



## Fourth Quarter 2019 Economic Summary and Outlook

*The U.S. economy grew at a 2.1% pace in the fourth quarter of 2019, based on the revised estimate by the Bureau of Economic Analysis. On a year-over-year basis the economy grew 2.3%. Inflation remains well below the Fed's 2% target for the core personal consumption expenditure index (PCE). The core PCE gained only 1.6% on a year-over-year basis. The headline unemployment rate ticked up to 3.6% in January from 3.5% in both December and November of 2019. Payroll expansion remains strong with 225,000 new jobs in January. Manufacturing continues to muddle along. The Institute of Supply Management (ISM) index fell to 50.1 in February of 2020 from January's 50.9 level. The benchmark for expansion is 50, suggesting that the manufacturing sector is lagging all other sectors. A decline in labor productivity in the fourth quarter of 2019 combined with a 4.6% increase in labor compensation resulted in a 5.9% increase in unit labor costs. When businesses are unable to raise prices, higher unit labor costs squeeze profit margins.*

*The economy produced good performance going into 2020 but the COVID-19 outbreak represents a "black swan" event capable of derailing U.S. and global growth. The epicenter of the virus is China but the nature of the virus makes global contagion a major concern for all countries. The U.S. has already suffered from supply chain disruptions, slumps in consumer demand for travel, and suspension of high social contact events. Additional spreading of the virus could well lead to shutdowns of schools, businesses, and public events. Projections of the impact on the U.S. economy are largely guesses about the severity and duration of the virus contagion. The policy response by the Fed was a surprising cut in the Fed Fund rate of a full 50 basis points. While most analysts expected the Fed to cut rates in response to the virus, the magnitude and timing were surprising.*

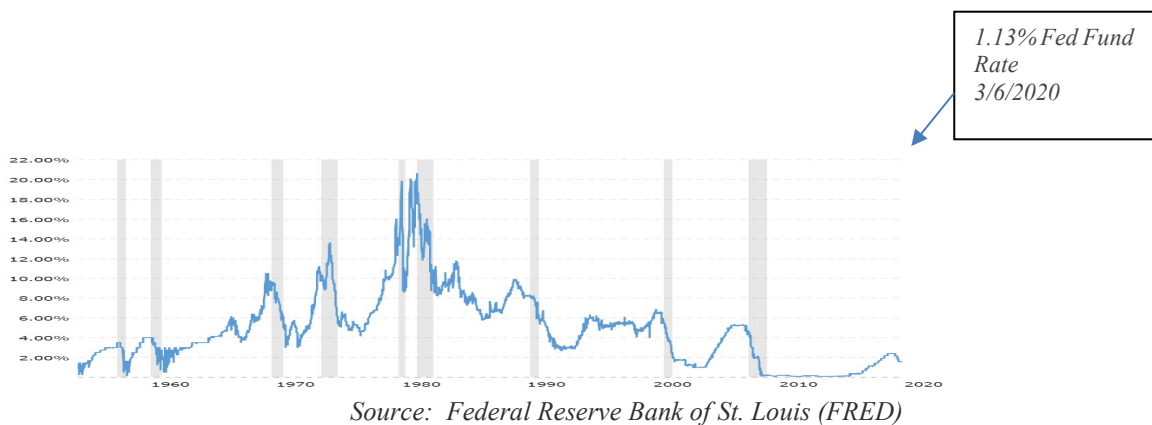
*The most dramatic economic consequence of the early stages of the virus outbreak has been a major decline in the stock market and bond yields. A flight to safety and large scale asset rebalancing pushed the markets well below a 10% "correction" and now threatens to be a full "bear market" condition. The Fed's interest rate cut was designed to modify fears in the markets but many interpreted the signal as an indication that the Fed sees consequences of the virus to be worse than anyone thought. Markets are likely to continue a high level of volatility as new information about the virus develops slowly. The ultimate loss of wealth from the equity market collapse and potential loss of jobs and income from a prolonged virus attack will likely result in very low GDP growth rates in the first half of 2020. Beyond that, everything depends on whether the virus is seasonal and if it mutates to other more severe forms.*



