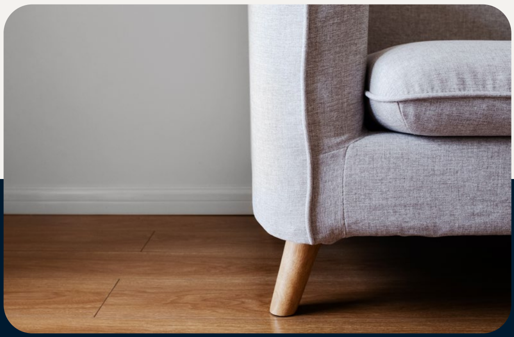
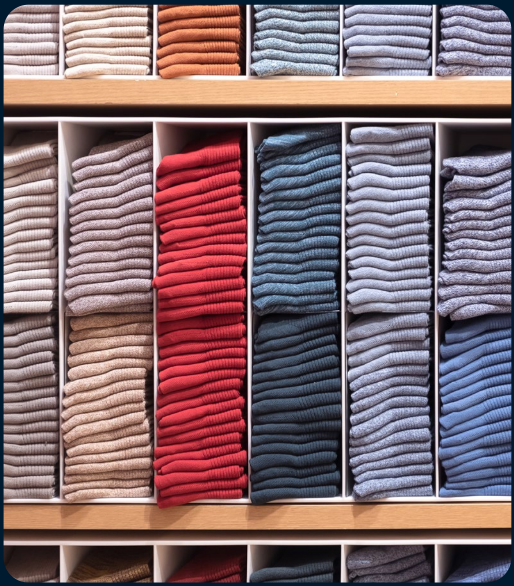
flexport.

Consumption Forecast

OCTOBER 2022





The Flexport Consumption Forecast Top Five Takeaways

1. Consumption holds steady for the holidays (Q4)

2. No recession showing up yet in our figures

3. Growth seen in demand for durables

4. Sector slowdowns in nondurables

5. Apparel expands despite volatility

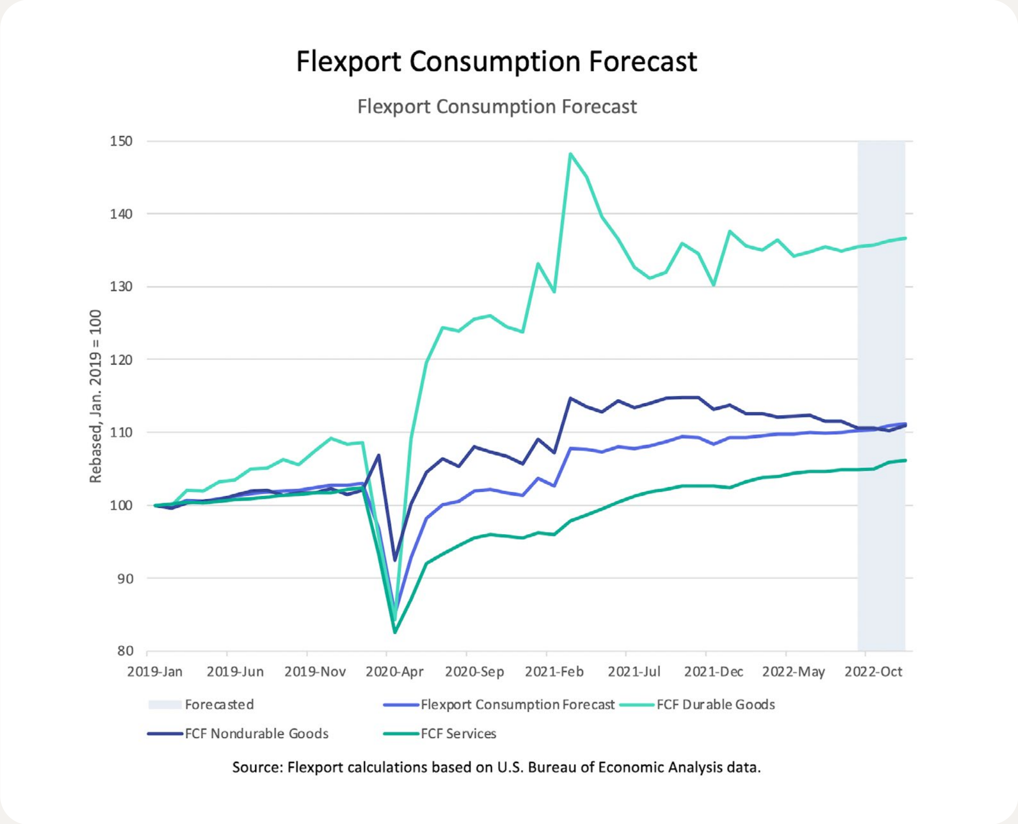
Steady as She Goes - The Flexport Consumption Forecast

What will the holiday season look like? That's a regular question for anyone who's involved in the production, transport, or retail business, given the importance of the fourth quarter to annual sales. It's an even more challenging question this year, as the unusual economic effects of the pandemic linger on and reliable past consumption patterns are set aside by shoppers.

