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Discussion paper

Maritime trade and merchant shipping: The shipping/trade-ratio from the 1870s until today

BY

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**Maritime trade and merchant shipping:
The shipping/trade-ratio from the 1870s until today**

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This paper discusses the development of countries' market shares in world shipping over the last 150 years. The analysis is based upon a new and purpose-built indicator: the shipping/trade-ratio. This indicator presents the relationship between the merchant marine of a country and the country's role in world trade. Analysis of the shipping/trade-ratio identifies two important developments. First, although the share of the world fleet registered in Europe has dropped significantly, Europe's role in world shipping over the last fifty years has been more stable than is commonly perceived. Second, there appears to have been an increasing specialisation in the world shipping industry, both among and within continents. Internationally and within Europe, certain "super-transporters" have acquired large market shares, while most countries have relatively limited fleets.

“The sea-shore has been the point of departure, to knowledge, as to commerce. The most advanced nations are always those who navigate the most.”¹

Introduction

Within naval history, the question of “maritime power” plays an important role. Countless books have been written and numerous careers have been forged trying to define, discuss and debate the question of what constitutes maritime power and who the maritime powers are and have been.² Within merchant shipping history, the power question has seldom been explicitly discussed, though it has been an implicit element of national historical narratives.

Interestingly, these stories usually focus on the Golden Ages, when the various countries are at the peak of their powers. Thus, the Spanish and Portuguese focus on the start of the early modern period, the Dutch primarily deal with the 17th century, British researchers write about the 19th century and Greeks about the 20th century.³

Maritime power, in a naval sense, has of course been closely related to the international political hegemony – during the *Pax Britannica* as well as during the *Pax Americana*. In this paper, we discuss the role of the more peaceful maritime activities. There is a clear distinction between nations that “see the sea as a source of livelihood” by engaging in “shipping, cross-trading, fishing and whaling” and countries that see the sea as “a source of ‘power’”.⁴ We are interested in the former category, not the latter.⁵

¹ Emerson, Ralph Waldo (1870) *Society and solitude*, new and revised edition (Boston: Houghton, Mifflin and Company, 1899), 24–25.

² In Thompson, William R. (ed.) (1999) *Great Power Rivalries* (Columbia: University of South Carolina Press) several rivalries between maritime powers are analysed. The authors present a series of maritime powers and their struggles for supremacy; Genoa, Venice, Portugal, the Netherlands, Great Britain and the United States. In addition several unsuccessful challengers to the maritime powers are presented; The Ottoman Empire, France, Russia, Germany, Japan and The Soviet Union. The question is still relevant; see for instance Kane, Thomas M. (2002) *Chinese Grand Strategy and Maritime Power* (London: Frank Cass). Naval historians seldom explicitly focus on the interdependence between the navy and merchant marine. Two exceptions are Kennedy, Greg (1997) “Maritime Strength and the British Economy 1840–1850,” *The Northern Mariner/ Le Marin du Nord*, Vol. VII, No. 2, 51–69 and Lambert, Andrew (2006) “Economic Power, Technological Advantage, and Imperial Strength: Britain as a Unique Global Power, 1860 – 1890,” *International Journal of Naval History*, Vol. 5, No. 2.

³ Ojala, Jari and Stig Tenold (2013) “What is Maritime History? A Content and Contributor Analysis of the International Journal of Maritime History, 1989–2012,” *The International Journal of Maritime History*, Vol. XIV (2), 27. For a less triumphant analysis, focusing on a period of national decline, see Sturmeijer, Stanley (1962) *British shipping and world competition* (London: Athlone Press).

⁴ Sletmo, Gunnar (2001) “The End of National Shipping Policy? A Historical Perspective on Shipping Policy in a Global Economy,” *International Journal of Maritime Economics*, Vol. 3, No. 4, 340.

⁵ We also choose to ignore the harvesting of the sea’s resources, through fishing and whaling, focussing instead on shipping in general, and cross-trading in particular. Cross-trading refers to the practice where a ship from country A transports goods between countries B and C.

The aim of this paper is to measure and understand the role of countries and continents in the world shipping industry over the last 150 years. This period saw international trade multiply by a factor of 140, and the share of world exports in world GDP increased from 4.6 to over 17 per cent from the 1870s to around 2000.⁶ Shipping and world trade co-evolved. Today, around 90 per cent of global goods trade is carried by ships.⁷ A straightforward assumption might be that the tonnage grew in those countries and continents that held a high share of world trade. However, a glance at the world fleet today suggests that this is certainly not the case. The big shipping nations are neither big exporters nor major importers.

The rest of this working paper consists of three parts. After the introduction, we start out by explaining the European hegemony in world trade and transports in the 19th century. Then, we present the shipping/trade-ratio, a new and purpose-built measure that presents the relationship between the merchant marine of a country and the country's role in world trade. In the final part of the paper, we explain and nuance the declining role of Europe in the world shipping industry. Along the way, we will try to answer three questions: How has the basis for (and composition of) the leading merchant maritime powers developed across time? How can we measure a country's role in and contribution to international merchant shipping? What has characterised the relationship between a given country's role in world trade and the same country's position in international shipping?