## Are there any Arrows Left in the Quiver?

Prior to the COVID-19 outbreak the Fed signaled that the lack of inflation pressure is more of a concern than the potential for the labor market overheating. Fed Chairman, Jerome Powell, was already on board with average inflation targeting as a policy that would allow for continued monetary easing, even if inflation ticked up above the 2% target. It was no surprise to the markets that the Fed cut the Fed Fund rate following a dramatic decline in equity and commodity prices linked to fears over COVID-19. What was surprising was that the rate cut came from an emergency meeting, rather than at a regularly scheduled meeting. The magnitude of the 50 basis point cut was also surprising, given the assumed 25 basis point reduction that fits the “gradualism” approach traditionally used by the Fed. The Fed fund rate was 2.38% one year ago and is now 1.13% after the Fed reduction. Figure 1 provides a long time line of the Fed Fund rate history.

**Figure 1. Federal Fund Rate History**



The market reaction to the Fed rate cut should have improved the value of equities and moderated the slide in stock prices. It should have encouraged investors by signaling that the Fed stands ready and willing to offer easing in response to signs of weakening in the economy. Instead, after a short-lived bounce from the announcement, the market continued to slide. Rather than offer encouragement, the Fed action revealed two major new pieces of information. First, in a situation where there are many unknowns about the duration and severity of the economic consequences of the virus, such a large rate cut coming from a non-scheduled meeting represented information that the consequences of the virus must be even more serious than expected.



The second factor at work with the market decline goes to a discussion in an earlier “Outlook” about a zero bound for central bank target rates. The Fed is now in a range of low rates that may not make much difference to borrowers while squeezing lenders. At some point rate cuts have little real impact on borrowing and spending decisions. Worse yet, once rates are close to zero there is little room for added cuts later on if things don’t get better. This situation is similar around the world as central banks were operating at very low interest rates prior to the virus outbreak. Fiscal policy may also have run out of ammunition with a large national debt and political posturing in an election year to potentially raise taxes and focus on wealth redistribution rather than economic expansion.

The stock market is a leading indicator of the economy, largely because stock prices are based on market expectations of future earnings and the present value of those future earnings. The COVID-19 outbreak began when the market was already at a very high level, making many investors believe that downside risk is more likely than upside gain. The unexpected shock of the virus outbreak tipped the scale and started a flight to safety. Investors are seeking to lock in past gains (trend line in Figure 2) and preserve wealth.

**Figure 2. S&P500 Index**

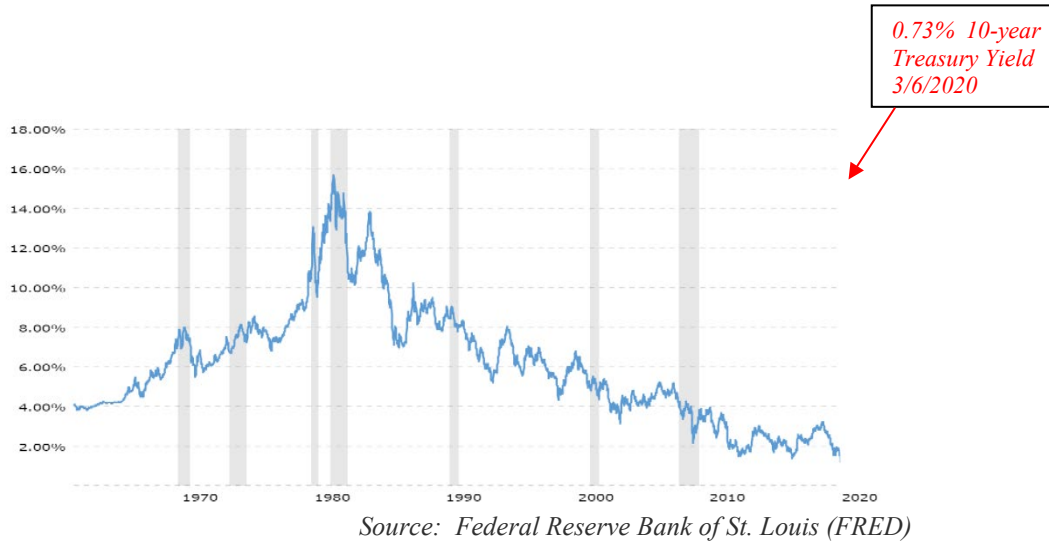


Source: Federal Reserve Bank of St. Louis

The flight to safety along with the influx of foreign capital to earn U.S. dollars (strong currency) has moved Treasury yields to historic lows. Figure 3 illustrates the history time line of the 10-year Treasury yield. The 10-year yield is now below 1% as of the first week of March.



