

# OXFORD ECONOMICS

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## Swedish shipping industry scenarios analysis

A paper for the Swedish Shipowners'  
Association

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## Key points

- This report for the Swedish Shipowners' Association is an extension to the recent work for the European Community Shipowners' Associations to assess the economic contribution of the European shipping industry. It presents illustrative counter-factual scenarios to consider how the economic impact of the Swedish shipping industry might have differed had Sweden adopted a tonnage tax regime by 2005.
- The counter-factual scenarios firstly consider how Sweden's controlled fleet might have grown between 2005 and 2012 had it followed the experience across the EU as a whole; in a subset of EU countries which had a tonnage tax in place in 2005; and in three comparator countries (France, Belgium and Denmark). The second step in the counter-factual analysis considers the implications for the total economic contribution of the Swedish shipping industry in 2012 if it had changed in proportion to the change in the Swedish controlled fleet.
- The analysis suggests that had Sweden followed wider experience in the EU, or in Belgium or Denmark, its controlled shipping fleet could have been between nine and 21 per cent greater than observed in reality. If the total economic contribution of the Swedish had been affected proportionately, the total contribution of the Swedish shipping industry to Swedish GDP in 2012 would have been between €162 million and €376 million greater than in reality. The industry's total employment contribution could have been between 3,700 and 8,500 greater.

## 1.1 Introduction and caveats

This paper has been prepared for the Swedish Shipowners' Association and is an extension of 'The Economic Value of the EU Shipping Industry', which Oxford Economics recently produced for the European Community Shipowners' Associations (ECSA). This paper compares estimates of the economic impact of the Swedish shipping industry developed for the ECSA report with illustrative counterfactual scenarios to consider how the economic impact of the industry *might* have differed if Sweden had adopted a tonnage tax regime by 2005.

The analysis in this paper should be regarded as illustrative and does not constitute a formal assessment of the case for introducing a tonnage tax in Sweden. It is extremely difficult to know what would have actually happened if a tonnage tax had been introduced in Sweden, not least because the evolution of national shipping fleets and the associated economic impacts are 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. Given these uncertainties, it is prudent to consider impacts under a range of plausible scenarios.

## 1.2 Approach

The following sections present five counterfactual scenarios to show what *could* have happened under the assumption that the introduction of a tonnage tax caused a change in the growth rate of Sweden's controlled shipping fleet, and assuming a proportionate effect on the economic impact of the Swedish shipping industry. It should not be regarded as a formal assessment of what *would* have happened.

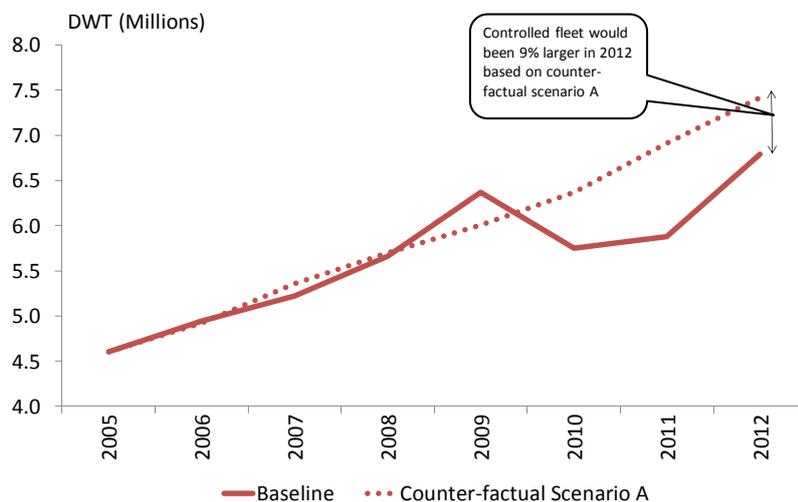
Each of the counter-factual scenarios and the associated implications for the Swedish-controlled fleet and the economic impact of the Swedish shipping industry are described below. The analysis focuses on the period 2005-2012. The starting year of 2005 has been selected because it is the first year for which controlled fleet data are available for all countries included in the ECSA study. 2012 is the most recent year for which the economic impact of the European shipping industry was assessed in the ECSA study.