The starting point – the European hegemony

As Lincoln Paine points out in his magisterial tome on world maritime history, “by the fourteenth century a combination of sea and river routes connected all shores of Europe and made it one of the most vibrant, if not yet the richest, trading networks in the world.” However, the “trading networks of the Monsoon Seas [the Indian Ocean] between the eleventh and fifteenth centuries were the most dynamic of any in the world, with the longest routes, the busiest ports, and the most diverse selection of goods in circulation.”⁸ The subsequent centuries saw the impressive rise, then the relative decline, of Europe – in international shipping like in the world economy.

⁶ Maddison, Angus (2008) “The west and the rest in the world economy: 1000–2030,” *World Economics*, Vol. 9, No. 4, 75–99. During the same period, world population grew six-fold and world output roughly 60-fold (thus, ten-fold in per capita terms). See also WTO World Trade Report (2013b) *Trends in international trade* (https://www.wto.org/english/res_e/booksp_e/wtr13-2b_e.pdf).

⁷ This figure is of course highly speculative, but one that the shipping industry likes to use; see International Chamber of Shipping: <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade> (cited May 22, 2016) and George, Rose (2013) *Ninety Percent of Everything: Inside Shipping, the Invisible Industry that Puts Clothes on your Back, Gas in your Car and Food on your Plate* (New York: Metropolitan Books); published in the UK as *Deep-Sea and Foreign-Going: Inside Shipping, the Invisible Industry that Brings you 90 % of Everything*. The share of course depends on the type of measure used. If we look at value, for instance, shipping's share of world transports would likely be much lower. Ships are the preferred mode of transport for low cost, high volume/ weight goods that travel long distances. Consequently, a measure that takes into account both the amount/ weight of goods traded and their distance is likely to produce a figure around the 90 per cent quoted above.

⁸ Paine, Lincoln (2014) *The sea and civilization – A maritime history of the world* (London: Atlantic Books), 345 and 375.

The rise of Europe, and the shifting power among individual states within Europe, in the centuries after 1500 clearly reflected the fact that shipping was one of the prime movers of economic development.⁹ According to Richard Unger, shipping was “a principal engine of growth, a source of expansion and a critical source of what improvement there was in the European economy in the sixteenth and seventeenth centuries.”¹⁰ In the end, “the tyranny of distance” was overthrown, replaced by “the death of distance.”¹¹ The growth of Europe and the growth of European shipping were two mutually reinforcing processes. Moreover, the economic leadership within Europe – from northern Italy to the Iberian peninsula, to the Netherlands and onwards to the UK – owed as much to the sea as to the land. As Cláudia Rei has suggested, “[maritime] transportation technology was responsible for leadership transitions between 1300 and 1900, either through innovation or adoption.”¹²

In subsequent centuries, Europe’s position as the world’s economic, political, military and maritime hegemon was consolidated. European expansion hinged upon maritime and naval skills.¹³ Intercontinental trade – which gradually paved the way for specialisation and division of labour – was primarily maritime in nature; “the rise of Europe between 1500 and 1850 was largely the rise of Atlantic Europe and the rise of Atlantic ports.”¹⁴ In the second half of the nineteenth century, when the maritime leadership became married to the continent’s technological advantage, the shifts from sail to steam and wood to steel and iron ensured that the European hegemony peaked. The twentieth century technological development with more, larger and more specialised ships utilising diesel power, at first kept the leadership within the Western World. However, gradually a combination of institutional changes and rapid shifts in the pattern of production and trade, particularly towards Asia, became a threat to the hegemony.

By the end of the nineteenth century Europe depended upon shipping for its welfare, and the international shipping industry depended on Europe for supply of transport and ships. The dominance had been strengthened as sailing ships gave way to modern tonnage in the second part of the nineteenth century. Table 1 illustrates the dominance of Europe in general, and the UK in particular, by 1874.

⁹ See, for example, North, Douglass C. (1961) *The Economic Growth of the United States, 1790–1860* (New York: WW Norton).

¹⁰ Unger, Richard W. (2006) “Shipping and Western European Economic Growth in the Late Renaissance: Potential Connections,” *The International Journal of Maritime History*, Vol. 18, No. 2, 104.

¹¹ Blainey, Geoffrey (1966) *The tyranny of distance: How distance shaped Australia's history* (Melbourne and London: Macmillan) and Cairncross, Frances (1997) *The death of distance: How the communications revolution will change our lives* (Boston: Harvard Business Press).

¹² Rei, Cláudia (2002) “The role of transportation technology in economic leadership,” manuscript, Boston University, 3.

¹³ For the early period, see especially van Lottum, Jelle & Jan Luiten van Zanden (2014) “Labour productivity and human capital in the European maritime sector of the eighteenth century,” *Explorations in Economic History*, Vol. 53, No. 1, 83–100. The more recent period is expertly covered in Miller, Michael (2012) *Europe and the Maritime World: A Twentieth-Century History* (New York: Cambridge University Press). Unless otherwise specified, “Europe” refers to Western Europe.

¹⁴ Acemoglu, Daron, Simon Johnson & James Robinson (2005) “The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth,” *American Economic Review*, Vol. 95, No. 3, 572.