**Figure 3. 10-Year U.S. Treasury Yield.**



## COVID-19

Compared to other recent virus events, COVID-19 is less deadly but more infectious. For example, the SARS (Severe Acute Respiratory Syndrome) outbreak in 2002-2003 had an estimated mortality rate of almost 10% with 774 deaths from an estimated 8,000 cases of infection. To this point, COVID-19 has an estimated 3% mortality rate but with over 90,000 cases of infection. The mortality rate for COVID-19 is likely to be over-estimated, given the number of mild cases that are not diagnosed, the lack of diagnostic kits, and long incubation period.

From an economic performance perspective, the key reason that COVID-19 is a major concern is that prevention requires a reduction in social interactions. Shutting down businesses, schools, public events, and related quarantines to prevent the spread of the virus impacts both demand and supply. Globalization trends have aggravated the ability to contain a highly infectious virus. Travel, tourism, emphasis on comparative advantage with trade, and business interactions between countries all cause an infectious disease starting in one country to affect other countries around the world. In this case, the dependence of U.S. supply chains on inputs produced in China or other infected countries leads to U.S. business shutdowns and shortages. In addition, the service orientation of the U. S. economy makes it especially vulnerable to diseases that are spread with social interactions.



COVID-19 makes economic forecasting difficult if not impossible. The duration and severity of the infections are still being determined. The virus is capable of mutating into a more or less serious version. The ability to accurately diagnose with early detection of the infection is not yet well developed, making it difficult to predict the ultimate magnitude of economic disruptions. In any event, analysts are revising downward estimates of economic performance in the first half of 2020. Beyond that, it depends on whether or not the virus has a seasonal characteristic that will cause it to fade as the summer season comes.



## Summary of Recent Economic Data

**GDP** – The economy finished 2019 with a steady growth rate of 2.1% in the fourth quarter and year-over-year growth of 2.3%. Consumers were the primary driver of growth for most of the year, but a more balanced mix of contributions came in the fourth quarter. While the economy was on a steady trajectory going into 2020, COVID-19 represents an unexpected shock that will take a toll on both U. S. and global growth.

- The U. S. economy grew at an annual 2.1% rate in the fourth quarter of 2019, according to the revised estimate by the Bureau of Economic Analysis. Third quarter growth was also 2.1%. Consumer spending slowed, but continued to be a key contributor to growth. Residential investment provided a boost to growth but inventory investment declined. An improved balance of trade, largely due to a sharp decline in imports, and a positive contribution from government spending helped pick up some of the slack from reduced consumer spending.
- Inventories declined for the last three quarters of 2019, suggesting business expectations for slower sales. Residential investing over the last two quarters illustrates a response to lower interest rates.
- Table 1 summarizes growth in GDP and its components by quarter since the fourth quarter of 2018. Overall, the economy is growing at what economists consider to be a sustainable long run rate. A decline in non-residential fixed investment continues to be a drag on growth.

**Table 1. Real GDP and GDP Components (Annualized Percentage Change)**

	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4
Real Annualized GDP	2.10	2.10	2.01	3.10	1.09
Consumption	1.17	2.12	3.03	0.78	0.97
Fixed Investment	<b>-0.09</b>	<b>-0.14</b>	<b>-0.025</b>	0.56	0.46
Residential	0.22	0.17	<b>-0.11</b>	<b>-0.04</b>	<b>-0.18</b>
Non-residential	<b>-0.310</b>	<b>-0.31</b>	<b>-0.14</b>	0.60	0.64
Inventories	<b>-0.93</b>	<b>-0.03</b>	<b>-0.91</b>	0.53	0.07
Net Exports	1.53	<b>-0.18</b>	<b>-0.68</b>	0.73	<b>-0.35</b>
Government	0.46	0.30	0.82	0.50	<b>-0.07</b>

