

# Fast Recovery or Stagnation? The Maritime Industry post COVID-19

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## Abstract

Since the outbreak of COVID-19 in February 2020, the global maritime trade plunged by 9% in H1 2020, an unprecedented loss since the trade decrease triggered by the 2008 Financial Crisis. In addition to the disruptions of supply chains and decline of transportation sectors brought on by the pandemic, surging nationalism and protectionism, the retreat of globalization, and calls for more diversified global value chains and decoupling of economies have heightened the adverse impacts on survival and sustainable growth of the shipping industry. As a result, many people have adopted a more pessimistic view, and predicted that “the short-term outlook for maritime trade is grim, and that the industry’s recovery is fraught with uncertainty,” according to one UNCTAD report. Some even proclaimed to “wave goodbye to the greatest era of globalization,” wrote The Economist in May of 2020.

This article argues that the maritime industry will have a strong and speedy recovery from the downturns despite transportation disruptions brought on by COVID-19, outcry for diversification of supply chains, and changes escalated and exacerbated by nationalist sentiments and protectionist conflicts. The adverse factors that the shipping industry faces would be marginal rather than fundamental in nature. Those marginally higher risks could be managed and ameliorated by multinational enterprises through alternate cross-border business strategies and harnessing of new technologies. Panic over the changes in supply chains (including nearshoring and reshoring) and diversifying production sites could be mitigated by emerging profitability earned from global specialization, rent-seeking strategies, and orchestrating a transformation in global value chains.

Most importantly, pandemic-driven fears that globalization could be “killed” will be minimized when actual data shows just the opposite - that globalization is expanding.

The paper also analyzes the elements that could strengthen the fast recovery and sustainable growth of the maritime industry. The vertical and horizontal integrations of maritime companies, especially the massive multinational enterprises, show their vast capacity in the cross-border movements of ideas, technology and portfolio capital, and consequently would help build up global production scale of economies and global amortization. Emerging technologies and their increasingly commonplace applications in digitalization, automation and robotics in maritime sectors, is crucial to sustaining both short-term productivity and long-term growth of the maritime industry.

The research provides evidence for why the maritime industry is poised for an expeditious post-pandemic recovery and seeks to answer many puzzling questions while our world still operates under globally disruptive and unprecedented pressures associated with the COVID-19 pandemic.

**Keywords:** Maritime industry, COVID-19, International trade, globalization

## **1 Introduction**

After the outbreak of COVID-19 in early 2020, the world was sent into a catastrophic chaos. It was predicted that there would be an inevitable economic downturn similar to the most recent recession in 2008, when we went through prolonged economic slowdowns, high unemployment, unstable financial systems and decreasing GDPs in many parts of the world. However, starting from the third quarter (Q3) of 2020, there has been a strong resilience in the world economy, including international trade and maritime transportation. The merchandise trade for the Group of Twenty countries (G20) reached record level in Q1 2021. Exports and imports for the G20 increased by 8% and 8.1% respectively compared with the previous quarter. China, the G20's largest merchandise trader, soared in Q1 2021, with growth rates of exports up by 18.8% and imports by 19.0%, according to OECD report in late May of 2021.