### 1.3 Counter-factual Scenario A: The Swedish controlled fleet grew at the EU average rate between 2005 and 2012

Between 2005 and 2012 the Swedish controlled fleet grew by 48 per cent in deadweight tonnage terms. This compares to 61 per cent for the EU<sup>1</sup> as a whole. Growth in the Swedish controlled fleet therefore under-performed relative to the EU average over this period. A large number of factors may have driven this trend, but it is informative to note that amongst the ten largest EU controlled shipping fleets, Sweden was the only country to not have a tonnage tax in place during this period<sup>2</sup>.

The first illustrative scenario considers how the economic impact of the Swedish shipping industry might have varied had the Swedish controlled fleet grown in line with the EU average rate between 2005 and 2012. Had this been the case, in 2012 the Swedish fleet would have been nine per cent larger in the counter-factual scenario than in reality. If the change in economic impact was proportionate to the change in the size of the controlled fleet, the Swedish shipping industry's direct contribution to Swedish GVA in 2012 would have been around €939 million, compared to €859 million in reality. Similarly, the Swedish shipping industry would have directly supported over 13,500 jobs, compared to 12,400 in reality.

**Figure 1.1: The Swedish controlled fleet: baseline and Counter-factual Scenario A**



Source: Clarkson Research Services Ltd; counter-factual scenario estimated by Oxford Economics

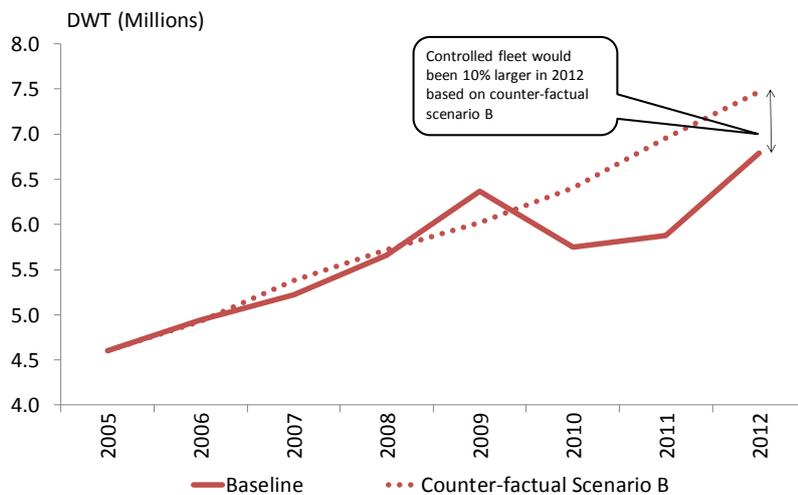
<sup>1</sup> In common with the approach in the ECSA study, Norway is included within the EU for this analysis

<sup>2</sup> Italy introduced a tonnage tax during the course of 2005.

### 1.4 Counter-factual Scenario B: The Swedish controlled fleet grew at the average rate for EU countries with a tonnage tax in place in 2005

An alternative approach would be to consider what might have happened had the Swedish controlled fleet grown at the average rate amongst those European countries with a tonnage tax in place in 2005. As noted above, this group of countries includes nine of the ten largest EU controlled fleets, so the results from this scenario are similar to those from Scenario A. Nonetheless, in Scenario B it is estimated that the Swedish controlled fleet would have been ten per cent larger by 2012. If the economic contribution of the Swedish shipping industry was also ten per cent larger in 2012, there would have been more than 13,600 jobs in the Swedish shipping industry, and the industry’s direct contribution to Swedish GDP would have been €946 million.