Source Bureau of Economic Analysis



*Personal Income and Savings - Real disposable income growth slowed in the fourth quarter of 2019 but bounced back slightly in January of 2020. On a year-ago basis, real disposable income grew 2.2%. The saving rate was 7.7% for the fourth quarter with an uptick to 7.9% in January. Overall, slower disposable income growth and a higher saving rate were responsible for the slower growth in personal consumption in the fourth quarter.*

- Real disposable income growth, the primary driver of consumer spending, slowed to 1.7% in the fourth quarter from 2.1% in the third quarter.
- On a monthly basis, income growth was strong at the beginning of the year. Nominal personal income grew 0.6% in January following a meager increase of only 0.1% in December. Nominal disposable income also increased 0.6% in January, following a small 0.1% gain in December.
- Table 2 provides monthly data for changes in disposable income and the saving rate.

**Table 2. Change in Monthly Disposable Income, Year-ago Changes, and Saving Rates**

	Jan. 2020	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019	July 2019	June 2019	May 2019	Apr. 2019
<b>Monthly % Change</b>										
Nominal	0.6	0.1	0.4	0.0	0.3	0.5	0.2	0.4	0.3	0.4
Real	0.5	-0.1	0.4	-0.1	0.3	0.5	-0.1	0.2	0.2	0.1
<b>Year-Ago % Change</b>										
Nominal	4.0	3.3	4.2	4.0	4.4	4.1	4.0	4.3	4.7	4.8
Real	2.2	1.8	2.9	2.7	3.0	2.6	2.5	2.9	3.3	3.2
<b>Saving Rate (%)</b>	7.9	7.5	7.8	7.7	7.8	7.7	7.4	7.8	8.0	8.1

Source: Bureau of Economic Analysis

- For January, gains were widespread for most of the components of personal income to include compensation of employees, proprietors' income, transfers, and receipts on assets. Compensation of employees gained .5% in January following a .2% gain in December, illustrating the strength of the labor market.
- The personal saving rate increased from 7.5% in December to 7.9% in January, slightly ahead of the 7.7% saving rate for the fourth quarter overall.



**Labor** - The Labor market remains strong, even though the unemployment rate ticked up to 3.6% from 3.5% in December. Part of the explanation for the higher unemployment rate is the increase in the labor force participation rate. Job creation remains healthy with an additional 225,000 new jobs in January and a three month moving average increase of 211,000 job.

- A mild winter helped boost construction hiring in January while education, healthcare, and hospitality also provided strong employment gains.
- Manufacturing payrolls fell by 11,000, largely due to a slowdown by the auto industry.
- Wage growth in 2019 was only 3.1% on a year-over-year basis. Going forward, higher minimum wage laws are expected to boost the wage growth rate in 2020. Table 3 below summarizes monthly labor market data over the last ten months.

**Table 3. Monthly Unemployment and Job Expansion Data**

	Jan. 2020	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019	July 2019	June 2019	May 2019	Apr. 2019
Unemployment Rate (%)	3.6	3.5	3.5	3.6	3.5	3.7	3.7	3.7	3.6	3.6
Change in Non-farm Payroll (000s)	225	147	261	185	208	207	194	182	62	218
3-month Moving average change	211	198	218	200	203	194	154	159	144	142
Labor Force Participation Rate	63.4	63.2	63.2	63.2	63.2	63.2	63.0	62.9	62.8	62.8

Source: Bureau of Labor Statistics

**Production and Manufacturing** – Manufacturing and production continue to grow at slow rates. The ISM manufacturing index is now barely above the 50 mark for an expansion. Productivity increased 1.7% in 2019, above the 1.2% annualized average for the past five years. Unit labor costs increased 2.4% in December on a year ago basis. Higher unit labor costs squeeze corporate profits. The COVID-19 impacts have both supply chain and consumer demand consequences that will detract from production and manufacturing in the first half of 2020.