Flexport Research has been tracking and forecasting this extraordinary time through releases such as the Post-Covid Indicators[1]. Those indicators tracked the remarkable swing in personal consumption away from services and toward goods. They also show durables consumption remains strong relative to services, while nondurables consumption is moving quickly back to a pre-Covid ratio with services.

But what if you don't want to worry about ratios? What if you want a forecast of what will happen next with the level of durables consumption? The level of nondurables? Or even subcategories like seasonal goods, or apparel? For that, we introduce the Flexport Consumption Forecast.

A preview of the results: despite mounting talk of recession, we're not yet seeing it in the data. Personal consumption looks likely to hold fairly steady through Q4 of 2022.



[1] https://www.flexport.com/research/post-covid/

Work, Shop, Repeat

Personal consumption sits at the heart of economic activity[2], providing one of the four elements in the expenditure approach to defining GDP.

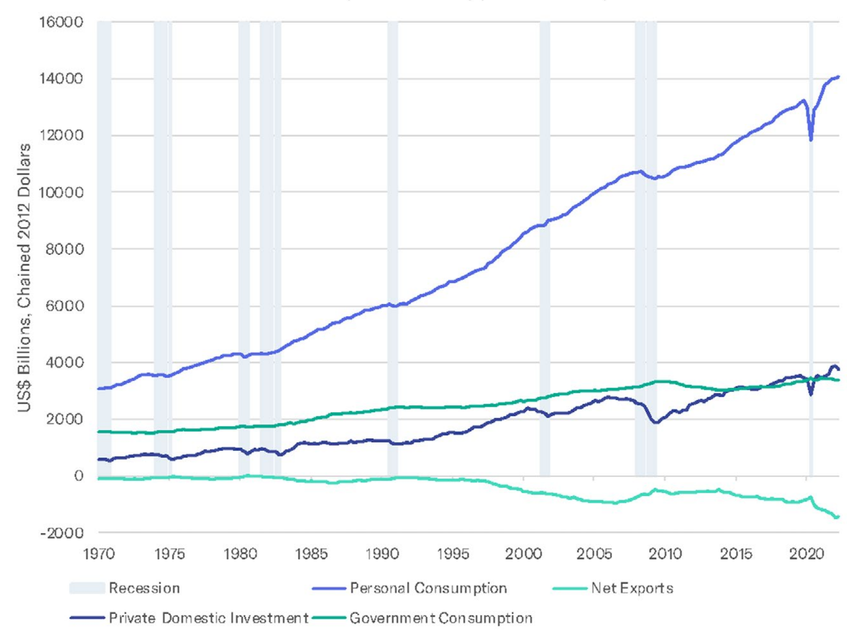


Fig. 1 Personal Consumption Leads GDP Expansion

U.S. Real GDP Expenditure-Approach Components

Source: Flexport calculations based on U.S. Bureau of Economic Analysis data.

As shown in Figure 1, Personal Consumption Expenditures (PCE) accounted[3] for two-thirds of GDP in the 12 months to June 30, 2022, making an understanding of it vital for determining the outlook for the economy as a whole.

PCE has also been the main driver of the recent expansion in GDP. PCE growth was 5.4% on an inflation-adjusted basis in the 12 months to June 30, 2022, compared to the same period to June 30, 2021.

Total GDP increased by 4.0% as a result of government consumption declining. It should be noted that net exports (i.e. exports less imports) have dropped markedly, i.e. the trade deficit has expanded, as discussed below.

Personal consumption can be split into three major categories: durable goods (those lasting 3 years or more), nondurable goods, and services. Goods accounted for 39% of the total in the 12 months to June 30, 2022—with durable goods accounting for 24% of total consumption, i.e. 60% of goods, while nondurable goods were 16% of consumption, i.e. 40% of goods overall.

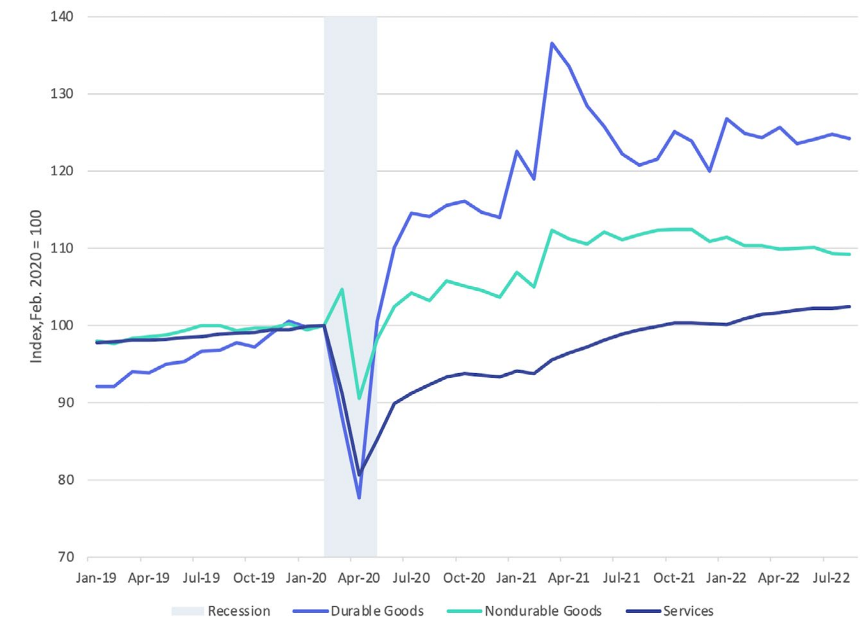


Fig. 2 Goods Consumption Above Pre-Pandemic Level

U.S. Real Personal Consumption Expenditure to August 2022

Source: Flexport calculations based on U.S. Bureau of Economic Analysis data.

