these higher costs.

11. The Italian brands also spend a much higher amount per tonne on non-material goods and services (e.g. utilities, advertising and other administration) than UK brands, after compensating for estimated levels of

sub-contract labour. This supports the anecdotal evidence that the Italian brands may be investing more (and in turn more effective) in their marketing, advertising, product design and customer relationship management, all of which as a package help cultivate the strong brand identities.

Figure 3: Material cost per tonne

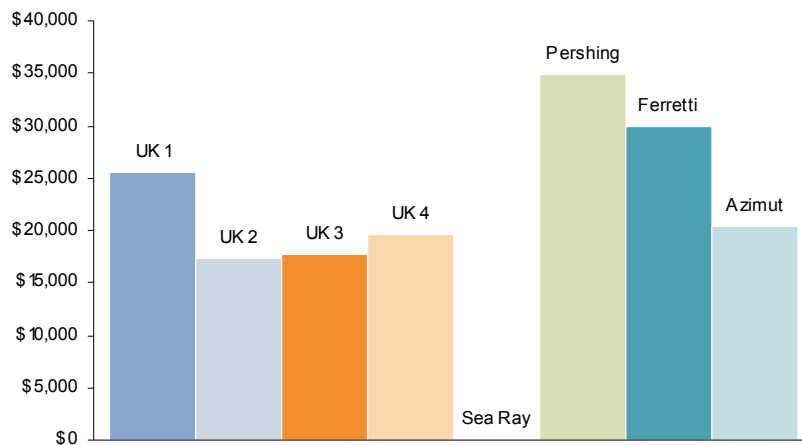


Figure notes:

- (a) The data were obtained from interview programme, web-site review and industry specialists.
- (b) Material cost per tonne was unavailable for Sea Ray.

5. Analysis of productivity performance

5.1 The analytical framework

1. This section examines to what extent firms' specific characteristics explain the productivity performance as presented in Table 1. In particular, results presented in Table 1 suggest that the Italian brands achieve higher value added per FTEE than the UK brands. In order to control for variation in boat size, the standard unit chosen to measure output is either boat overall length or tonnage. It should be born in mind that this control will be incomplete to the extent that functionality also varies by size. For example, the price per foot of larger boats may be higher because they are relatively more powerful, luxurious, with more sophisticated design and equipment.

2. Value added per FTEE can be broken down into two components: value added per tonne and FTEE per tonne. Higher value added per FTEE can be resulted from higher value added per tonne and/or lower FTEE per tonne.

3. Higher value added per tonne can be achieved by securing higher price per tonne and/or having lower bought-in-goods-and-services cost per tonne.

4. FTEE per tonne measures the physical productivity of labour. The lower FTEE per tonne, the higher is labour productivity and, other things being

equal, the higher the VA per FTEE. In this analysis, it is assumed that FTEE per tonne is directly proportional to direct labour hours per tonne, where direct labour refers to the workforce directly employed in production.

5. Among other things, the physical productivity of labour is determined by capital intensity (measured here by total assets per FTEE). Other things being equal, labour should be more productive if they have more capital to work with.

5.2 Pricing

6. Market data suggest that larger boats appear to command higher prices. In turn, the higher productivity of the Italian brands in terms of value added may solely be the result of making and selling larger boats.

7. Figure 4 shows that the price per tonne increases with the dry weight of boat. This would suggest that as boat size increases, increased functionality and/or quality supports higher prices.

8. An investigation into the individual retail price structure of the different brands gives evidence that the productivity advantage of the Italian brands may not be simply explained by the average boat size that they produce. Figure 6 shows the price comparisons in the industry standard format of retail price by length. Apart from confirming the upward relationship between boat size and price per tonne as in Figure 4, it also suggests that the Italian brands command a price premium which is independent of boat size.

9. Two trend lines are fitted in Figure 5 for Brand 4 and Brand 7 that have a similar range of boat sizes and which industry commentators view as comparable in functionality. These show that Brand 7 has a 40 per cent higher price at the bottom of the range and a 28 per cent higher price on larger size boats. The price spread is larger for larger boats, but a smaller percentage of price.

