



**By Bill Spitz, Principal**

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## What Do We Buy and Where Does It Come From?

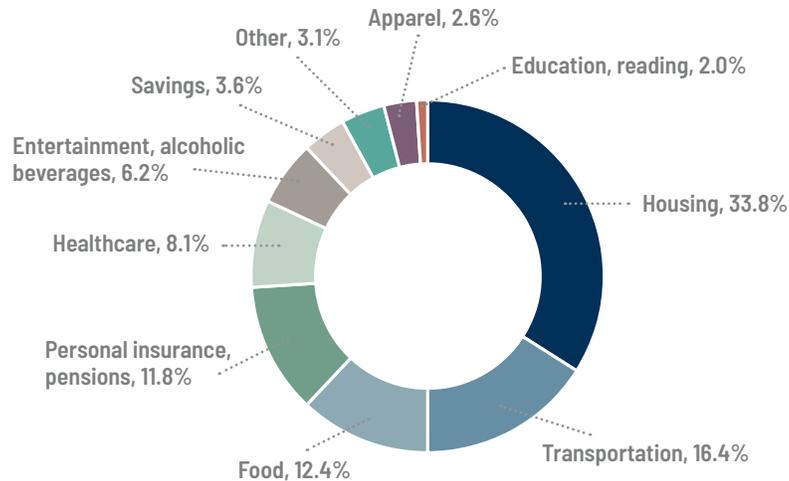
*One day, you'll be able to tell your grandkids, "I survived the Great Toilet Paper Shortage of 2020."*

Consumption per capita has grown in the U.S. by 65% since 1990 as compared to 35% in Europe leading one pundit to call Consumerism America's religion. Yet, in the land of plenty, we have experienced a phenomenon over the past three years that only those of a certain age have ever seen—product shortages. In addition to the absence of toilet paper on grocery store shelves in the early stages of the pandemic, there have been inadequate supplies of peanut butter, cream cheese, baby formula, tampons, computer chips, automobiles, appliances, and many other products. These product shortages resulted in endless articles in both the financial and mainstream press regarding supply chains, international political tensions, unfilled jobs, congested ports, and many other related topics. Well, in trying to make sense of all of this, I realized that I could not answer a very basic question which forms the basis of this paper; **What do we buy and where does it come from?** I attempt to answer this question although there will be gaps given the complexity of the world economy and difficulty in securing some data.

## HOW DO WE SPEND OUR MONEY?

As depicted below, Americans allocate their expenditures among a broad range of goods and services, the largest of which are housing, transportation, and food.

SHARE OF U.S. HOUSEHOLD CONSUMER EXPENDITURES BY MAJOR CATEGORIES, 2021



Note: "Other" includes personal care products, tobacco, and miscellaneous expenditures.  
 Source: USDA, Economic Research Service using U.S. Department of Labor, Bureau of Labor Statistics, 2021 Consumer Expenditure Survey data.

Consumer expenditures are generally divided into two broad categories. The first and largest at over 60% is non-discretionary spending which includes housing, transportation, food, and healthcare. The other is discretionary expenditures, the two largest sub-categories being dining out and entertainment at more than 5% each. Other significant areas of discretionary spending are apparel (2.6%), gifts (2.2%), and consumer electronics (2%).

While the consumer represents 70% of our economy, it is important to recognize that there are three other sectors: business investment (18%), government spending (17%), and net exports (-5%). I consider the other sectors to a limited extent in the next section, but the majority of the paper is devoted to understanding the dynamics of consumer spending.

## IMPORTS AND EXPORTS

In order to answer the question “where does it come from?”, we need a primer on imports and exports. Given a high level understanding of world trade, the next step will be to do a deep dive into a small number of key consumer categories.

**The U.S. is a strong exporter of financial services** accounting for just under one-half of the total services trade surplus.

During 2021, the U.S. imported goods and services valued at \$3.4 trillion as compared to exports of \$2.6 trillion resulting in a net trade deficit of \$845 billion. Interestingly, we ran a surplus of about \$245 billion in services which means that more than one-hundred percent of the overall trade deficit resulted from the net importation of goods. Important service sector exports include general business services, charges for the use of intellectual property, financial services, and travel. The U.S. is a particularly strong exporter of financial services accounting for just under one-half of the total services trade surplus.