Table 1. Distribution of the ownership of the international ocean-going fleet, 1874¹⁵

	Sail tons	<i>Sail %</i>	Steam tons	<i>Steam %</i>	Effective tonnage	<i>Effective %</i>
British	5.4m	37.1	3.0m	58.7	14.4m	47.8
Other European	6.8m	46.6	1.4m	26.3	10.8m	35.9
Non-European	2.4m	16.3	0.8m	15.0	4.9m	16.4
<i>Total</i>	<i>14.5m</i>		<i>5.1m</i>		<i>30.2m</i>	

World shipping was centred upon Europe – with regard to the production of transport and with regard to the production of ships. Indeed, in “the two decades before the First World War British shipyards constructed over 60 per cent of world tonnage.”¹⁶ The fact that more than half of this was for the country’s own shipping companies is a testament to the UK’s hegemonial role within shipping at that time. Long-distance seaborne transport was clearly a European endeavour. However, the leadership clearly reflected the European countries’ roles as the most important agents in a network of international trade. Table 2 shows that around this time, Europe was responsible for more than two thirds of world trade.

Table 2. Distribution of world trade by region, 1876–80¹⁷

	Exports %	Imports %	<i>Total trade %</i>
Europe	64.2	69.6	66.9
North America	11.7	7.4	9.5
Latin America	6.2	4.6	5.4
Asia	12.4	13.4	12.9
Africa	2.2	1.5	1.9
Oceania	3.3	3.5	3.4

Europe’s indisputable leadership within trade and shipping continued into the twentieth century, before embarking on a gradual long-term decline, where the two world wars played particularly important roles. The wars dismantled established international trade patterns, enabling new countries to build up competitive production, while destroying productive capacity in Europe. In relative terms, no sector experienced destruction of existing production capital as strongly as shipping. During both wars substantial portions of the merchant marine were lost at sea, and European countries were of course adversely affected; “In June 1914 the shipping of the United Kingdom alone comprised nearly 44 per cent of the world steam

¹⁵ Based on data from “General List of Merchant Shipping of All Nations,” published by *Bureau Veritas*, reprinted in Jeula, Henry (1875) “The Mercantile Navies of The World in the Years 1870 and 1874 Compared,” *Journal of the Statistical Society of London*, Vol. 38, No. 1, 81–82. Tonnage refers to gross tonnage, and percentages to the various countries’ shares of the world fleet. In order to calculate the effective tonnage, steam tonnage has been multiplied by a factor of three relative to sail tonnage; confer Kiær, A.N. (1890) “Historical Sketch of the Development of Scandinavian Shipping,” *Journal of Political Economy*, Vol. I, No. 3, 360–361.

¹⁶ Slaven, Anthony (2013) *British shipbuilding 1500–2010* (Lancaster: Crucible Books), 46.

¹⁷ Based on data from Yates, P. Lamartine (1959) *Forty Years of Foreign Trade* (London: MacMillan & Co.), quoted in Kenwood A.G. & A. L. Loughheed (1999) *The growth of the international economy 1820–2000* (London: Routledge), 80.

tonnage; for the British Empire the proportion was 47.5 per cent. By June 1919 these percentages has sunk respectively to 36 and 39.”¹⁸ Interestingly, after both world wars, the European fleet rapidly regained its relative standing, although there were variations in the extent to which countries managed to re-establish their position.

The rebuilding of the fleet after World War I was facilitated by the large amount of ships on order at British and American yards when the war ended. The world fleet in 1919 was actually larger than it had been when the war broke out. However, with shipping markets deteriorating rapidly in the interwar period, the European tonnage never managed to regain the important economic role it had played before the war. During and after The Great Depression the size of most European fleets declined; in the UK case the reduction was almost twelve per cent from 1929 to 1939. The British decline practically neutralised the growth in the few European nations that increased their fleets.¹⁹

World War II was another massive blow to the European fleet, but from the late summer of 1942, Allied construction of new tonnage outpaced losses at sea. Still, by 1948 the European fleet was more than 15 per cent lower than it had been in 1939, though the world fleet had increased by almost 18 per cent. The basis for the subsequent European re-bounce was a massive sell-off of warbuilt tonnage by the United States. Mass-produced *Liberty* general cargo carriers and T2-tankers were bought by European shipping companies in the late 1940s and early 1950s, adding to the newbuildings ordered during or just after the war. Still, although the pre-war tonnage volume had been regained by 1952, the European share of the world fleet had fallen to 48 per cent, down from 63 per cent in 1939.²⁰

Europe’s strong position in international merchant shipping in the nineteenth and early twentieth centuries was intimately intertwined with the continent’s role in world trade – as the centre of an international trading system, held together by a combination of colonial and commercial connections. The fatigue of two wars, as well as the spread of modern economic growth to other parts of the world, affected Europe’s international standing. Thus, the gradual reduction of the hegemonial role within shipping mirrors the region’s dwindling position in the global economy.

¹⁸ Fayle, C. Ernest (1927) *The war and the shipping industry* (London: Humphrey Milford), 330.

¹⁹ Of the leading maritime nations, Norway (32 per cent) had particularly strong growth, but also Germany (almost seven per cent) and Italy (five per cent) increased their fleets. The other nations with growth were Denmark with less than ten per cent, Greece with an impressive 28 per cent and Finland, which more than doubled the fleet (though from a very low volume). Tonnage information from Lloyd’s Register of Shipping (1972) *Statistical Tables 1972* (London: Lloyd’s) Table 17.

²⁰ Lloyd’s Register of Shipping (1972) *Statistical Tables 1972* (London: Lloyd’s) Table 17.

The “shipping/trade-ratio” – measuring market shares in merchant shipping

In order to gauge Europe’s position – and the development of this position across time – we have developed a measure that we call the shipping/trade-ratio. While similar comparisons have been made before, to our knowledge there has been no systematic analysis of the development of the shipping/trade-ratio across time.²¹ The reasoning behind the indicator is that there is likely to be some kind of relationship between a country’s role in the international economy and its role within shipping.

