



EU in the Power Equation of Global Containerized Maritime Trade

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Abstract: Container shipping can be described as the world's first truly global industry. Europe is at the forefront of global containerized seaborne trade. It is also relevant that this industry, more than any other, makes it possible for a worldwide economy to function. It connects countries, markets, businesses and people, enabling them to buy and sell goods at a level not previously possible. As the consuming party, the population has become accustomed to having goods from all parts of the world, which it can now easily access. The current reality is that the needs of a rapidly growing population can only be met by transporting goods and resources between countries. The container shipping industry has streamlined this process and changed the face of the global economy, which benefits consumers by creating choice, boosting economies and creating new jobs. Costs for consumers are reduced, efficiency is improved, and this minimizes environmental impact.

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1. Introduction

In international trade, the seaborne container trade is the most widely used method of transport due to the fact that about 70% of the world's surface is covered by water. This allows large volumes of goods to move by the sea at lower prices than other modes of transport. The economic and political forces shaping the evolution of maritime markets are based on the interaction between maritime developments and those of the world economy.

Seaborne container transport is the first genuinely globalized economic activity, an industry that makes the global economy work better. The widespread use of containers at sea and on land rapidly connects markets, businesses and people, enabling consumer goods to be bought and sold on an unprecedented scale. Today's society needs to find solutions to meet the current needs of a growing population based on the rapid and secure transport of goods and resources. Container transport has simplified this complicated and complex process and changed the landscape of the global economy. It benefits consumers by increasing choice, boosting national economies and creating jobs. Costs tend to fall, efficiency increases, environmental impact is reduced.

2. Materials and Methods

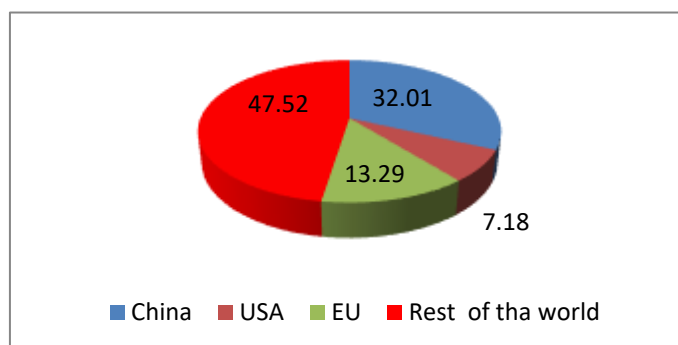
Official information from UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT - UNCTAD, World Bank, Eurostat, Federal Government and Statistical Agencies, National Bureau of Statistics of China, Review of Maritime Transport, 2020 and 2021 was used for the analysis of the EU position in global containerized maritime trade. The data were compiled, standardized to be compatible, and used the same units of measurement. The resulting data were tabulated and converted into charts in EXCEL.

3. Results and Discussion

The analysis started by extracting the primary data characterizing the leading players in containerized maritime transport worldwide: the US, the EU and China (Table 1 and Figure 1).

Table 1. Top 3 World Seaborne Container Trade Countries

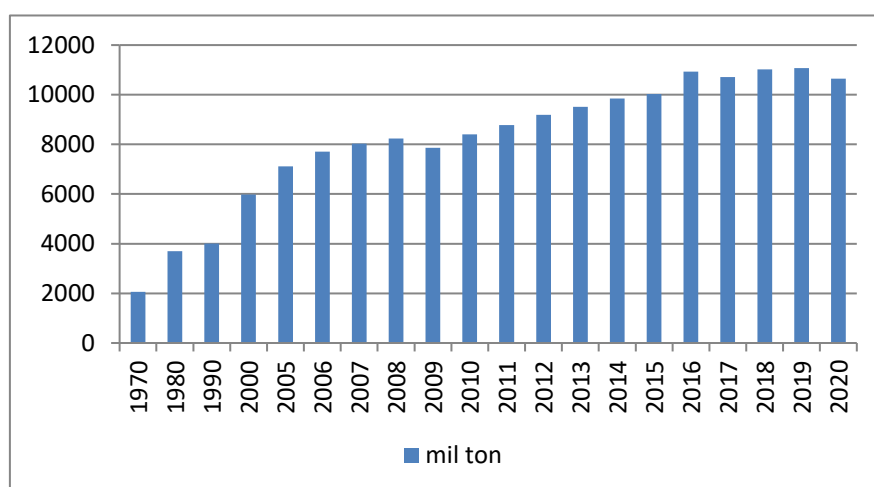
	Population (millions)	GDP	Fleet national flag (thousands dwt)	Ships	Carrying Capacity Container ships (thousands dwt)	Container port throughput (TEU) World shares for 2020
China	1,439,324	14,736,249	102,536	6,459	10,273.5	245,103,781 32.01%
USA	333,968	21,039,984	12,518	3,626	3,053	61,160,289 7.18%
EU	447,000	17,000,000	294,0			101,761,514 13.29%
Rest of the world						47,52%