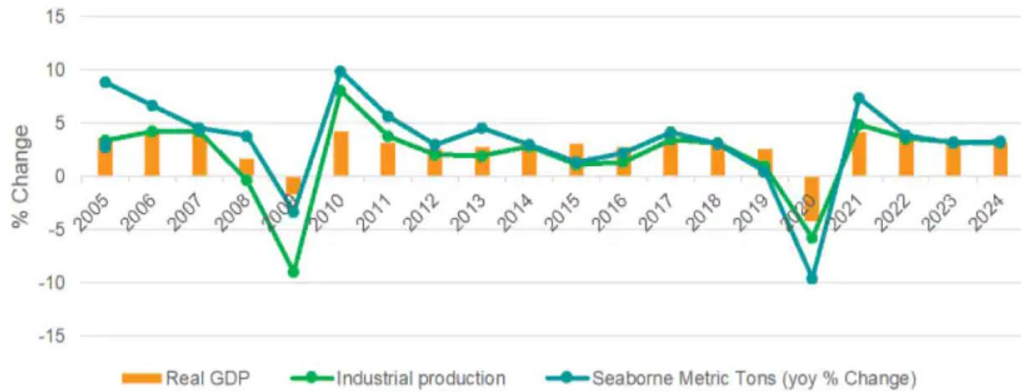
The paper intends to explain the factors that account for the strong rebound of the shipping industry from the third quarter of 2020 onward. It discusses that the concurrence of mitigated supply shocks and increased demand for consumption goods were key factors in the demonstrated resilience of the shipping industry, and how this industry was able to nimbly adapt to the catastrophic disruptions brought about by the COVID-19 pandemic. This research seeks to understand the exogenous features of the COVID-19 pandemic which offer the most compelling explanation for the major economies' steady rebound in three month of time from the onset of the pandemic last year. The exogenous nature associated with sharp economic downturns brought about by a global panmedic is different from economic recessions brought about by endogenous features. As exemplified by the recession in 2008, endogenous features, such as misallocation of capital and investments resulting in massive cross-defaults and systemic disruptions. In contrast to the estimated three months, it took two years for the 2008 recession to pull out of the bottom of its downturns and reach the pre-crisis level of production and growth.

The paper is organized as the following: Section One gives an introduction explaining the purpose and approach adopted by the analysis. Section Two presents statistics supporting the swift returns of the shipping industry. Section Three identifies the elements that account for the fast recovery in the shipping industry, and how those elements work collaboratively to contribute to global rebound. Section Four concludes.

## **2 Rapid Recovery of Shipping Industry under COVID-19 Pandemic**

COVID-19 pandemic hit the world economy hard at the onset of last year, with global GDP down by 4.2% and international trade falling by 9.5%. The disruptions were quite comparable to the detrimental impact of the financial crisis of 2008 (See chart 1).

*Chart 1 year-on-year % change in world GDP, real production and seaborne trade*



Sources: (Gladen 2021)

Against the predictions of many, since Q3 2020, we have been continuously observing a speedy and nimble recovery in G20 countries and some emerging economies. This pattern is reflected in all key economic indicators, such as world GDP, international merchandise trade, ship capacity and port utilization. By Q1 2021, global trade reached a record level and, with the exception of the UK, all G20 economies recouped positive growth rates, according to the report of Economic Cooperation and Development (OECD) in late May 2021 (see Chart 2)

Chart 2 Trade in goods: Exports, Percentage change, previous period, Q1 2019 – Q1 2021



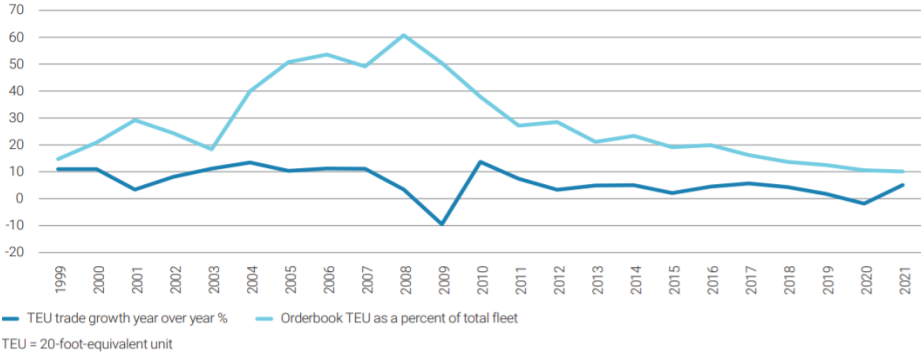
The above OECD data shows the quarterly growth rates of merchandise trade from Q1 2019 to Q1 2021. The left graph shows the total OECD nations and the right graph shows the USA individually. The merchandise trade for total OECD members grew by 9.1% in Q3 2020 compared to the previous quarter, and by 4.8% in Q1 2021 compared to Q4 2020. For the USA the growth rate reaped 5.7% between the last quarter of 2020 and first quarter of 2021.