**Figure 1.2: The Swedish controlled fleet: baseline and Counter-factual Scenario B**



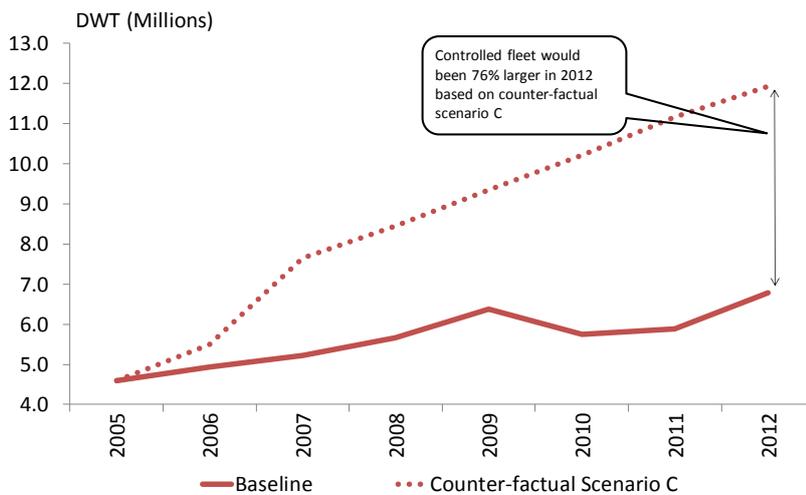
Source: Clarkson Research Services Ltd; counter-factual scenario estimated by Oxford Economics

### 1.5 Counter-factual Scenario C: The Swedish controlled fleet grew at the same rate as the French controlled fleet between 2005 and 2012

Additional insight into the possible impacts of a tonnage tax in Sweden is provided by considering what could have happened if Sweden had followed the experience in similar countries that have successfully implemented a tonnage tax as part of a package of measures to support the shipping industry. Three comparator countries have been identified, the first of which is France, which has been selected because it had a controlled fleet of 4.56 million deadweight tonnes in 2005, only slightly smaller than the 4.60 million deadweight tonnes of the Swedish fleet in that year.

In this scenario, the Swedish controlled fleet would have been 76 per cent larger than reality in 2012. As such, the direct contribution of the Swedish shipping industry to Swedish GDP in 2012 would have been €1.5 billion and there would have been around 21,800 jobs in the Swedish shipping industry.

Figure 1.3: The Swedish controlled fleet: baseline and Counter-factual Scenario C



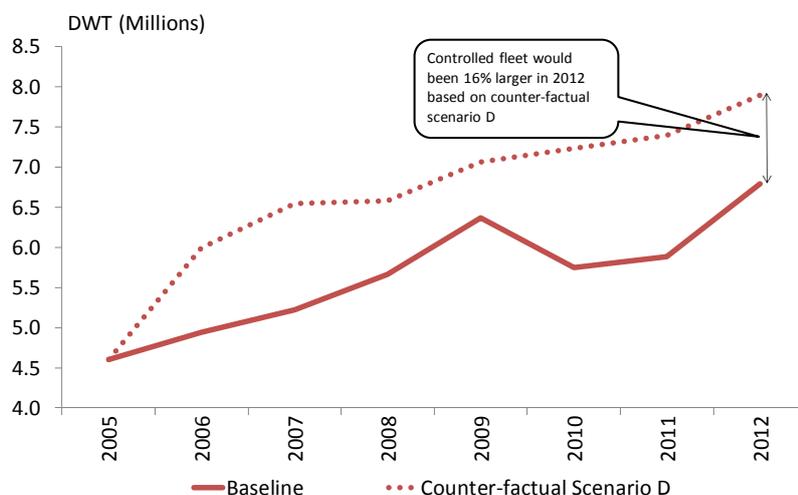
Source: Clarkson Research Services Ltd; counter-factual scenario estimated by Oxford Economics

### 1.6 Counter-factual Scenario D: The Swedish controlled fleet grew at the same rate as the Belgian controlled fleet between 2005 and 2012

Scenario C looked at the possible impact if Sweden had followed the experience of a country with a slightly smaller fleet in 2005. Scenario D considers the case where Sweden followed the experience in a country with a slightly larger fleet. The EU country with the next largest fleet after Sweden in 2005 was Belgium (7.7 million deadweight tonnes), which first introduced a tonnage tax in 2002.