- The ISM manufacturing index fell from 50.9 in January to 50.1 in February, barely above the expansion indicator of 50. The new orders component fell from 52 to 49.8. Manufacturing hours worked increased 0.2% in the fourth quarter.
- Annual trend productivity growth over the past five years averaged only 1.2%. While the trend of productivity remains relatively flat, fourth quarter 2019 productivity increased





1.4% at an annualized rate. The average gain in productivity for 2019 was 1.7%. Compensation per hour increased 2.8% in the fourth quarter.

- Total nonfarm unit labor costs rose 1.4% at an annualized rate in the fourth quarter, leaving them up 2.4% on a year-ago basis. Real hourly compensation rose 0.3% at an annualized rate in the fourth quarter and was 2.1% higher on a year-ago basis. A trend of rising unit labor costs along with weak productivity hurts corporate profit margins and tends to dampen much needed business investment.
- Table 4 below provides the quarterly data on output, productivity, compensation and unit labor costs for the last seven quarters.

**Table 4. Quarterly Productivity, Compensation, and Unit Labor Costs**

	Q IV 2019	Q III 2019	Q II 2019	Q I 2019	Q IV 2019	Q III 2019	Q II 2019
Non-Farm Business							
Output per Hour	1.4	<b>-2</b>	2.5	3.5	0.1	1.2	1.8
Compensation per Hour	2.8	2.3	2.5	9.2	0.7	2.9	0.3
Unit Labor Costs	1.4	2.5	0.1	5.7	0.6	1.6	<b>-1.6</b>
Manufacturing							
Output per Hour	<b>-1.2</b>	0.1	<b>-2.5</b>	1.2	0.9	0.4	1.4
Compensation per Hour	4.6	3.1	2.6	8.2	3.4	2.4	<b>-4.6</b>
Unit Labor Costs	5.9	3.3	5.1	6.9	2.5	2.05	<b>-6.0</b>

*Source: Bureau of Labor Statistics*

- Boeing's decision to halt production of the 737 MAX contributed to a 0.3% drop in industrial production in January. Overall capacity utilization fell 0.3% to 76.8%. Manufacturing capacity utilization slipped from 75.2% to 75.1%.
- Table 5 shows the monthly change in capacity utilization for the past six months.

**Table 5. Capacity Utilization in Production and Manufacturing (% Change)**

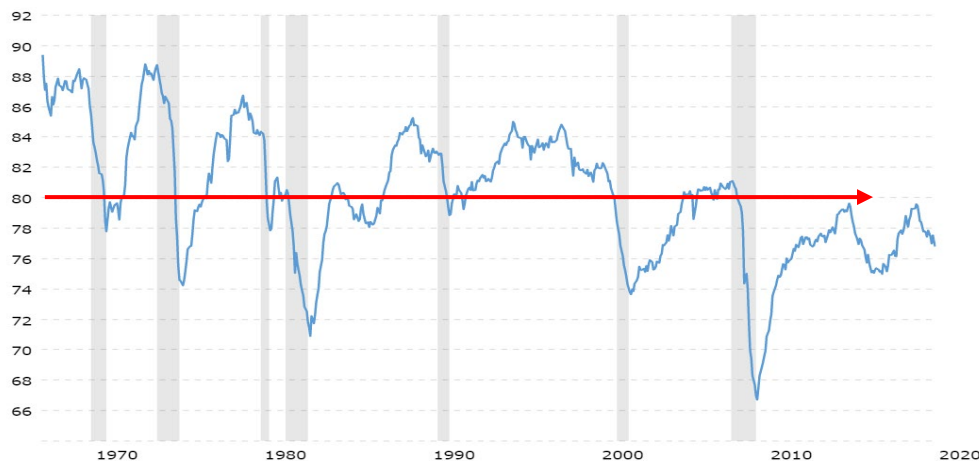
	Jan. 2020	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019
Industrial	76.8	77.1	77.5	77.0	77.4	77.8
Manufacturing	75.1	75.2	75.2	74.6	75.1	75.7

*Source: Federal Reserve Bank of St. Louis (FRED)*

- Figure 4 shows the path of capacity utilization around the long run average of 80%.