**Figure 1. World Seaborne Container Trade**

The evolution of international seaborne trade has seen a fourfold increase over the last 50 years, from 2605 million tonnes of cargo loaded in 1970 to 10,648 million tonnes of cargo loaded in 2020 (Revue of Maritime Transport 2021) (Table 2 and Figure 2).

Table 2. Evolution of World Seaborne Trade between 1970 and 2020, in Million Tonnes of Cargo Loaded

	1970	1980	1990	2000	2005	2006	2007	2008	2009	2010
mil. ton	2605	3704	4008	5984	7109	7702	8036	8231	7857	8408
An	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
mil. ton	8775	9195	9513	9842	10023	10925	10716	11019	11071	10648

**Figure 2. Evolution of World Seaborne Trade between 1970 and 2020, in Million Tonnes Cargo Loaded**

The volume of containers transported by sea reached 863 million twenty-foot equivalent units (TEUs) in 2021. The increase over previous years was driven by strong Asian trade and strong growth in commercial traffic on the main trade routes. Container shipping has faced multiple challenges in recent years due to IMO 2020 regulations on permissible sulphur levels, which have led to higher fuel costs, the COVID-19 pandemic, which has led to a significant decrease in the volume of cargo carried. There are several possible scenarios for the evolution of the global economy and container shipping post-pandemic, from a favourable one in which the world recovers quickly with few consequences to an unfavourable one in which the impact on the global economy is much more significant than at present. The short-term effect of the pandemic crisis, which is still ongoing, is strong, both on the total volume of containers shipped by sea and carriers' revenues. Still, the medium-term impact is expected to be manageable if the spread of the virus is limited. The largest volume of containerized cargo is currently concentrated in Asia, particularly China, linking its production capacities to the rest of the world. Containerized transport by

sea increased 18-fold between 1980 and 2020, from 0.1 million tonnes loaded in 1980 to 1.85 million tonnes loaded in 2020 (Statista 2022) (Table 2 and Figure 3).

Table 3. Evolution of Containerized Seaborne Trade between 1980 and 2020, in Million Tonnes of Cargo Loaded

	1980	1985	1990	1995	2000	2005	2010
mil. ton	0.1	0.15	0.2	0.4	0.6	0.95	1.2
	2015	2016	2017	2018	2019	2020	
mil. ton	1.6	1.7	1.75	1.85	1.85	1.85	

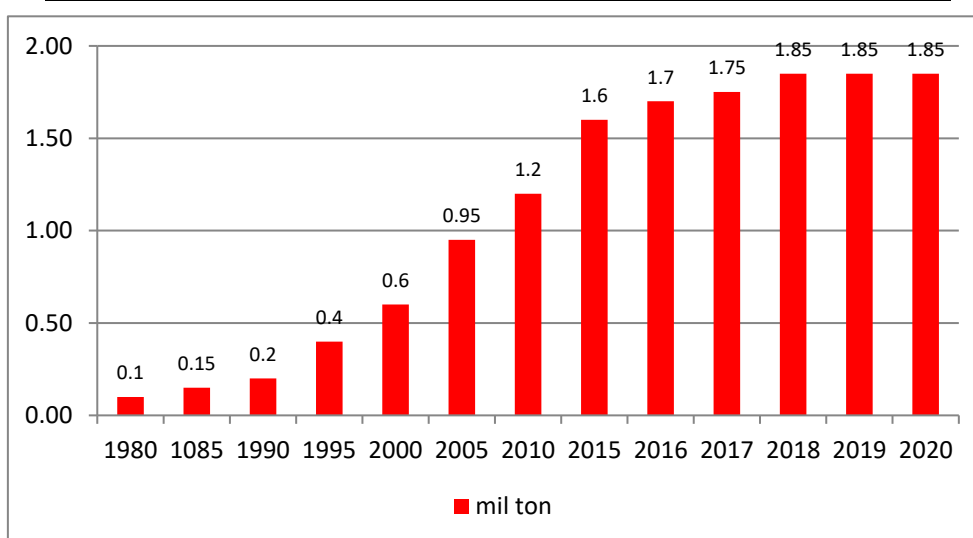


Figure 3. Evolution of Containerized Seaborne Trade between 1980 and 2020, in Million Tonnes Cargo Loaded

Container ships' capacity in seaborne trade from 1980 to 2021 (in million dwt) increased 25-fold, from 11 million dwt in 1980 to 282 million dwt in 2021 (Statista 2022) (Table 4 and Figure 4).