Table 3 shows the shipping/trade-ratios, calculated on the basis of the information from the two previous tables. The final column – the ratio itself – has an intuitive interpretation: values above one imply that the region is “over-represented” in shipping relative to trade, and thus exports shipping services. A share lower than one implies that the country has a higher proportion of world trade than of the world fleet, and thus has to be a net importer of shipping services. In the case of Europe, the value 1.107 implies that the continent’s share of the effective tonnage was 10.7 per cent higher than the share of world trade.

The shipping/trade-ratios from the 1870s reveal that Europe and North America were not only dominant in world trade, but had an even stronger position in world transport. Internationally traded goods from all over the world primarily travelled on European and North American keels. Britannia, her neighbours and her descendants truly ruled the waves.

Table 3. The shipping/trade-ratio, second half of the 1870s²²

	Tonnage share	Trade share	<i>Shipping/trade-ratio</i>
Europe	74.0	66.9	1.107
North America	24.8	9.5	2.611
Latin America	0.1	5.4	0.002
Asia	1.0	12.9	0.081
Africa	0.0	1.9	
Oceania	0.1	3.4	0.015

Several data issues create ambiguity when computing the shipping/trade-ratio, thus it is impossible to have a clear-cut definition that maintains consistency both across time and across countries. At the same time, the distinctions between various ways of measurement might also provide us with information that actually helps to understand the processes that have been taking place.

²¹ See for instance UNCTAD (2007) *Maritime Transport 2007* (Geneva: UNCTAD), 54–56.

²² Based on the same data as before. In order to separate British-controlled areas, we have complemented data for Oceania (Australia and New Zealand) and North America (Canada), based on, respectively, Mitchell, B.R. (1998) *International Historical Statistics: Africa, Asia & Oceania 1750–1993* (Basingstoke: Macmillan Reference) and Fischer, Lewis R. & Helge W. Nordvik (1986) “Maritime transport and the integration of the North Atlantic economy, 1850–1914,” in Fischer, Wolfram, R. Marvin McInnis & Jurgen Schneider (eds.) *The emergence of a world economy, 1500–1914* (Wiesbaden: Franz Steiner Verlag).

With regard to the trade statistics, the main caveat is the fact that majority of trade statistics use value as the basis. For shipping purposes the volume of (maritime) trade, would be the best approximation of a country's needs for a merchant fleet.²³ In most countries and regions there is a large discrepancy between imports and exports, which makes the choice of indicator important. For instance, for the Middle East, the volume of seaborne exports was approximately six times higher than the import volume around 2000, whereas the value of the two was more or less identical.²⁴

The data are also affected by the fact that not all goods transports are subject to the same competition. Shipping has always been the preferred mode of transport for high weight/volume and low value cargoes, with the attractiveness of shipping increasing the longer the distance is between exporter and importer. Consequently, the role of air transport (for high value cargoes) and road/ rail transport (for shorter distances, for instance within Europe) is not taken into account when calculating the shipping/trade-ratio.

The data issues become even more problematic when we add the question of how to measure the various countries' and regions' merchant marines. Tonnage measurements vary with time, ship type and the purpose of the study, and are a topic that never fails to engage maritime historians.²⁵ For recent periods there is also the question of which ships to include in a specific country's merchant marine; the nationality of a ship – or indeed a full fleet – can be changed in less than 24 hours.

Table 4 presents the shipping/trade-ratio for 1969, and relative to the data approximately a century earlier, two things stand out. First, the data – both for trade and for the fleet – are more evenly distributed across continents; the standard deviation falls by around 40 per cent. Second, only two major regions are substantially “out of sync” when it comes to the difference between the tonnage share and the trade share, viz. North America and Africa. It is interesting to note that the North American tonnage “deficit” of 10.3 percentage points matches relatively well the African tonnage “surplus” of 8.8 percentage points. This is not a coincidence, but a reflection of regulatory innovation: Flags of Convenience.

²³ Based on the situation where shipping services were non-tradable. Ideally, the measure should also include the transport distance, giving a number measured in ton-miles. See also Alexander, D. & R. Ommer (1979) *Volumes Not Values: Canadian Sailing Ships and World Trades: Proceedings of the Third Conference of the Atlantic Canada Shipping Project, April 19–April 21, 1979*. (St. John's: Maritime History Group).

²⁴ Stopford, Martin (2009) *Maritime Economics* (London: Routledge).

²⁵ See for instance Ville, Simon (1989) “The Problem of Tonnage Measurement in the English Shipping Industry,” *International Journal of Maritime History*, Vol. 1, No. 2, 65–83 or Kaukiainen, Yrjö (1995) “Tons and Tonnages: Ship Measurement and Shipping Statistics, ca. 1870–1980,” *International Journal of Maritime History*, Vol. 7, No. 1, 29–56.