**Figure 4. Capacity Utilization**



Source: Federal Reserve Bank of St. Louis (FRED)

- Retail sales grew at a healthy pace in January, aided by unusually warm weather. Retail sales rose 0.3% in January following a 0.2% increase in December. On a year-ago basis, January sales were 4.4% higher. Core sales were up 3.3% from last year. Going forward, sales are likely to slow for the first half of the year as consumers adjust to the COVID-19 outbreak.
- Sales growth was led by miscellaneous store retailers, building supply stores, and restaurants. Sales declines occurred for apparel store sales, department stores posted an unusual, if small, gain.
- Business inventories increased 0.1% in December following a decline of 0.2% in November. On a year ago basis, inventories are up 2.2% from December 2018.
- The business inventory-to-sales ratio climbed to 1.4 in December. The cyclical low was 1.25, and the recession high was 1.49. It is likely that business will trim inventories.

***Inflation*** - Inflation remains below the Fed's 2% target for core PCE. The headline personal consumption expenditures price index (PCE) increased 1.3% in the fourth quarter and 1.7% on a year-ago basis. The core PCE increased only 1.6% from the prior year. With such low inflation the Fed has room to offer monetary expansion to keep the economy on its full employment path. With the concerns over the COVID-19, the Fed will error on the side of easy money.

- The annualized inflation rate for the headline PCE was only 1.3% for the fourth quarter with a 1.7% year-ago rate. The core PCE deflator increased a modest 1.6% for the year.



Table 6 provides the monthly and year-ago percentage changes in the PCE measure of inflation.

**Table 6 . Monthly PCE Deflator Data**

	Jan. 2019	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019	July 2019	June 2019	May 2019	April 2019
Headline PCE	0.1	0.3	0.1	0.2	0.0	0.0	0.2	0.1	0.1	0.3
% change Year-Ago	1.7	1.5	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5
Core PCE	0.1	0.2	0.1	0.1	0.0	0.1	0.2	0.3	0.1	0.2
% Change Year-Ago	1.6	1.5	1.5	1.6	1.7	1.8	1.7	1.6	1.5	1.6

*Source: Bureau of Economic Analysis*

- The low inflation rate measured by the PCE is largely due to low energy prices. As the consequences of COVID-19 work through the economy, an inevitable slowdown through the spring should keep prices low.
- The consumer price index (CPI) posted a higher rate of inflation than the PCE, which is normal given the composition of the index. On a year-ago basis the headline CPI increased 2.5% in January compared to a 2.3% gain in core CPI. Table 7 shows the monthly CPI data.

**Table 7. Monthly Consumer Price Index and Year-Ago Changes**

	Jan. 2020	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019	Jul. 2019	June 2019	May 2019	Apr. 2019	Mar. 2019
Headline CPI	0.1	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.3	0.4
Year-Ago % Change	2.5	2.3	2.0	1.8	1.7	1.8	1.8	1.7	1.8	2.0	1.9
Core CPI	0.2	0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1
Year-Ago % Change	2.3	2.3	2.3	2.3	2.4	2.4	2.2	2.1	2.0	2.1	2.0

*Source: Bureau of Labor Statistics*

- The producer price index for final demand rose 0.5% in January, which is on the high side relative to recent months. Most of the gain in the PPI came from final demand for services. The demand for goods component increased only 0.1%.



**Table 8. Monthly Final Demand Producer Price Index Data**

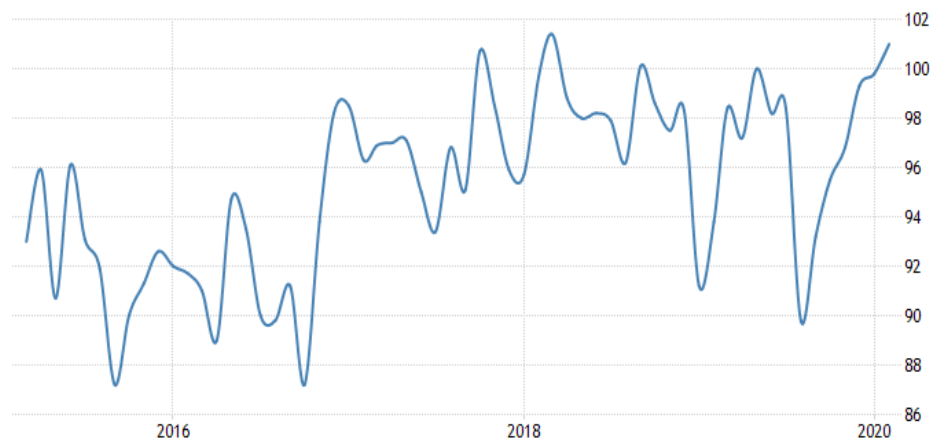
	Jan. 2020	Dec. 2019	Nov. 2019	Oct. 2019	Sept. 2019	Aug. 2019	Jul. 2019
% Change	0.5	0.2	-0.1	0.3	-0.3	0.1	0.3
% Change Yr. - Ago	2.1	1.3	1.0	1.0	1.4	1.8	1.7