Figure 4: Relationship between boat weight and boat price

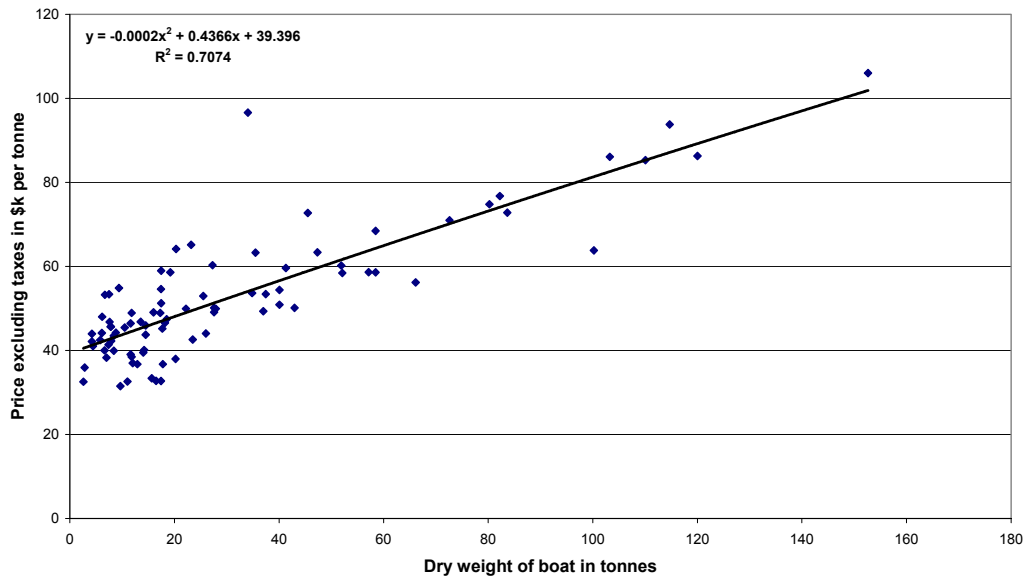
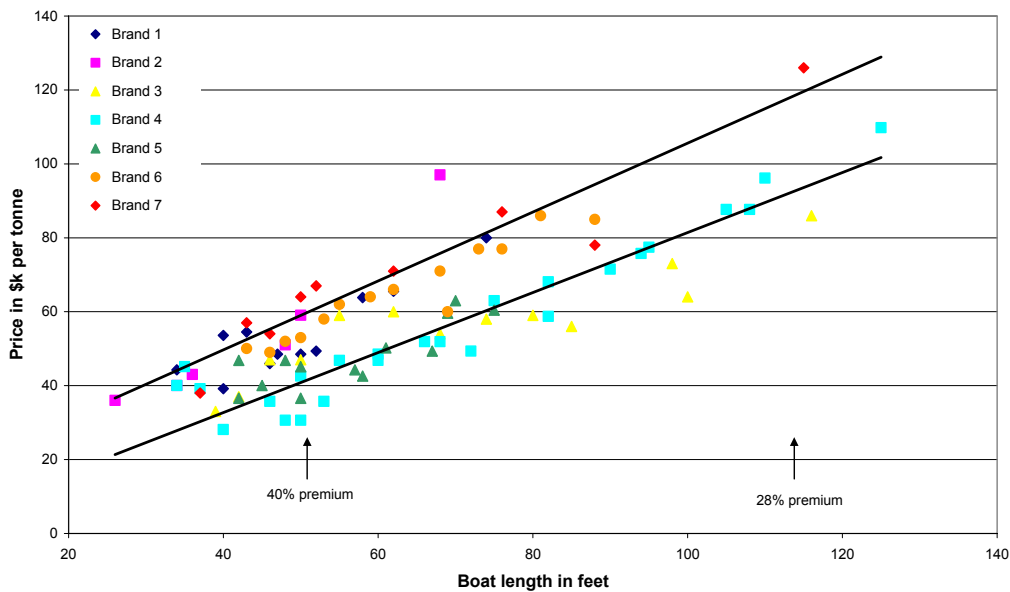