Table 4. The shipping/trade-ratio, 1969²⁶

	Tonnage share	Trade share	<i>Shipping/trade-ratio</i>
Europe	52.8	50.3	1.050
North America	10.3	20.6	0.502
Latin America	6.1	5.8	1.062
Asia	15.6	15.2	1.027
Africa	14,5	5.7	2.513
Oceania	0.5	2.3	0.229

Why is the direct comparison of the North American and African shares relevant? The answer can be found two places: in Liberia, in the western part of Africa, and in the offices of the company Stettinius Associates of New York.²⁷ The Liberian ship registry was “born” and managed from these offices, with the link to the African homeland extremely weak. Basically the only link between ships registered in Liberia and the country itself was the flag, the letters “Monrovia” on the stern and a small annual levy – the majority of the ships were owned by foreigners. Quite a lot of these owners originated in the US, where local lawyers offered everything that was necessary to join the Liberian set-up.

In the middle of the 1960s the Liberian fleet surpassed the British fleet to become the world’s largest. The country was the most successful “Flag of Convenience”, implying that the high shipping/trade-ratio of Africa is a mirage.²⁸ If we take away Liberia, the continent’s fleet falls by almost 95 per cent, with a corresponding decline in the shipping/trade-ratio. Similarly, the Panamanian Flag of Convenience made up 40 per cent of the tonnage of Latin America. Thus, by adjusting for these two special cases, both Africa and Latin America go from a shipping/trade-ratio above unity (1) to one well below.

The use of Flags of Convenience was “of little practical significance until after the Second World War.”²⁹ For the ships that were flying foreign flags in the interwar period, the original purpose for re-flagging – deceit in wartime – was not important. Rather, avoidance of (alcohol) prohibition and attempts to keep wage levels low were the main motivating factors in the first half of the 20th century. Still, the extent of the use was very limited, and this situation – where Flags of Convenience were a minor institution – continued in the first years after World War II, before gradually becoming more significant.

²⁶ Based on fleet data (grt) from Lloyd’s and export data from World Development Indicators. The latter are based on 152 countries, and likely to slightly over-represent developed countries.

²⁷ See the fascinating history behind the establishment of the Liberian registry in Carlisle, Rodney (1980) “The ‘American Century’ Implemented: Stettinius and the Liberian Flag of Convenience,” *The Business History Review*, Vol. 54, No. 2, 175–191.

²⁸ The term “Flags of Convenience” is used to denote ship registries that are open to persons, companies or other legal entities that do not have a “genuine link” to the country in question. For a concise overview, see for instance Gregory, William R. (2012) “Flags of Convenience: The development of open registries in the global maritime business and implications for modern seafarers,” unpublished thesis (Washington DC: Georgetown University) or, for a more thorough discussion, see DeSombre, Elizabeth R. (2006) *Flagging Standards: Globalization and Environmental, Safety, and Labor Regulations at Sea* (Cambridge: The MIT Press). Metaxas, Basil (1985) *Flags of Convenience: A study of internalisation* (Aldershot: Gower) provides an outdated analysis, but very good empirics, on Flags of Convenience during the first postwar decades.

²⁹ OECD (1972) *Maritime Transport 1971* (Paris: OECD), 87.

The growing tendency to register ships in Flag of Convenience-countries in the first postwar decades was far from universal, but confined to shipping companies of a handful of countries. Ships under “Greek, United States and Italian ownership accounted for at least 70% of all tonnage under flags of convenience” by the end of the 1960s, followed by owners from Hong Kong (around five per cent) and Formosa (Taiwan).³⁰

By 1971 the fleet flying the Liberian flag was only the world’s largest – more than a quarter bigger than Japan in second place. In fact, at more than 38 million gross tons, the Liberian fleet was larger than the *total* world fleet had been at the beginning of the century – a fact that puts the strong growth of the world fleet in perspective. As a result of the upheaval caused by the shipping crises of the 1970s and 1980s, the use of Flag of Convenience-registries became far more widespread, but also more complex. More countries allowed flagging out to foreign registries, and though the introduction of “open registries” enabled a return to the home flag, the link between vessel ownership and flag has been severed.³¹ Consequently, when we move to the new millennium, the shipping/trade-ratio – as we have presented it up until now – in many ways loses any and all kind of relevance.

Table 5. The shipping/trade-ratio, 2000³²

	Tonnage share	Trade share	<i>Shipping/trade-ratio</i>
Europe	31.8	43.9	0.725
North America	3.4	16.8	0.202
Latin America	31.3	5.7	5.458
Asia	21.5	30.1	0.713
Africa	11.4	2.2	5.287
Oceania	0.6	1.3	0.459

