Fourth Quarter 2018 Outlook and Review

The Bureau of Economic Analysis revised fourth quarter GDP growth from 2.6% to 2.2% in the most recent announcement. For all of 2018 the economy grew 2.9%. The labor market remains tight with an unemployment rate of 3.8% and a steady 63.2% labor force participation rate. Wages and salaries are growing at a 3.5% rate with labor unit costs increasing at a modest 2%. Many economists now believe that the "non-accelerating inflation rate of unemployment" is consistent with unemployment rates below 3.8%. The recent announcement that the Fed is likely to suspend fed fund rate hikes in 2019 seems to confirm this view.

Inflation remains calm even with strong economic performance and an uptick in wage pressures. The headline personal consumption expenditure (PCE) measure of inflation increased 1.7% on a year-ago basis in the fourth quarter and the core PCE increased 1.9%. The headline consumer price index (CPI) grew 1.5% and the core CPI increased 2.1%. Sentiment surveys show that inflation expectations have not changed. The strong value of the dollar limits price increases in imported goods and competition from abroad helps keep domestic producer prices from accelerating.

Consumer disposable income grew 4.3% on a year over year basis in 2018 following a 5% rate in 2017. Lower taxes, wage gains, and high employment provide favorable conditions for consumers in 2019. The savings rate grew to 7.6% in December from 6.1% in November, providing a buffer for consumer spending in the first months of 2019. Both the Conference Board's Consumer Confidence Index and the University of Michigan Confidence Index suggest favorable consumer sentiment in the first quarter of 2019.

The yield curve remains very flat as low inflation expectations, the strong value of the dollar, and relatively lower interest rates abroad all work toward keeping long terms rates low in the U.S. The Fed has transitioned to placing a relatively higher priority on sustaining economic growth rather than a proactive attempt to stall inflation. Even so, the spread between long term and short-term rates should remain flat throughout 2019.

International trade remains a drag on U.S. GDP growth. The biggest factor has been slower economic growth for U.S. trade partners and the strong value of the dollar. Trade talks are ongoing with China but a return to a trade war seems unlikely. Brexit talks are also ongoing and the ultimate consequences of the withdrawal of the U. K. from the E.U. will take time to unfold.

Growth in the first quarter of 2019 is likely to be around 1.5% with the long-term Treasury yield moving back up to about 2.6%. With the Fed Fund rate of 2.5% and the 10-year Treasury of only 2.4% the maturity spread is currently negative. Oil prices are moving higher and food prices may be higher due to flooding in the Midwest, but there is little reason to expect significant inflation pressure in the first half of 2019. Job gains should continue to average about 150,000 per month and the unemployment rate could tick slightly lower.

Survey of Professional Forecasters – Slower Growth

The March 22, 2019 Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, predicted weaker growth in the U. S. economy for 2019. The median GDP growth rate forecast for the first quarter is 1.5%, compared to the prior 2.4% forecast. First quarter growth generally lags behind growth in subsequent quarters. Even so, forecasters also revised downward their forecasts for the remaining quarters of 2019. On an annual-average over an annual average basis, forecasters predict GDP growth of 2.4% for 2019, down from the prior forecast of 2.7%. Forecaster projections remained unchanged beyond 2019. Longer term forecasts in the survey call for 2.0% GDP growth in 2020 and 1.8% growth in 2021. The slower growth scenario follows from the view that slow growth in China, Germany, the U.K., and Japan will limit growth in the U.S.

Forecasters see the unemployment rate averaging 3.7% in 2019. The prior forecast was slightly lower at 3.6%. Since the first quarter unemployment forecast of 3.9% is higher than the observed unemployment rate early in 2019, payroll forecasts of almost 199,000 jobs per month may be too high. Overall, forecasters expect the labor market to remain relatively stable and strong in 2019. Table 1 summarizes the forecasts for GDP growth, the unemployment rate, and payroll growth.

Table 1. Quarterly Forecasts of GDP, Unemployment, and Payroll Forecasts

	Real GDP		Unemployment Rate		Payroll (000s / month)	
	Prior	Revision	Prior	Revision	Prior	Revision
Q I 2019	2.4	1.5	3.7	3.9	172.4	198.9
Q II 2019	2.7	2.4	3.6	3.7	168.1	156.8
Q III 2019	2.4	2.2	3.6	3.7	159.7	168.5
Q IV 2019	2.2	2.2	3.6	3.7	162.9	142.1

Source: Survey of Professional Forecasters / Federal Reserve Bank of Philadelphia

Forecasters revised inflation forecasts for the first quarter of 2019 downward, consistent with their forecasts of a slower first quarter of growth. The forecast of first quarter headline CPI is only 1.1% compared to the prior forecast of 2.4%. On the other hand, the core CPI forecast increased from 2.3% to 2.4%. These forecasts differences in the headline and core inflation rates reflect a view that energy and food prices will decline in the first quarter. Forecasts of the PCE headline and core measures are also lower. Overall, forecasters see inflation rates hovering around the Fed 2% target and remaining stable in 2019. Table 2 summarizes the 2019 quarterly inflation forecasts from the forecaster survey.