Equally as compelling for the rebound of the maritime dynamic can be found in the latest data on global containerized shipping. The world container trade has been relatively stable despite the

COVID-19 disruptions (see Chart 3). The stability of container trade under the pandemic should largely be credited with the following two factors: China makes up as much as over 40% of the global containerized trade, and in February 2020, Chinese containerized vessel calls dropped 16% while the country was in various stages of lockdown. With the decrease of COVID-19 cases and subsequent easing of lockdown restrictions, recovery was swift and the level of vessel calls returned to pre-pandemic levels immediately (Chart 3). Consumer demand for commercial goods remained high due to the shift in consumer priorities during the pandemic-induced lockdown. Although the nature of some of these goods had changed, demand was still booming.

The second recovery factor we observe is that container companies have been actively engaged in a series of vertical and horizontal integrations since 2015, benefitting business management. The philosophy held is that the more concentrated companies could be, the more efficient in risk management and rent-seeking adjustment they would be. Streamlined companies that are highly efficient on every level allow them to rapidly meet various challenges that would flummox a smaller individual company. Possessing more advanced capabilities, resources, and global contacts allow larger container companies during the pandemic to better communicate and redirect their distributions.

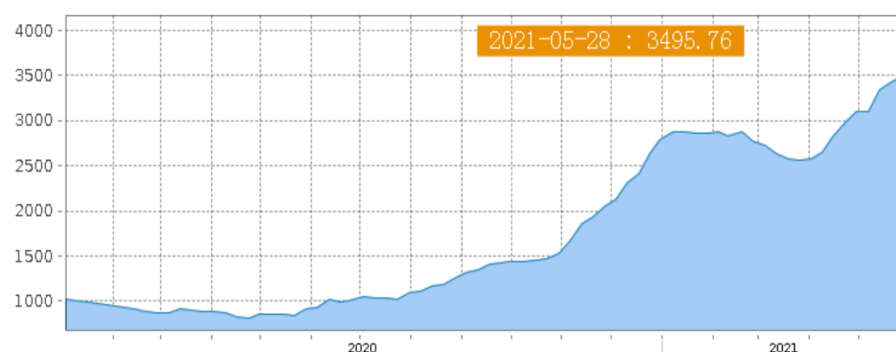
Chart 3 World container trade (TEU) : Q1 1999- Q1 2021



As early as Q3 2020, shipping vessel calls and port utilization were nearly to their full capacity. The global shortage of shipping containers, brought upon by strong demand for goods and tight container supply, drove cargo costs to record highs and hampered manufacturers in filling fast-recovering global goods orders. The Shanghai Container Freight Index (SCFI) shows the rise of freight rates far above the 2016-2019 level since week 21, around the time of mid-June of 2020.

Toward the end of May 2021, SCFI reached a record high of 3495.76, which grew by 250% from the pre-pandemic level.

*Chart 4 Shanghai Container Freight Index January 2020 – May 2021*



All of the charts are surely proof as to the phenomenal resilience that container shipping offers, and the recovery has been steady, continuing and encouraging.

### **3 The Factors leading the Strong Recovery of Shipping Industry**

The statistics have clearly indicated the returns of the global economy as well as seaborne transport, and the trend continuously ticks upward as we speak. In this section, we will discuss the reasons that account for the resurgence of the shipping industry from a sharp downturn triggered by the COVID-19 outbreak. We will examine this issue from both the supply side and the demand side of maritime transportations.

#### **3.1 Resilience of Supply Chains to COVID-19 Shocks**

Supply shocks represent an unexpected change in the availability for raw materials, parts, and manufacturing capabilities. This was exactly what happened when COVID-19 was initially reported in January 2020 and quickly followed by massive lockdowns, first in China and then other parts of the world. As China makes up an estimated 40% of business for container shipping companies, seaborne trade plummeted by 9.5% instantly and total global trade fell significantly in the first half of 2020 (Gladden, 2021). Unlike the supply chain shocks resulting from internal disruptions, such as a misallocation of capital and investment that led to big cross-defaults exemplified by the 2008 financial crisis, global supply chains were robustly healthy before the

COVID-19 outbreak at the beginning of 2020. The same was true for the other major economic indicators, such as national GDPs, real production and unemployment rates. Though the outbreak of the global pandemic, followed by massive lockdowns, put a pause to the world, the economic fundamentals were still viable and supportive. Therefore when lockdowns were removed and COVID cases became less devastating, the exogenous nature of the COVID-19 crisis helped the maritime industry recapture the dynamic and productivity.