Figure 2 shows the growth[4] in U.S. real Personal Consumption Expenditures during the pandemic era, rebased to February 2020 equalling 100. After an initial drop during the early phase of the pandemic, demand for goods soared as consumers shifted spending to goods and away from services: see Flexport's Post-Covid Indicator[5] for more information.

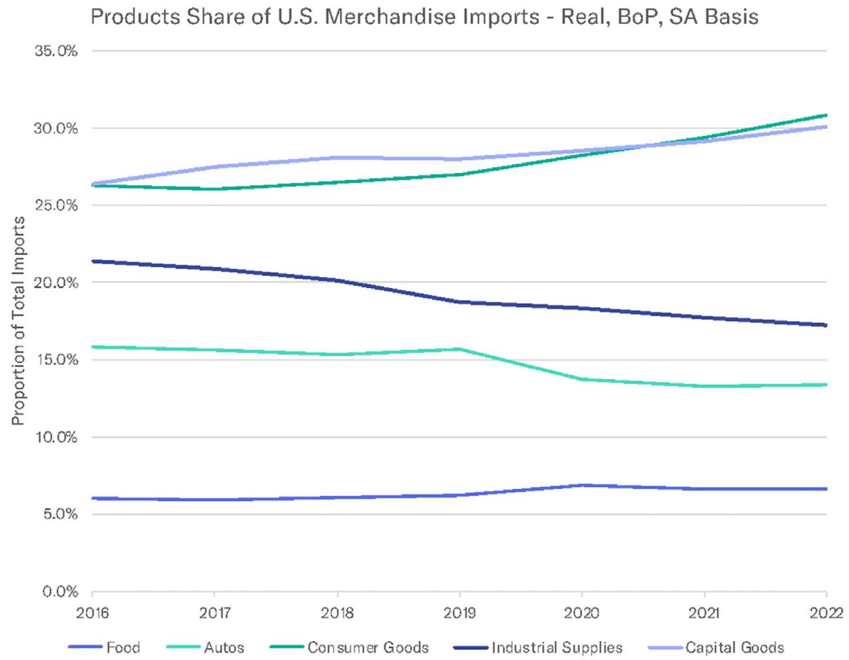
More recently, goods demand has stabilized at levels well above pre-pandemic levels. As of August 2022, the durable goods PCE was 24% above the February 2020 level on a seasonally-adjusted basis. Nondurable goods have declined, but remain 9% above February 2020. Services meanwhile have recovered and are 2% above the pre-pandemic level.

[2] https://www.bea.gov/data/gdp/gdp-industry
[3] https://fred.stlouisfed.org/series/GDPC1
[4] https://fred.stlouisfed.org/series/PCENDC96
[5] https://www.flexport.com/research/post-covid/

Major Driver of Logistics Demand

Aside from being vital for the economy at large, an understanding of the trajectory of personal consumption of goods is important for determining the outlook for supply chains broadly and logistics specifically.

Fig. 3 Trade Activity Forecast Shows Consumer Set to Lead



Source: Flexport calculations.

It's important not to conflate "consumer goods" with "personal consumption." The latter also requires industrial inputs—including capital goods such as machinery—and of course, it is consumers that buy cars and eat food.

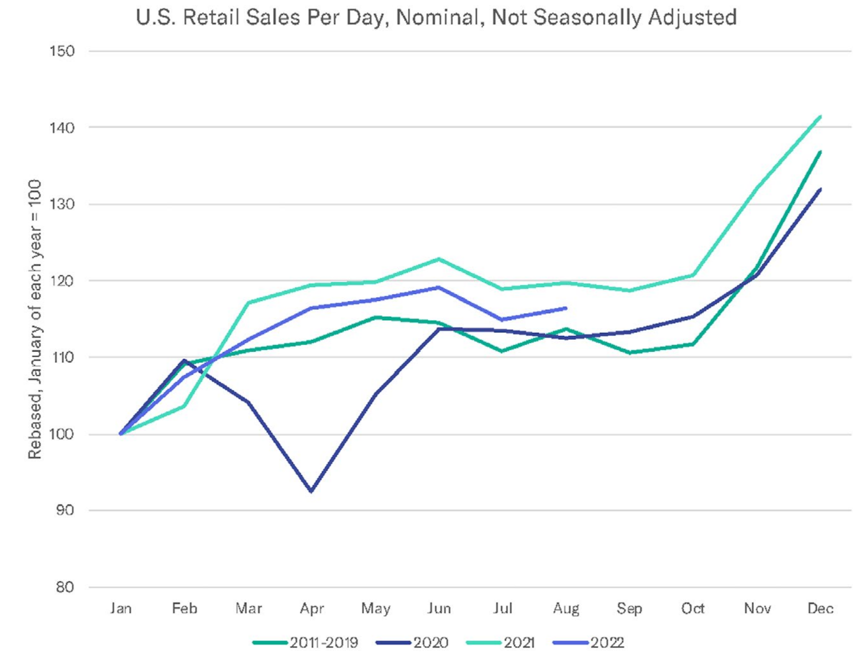
Nonetheless, as indicated in Figure 3 above, consumer products (food, autos, and consumer goods as well as fuels within industrial supplies) will account for 50% of U.S. goods imports by value in 2022, according to Flexport's Trade Activity Forecast[6].