Figure 5: Comparative brand retail prices per tonne



10. The price premium charged by the Italian brands is shown in Figure 6. Making use of the trend line in Figure 4, an industry standard of price per tonne could be deduced for any given weight of boat. To construct a price productivity index, the industry standard for the average weight of boats produced is set as 100 for each brand. In this way, the comparison has controlled for variation in the average boat size produced by each brand. The boat builders achieving a price premium have an index in excess of 100.

11. Figure 6 shows that even after correcting for the differences in the sizes of boats produced, price differentials still persist across brands. In other words, the Italian productivity advantage cannot be fully explained by the fact that it produces larger boats on average.

12. There is some evidence that the Italians lead in product design, brand positioning and customer awareness by a greater focus of market research and customer ‘ownership’. The strong Italian brand identity of design and style, together with a better understanding of their customer base, appears to have supported the brands (in particular Ferretti) to command a price premium in the market.

Figure 6: Price Productivity Index

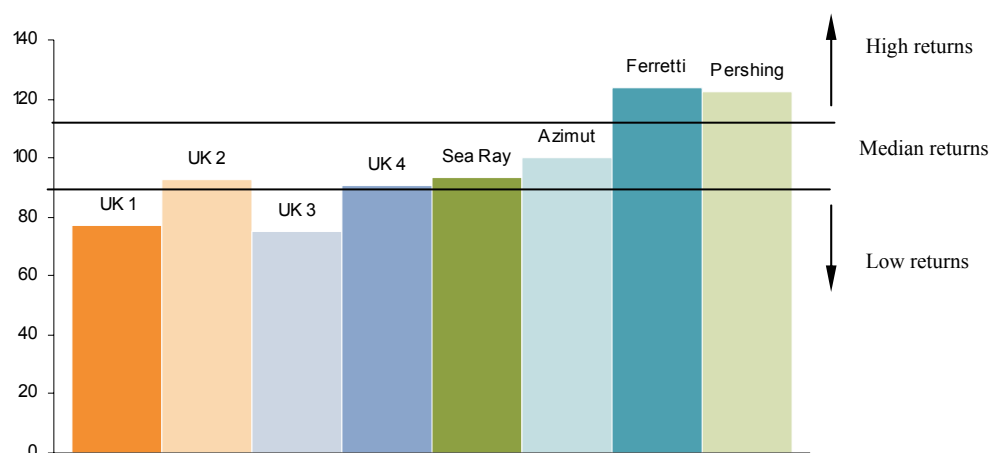


Figure notes:

(a) The data for UK companies were obtained from the interview programme.

(b) The data for Italian and American brands were obtained from company accounts and corporate information.

5.3 Material efficiency

13. The price premium that the Italian brands can command may be due to more costly construction methods, more sophisticated contents (e.g. equipment), functionality, quality and design. Material cost per tonne could be a proxy, albeit crude and imperfect, for variations in these factors.

14. As aforementioned, Pershing and Ferretti have significantly higher material cost per tonne than the other boatbuilders (Figure 3). These two brands also have the higher price productivity (Figure 6).

15. Table 4 compares brands on their ability to convert intermediate input into revenue, as measured by revenue per tonne as percentage of materials and revenue per tonne as percentage of the total BIGS.

16. Taking into account of material costs, Azimut has overtaken Pershing and Ferretti to be the brand which is best able to convert the cost of materials

into revenue, possibly through better procurement practices or through greater efficiency supported by higher technology levels. Azimut leads by generating \$2.5 of revenue for every dollar spent in material cost. On this measure, two of the four UK brands match up with Ferretti in performance with a ratio of around 2.1.

17. On the other hand, Pershing performs relatively poorly which might be explained by over-specification of the product. The price advantage of Pershing has been explained away by its higher material cost per tonne.