For the past ten years or so, shipping companies have been engaged actively in building up their resilience and adaptability to meet challenges imposed upon them. After going through the market consolidation of the 2014-2017 M&A (merger and acquisition) wave, the shipping companies became successful in risk control and capacity management, allowing them to maintain network integrity, minimize logistics and financial issues and cope effectively with both internal and external shocks. As a result, shipping companies could be able to handle the surge in shipping vessel calls effectively and maximize the shipping capacity in a short period of time.

### **3.2 Recovery from demand Shocks**

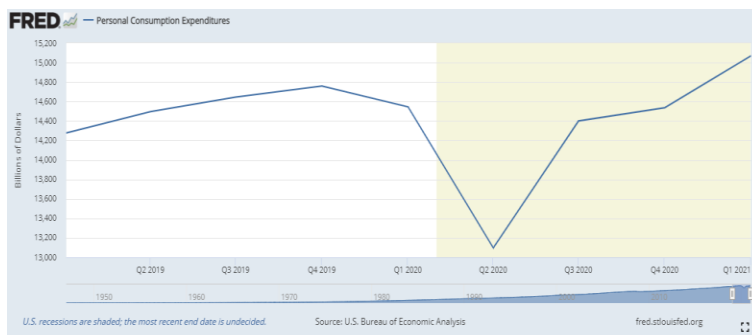
With huge lockdowns, demand shocks hit the world economy hard as well as the shipping industry, and demands for consumption goods decreased tremendously. However, the demand for basic goods has been relatively stable throughout the period, such as foodstuff and medicals. Among different categories of consumption goods, the demand for durable goods and capital goods, such as cars, ships, trucks and machineries has declined significantly. As soon as the pandemic became less destructive, consumers and industries recouped their confidence, and paddled with government relief funds, a rise in demand for goods took off almost immediately. In concurrence with the rise of other leading economic variables, like real production, GDP growth rates and international trade, increasing demands for consumption goods imposed a chain of positive impacts on both demand and supply sides of the shipping industry. The vessel calls for shipping companies increased immensely, and in the Q3 2020, demand for shipping service exceeded the supply of the fleet capacity, which led to the dramatic rise in the cost of cargo shipping (see Chart 4 for SCFI). The deferred demands and temporary disruptions of COVID-19 pandemic help explain rapid recovery of the economies of major countries and maritime industry as well.

At this point, even steadier economic returns would very well be expected, due to vast delivery of COVID vaccinations, savings accumulated during a long year of lockdowns, rescue packages and

infrastructure investments implemented from major governments like the US. “Consumers are now back in the driver’s seat when it comes to economic activity, and that’s the way we like it.” as Gregory Daco, chief U.S. economist at Oxford Economics said.

Let us use the United States data as an example to illustrate the degree at which aggregate consumer spending has increased toward the end of the first quarter of 2021. Based on the statistics from the US Bureau of Economic Analysis, personal consumption expenditure in the first quarter of 2021 has jumped past the pre-pandemic levels and reached the record hitting level of over 15,000 Billion dollars (See Chart 5).

*Chart 5 US personal Consumption Expenditure Q1 2019- Q1 2021*



Spending on services is rebounding, but it is not growing as rapidly as expenditures on goods due to travel restrictions, lingering containments on entertainment, and limited capacity of restaurants. According to data by the US Bureau of Economic Analysis, the consumption on services only grew by 1.1%, while consumption on goods grew by 5.6% during the same period.

The observations suggest that we are still far from reaching the final phase of a clear and consistent recovery and returning to normal demand patterns, though major economic indicators show a robust and persistent path to recovery for the economy.