Indeed, the consumer goods category has overtaken capital goods in 2022, with Flexport forecasting 12% year-over-year growth on a real, balance of payments basis, while total imports are only expected to expand by 7%.

Holidays Matter Most

The analysis so far has focused on seasonally adjusted data. However, consumption and trade flows are not constant during the year, as discussed in prior Flexport research[7]. For goods consumption in the U.S., the largest retail sales season covers the November and December period ahead of the winter holidays.

Fig. 4 Fourth Quarter Sales Matter Most



Source: Flexport calculations based on U.S. Census Bureau data.

Figure 4 shows U.S. retail sales, rebased to January of each year for the 2011 to 2022 period. In the 2011 to 2019 period, sales in November were 22% higher than in January, while December was 37% higher. The "peakiness" increased in 2021 when November reached 32% and December 41% higher than January. It should also be noted that there's a seasonal bump in August too, corresponding to the back-to-school sales season.

[6] https://www.flexport.com/research/trade-activity-forecast/
[7] https://www.flexport.com/research/early-closing-tracking-peak-season-trade-patterns

Introducing the Flexport Consumption Forecast

So far we have highlighted backward-looking data. The U.S. government, for example, will only publish[8] data for October's Personal Consumption Expenditures on December 1. How does that help address the outlook for the holiday season or the state of the economy in Q4'22?

A forecast based on real-time data is better and more complete than one based solely on historical data. To that end, and to address the questions raised from an economics and logistics perspective, we've created the Flexport Consumption Forecast. This corresponds to the U.S. Bureau of Economic Analysis's Personal Consumption Expenditure figures.

Fig. 5 FCF Indicates Continued Growth in Q4'22

Source: Flexport calculations.

In short, the Flexport Consumption Forecast (FCF) shows the outlook for real (i.e. inflation-adjusted) Personal Consumption Expenditures on a seasonally adjusted basis. Figure 5 shows our initial forecast.

The total forecast—including goods and services—is set to reach $14,418 billion in December on a seasonally adjusted, annual rate (SAAR) basis. That would equate to a 1.1% increase for Q4'22 in aggregate versus a year earlier. The long-feared slump in consumer spending is therefore likely to remain some way off.

The rest of this report provides more detail about the FCF and takes a deep dive into seasonal products ahead of the holidays, as well as the state of the apparel industry specifically.

[8] https://www.bea.gov/index.php/news/schedule/full

Durable Growth – Overview of The Flexport Consumption Forecast

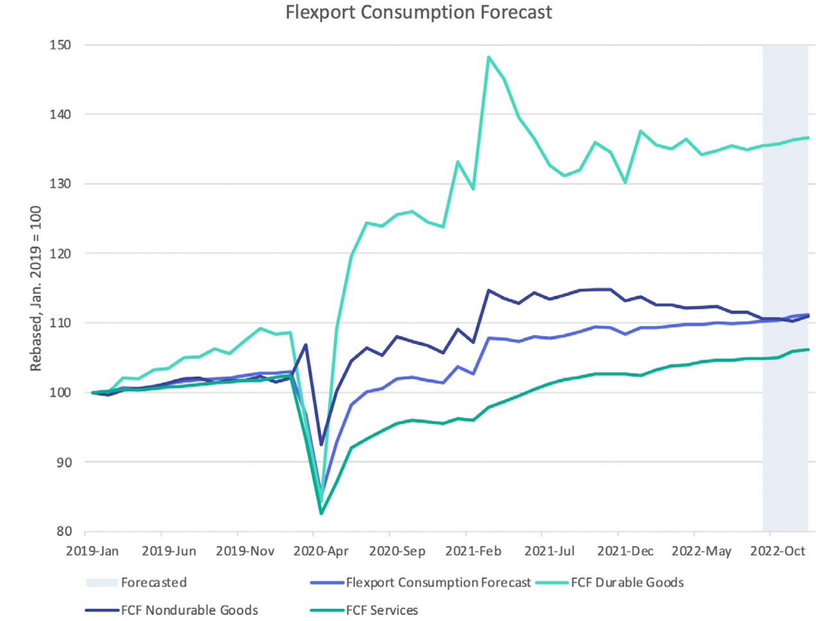
The Flexport Consumption Forecast calls for personal consumption expenditures to increase moderately from around 2% from August 2022 levels to the end of Q4'22. Spending on durable goods is expected to average 0.3% per month with higher recreational goods spending offsetting lower autos consumption. Nondurables spending will decline slightly at 0.1% per month.

More of the Same in Q4'22 - Flexport Consumption Forecast

In this section, we dig into the details behind our aggregate Flexport Consumption Forecast. More information on the technical aspects of the Flexport Consumption Forecast will be available online at flexport.com/research.