Source: Bureau of Labor Statistics

**Sentiment-** Consumer sentiment remains upbeat going into 2020. Trade agreements and a strong labor market throughout 2019 are key drivers of strong sentiment. The University of Michigan index and the Conference Board Index both posted gains going into 2020. The index of economic indicators shows no sign of a pending downturn.

- The University of Michigan Consumer Sentiment Index tracks household sentiment based on surveys conducted for a random sample. The Index increased 1.2 points to 101.4 in February, marking the sixth straight increase. The index now stands at its highest level since March 2018. More recent data on the extent of the COVID-19 will likely dampen the index going forward.
- The figure below illustrates the movement of the University of Michigan Index. The index tends to trend in three to six month cycles.

**Figure 5. University of Michigan Sentiment Index**

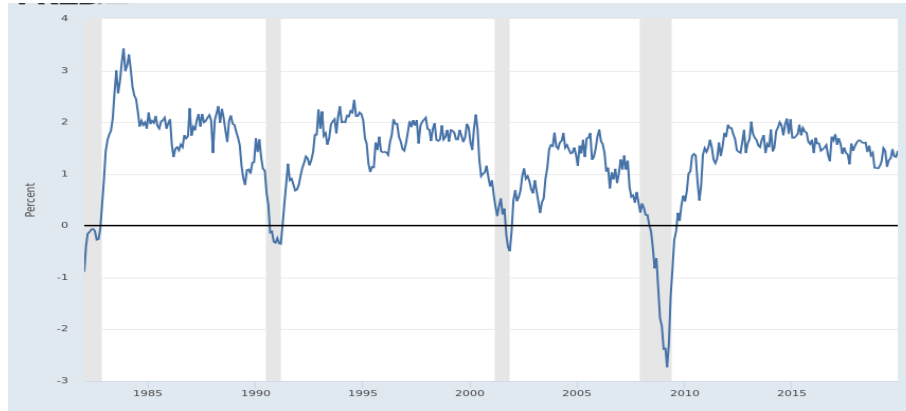


Source: TradingEconomics.com / University of Michigan

- The Conference Board Consumer Confidence Index ticked up to 130.7 in February from 130.4 in January. The expectations component rose, based on improved views about income, business and labor market conditions.
- Figure 6 illustrates the movement of the Conference Board Consumer Confidence Index over time. The index tends to have a sustained decline prior to a recession. Currently, the index does not suggest a downturn in the economy over the next few months.



**Figure 6. Conference Board Index of Leading Economic Indicators**



Source: Federal Reserve Bank of St. Louis (FRED)

**Housing** – Housing prices appreciated for the eighth straight year in 2019. Prices remain strong largely due to healthy demand, tight inventories, and low mortgage rates. The economic toll from COVID-19 will likely stall housing demand for the first half of 2020.

- The S&P CoreLogic Case-Shiller 20-City Composite Index is 2.9% higher than in December 2018. The 20-city index remains 5.9% above its July 2006 peak and is 63.1% higher than its March 2012 trough. The 10-city composite index increased by 0.1% in December from the previous month and 2.4% from December 2018.
- Mortgage rates are currently 145 basis points below one year ago. Rates are likely to fall in 2020 as the Fed takes proactive moves to stimulate the economy and dampen the impact of COVID-19 on spending and manufacturing in the first half of 2020.
- Existing-home sales fell 1.3% in January but are 9.6% above sales in January 2019. Nationwide listings inched up 2.2% in January, but still remain near their all-time low.
- The figure below illustrates the movement of the Case-Shiller Composite Housing Index since 1985. The index started at 100 in 2000 and reached 212.59 in December of 2019.