Table 4. Evolution of Containerized Seaborne Trade between 1980 and 2020, in Million Tdw

	1980	1985	1990	1995	2000	2005	2010
mil. ton	11	20	26	44	64	98	169
	2015	2016	2017	2018	2019	2020	2021
mil. ton	228	244	246	253	266	275	282

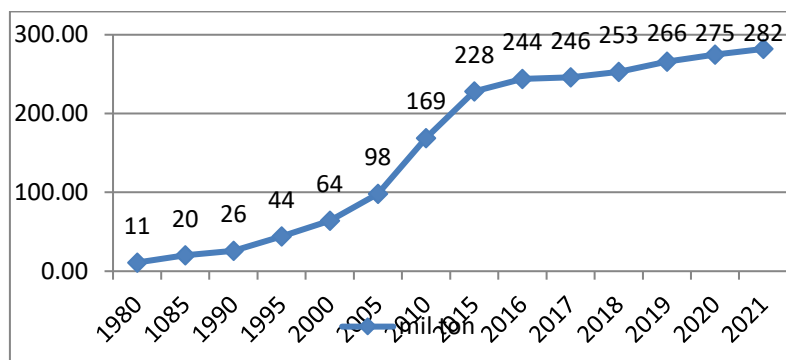


Figure 4. Evolution of Containerized Seaborne Trade between 1980 and 2020, in Million Tdw

The analysis of the evolution of container volume through Chinese ports shows an increase in 10 years, from 116.73 million TEU in 2008 to 234.29 TEU in 2020 (Table 5 and Figure 5).

Table 5. Container Handling Through Seaports in China from 2008 to 2020 (in Million TEU)

An	2008	2009	2010	2011	2012	2013	2014
mil. tone	116.73	110.2	131.45	146.32	157.97	169.68	181.78
An	2015	2016	2017	2018	2019	2020	
mil. tone	189.07	195.9	210.99	222.03	231	234.29	

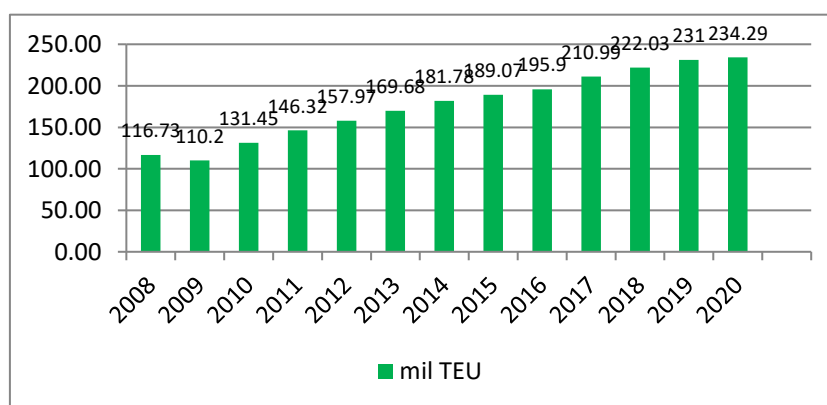
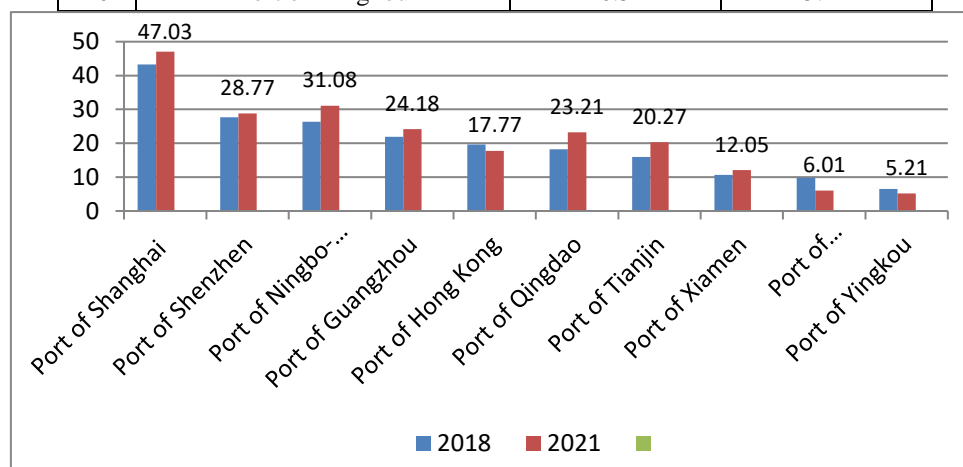