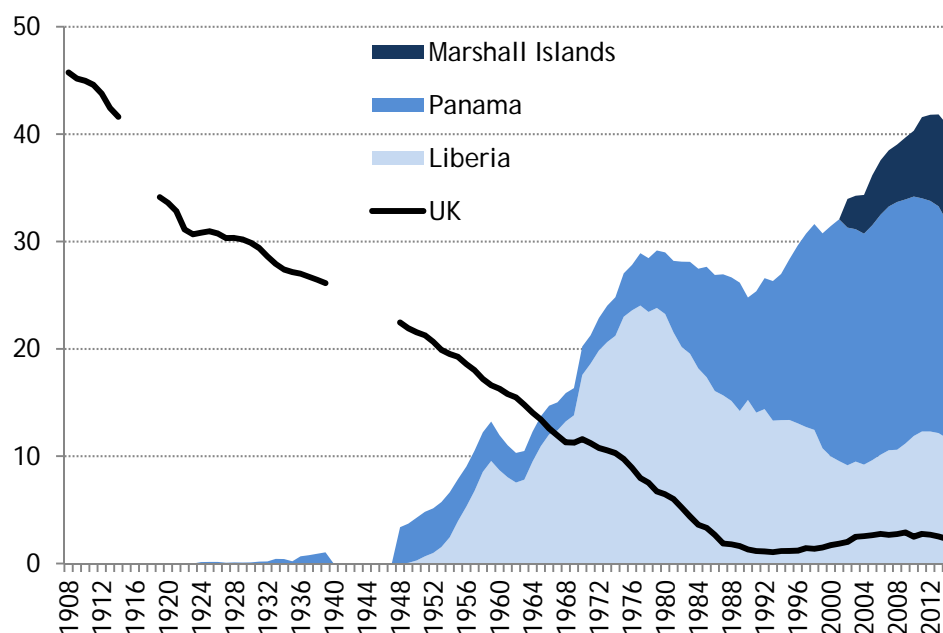
If we take the shipping/trade-ratio to indicate competitiveness, then Europe’s role has clearly declined, dropping from slightly above to substantially below unity, as shown in Table 5. The data also reveal the enormous overrepresentation of Latin America and Africa – apparently, these two regions have taken over as the world’s transporters, with an aggregate share of more than 40 per cent of the world fleet. The answer to this surprising development is, however, simple: the joint share of Panama and Liberia increased further, as seen from Figure 1, practically killing off the link between flag and fleet.

³⁰ OECD (1972) *Maritime Transport 1971* (Paris: OECD), 87.

³¹ See the next section for an introduction to open registries.

³² Based on fleet data (grt) from UNCTAD and export data from World Development Indicators. The latter are based on 194 countries, and likely to have less bias than data from previous years.

Figure 1. The shifting hegemony, shares of the world fleet (per cent), 1908–2014³³



There is of course a fundamental difference between how the leading Flags of Convenience influence international shipping today, compared with how the UK – with a similar share of the tonnage – did a century or so ago. At that time, the Red Ensign represented maritime hegemony and superiority. Today, the leading flags – Panama, Liberia and the Marshall Islands – symbolise the manner in which the shipping industry, like global business in general, has introduced institutional innovations in an eternal quest to reduce cost.

In order to understand the *real* situation today's global shipping industry, we need to go behind the flag data, and look at who *really* owns the fleet. At this point it might also be appropriate to go from the continent level to the country level. Within the various continents there are enormous differences in the shipping/trade-ratio, and the degree to which the flag data give a fair representation of the real ownership also varies substantially. Table 6 presents two alternative measures of the shipping/trade-ratio for the most important maritime and trading nations, with European countries on the right hand side and other major traders on the left hand side. Two measures are presented for each country: STR1, which is the one that we have been looking at up until now, and the new measure, STR2. The latter is calculated on the basis of country of domicile of the owners, rather than the flag of the ship.

³³ The data is based on a combination of sources and measures. For the period up to and including 1969, the basis is gross register tonnage from Lloyd's Register of Shipping (1972) *Statistical Tables 1972* (London: Lloyd's) Table 17. Subsequently the data are based on dead weight tonnage-data from Lloyd's Register, as reprinted in OECD (various) *Maritime Transport* (Paris: OECD) and UNCTAD (various) *Maritime Transport* (Geneva: UNCTAD). The UK data include the Channel Islands and the Isle of Man. Excluding these registers would reduce the British share of the world fleet by 42 to 72 per cent – equivalent to between 0.5 and 1.5 percentage points – in the period 1995–2014 .

Table 6. The shipping/trade-ratios, 2000³⁴

	STR1	STR2		STR1	STR2
Singapore	1.510	2.448	Greece	30.856	101.167
China	0.819	1.450	Norway	8.004	15.571
Malaysia	0.567	0.679	Denmark	2.069	4.629
Taiwan	0.433	1.123	Italy	0.331	0.511
South Korea	0.367	1.289	UK	0.302	0.800
Japan	0.359	1.930	The Netherlands	0.153	0.274
Hong Kong	0.357	1.716	France	0.151	0.321
Thailand	0.304	0.380	Germany	0.130	0.507
US	0.123	0.501	Sweden	0.112	1.100
Canada	0.023	0.093	Switzerland	0.086	0.725
Brazil	0.578	0.844	Spain	0.028	0.355
Australia	0.313	0.480	Be-Lux	0.005	0.341

The data in Table 6 reveal a number of interesting features. First, the range of STR1 and STR2 within Europe is astonishing – from 0.005 (STR1) in the case of Belgium-Luxembourg to more than 100 (STR2) in the case of Greece. The large variation reflects the fact that some countries (Greece, Norway, Denmark and Singapore) can be classified as “super-transporters”, with a merchant marine that far outstrips the countries’ own needs. Second, while STR1 is positive for only four of the countries in the sample (one-sixth), STR2 is positive for more than 40 per cent of the countries. Finally, the most important maritime nations in Asia (China, Japan and the first generation tigers) appear to have more tonnage than their share of world exports should indicate – STR2 is above unity for all the major Asian manufacturing exporters.³⁵ This might be explained by the fact that the majority of their trade – imports of bulky raw materials and exports of finished goods – creates a shipping need over and above what a simple “value of exports”-share indicates.³⁶

The European decline in perspective

The European-registered share of the world fleet has declined substantially, but the analysis above has suggested that there has been some element of exaggeration in the decline. In a

³⁴ Based on dead weight ton data from UNCTAD, 2001 and trade and export data from World Development Indicators. There is of course substantial uncertainty and discretion involved in determining “real” ownership. However, the table is based on the data as presented in the UNCTAD-report, which is clearly the most reliable source of such information.