Table 4: Revenue per tonne as percentage of materials and BIGS

	Revenue per tonne as % of materials	Revenue per tonne as % of BIGS
Ferretti	219	181
Pershing	179	146
Azimut	247	163
Sea Ray	n.a.	143
UK1	214	167
UK2	211	159
UK3	186	157
UK4	173	152

Table notes:

(a) The cost of services excludes the estimated costs of sub-contract labour.

(b) The data were obtained from interview programme, web-site review and industry specialists.

5.4 Labour efficiency

18. The physical productivity of labour is measured by direct labour hours per tonne, where direct labour refers to labour directly involved in production, and is partly determined by the level of complementary capital available to labour.

19. Limited data provided by UK and Italian builders for individual products suggest that larger boats required more man-hours per tonne to build. Figure 7 shows tonnes produced per man hour with the industry standard for each brand set equal to 100 after controlling for the variation in the average boat size produced.

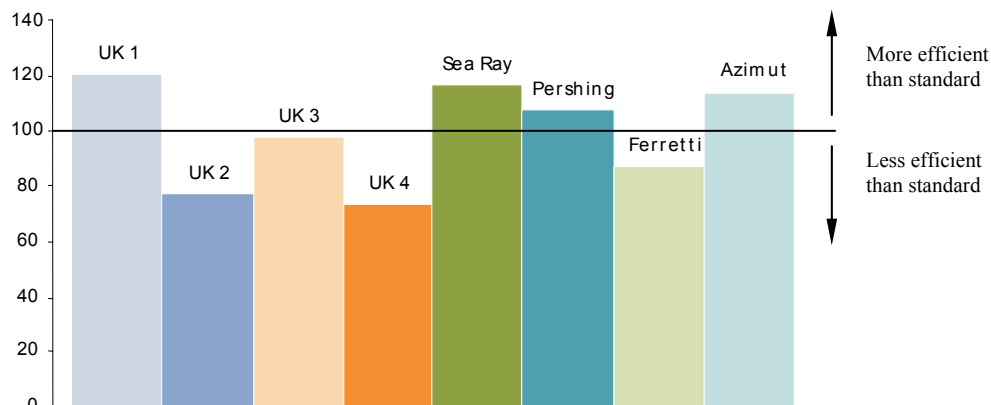
20. Figure 7 shows that one of the UK builders and Sea Ray have higher than standard efficiency. Azimut and Pershing also achieve labour efficiency higher than standard. This should go some way in explaining the performance of Azimut and Pershing in value added per FTEE.

21. This could be due to their higher capital intensity (Figure 2) which usually supports higher labour productivity. (No similar inference can be made on the UK builder which performs well because of data confidentiality.)

22. Two UK brands and Ferretti are below the labour efficiency standard. Given that Ferretti also faces a relatively high hourly rate for its direct labour, the data suggests that it could face a relatively higher labour cost.

Ferretti is ranked first in term of value added per FTEE. The analysis suggests that this is not driven by its physical labour productivity but more by being able to charge a price premium.

Figure 7: Labour efficiency index



5.5 Capital efficiency

23. Capital is supposed to raise labour physical productivity, which in turn will lead to higher value added per FTEE. Figure 8 plots capital intensity against value added per FTEE. It shows that the Italian brands of Pershing and Azimut have a higher level of assets and a higher level of generated value added per FTEE than the UK brands. This is consistent with the findings on their labour productivity.

24. The UK brands have a similar level of value added per FTEE to each other but significant differences in the level of assets. This is translated into very varied performance in capital productivity as measured by value added as a percentage of total assets (Figure 9). This shows that in general the UK companies deliver a higher capital productivity than the Italian brands with the leader at 90 per cent. This compares with a 40 per cent return achieved by Azimut and Pershing. The Ferretti figure again is anomalous.