## **4 Conclusion**

The COVID-19 pandemic put a stall on the world at the beginning of 2020, which resulted in the synchronization of supply shocks and demand shocks for the global economy, international trade and the shipping industry. However, instead of a prolonged downturn followed by a staggering and halting recovery comparable with the recessions triggered by previous business cycles,



including the most recent one in 2008, a strong resilience has been clearly presented in the second half of the year. This is largely because of the exogenous nature of COVID -19 pandemic which was imposed on a generally healthy economic situation right before the COVID-19 outbreak. Therefore, when massive stimulus plans and infrastructure investments from major governments like the United States, together with the global deliveries of vaccinations, the economy was back on track quickly while many other economic indicators have already reached pre-pandemic levels.

The maritime industry is obviously a sector that gains accelerated recovery with mitigation of supply chain shocks and restoration of consumer and corporate confidence, which was reflected in the surge in demand for consumption goods. Seaborne trade is to gain a growth rate of 6.9% between 2021 and its preceding year, according to the forecasting of the Global Trade Atlas.

The pandemic's direct impact on the economy continues, and the after-effects will remain for years to come. New challenges imposed on maritime companies would be how to make supply chains more resilient without weakening their competitiveness, and how to incorporate more diversified supply bases without losing the advantage of scale economy and cost efficiency.

The 2021 resilience will not always be an upward curve for every country and every industry, with the exact pace of the recovery to be determined by developments of the pandemic and changes to government interventions, international cooperation, deliveries of vaccinations, travel restrictions and other containment measures. Yet the most promising news is that we are recovering and the recovery is faster than what most analysts would have expected at this time last year.

## **References**

[1] Contractor, F. 2020. The world economy will need even more globalization in the post-pandemic 2021 decade. *Journal of International Business Studies*, 2021.

[2] Gladen, A, 2020 in Review–How did the Maritime Industry respond to COVID-19? IHS Market, Maritime Research & Analysis, 11 January 2021

[3] Kellie Lynch, Transpacific Ocean Freight & Blank Sailings Update | Week 19.  
<https://blog.shipuwl.com/transpacific-blank-sailings-ocean-freight-update-wk19-2020>,

[4] Notteboom, T, Pallis, T and Rodrigue, J, Disruption and Resilience in Global Container Shipping and Ports: the COVID-19 Pandemic versus the 2008-2009 Financial Crisis, *Maritime Economics and Logistics*, 2021, Vol. 23, pp179-210.

[5] Qiu, S, Singh, S. and Khasawneh, R. Boxed out: China's exports pinched by global run on shipping containers, Reuters, Business News, Dec. 10, 2020.

[6] Schwartz, N. U.S. Economy's Strong Start Signals a Stellar Year, New York Times, April 29, 2021, <https://www.nytimes.com/2021/04/29/business/economy/united-states-gdp.html>

[7] Shih, W. Global Supply Chains in a Post-Pandemic World, Harvard Business Review, Sep.-Oct. 2020, <https://hbr.org/2020/09/global-supply-chains-in-a-post-pandemic-world>

[8] UNCTAD, Trade under COVID -19 Pandemic, *Key Statistics and Trends in International Trade 2020*, United Nations, Geneva, 2021

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June 14, 2021

Dear Sir or Madam,

I am submitting the full paper titled “Fast Recovery or Stagnation? The Maritime Industry post COVID-19” to the IAMU AGA 21 conference for publication in the Conference proceedings. I just finished the paper and it has not been formally refereed.

A biography is attached as the following: Dr. Qi Chen got her undergraduate education in China before she headed for US for her doctoral program in Economics at the University of Michigan at Ann Arbor. She got hired as an assistant professor of Economics at Massachusetts Maritime Academy right after she was granted her doctorate in Economics from the University of Michigan. Dr. Chen was promoted to full professor in 2008 at Massachusetts Maritime Academy and has been serving as the department chair since 2020. Dr. Chen has published economics papers, as well as papers on maritime education.

Thank you very much for all of your great efforts to make the IAMU AGA 21 a successful conference and I and my co-author, Amanda Pang look forward to attending the conference to be held at Alexandria and visiting the wonderful country of Egypt.

Best regards,

Qi Chen