³⁵ While manufactures made up more than 50 per cent of the exports of the first generation tigers (Hong Kong, Singapore, South Korea and Taiwan) during their strong growth phase, the second generation (Indonesia, Malaysia and Thailand) had more balanced exports with a larger presence of commodities; World Bank (1995) *World Development Report 1995* (New York: Oxford University Press), 250–251.

³⁶ However, for that explanation to hold 100 per cent we have to ignore the international trade in shipping services, which clearly is tantamount to denying the whole concept of this paper.

“worst-case” scenario, the market share of the European fleet falls from around 84 per cent of the world fleet in the 1870s to around 22 per cent by the year 2000.³⁷

However, if we take into account the fact that Europe’s share of world trade falls from two thirds to slightly over 40 per cent, we see that the decline is not solely a “shipping phenomenon”. The declining share of the shipping market is mirrored by a drop in the European share of the world economy. Moreover, if we deduct intra-EU trade, which is less likely to be seaborne than world trade in general, the European share of world trade becomes much lower.³⁸ In fact, only three countries – Greece, Malta and the United Kingdom – trade more with “outsiders” than with other EU countries, and in 2002 more than two thirds of the trade was intra-EU trade.³⁹ Indeed, if we treat the EU as one country, the share of world exports becomes less than 18 per cent in 2004. By 2014 this had been reduced to 15 per cent, and China had in fact a higher share of world exports than Europe.⁴⁰

We also have to take into account the fact that on average around 60 per cent of the European fleet was registered abroad.⁴¹ This implies that rather than the 20 per cent of the fleet flagged in Europe, it would be more correct to use a number around 50 per cent, which refers to the share of the world fleet controlled by Europeans. In that case, the decline in the share of world trade – by around a third – is actually higher than the decline of the fleet. Based on the ownership-measure, the shipping/trade-ratio would be around 1.2 – so, even higher than in the 1870s. In other words, if we take market share as a measure of competitiveness, Europe’s apparently declining role in international shipping in fact shows the opposite tendency.⁴² Moreover, other ways of evaluating the shipping sector strengthen our argument that the reports of the death of European shipping are greatly exaggerated.

How can we explain the continued important role of high-cost Europe in one of the most competitive international industries? There is little doubt that the historical element – path dependence, if you like – has been very important. The share of European shipping sector *per se* has declined steadily, but from an extremely high level. Moreover, two clarifications are in order. First, certain institutional innovations – including Flags of Convenience – have enabled European shipping to stand its ground. Second, there have been a large array of different trajectories within Europe; some countries have improved their position substantially, while others have had equally spectacular declines.

³⁷ The latter figure is lower than the 32 per cent of the fleet presented in Table 5, because we have deducted the tonnage registered in Cyprus and Malta, two European Flags of Convenience that in 2000 amounted to around ten per cent of the world fleet. These had fleets of more than 73 million tons, but the shares of this owned by nationals were 2.1 per cent and 0.1 per cent respectively.

³⁸ Ideally, to give a good basis for comparison, we should have done this for the 19th century figures as well. However, although data issues make that impossible, the share of seaborne transports in total trade was undoubtedly much higher in the 19th century.

³⁹ Eurostat (2014) *Intra-EU trade in goods – recent trends* [...] The precise figure for the proportion of trade with “EU-28” partners was 68.3 per cent in 2002, but has since fallen to 62 per cent by 2013.

⁴⁰ European Commission (2015) *European Union trade in the world*, Trade-G-2 19/06/2015

⁴¹ Average of the largest thirteen European fleets (excluding Cyprus and Malta) in 2001.

⁴² And if we treat the EU as one trading unit, by omitting intra-EU trade, the shipping/trade-ratio increases to 2.77, implying a far higher shipping/trade-ratio than even the late 19th century.

Table 7 compares the registration and the ownership of the world fleet in 2010. The left hand-side shows where the ships are registered. With the exception of Greece, the countries in the Top 10 are either Flags of Convenience or rapidly growing shipping nations in Asia, followed by South Korea and Japan and three European countries. The latter have been among the most important maritime nations in the postwar period, but have seen the tonnage flying the country's own flag greatly reduced. In 1970, more than 20 per cent of the world fleet was registered in Norway, the UK and (West) Germany (8.5 per cent, 11.4 per cent and 3.5 per cent respectively) – the aggregate share in 2010 was 4.3 per cent.

The right hand-side is based on control of the fleet. The data show that many of the countries that have dominated shipping over the last century continue to do so. For the three countries mentioned above the share of the world fleet has fallen by around a third, and the relative strength of the countries has been turned on its head. Still, the growth of Germany – from 3.5 per cent in 1970 to 8.9 per cent (of ownership) can give us an indication of the basis for the European resilience. In Germany there have been – and are – some extremely efficient ways to organise shipping investments.⁴³ For instance, the existence of limited partnerships [*Kommanditgesellschaft*] has ensured a steady inflow of money from “doctors and dentists” looking for investments that are beneficial from a tax perspective. The major shipping banks are also European, and in their perimeter, a number of “project developers” and “project brokers” ensure that some European countries have an extremely efficient system to raise private capital for shipping investments.