The Flexport Consumption Forecast for the U.S. shows the outlook for personal consumption expenditures on goods and services, with a high resolution of detail available for goods in particular. As noted already, in the aggregate the FCF indicates consumer spending will grow moderately from August levels through the end of 2022.

Fig. 6 Durable Goods Set to Lead FCF Higher



Source: Flexport calculations.

Figure 6 separates the outlook for goods by duration from services, rebased to January 2019 for comparability. Over the rest of 2022, spending on durable goods is expected to grow fastest, with an average 0.3% growth monthly in October, November, and December. That leaves the Q4'22 figure 1.2% higher than a year earlier.

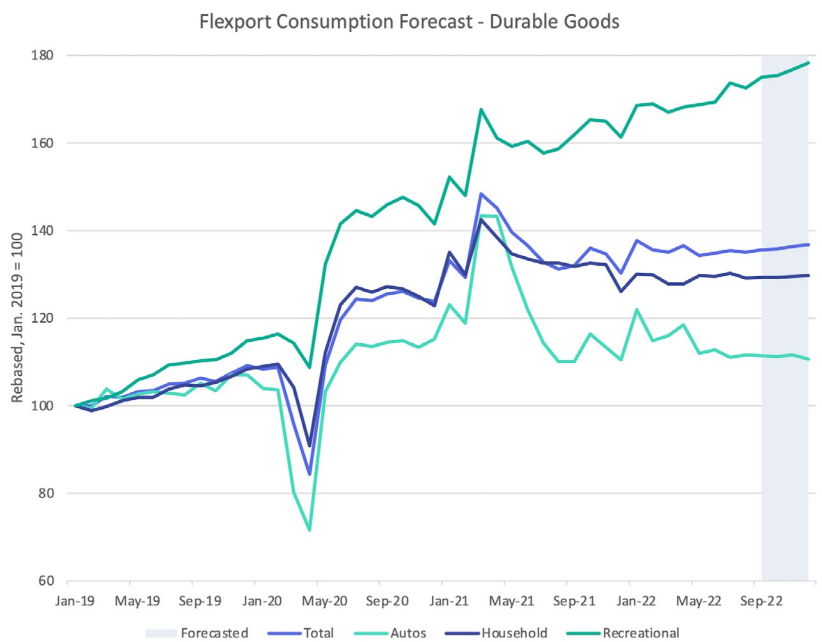
Nondurable goods, by contrast, are expected to decline slightly over the next 4 months with a fall of 0.1% per month sequentially through the month of December. Spending on nondurables in December will therefore be lower than a year earlier by 1.9% in Q4'22 on average.

Services will grow slowly on a sequential basis at 0.3% per month on average in Q4'22. However, the prior, pandemic-era drop in services spending means that the December figure will actually be 3.4% higher than a year earlier.

Cars Slow, Electronics Power Up - Durable Goods Consumption

Durable goods are defined as those which typically last for, and are replaced every, three years. The group includes autos, home furnishings/appliances, recreational products, and others.

Fig. 7 Recreation Drives Durables Consumption Higher



Source: Flexport calculations.

Figure 7 shows the marked difference in performance between the three main durable goods categories.

Automotive sector consumption is expected to decline by 0.2% per month in Q4'22, which will leave auto sales 2.0% lower than the 4th quarter of last year. Spending includes new vehicles, used vehicles, and automotive components.

The sector has been beset by supply chain woes, with inventories[9] of new vehicles having declined to 86,000 vehicles in July compared to sales in August of 165,000 vehicles and production/net imports of 191,000.

A shortage of new vehicles has driven additional consumer spending on spare parts for existing cars and light trucks. There's been a 3.7% sequential growth[10] in retail sales by auto parts retailers in Q3'22 on a nominal basis.

Household durables include furnishings and household appliances. Consumption growth is forecast to increase by an average of 0.1% sequentially each month in Q4'22. That would, nonetheless, leave consumption 0.6% lower in Q4'22 than a year earlier.

Spending on the home received a significant flip during the pandemic as consumers started to work from home (desks and Zoom-friendly shelves) and spend more leisure time there (sofas and quiet washing machines). Consumption peaked in March 2021 at 42.5% above January 2019 levels. Even after a more recent slowdown, spending in December 2022 is still expected to be 29.6% above the January 2019 level.

While the Flexport Consumption Forecast shows data in real, i.e. inflation-adjusted, terms it is worth noting that many retailers have indicated[11] that inventory levels have been above levels they are comfortable with. That's driven many to consider price reductions to try and boost demand.

Recreational spending includes electronics, sports equipment, books, and instruments. The segment has also been a beneficiary of pandemic-era spending. Momentum looks set to continue, with consumption forecast to increase by 0.74% on average each month in Q4'22, resulting in the total for the quarter being 8.2% higher than a year earlier.

[9] https://www.bea.gov/data/consumer-spending/main, See table under "auto and truck seasonal adjustment".
[10] https://www.census.gov/retail/index.html, Adjusted retail sales for category 4413 "Automotive parts, acc., and tire stores".
[11] https://www.flexport.com/research/pack-it-in-corporate-inventory-challenges/, see "Buy Early, Sell Cheap".