**Figure 7. Case-Shiller Composite Housing Price Index (January 2000 Index = 100)**



Index = 212.59 in  
December of 2019.

Source: Federal Reserve Bank of St. Louis (FRED)



- The housing inventory-to-sales ratio for January of 3.1 months of sales is slightly higher than in December and is down by 0.7 from one year ago.
- The median price of existing single-family homes in January was 6.9% higher than in January 2019. The median single-family house price is now \$268,000.

*International / Global Issues – COVID-19 and uncertainties about the severity and duration of the virus dominate the global economic outlook. Both consumer demand and producer supply chain consequences are already moving in the direction of an economic slowdown. Given the levels of uncertainty with respect to the virus and inability of traditional monetary and fiscal policies to fully address the economic damage, first and second quarter global growth rates are likely to be closer to 1% than the original global growth estimates of 2.6%. A clearer picture of the post-virus global economy will not likely emerge until much later in 2020. Even then, the fallout from the presidential election may be unsettling. The lessons learned from the virus may also have a longer term impact on the global economy. The need for self-sufficiency in production of key items and vulnerability of global supply chains may lead to more emphasis on domestic production rather than trade.*

- The U.S. nominal goods deficit narrowed in January. Nominal goods exports fell 1% in January after gaining 0.9% in December. Following a 3.1% advance during the prior month, imports dropped 2.2% with declines in imports of industrial supplies, autos and capital goods. Trade disruptions due to COVID-19 will become evident in the third quarter data. Commodity prices, especially oil, have already taken a hit. The implications of low oil prices on U.S. producers may be dramatic, especially for shale producers who need a higher price umbrella to make a profit.
- The impact of COVID-19 on U.S. GDP is difficult to predict. The virus is reducing exports to China, disrupting supplies needed from China for U.S. producers, reducing spending on airfares and entertainment, thinning crowds at malls, and hurting tourism. First and second quarter GDP growth will be trimmed by as much as 1% per quarter. The damage could be higher if there is large scale closing of schools, businesses, and events to contain the virus.
- Figure 8 shows the indexed trade-weighted value of the U. S. dollar over the past four decades. The index is a broad based price-adjusted dollar index published by the Federal Reserve. The flight to safety prompted by the COVID-19 outbreak will likely add to the demand for the U.S. dollar. The strong dollar is likely to continue, which hurts U.S. exports



and increases U.S. imports. The strong dollar also increases the demand for U.S. Treasuries, keeping longer term rates low.

**Figure 8. Indexed Trade-weighted Value of the U.S. Dollar**



Source: Federal Reserve Bank of St. Louis (FRED)

- About 93% of the known cases of COVID-19 have been in China. But, COVID-19 is no longer limited to China and the contagion is now occurring with no known link to China. This development has prompted more risk aversion in the markets driving equity values and interest rates lower. Analysts estimate that the virus has already reduced China's GDP growth by about 1%.
- The number of confirmed cases of COVID-19 in Japan are on the rise and school shut-downs may be followed by other closings. Japan's industrial production improved in January but yearly growth remains weak, due in part to a sales tax increase in October.
- COVID-19 is spreading in Europe, especially in Italy. New cases have been found in Germany, France, Spain, and other European countries. The high level of tourism and free movement within the Euro Zone will make it difficult to contain the spread of the virus in Europe. Fragile economies, like Italy and France, may fall into recession in the first part of 2020 due to the virus.
- France ended 2019 in a slump. France's GDP contracted by 0.1% in the fourth quarter after growing only 0.3% in the third quarter. On a year-ago basis, the French economy grew only 0.9% in the fourth quarter.

While the information contained in this document is believed to be reliable, no guarantee is given that it is accurate or complete. Vantage Consulting Group, Inc. and its directors and employees disclaim all liability of any kind whatsoever in respect of any error or omission or misstatement, whether or not negligent, contained in this document and any person receiving this document should rely and act on it only on that basis and entirely at his/her own risk. Questions and inquiries may be directed to Jerry L. Stevens, Professor of Finance, E.C. Robins School of Business.