Figure 8: Capital intensity against value added per FTEE

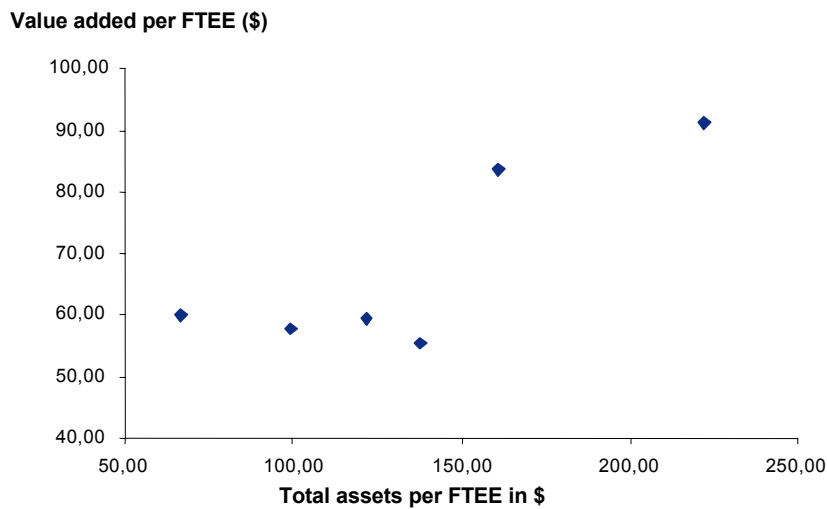
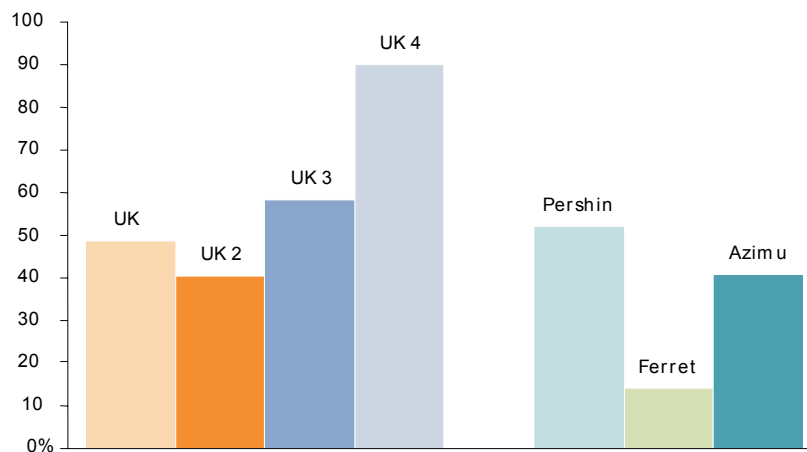


Figure 9: Capital Productivity

Value added as % of Total Assets



5.6 The productivity and profitability of producing large boats

25. In this SCA, a *strong* assumption is made that information on companies' cost structures is also typical for the average boat sizes that they produce. On average, the Italian brands make larger boats. If we take the cost profiles of the Italian brands to represent those of building larger boats and the UK cost profiles for building smaller boats, it can be concluded that productivity is higher in building smaller boats.

26. Figure 10 plots the "typical" cost structure by boat size. We have seen in Figure 4 that larger boats tend to command higher prices and in turn generate higher revenue. This is based on price information by boat size. But the cost of building larger boats, as portrayed by companies' information on their cost profiles, is also rising. Furthermore as the cost of

building larger boats is rising faster than revenue, value added generated increases to a peak a about a 65 foot boat length, and starts to decline in absolute terms afterwards.

27. The trajectory of value added is reproduced in Figure 11. A measure of profits (value added minus labour costs) shows that as boat size increases, the profit from producing larger boats declines rapidly after 55 feet in overall length.

28. It should be noted that due to data limitation, the estimation of value added per foot for the larger boat sizes could be biased by factors specific to Italian boatbuilders. That is, their cost profiles are *not* typical for the average boat size they produce. Only individual companies which hold their cost data by boat size can confirm if this conclusion is indeed true for them.