Less Food, More Clothes - Nondurable Goods Consumption

As noted already, the sequential growth in durables each month in Q4'22 is expected to average just 0.3%.

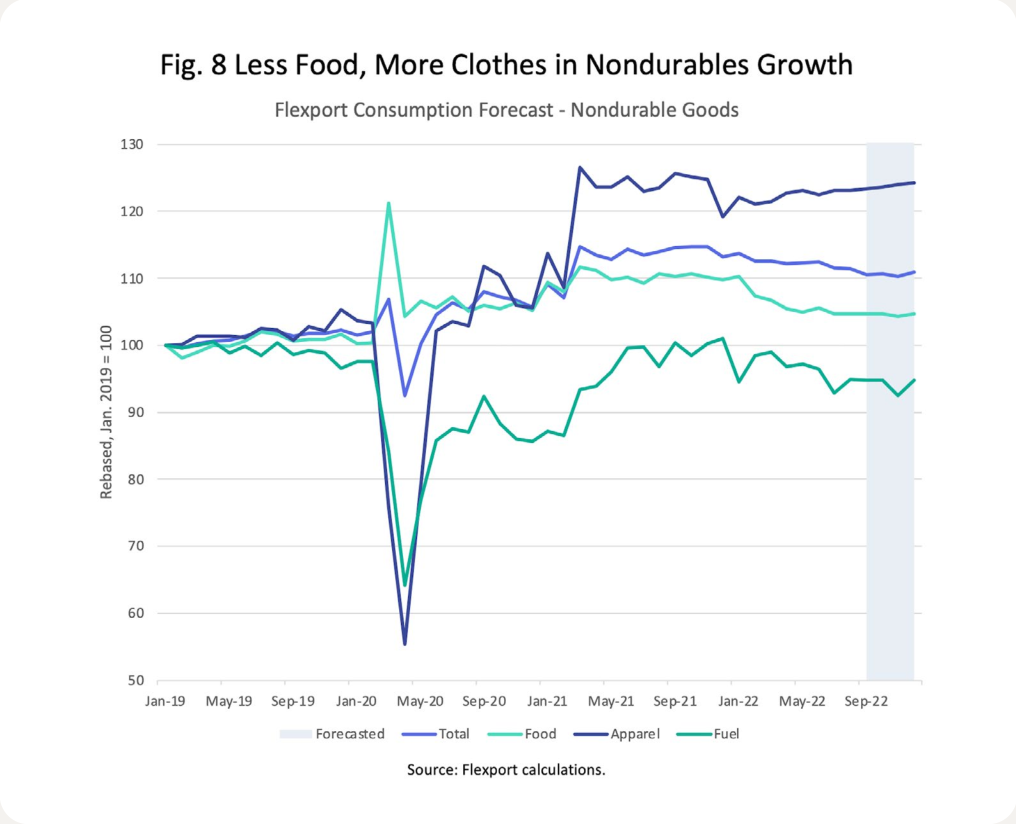


Figure 8 shows the breakdown in nondurables spending among three of the major categories. Those not shown in the "other" category include healthcare, home/personal care, and toys among others.

The main reason for the slow growth in nondurables is an expected decline in the consumption of **food and beverages**. During the depths of the pandemic, spending on food in the home surged as consumers were unable to go to restaurants or eat at work. As consumer habits continue to return to normal over the next few months, food consumption is expected to increase slightly by an average of 0.1% per month in Q4'22 but still average 5.1% lower versus a year earlier.

Consumption of fuel, primarily gasoline, saw a reverse trend during the pandemic. A marked reduction in fuel consumption, reaching a 36% drop in May 2020 versus January 2019, reflected a pause in travel during the COVID-19 lockdowns. A return to travel has led to a subsequent recovery.

The outlook for *real* spending on fuel can be complicated by the price of gasoline. Elevated oil prices[12] over the past summer fed through to gasoline, which may have explained a dip in spending during the traditional summer driving season.

During Q4'22, fuel consumption is expected to stagnate, with Q4'22 5.9% lower than a year earlier and in line with the pre-pandemic period.

Apparel spending, as detailed later in the report, has also varied significantly during the pandemic. That partly reflected the initial pandemic-era store closures and the shift to casual rather than office spending. During Q4'22, consumption is expected to increase by 0.2% per month on average, resulting in a 0.8% year-over-year increase for the quarter overall.