Figure 5. Container Handling Through Seaports in China from 2008 to 2020 (in Million TEU)

An ever-expanding port infrastructure underpins this growth in container traffic in China. Of the top 10 container terminals globally, ten are in China (Table 6 and Figure 6).

Table 6. China's Top Container Terminals in 2021, in Million TEUs

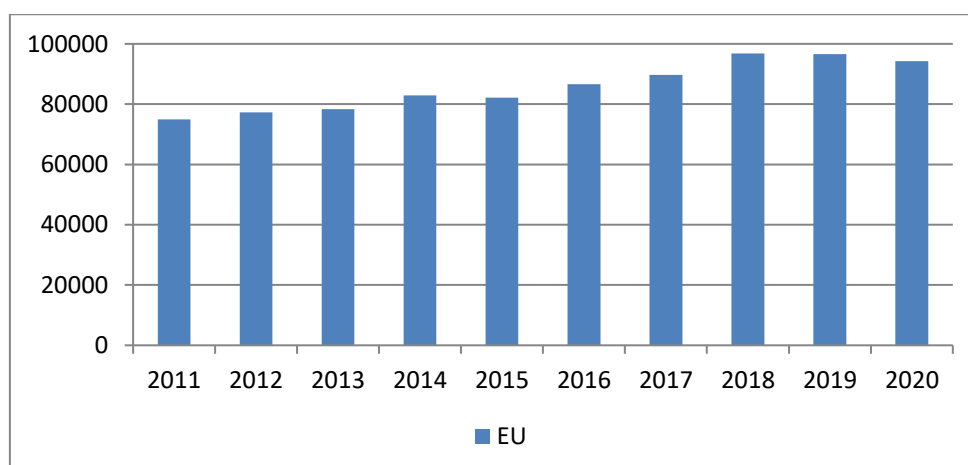
No.	Port	2018	2021
1	Port of Shanghai	43.3	47.03
2	Port of Shenzhen	27.7	28.77
3	Port of Ningbo-Zhoushan	26.4	31.08
4	Port of Guangzhou	21.9	24.18
5	Port of Hong Kong	19.6	17.77
6	Port of Qingdao	18.26	23.21
7	Port of Tianjin	15.97	20.27
8	Port of Xiamen	10.7	12.05
9	Port of Dalian/Beibuwan	9.77	6.01
10	Port of Yingkou	6.5	5.21

**Figure 6. China's Main Container Terminals in 2021, in Million TEUs**

In 2020, 94.3 million TEUs of containers were handled in the main EU ports decreasing by 2.4 % compared to 2019 (Tabel 7 și Figura 7, 8).

Tabel 7. Container Handling Throughout EU Ports, 2011 + 2020 in Million TEU

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EU 27	74.9 62	77.2 36	78.3 14	82.8 84	82.2 06	86.5 93	89.6 92	96.7 98	96.5 73	94.2 97
Germany	15.2 40	15.2 90	15.5 63	15.9 18	15.1 93	15.2 16	15.1 38	15.1 33	15.0 61	14.0 16
Spain	13.8 58	14.0 59	13.5 50	14.3 58	14.4 36	15.4 08	16.0 13	17.2 10	17.4 08	16.6 85
Netherlands	11.4 47	11.5 23	11.1 34	11.7 56	11.7 19	11.8 79	13.1 23	13.8 88	13.8 80	13.7 02
Italy	8.48 0	9.29 8	9.56 3	10.2 47	10.2 76	11.3 80	10.8 22	13.0 80	11.1 43	11.5 54
Belgium	9.51 1	9.16 5	9.18 8	9.72 6	9.77 6	10.0 83	10.3 31	11.2 19	12.2 00	12.6 04