Table 7. Shipping Top 15 – by registry and control (dwt), 2010⁴⁴

By registry (dwt)		%	By control (dwt)		%
1	Panama	22.6	1	Greece	16.0
2	Liberia	11.1	2	Japan	15.7
3	Marshall Islands	6.1	3	China	9.0
4	China, HK	5.8	4	Germany	8.9
5	Greece	5.3	5	S Korea	3.9
6	Bahamas	5.0	6	US	3.5
7	Singapore	4.8	7	Norway	3.5
8	Malta	4.4	8	China, HK	3.0
9	China	3.5	9	Denmark	2.9
10	Cyprus	2.5	10	Singapore	2.8
11	South Korea	1.6	11	Taiwan	2.5
12	Norway	1.5	12	UK	2.3
13	UK	1.4	13	Italy	1.9
14	Japan	1.4	14	Russia	1.7
15	Germany	1.4	15	Canada	1.6

⁴³ For Germany, the 2010-share of 8.9 per cent includes both previous Bundesrepublik Deutschland (West Germany) and Deutsche Demokratische Republik (East Germany). A correct comparison for 1970 would thus be 3.5 per cent (West Germany) plus 0.4 per cent (East Germany), but even this is less than half the German share in 2010.

⁴⁴ Based on information from UNCTAD, *Maritime Transport 2010*.

Table 7 also reveals that the main challenge to the European leadership has come from Asian countries. Still, it is interesting to see that a number of formerly important European shipping nations have fallen by the wayside. The spectacular fall of the UK – a decline in the market share of 95 percent – occurred more or less evenly over the span of eight decades, although in recent years UK shipping investments have actually increased slightly. Other countries, such as France and Sweden, have gone from having large merchant marines (in total around five per cent of the fleet in 1970) to becoming more or less invisible in today’s shipping sector (an aggregate ownership share of one per cent in 2015).⁴⁵ These countries still have a handful of shipping companies that manage to compete and are still present in the industry. Nevertheless, it would be wrong to claim that there is any kind of dynamic “shipping environment” in France or Sweden.⁴⁶

Conclusion

The spectacular growth of world trade has increased the need for cargo carrying capacity. As Pamuk and Williamson point out, “Transport revolutions in international shipping had a spectacular impact on commodity price convergence and trade in the world economy.”⁴⁷ Still, as in many other areas of globalization, the fruits of this development were not evenly distributed. The European – and to some extent US – shipping tonnage was used as the carriers of the first era of globalisation during the nineteenth century. However, during the second era of globalisation, the geographic concentration has disappeared. Regulatory innovations in terms of Flag of Convenience and the rise of Asia in the world trade and transports changed this picture. The result was the apparent decline of European and US shipping.

In this article we have created a metric to analyse the ratio between the share of world trade and world tonnage; the shipping/trade-ratio. The data clearly show how Eurocentric world trade and shipping were during the first era of globalisation. However, the picture of the development after the World War II was more mixed, with Flags of Convenience changing the rules of the game. Only looking at the flag of the ship, thus, does not necessarily reveal the “realities” in world shipping. Therefore, with more in-depth analyses we also calculated the shipping/trade-ratio based on the ownership, which implies that the decline of European shipping does not appear as significant. In fact, Greece, Norway and Denmark clearly play a much more important role as cross-traders than emerging economies in Asia. The competitive advantage of these European countries has been the ability to transform their businesses to

⁴⁵ Calculated on the basis of UNCTAD (2015) *Maritime Transport 2015* (Geneva: UNCTAD), 36. The basis for the negative Swedish development is explained in Poulsen, René Taudal, Hans Sjøgren & Thomas Lennerfors (2012) “The two declines of Swedish shipping,” in Tenold, Stig, Martin Jes Iversen & Even Lange (eds), *Global Shipping in Small Nations: Nordic Experiences after 1960*, (Basingstoke: Palgrave MacMillan).

⁴⁶ See Todd, Daniel (2011) “Going East: Was the shift in volume shipbuilding capacity from Britain and continental Europe to the Far East and elsewhere during the latter half of the twentieth century inevitable?” *The Mariner's Mirror*, Vol. 97, No. 1, 259–271.

⁴⁷ Pamuk, Sevet, & Jeffrey. G. Williamson (2000). “Globalization challenge and economic response in the Mediterranean,” in: Pamuk, Sevet, & Jeffrey. G. Williamson (eds). *The Mediterranean response to globalization before 1950* (London: Routledge), 7

suite the global competition through specialisation and by adapting regulatory innovations (such as double registry).⁴⁸ Nevertheless, in a globalising world, and in shipping in particular, the country of origin and flag has lost its previous relevance, no matter what type of metrics we use.

Measuring shipping tonnage is a challenging task both with historical and current data. Still, we argue that the shipping/trade-ratio developed in this paper might reveal some “hidden” structures both in world trade and in shipping over an extended period of time. Thus, it might give us a broader picture of the outcomes of the first and second eras of globalisation. However, more precise analyses are needed to calculate shipping/trade-ratios within different commodity trades, for specific countries and for various types of shipping. As the shipping industry has become more global, merchant maritime power has become much more dispersed. Britain – and Europe – no longer rule the waves; but neither do they “rule the world”, like they did in the late 19th century.

⁴⁸ See also Porter, Michael. E. (1990) *Competitive advantage of nations: creating and sustaining superior performance* (New York: Simon and Schuster), 249–266.

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