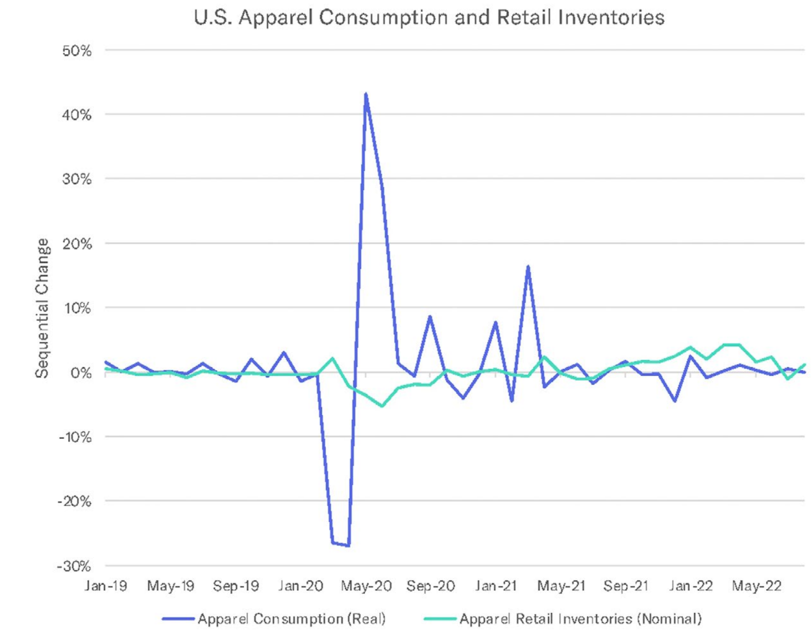
[12] https://www.flexport.com/research/down-but-not-out-commodity-price-inflation-drivers-revisited, discussed in the "Energy Prices" chapter.

Slow Fashion - Apparel Sector Forecast

The apparel sector has had to tackle demand volatility, store closures, and imperfect inventory planning. FCF growth in Q4'22 is expected to average 0.3% monthly and average just 1% higher than a year earlier. Nonetheless, demand has expanded over the longer term despite the challenges and will end 2022 having grown by 6% annually over the past three years.

The apparel sector has had to deal with a series of shocks over the past three years. During the initial pandemic era lockdowns, sales collapsed as a result of store closures and a reduced need for business- and party-wear during lockdowns.

Fig. 9 Apparel Consumption More Volatile than Inventories



Source: Flexport calculations based U.S. Bureau of Economic Analysis and U.S. Census Bureau data.

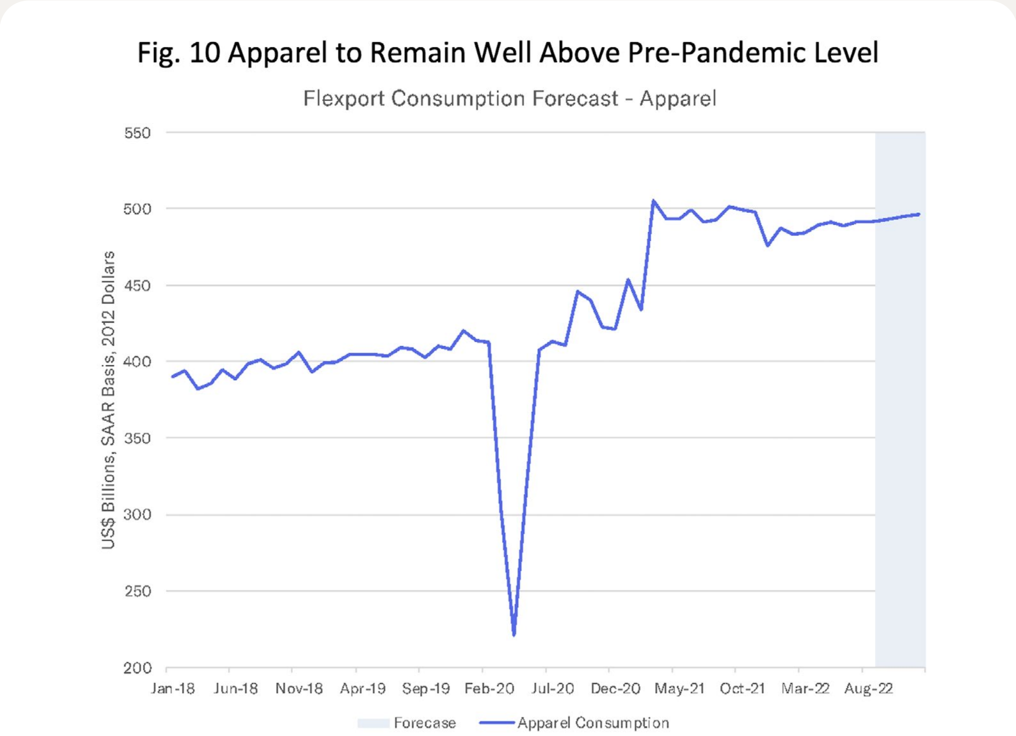
Figure 9 shows personal consumption expenditure on apparel fell a cumulative 54% in April and May 2020 compared to March 2020. The subsequent recovery was in part thanks to store reopenings as well as increased spending on leisure wear. More recently, there has been a settling in the level of apparel consumption, with average monthly growth in the 12 months to August 31 being effectively zero. This accounts for the relative flattening seen in Figure 10.

At the same time, apparel sector companies have had to adapt their supply chain strategies to cope. Inventories have increased by 2.1% on an average monthly basis over the past 12 months on a nominal basis. The apparel component of the Consumer Price Index in the mean-time, a potential proxy for inventory price inflation, averaged 0.3% monthly growth. That would suggest real inventory values may have increased by 1.8% monthly.

Prior Flexport research[13] found that around half of firms believe they have overbuilt their inventories due to over-estimating demand. Around one-quarter of firms stated that they plan to apply discounts in order to reduce their stock levels.