The last year in which the U.S. ran an overall trade surplus was 1975, and the deficit has ranged between 3.7% and 5.7% of GDP over the past twenty years. Our largest trading partners are the European Union (18.5%), China (16.3%), Canada (15%), and Mexico (14.3%).

The following graphic provides more granular information on several major sectors:



PHOTO: IMAGE BY © THE BALANCE 2020

Note that there are discrepancies between some of the numbers in this graphic and those cited in the following paragraphs. First, the graphic is based on 2020 data whereas I discuss some 2021 numbers that were recently reported by the Bureau of Economic Analysis. Second, various organizations combine products and services into different groupings for ease of presentation.

### **The U.S. is both**

*a large importer  
and exporter in  
many categories.*

A detailed examination of specific categories yields the interesting fact that the U.S. is at the same time both a large importer and exporter in many of them. For example, we imported \$57 billion worth of semiconductors in 2021 while also exporting \$55 billion of these products. In most cases, this can be explained by specialization. A given country will export those goods in which it has a competitive edge while importing products in the same broad category where others possess the advantage. Let's take a brief look at the capital goods and industrial sectors before turning to consumer products.

As depicted in the graphic, the largest category of U.S. exports within the capital goods sector consists of aircraft, aircraft engines, and related parts. This critical industry is followed by general machinery, semiconductors, electrical equipment, and medical equipment. With regard to imports, we purchase a massive \$307 billion in computers, computer accessories, semiconductors, electrical equipment, and telecommunications equipment from the rest of the world. Given international tensions, this dependency is being increasingly recognized as a national security risk leading to pressure to secure raw material sources and relocate manufacturing facilities to either domestic or "friendly" locations. In light of wage differentials, this trend may prove inflationary but that is a topic for another day.

The industrial sector consists largely of petroleum products, chemicals, metals and other basic raw materials. As was mentioned earlier, we both import and export very large dollar amounts in certain categories. The best example is petroleum in which aggregating all of the underlying products results in exports of \$142 billion versus imports of 172.1 billion. Similarly, the U.S. imports chemicals valued at \$63 billion versus exports of \$68 billion. Once again, large imports and exports within a segment are generally a function of specialization. However, there are instances that require further explanation. For example, why do we import crude oil valued at \$106 billion when we also export crude worth \$55 billion? Isn't this a homogenous commodity? There are two answers. First, foreign oil is frequently cheaper which lowers the cost of gasoline and other petroleum products to American consumers. Second, U.S. refineries are generally geared for heavier crude with a high sulfur content whereas oil produced in much of the U.S. is lighter and sweeter.

Despite the presence of a rational explanation, this topic generates a reasonable amount of confusion, controversy, and media coverage. Finally, a pleasant way to close out this section is to mention plastics which is a set of products in which the U.S. has a significant advantage; exports total \$36.1 billion versus imports of \$19.5 billion.

## THE CONSUMER

Since my interest in this topic was initially spurred by shortages, we now turn to food, consumer goods, and automobiles, all of which have experienced supply interruptions at one point or another in the past three years. To begin on a positive note, let's consider food, a category in which the U.S. is the world's largest exporter.

## FOOD AND AGRICULTURE

As shown in the first exhibit, food represents 12.4% of consumer spending making it the third largest expenditure category after housing and transportation. However, this sector is somewhat difficult to analyze because it can be segmented in many different ways. First, let's consider the source of our food which takes into account imports and exports.

As one of the world's largest agricultural powers, the U.S. exports about 20% of its total production with the remainder reserved for domestic use. However, we are also a large importer given that about 13% of the dollars spent on food represent imports, a figure that is roughly twice the level of the early 1990's. The large and growing demand for imports is once again a function of specialization as well as the fact that consumers have come to expect year-round access to fruits, vegetables, and other perishable products. Consistent with this demand, our largest imports are fish, fruits and juices, vegetables, meat, baked goods, and alcohol related products. On the other side of the coin, our largest export categories are soybeans, meat, and corn.

