



Market Commentary: Supply Chain Traffic Snarl Explained November 2021

I am really excited about how LaGuardia Airport is coming together! Why? Well, it is 15 minutes from my house which makes it ultra-convenient. But, prior to this renovation it was considered worse than many third world airports – the laughingstock of the developed world with myriad flight delays. Prior to the renovation the landing strips were short with pilots touching down or taking off feet from the river. Here we are, 6 years later and over \$8 billion spent and we are just about there¹! I am being serious².

Now, we have all been on those flights that get delayed due to weather. This becomes a logistical nightmare for all involved. Airports are busy enough and then all of a sudden, a 15-hour window for flight take-offs and landings has to somehow be rescheduled to 5 hours. It means some planes simply will not make it in. It means that some pilots will not be able to fly due to hour restrictions they exceed while waiting. A half day delay may result in a ripple effect translating to days of delays and irate passengers.

Like everything else nowadays, the airline industry is constantly looking for ways to increase the efficiency of logistics. How to get passengers on the airplane quicker. How to increase the number of planes taking off and landing in an hour³.

Covid was the mother of all traffic jams, but to the supply chain not air traffic, with the ripple effects still materially coursing through the economy.

The global supply chain has been built over the course of the last few decades to maximize profit through providing the customer anything they want, quickly, and at a reasonable price. Companies around the world have taken advantage of (1) globalization, (2) just in time manufacturing, (3) increased intelligence in analyzing consumer purchasing habits and (4) increasingly aggressive employee scheduling processes in (a) containing costs, (b) minimizing inventories and (c) maximizing speed of delivery⁴. If a company competing in the global marketplace held inventory or looked for safeguards for potential risks, they went out of business. Given this intense focus on efficiency and profit, it did not take much to knock the supply chain to its knees – and Covid was the equivalent of a category 5 hurricane lasting for days.

Let's take a quick look at some of the players in the global supply chain and how they contributed on a high level to where we are today:

Consumer: Behavior change! We have spoken about algorithms in past commentaries and how a mistaken input or incorrect probability assessment can materially skew results. Well, for years consumer behaviors adjusted slowly. Covid upended that trend by first having consumers cease all purchases and then materially adjusting away from services and allocating that budget to goods.

Results: Factories had to adjust future expectations lower and then adjust materially higher. They also needed to ship more items and navigate the various hurdles highlighted below.

¹ [Explore - LaGuardia Redevelopment \(anewlga.com\)](#)

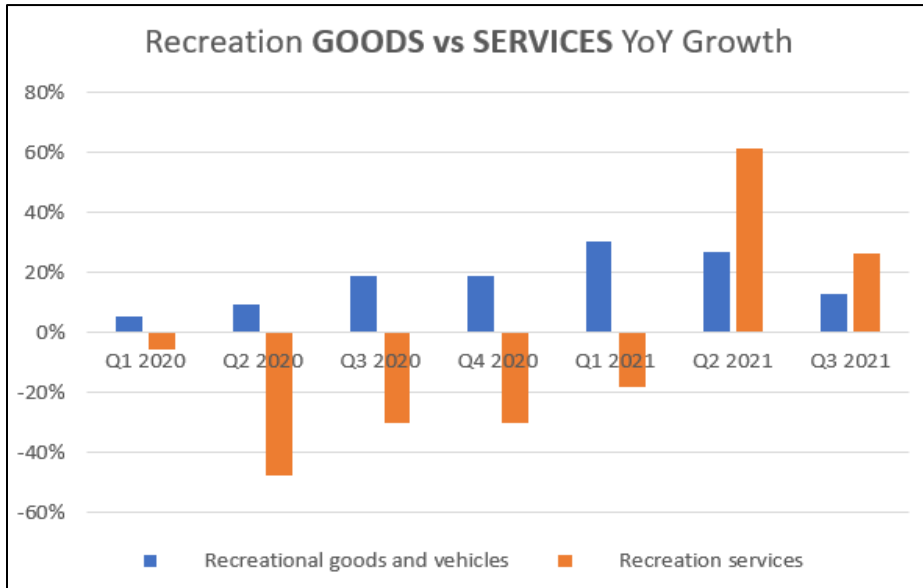
² Those who know me better recognize that I can be sarcastic, so I am going out of my way to make it clear that I mean it! It had to be done and it was worth the wait and price.

³ [Pushing Tin](#) is a fun movie focused on air traffic controllers.