Had Sweden experienced the rate of controlled fleet growth observed in Belgium between 2005 and 2012, the Swedish controlled fleet would have been 16 per cent larger than was observed in reality. Assuming a proportionate impact on the industry’s economic contribution, this implies that the direct contribution to Swedish GDP from the Swedish shipping industry would have been around €999 million in 2012 and employment in the industry would have been just over 14,400.

Figure 1.4: The Swedish controlled fleet: baseline and Counter-factual Scenario D

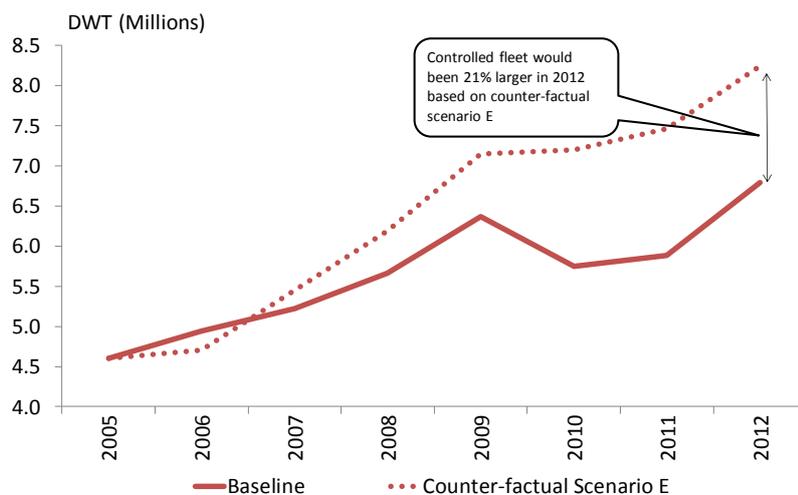


Source: Clarkson Research Services Ltd; counter-factual scenario estimated by Oxford Economics

## 1.7 Counter-factual Scenario E: The Swedish controlled fleet grew at the same rate as the Danish controlled fleet from 2005 to 2012

The final scenario considers what could have happened if the Swedish controlled fleet had grown in line with that of a neighbouring country – in this case Denmark, which introduced a tonnage tax in 2002. In this scenario, the Swedish controlled fleet would have been 21 per cent larger in the counter-factual scenario than in reality. If the economic impact was affected in proportion to this, the industry's direct contribution to Swedish GDP and employment would have been around €1 billion and 15,055, respectively, in 2012.

**Figure 1.5: The Swedish controlled fleet: baseline and Counter-factual Scenario E**



Source: Clarkson Research Services Ltd; counter-factual scenario estimated by Oxford Economics

## 1.8 The total economic contribution of the Swedish shipping industry

The analysis above provides a range of plausible outcomes to illustrate how introducing a tonnage tax in Sweden could have affected the direct economic contribution of the Swedish shipping industry. As highlighted in the ECSA report, however, the total economic contribution of the shipping industry also includes the economic activity generated in the industry's supply chain (the "indirect impact") and as a result of the spending of workers in the shipping industry and its supply chain (the "induced impact"). In the ECSA report these indirect and induced impacts were calculated to include impacts in other EU countries, for example if a Swedish shipping firm makes a purchase from a supplier in another EU country, or if the wages of shipping industry workers are spent on goods from another EU country. However, the focus of this note is on Sweden, and so only those effects that occur within Sweden are captured. For this reason, the baseline total economic contribution figures reported here are slightly lower than those in the ECSA report.