The largest sources of fruit and vegetables are Mexico and South America whereas Canada is the origin of a significant portion of the imports of meat and fish. Interestingly, while the U.S. has a very large overall trade deficit with China, we actually maintain a surplus of about \$6 billion with that country in agriculture.

Next, it is interesting to see how food and beverages are actually purchased and consumed although there are modest differences in the numbers depending on the data source. The U.S. Government reports that 11.7% of retail sales represents purchases

at food stores while 12.4% is spent at restaurants at bars. Food industry associations estimate that 51.9% of spending is on “food at home” versus 48.1% purchased “away from home.”

### The simple fact

*is that supply, demand and prices are largely set on the world stage.*

Finally, it is worth spending a moment on food price inflation. As a large producer of sunflower oil, barley, wheat and corn, Ukraine has been called “Europe’s Breadbasket.” The sad war in that country is responsible for a large decrease in production that has caused true hardship for many and led to large price increases in many commodities. Given that the U.S. is such a large agricultural producer, many people cannot understand why those price increases have bled over into our economy. The simple fact is that supply, demand and prices are largely set on the world stage. Therefore, while the U.S. has no fear of food shortages, we are not immune to price swings. Next, I cover two broad categories in which the U.S. unfortunately experiences very large trade deficits.

## AUTOS

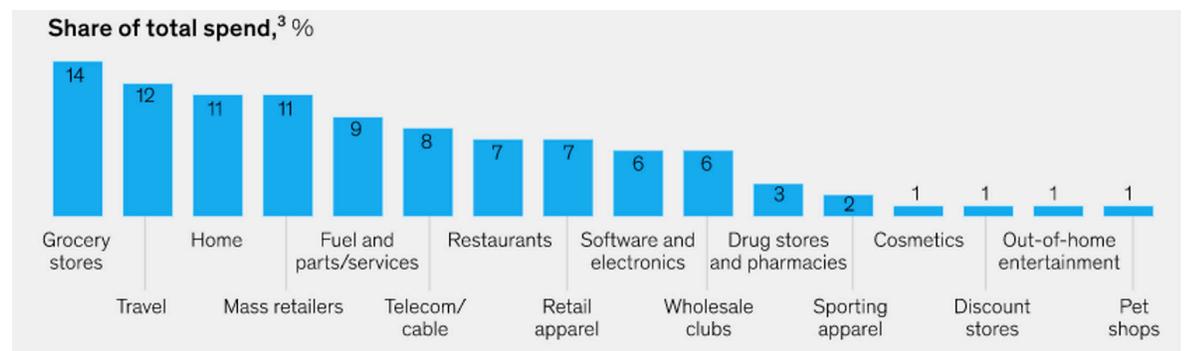
At 20%, automobiles and related parts represent the largest component of U.S. retail sales. With regard to new car sales, that translated into just over fifteen million units in 2021. A key point is that autos are responsible for about 20% of our overall trade deficit given that 41% of new car sales represent imports. In 2021, we imported cars valued at \$119 billion along with trucks, engines, and auto parts totaling another \$157 billion. Unfortunately, we only exported cars valued at \$45.3 billion together with \$71 billion in the other three categories. Combining all of these numbers, our trade deficit in autos for 2021 was \$169 billion which compares with our overall trade deficit of \$845 billion. Where do auto imports come from? The top five countries as of 2021 were as follows:

	% of U.S. Auto Imports
Japan	22.5%
Mexico	20.0%
Canada	17.2%
South Korea	12.0%
Germany	10.3%

Some people may be surprised by the importance of Mexico as a source of autos and parts. Mexico is the world's seventh largest passenger vehicle manufacturer producing approximately three million vehicles annually, 76% of which are destined for the U.S. In fact, Mexico became the largest exporter to the U.S in the first nine months of 2022 passing Japan for the first time. Most major automobile manufacturers operate in Mexico although GM and Nissan account for about 40% of production. Mexico is also the largest source of auto parts for the U.S. representing 38% of imports.