**Figure 7. Container Handling Throughout EU Ports, 2011 - 2020 in Million TEU**

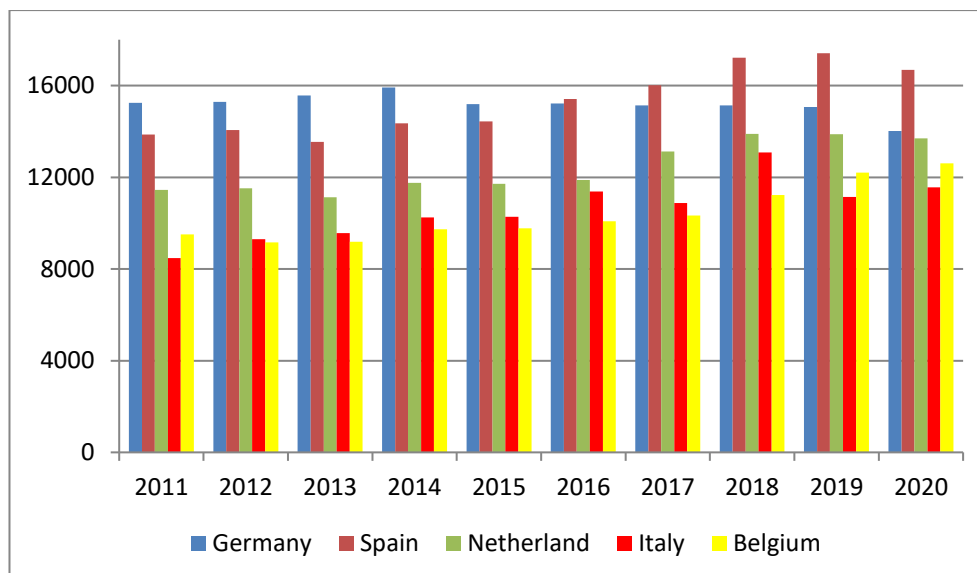


Figure 8. Container Handling Throughout EU's Top 5 Countries in Seaborne Container Transport, 2011 - 2020 in Million TEU

With 13.3 million TEUs handled, Rotterdam was the EU's largest container port in 2020 (Figure 14). Antwerpen followed Rotterdam with 12.0 million TEUs and Hamburg with 8.6 million TEUs handled in total (EUROSTAT 2022).

Tabel 8. Container Traffic throughout Main Six EU Container Terminals, 2011-2020, in Million TEU

Seaport	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Rotterdam	11.340	11.418	11.021	11.634	11.577	11.675	12.892	13.598	13.493	13.294
Antwerp	8.317	8.174	8.256	8.812	9.370	9.891	10.032	10.830	11.676	11.970
Hamburg	9.035	8.891	9.302	9.775	8.848	8.929	8.860	8.741	9.282	8.578
Valencia	4.332	4.471	4.328	4.407	4.609	4.720	4.814	5.169	5.421	5.413
Peiraia	1.681	2.815	3.199	3.493	3.360	3.736	4.120	4.886	5.646	5.202
Algeciras	3.593	4.113	3.988	4.555	4.516	4.761	4.390	4.773	5.125	5.108
Top 20 ports	67.267	69.569	70.181	75.483	74.247	77.739	80.423	85.285	85.764	81.251

Container port traffic in the United States was reported at 54,963,689 TEU in 2020, according to the World Bank collection of development indicators, compiled from officially recognized sources. United States - Container port traffic (TEU) actual values, historical data, forecasts and projections were sourced from the World Bank in March of 2022.

4. Conclusions

The consolidation of the global container shipping industry has accelerated in recent years. Container shipping is a capital-intensive economic sector with high potential benefits from the growing global demand for trade in goods. Container lines are under constant pressure to offer low rates to customers and maximize container utilization rates.

The shipping market is responding to the demand for shipping. The need for shipping services is a function of the price and quantity demand for shipping services over a given period. On the other hand, the delivery of containers is a function of the price (freight) and quantity supplied (fleet capacity) by companies engaged in container traffic. The freight market determines the rate level at which the demand for transport from shippers equals the supply of shipping. Increased seaborne trade would lead to a shortage of ships and a subsequent increase in freight. The EU is a significant player in the global container shipping market, with a share of almost 14% of world volume, less than half that of China but double that of the US.

Future EU enlargement will create the conditions for opening new container shipping lines in southern and eastern Europe, to the Mediterranean and the Black Sea, increasing the number of terminals and container ships, supporting the EU's position as a world-class player in the seaborne container trade market alongside the developed West.

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