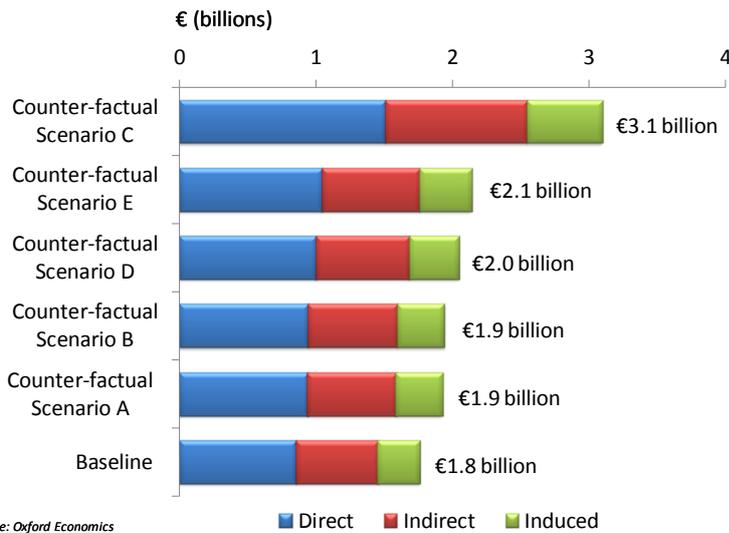
In the baseline scenario, the total economic contribution of the Swedish shipping industry in 2012 is estimated to have been €1.8 billion in terms of GVA, and 24,500 in terms of jobs.

Turning to the scenario analysis, Counter-factual Scenario C (in which the Swedish controlled fleet grew at the same rate as the French controlled fleet between 2005 and 2012), would have produced the largest economic impact: the total GDP contribution of the Swedish shipping industry would have increased to €3.1 billion in 2012, and the total employment contribution would have been 43,000. However, the results for the France scenario are well outside the range observed for the other scenarios, suggesting that country-specific factors may have played a greater role in

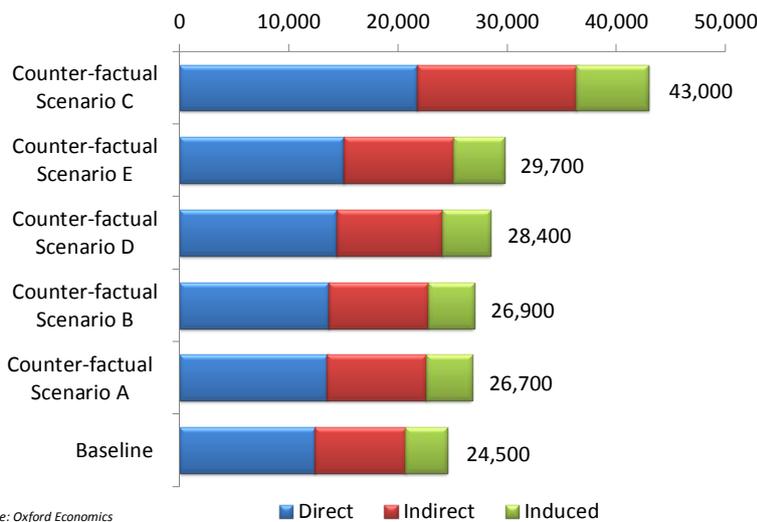
driving the evolution of the French fleet between 2005 and 2012. The applicability of this experience to Sweden may therefore be weaker than for the other scenarios.

In the other counter-factual scenarios, the total contribution of the Swedish shipping industry to Swedish GDP in 2012 would have been between €162 million and €376 million greater than in reality. The counter-factual scenarios also suggest that, had Sweden achieved the rate of controlled fleet growth experienced in the comparators, the total employment contribution of the Swedish shipping industry could have been between 3,700 and 8,500 greater than in reality.

**Figure 1.6: The total GVA impact of the Swedish shipping industry in the baseline and counter-factual scenarios, 2012**



**Figure 1.7: The total employment impact of the Swedish shipping industry in the baseline and counter-factual scenarios, 2012**





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