## CONSUMER GOODS

As shown in the Import/Export chart above, the U.S. imported consumer goods (excluding autos and food) valued at \$654 billion in 2020 while exporting \$206 billion. These figures net to a trade deficit of \$448 billion representing 53% of our overall trade deficit. Gathering data on purchases of consumer goods is difficult because various data sources combine specific categories into different groupings. Given that caveat, the following table was derived by analyzing credit card receipts for the first three quarters of 2022:



McKinsey and Company

Note that it includes information on grocery store purchases, restaurant sales, fuel and parts sales, all of which were covered in a previous section of this paper. An additional complication is that Mass Retailers, Wholesale Clubs, and Discount Stores all sell a wide variety of goods making it difficult to assign their sales to specific product categories. Despite some shortcomings, this graphic does provide a sense of “what do we buy” in the consumer sector. What about the second part of the question, “where does it come from?”

The U.S. imports very large amounts of the following: pharmaceuticals, cell phones, apparel, furniture, appliances, and toys. In total, they account for about 80% of our trade deficit in consumer goods. Roughly 37%, 58%, and 80%, respectively of imports of apparel, appliances, and toys come from China. There are two major exceptions to the dominance of Asia in U.S. consumer goods imports. Most important is pharmaceuticals in which the U.S. imports products valued at roughly \$141 billion. The largest sources of these products are the European Union, Ireland, and the U.K. which account for 54% of our imports. Second, Europe is the largest source of furniture followed by China and Mexico.

Let's focus on smartphones which is the poster child for the complexity of world markets. The top five countries in terms of cell phone production are China, Vietnam, Hong Kong, the U.S. and Germany. The iPhone, with a global market share of 17%, is manufactured in China, India, the Czech Republic, Malaysia, Thailand, and South Korea, among other locations. However, that greatly masks the complexity of the smartphone supply chain. More than 200 companies located in forty-three countries supply parts and sub-assemblies.

## **WHAT DO WE BUY AND WHERE DOES IT COME FROM?**

While we can get a pretty good sense of what we buy, the major conclusion of this paper is that it is not at all obvious where it all comes from! Thirty countries account for 88% of U.S. trade but we have trading relationships with more than 200 in total. Most of the press coverage relates to our trade with China and the rest of Asia. However, the combination of Canada and Mexico is 80% larger than our trade with China.

*While we can get a pretty good sense of what we buy, the major conclusion of this paper is that it is not at all obvious where it all comes from!*

I expect that the size and importance of the Mexican economy to the U.S. will surprise many. We import roughly \$388 billion of goods from that country and it also provides a market for \$276 billion of American made goods. As previously mentioned, Mexico is the largest supplier to the U.S. of autos and parts, it is a meaningful producer of machinery, electrical equipment and appliances, and it is also a large supplier of fruits and vegetables.

Finally, a critical question arising from the past few years is the future of supply chains and just-in-time manufacturing. In order to recover from the economic devastation of the Second War and become competitive in the global economy, Japan developed just-in-time manufacturing in the 1950's. That technique was introduced into the U.S in the 1970's and 80's, and most manufacturers now depend on a complex system of global suppliers and split-second timing. American consumers have greatly benefitted from the manufacturing expertise and low wages of other countries, but the past three years demonstrated the fragility of the system. Supply chains were interrupted by the pandemic and associated lockdowns, port congestion, shortages of trucks and truck drivers, shortages of warehouses, the Great Resignation, political tensions, and the list goes on. While the pandemic related issues are hopefully behind us, it would seem that there are many ongoing vulnerabilities.

One popular response to this concern is to relocate manufacturing to the U.S. and other “friendly” locations. However, that solution is not without problems. Just to name a few:

- Building a manufacturing facility is often a multi-year process that can involve permitting issues, neighborhood opposition, and environmental concerns.
- The U.S does not have the necessary technical talent in some areas which would prevent us from manufacturing some of the most sophisticated products.
- Domestic manufacturing may well be more expensive which would contribute to our inflation problem.
- Even with manufacturing capability, we would still be reliant on other countries for raw material sourcing.

The bottom line is that we both benefit from, and are exposed to, risks of a complex, dynamic, and interrelated world. These characteristics render the simple, sound bite pronouncements of politicians and the media on trade both meaningless and dangerous.

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