As a real (i.e. inflation-adjusted) measure, the Flexport Consumption Forecast won't directly include the impact of those discounts. However, if they prove effective in driving consumers to increase their spending on apparel, that may be seen in increased consumption.

[13] https://www.flexport.com/research/more-discounts-more-shipping-apparel-inventory-strategies



Source: Flexport calculations.

On a short-term basis, the state of the apparel sector appears anemic. Consumption is expected to grow by just 0.3% per month sequentially in Q4'22, leaving the average for the quarter just 0.9% higher than a year earlier.

Looking over the longer term, however, shows a faster rate of expansion for the industry. On a three-year, compound annual growth rate basis, consumption will have increased by 5.7% annually in December 2022 versus December 2019, in real terms.

That provides a broader lesson for the analysis of consumption trends across industries: while the recent past has seen exceptional volatility with short-term growth rates and comparisons to last year appearing modest—U.S. consumption is still well ahead of even three years ago and supply chains have managed to support that level of growth despite all the challenges faced.

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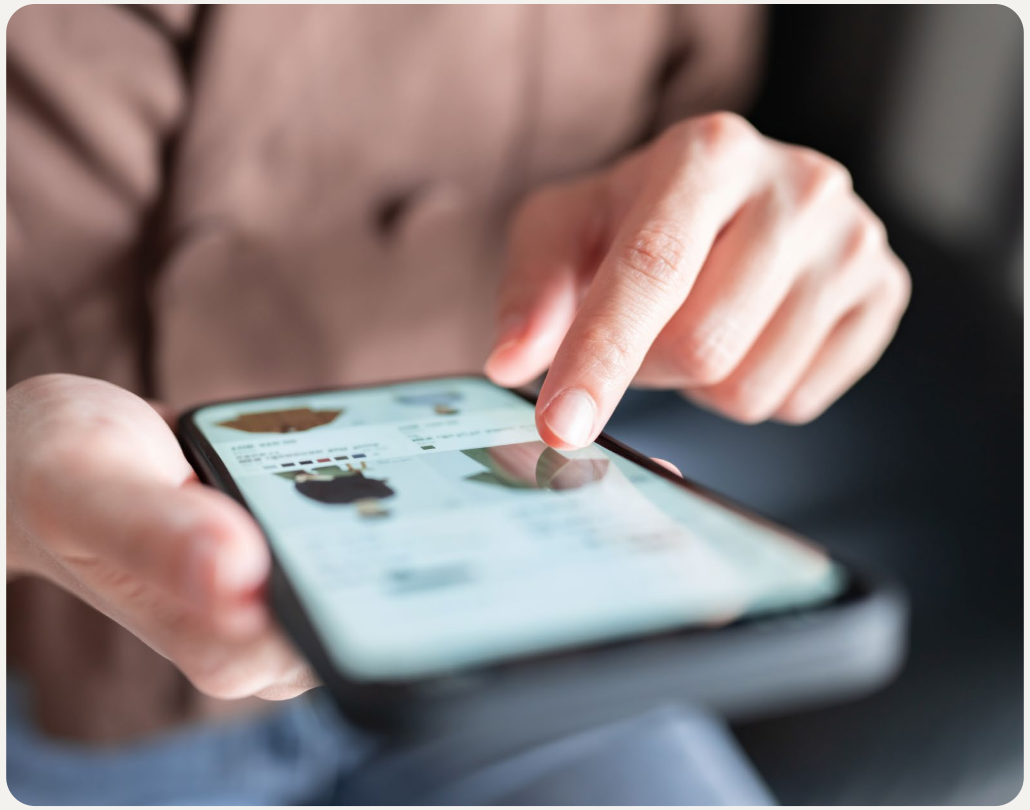

The Flexport Consumption Forecast Users' Guide

What is the Flexport Consumption Forecast and how should it be used?
As seasonally-adjusted real numbers, these forecasts provide a guide to whether we will see a boom or a bust. The detailed forecasts let one see whether different sectors are moving in parallel or diverging. Because they are seasonally adjusted, this is not a good guide to the raw volume of goods being purchased. It’s normal for more goods to be purchased in Q4, and it’s already baked in.

What products does it cover?
This covers everything in the Personal Consumption Expenditure report. At a broad level, that means services, durable goods (those that are meant to last three years or more), and nondurable goods. But we go further than that. For the goods categories we look at a number of subcategories, providing a new level of detail not generally seen in consumption forecasts.

Now will you rest on your laurels?
Nope. We plan to turn this out monthly. Unlike this initial holiday preview, it will generally come out in the middle of the month and cover the next four months beyond what the government has reported. If that sounds a little convoluted, it’s because we will only see October numbers at the end of November, so an updated forecast of October would still have value, even in the middle of next month.

Methodology
There are two main ways economists predict future numbers. One is to solve a big structural model of the economy. The other is to look carefully at how numbers follow trends and project those trends out in sophisticated ways. The Flexport Consumption Forecast follows the latter approach but enhances this “time series” method with insights gleaned from Flexport data. There is generally a relationship between what ships in September and what people consume in November. Our methodology takes advantage of that correlation to produce a more accurate forecast. These are forecasts and there will be misses. But those misses are likely to be smaller than they would be without Flexport data.