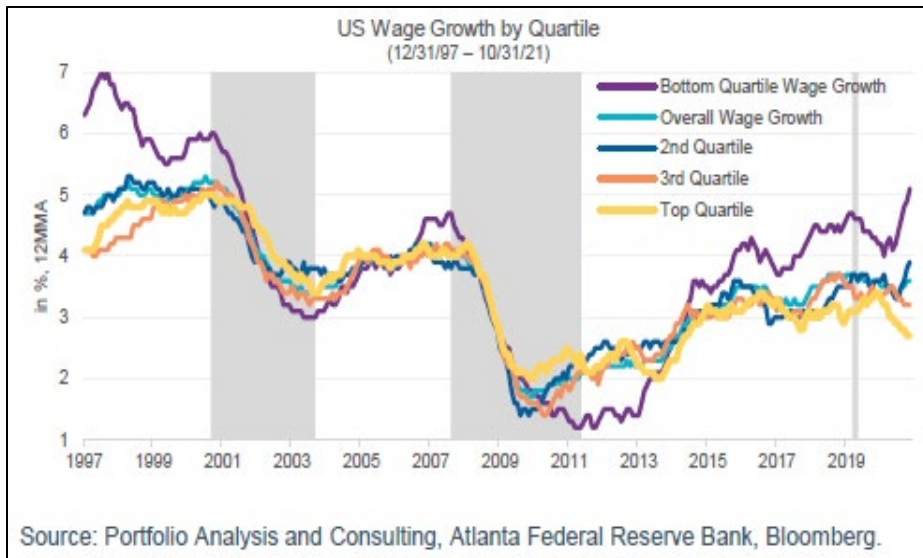
⁴ [Amazon Builds Out Network to Speed Delivery, Handle Holiday Crunch - WSJ](#)



Recreational Goods vs Services illustrates this trend best with goods purchased increasing an average of ~17% annually over the last two years, while Services declined on average ~9% for the period⁵.



Worker: After initial mass layoffs, those at most presumed financial risk (i.e., lowest compensated US workers) were bailed out by the government. This not only allowed workers to remain on the sidelines but also contemplate potential career changes⁶. It was not all good, as some segments of the working class were justifiably nervous about returning to an in-person job based on either their own medical situation or a loved one for whom they may have been a caretaker. Presumably some of these career changes will not work out and those workers may end up returning to their previous, unloved careers.



Results: The US Participation rate is approximately 1.7% below its February 2020 level – an equivalent of roughly 3 million people not looking for a job. Further exacerbating the job scene are those looking for career changes and an uneven recovery creating increased needs in some industries (e.g., trucking) vs. others (e.g., travel). As a result, the lowest tier of workers has been able to demand wage increases – a rarity in the last few decades.

Factories and Ports – A taste of the supply chain: China shut down initially followed by rolling shutdowns in various countries as Covid spread materially affected factory and port production.

Results: Rolling closures of some of the largest ports in the world, like Ningbo port pictured below, threw shipping schedules and prices into havoc. What was once clockwork, with known times of arrival to the minute, has turned into a massive global traffic jam resulting in gridlock that may last through all of 2022.

⁵ From the Bureau of Economic Analysis Table 2.3.5U: Personal Consumption Expenditure by Major Type of Product and Major Function:

⁶ There are more entrepreneurs now than ever – reference lost (WSJ)

⁷ Google Image via Bloomberg of Ningbo port



So how does it all end? How do we reach equilibrium?

Some of this will naturally settle down if we are able to get back to a normal global rhythm⁸. But even if it does not go back to circa February 2020 characteristics, the markets usually have a way of beating a path back towards efficiency. Let's take two examples:

Truck drivers: If shipping traffic eventually gets back to a normal baseline consistency and workers feel the need and the comfort to come back to work as truckers, then it all plays out nicely. If it does not, though, then automated trucks will happen quicker, which will require

fewer truckers! We spoke about this reality in our Q42019 Exploration titled "Jobs: Us vs The Machine," where we highlight a picture of Tesla's automated big rig on page 3 and the fact that truckers make up roughly 2% of our workforce – over 3 million drivers!

Chips: The semiconductor business has always been a difficult one given the massive capital expenditure and lead time necessary to create a factory. The business tends to be cyclical and generates additional risk in setting up factories or adjusting fabs. Chips got hit on both sides due to Covid: Factories were shut across the world, and orders were cancelled as customers feared the worse. At the same time, chip makers were taking advantage of the global supply chain with Accenture and Global Semiconductor Alliance estimating that chip assembly can require some parts to travel up to 25,000 miles to become a finished product⁹ highlighting the ease, low cost, and efficiency of sourcing throughout the world – an equation that has now materially changed due to increasingly complex logistics. Between probable hoarding and building up of inventories, combined with the current supply chain issues, it will take some time for this industry to reach a baseline equilibrium. Pundits are forecasting it will take till at least through 2022, but if not, there are already a number of players in the business building out that next factory. In fact, Intel and Samsung have announced over \$35 billion in combined spend on two new factories in Texas. This comes as the US tries to recapture some semiconductor market share for a variety of reasons that we can discuss in a future commentary.

Ultimately, some elements of the supply chain will sort themselves out similar to airline travel after a bad storm. Other elements may necessitate a more material spend, perhaps even the equivalent of a real renovation of one's favorite, local airport. But in the end, market forces will prevail in normalizing the supply chain – it may just take a bit of a time.

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⁸ Ignoring, of course, the myriad other risks in the system, such as the future relationship between the US and China, global warming, increased partisanship, material global debt, and so on. Remember, though, there are always risks! On the flip side, innovations over the millennia have resulted in a steady increase in human wealth!

⁹ [Global Chip Shortage 'Is Far from Over' as Wait Times Get Longer - WSJ](#)