Figure 10: Value added generation by boat length

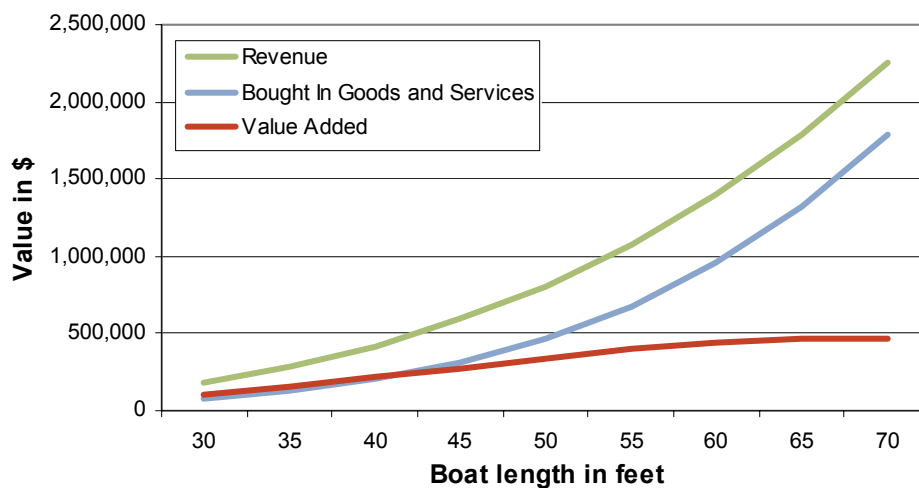
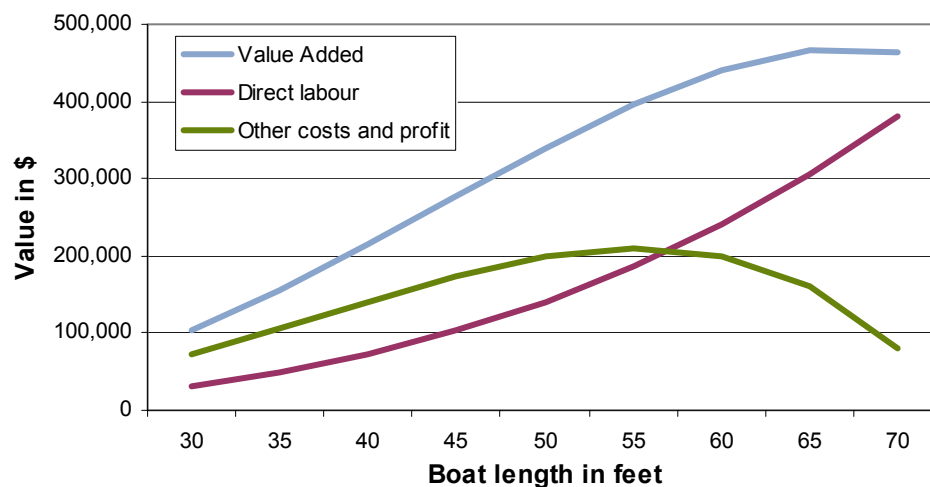


Figure 11: Value added and direct labour costs by boat length



6 Which performance measure?

29. This section has presented results for a range of performance measures: pricing, materials and labour costs, and labour hours per tonne, value added per FTEE, revenues and profits. The question might be asked, which measure should boatbuilders focus on?

30. It is not implied in this discussion that UK boatbuilders should maximise VA scaled by FTEE or Sales or per foot. Instead they should pursue normal business objectives of maximising profitability as measured e.g. by the Return on Capital Employed (RoCE), to at least cover their Cost of Capital.

31. The point of using this range of measures is to demonstrate that the superior performance of the Italian boatbuilders is not due to building bigger boats per se. It is because they are able to charge a price premium, and because of greater labour productivity due to capital investment. Whether this translates into superior profitability is unclear since comparable profitability measures such as RoCE were not calculated. Figure 11 suggests that the answer is no, but a complete answer would depend on the pricing strategy of builders of larger boats. By the same logic, neither do the results imply that all boatbuilders should build smaller boats.