Table 2. Quarterly Forecasts of Headline and Core Inflation Rates

	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Prior	Revision	Prior	Revision	Prior	Revision	Prior	Revision
Q I 2019	2.4	1.1	2.3	2.4	2.2	1.4	2.1	2.0
Q II 2019	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0
Q III 2019	2.3	2.2	2.4	2.3	2.1	2.1	2.1	2.0
Q IV 2019	2.4	2.2	2.4	2.3	2.1	2.1	2.1	2.0

Source: Survey of Professional Forecasters / Federal Reserve Bank of Philadelphia

Central Bank Policy, Conventional Wisdom, and the low Interest Rate Trap

Since 2012, the U.S. Federal Reserve Bank has had the dual mandate of maintaining maximum employment and low inflation, interpreted to be 2% growth in the personal consumption expenditure price index (PCE). The Fed views an inflation rate of 2% to be the appropriate benchmark to balance inflation and deflation. Over time, a higher inflation rate distorts longer-term economic and financial decisions. A lower inflation rate could lead to deflationary distortions associated with falling wages and prices. Above zero inflation offers room for price weakness without falling into deflation if the economy weakens. Full employment and 2% inflation represents the sweet spot for economic performance. Maintaining this sweet spot in the months and years ahead may call for a new look at central bank policy.

Fed Dilemma: Normalize Interest Rates or Keep the Expansion Going?

The Fed now faces abnormally low interest rates, low inflation, and potential headwinds facing continued growth in a slower global economy. Following successive and dramatic reductions in interest rates before and after the Great Recession the Fed adopted a new direction in 2015 of successive and small increases in nominal interest rates to restore more normal interest rates. In total, the "normalization" policy ratcheted the fed fund rate up 250 basis points and culminated in four interest rate increases in 2018 alone. The policy of higher short-term rates in the U.S. is now stalling with the prospects of no additional increases in 2019 as inflation remains calm and concerns for slower growth take precedence. There is talk that a weaker economy will now prompt the Fed to cut interest rates in 2019. Expectations of such a move are already driving the prices of long-term bonds up and yields down making flat yield curves even more pronounced. Long-term yields are naturally low due to the strong value of the dollar, capital account surpluses, and relatively higher interest rates in the U.S. The introduction of an expectations factor that drives long-term rates lower further complicates the maturity spread problem.

In general, the use of fed funds management to achieve full employment does not have a good record. Figure 1 illustrates the relationship between the fed fund rate and the unemployment rate since 1950. Conventional wisdom suggests that unemployment should decline following cuts in the fed fund rate, producing a positive correlation over time. The data suggest that the correlation is generally negative rather than positive. It would take very long lags (several years) after fed fund rate cuts for lower rates to be correlated with lower unemployment, which is hardly what Fed policies should achieve. Management of the fed fund rate since the Great Recession is especially troubling. The fed fund rate hit a zero bound and remained there for a considerable time before significant reductions in unemployment occurred. When the Fed moved to a normalization policy of successive increases in the fed fund rate in 2015 the unemployment rate continued to fall.

Figure 1. Fed Fund Rates and Unemployment Rates

Federal Fund Rate *Unemployment Rate* *Source: Federal Reserve Bank of St. Louis*

Given the history of global central bank policies over the past decade and the checkered results with respect to achieving full employment, it is natural for a new debate to occur on appropriate targets for monetary policy. A debate on "inflation rate targeting" as an alternative to interest rate targeting is emerging. Inflation rate targeting rests on the view that the only thing monetary policy can do in the long term is support growth through price stability. Persistent inflation shortfalls of inflation targets, such as the central bank experience over the last decade, leads to poor investment decisions from inaccurate long-term expectations of inflation. A symmetric inflation target would allow small deviations on either side of the target. Inflation targets would take precedence over the "natural rate of interest target" that suggest that the central bank keep cutting rates until achieving economic stimulation without excessive inflation. Experience with the natural rate of interest target has led many banks to a zero interest rate without higher growth and with below target inflation.

The Neo-Fisher Explanation for Abnormally low Interest Rates and Low Inflation

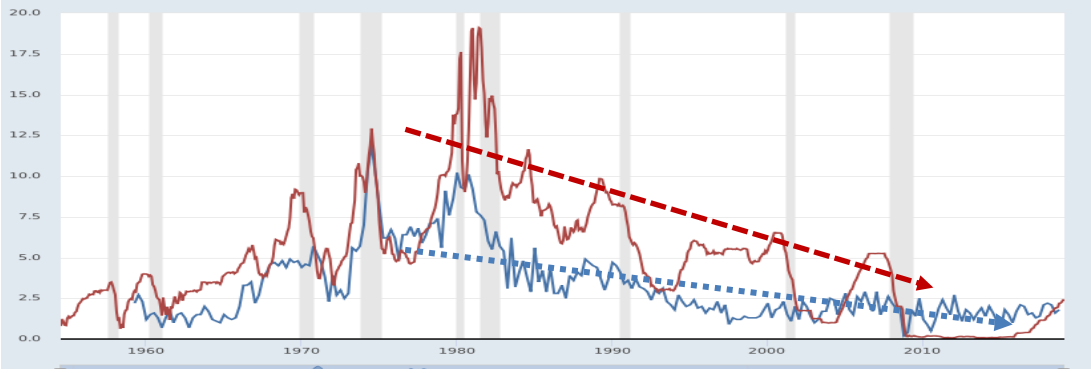
Leading up to the Great Recession and for the last decade following the recession central banks around the globe followed conventional wisdom of lowering short-term interest rates to stimulate the economy. The premise is that lower interest rates stimulate spending and investing leading to higher economic growth, reduced unemployment, and easing of financial market disruptions. Central banks purchases of government securities in the open market increases bank liquidity and the supply of additional bank reserves drives interest rates lower. Central bank responses to the Great Recession followed this approach with expanding money supply and declining interest rates. The problem with this policy approach is that the demand to hold cash increases at low interest rates causing the velocity of money to fall. The declining velocity of money offsets the increase in the money supply with little or no real economic expansion or inflation. Now, after years of

low interest rate targeting, the global economy faces abnormally low interest rates and chronic low inflation. In most cases, economic growth also failed to respond to conventional wisdom policies. Only the U.S. has seriously departed from the path of zero bound interest rates by raising the short term fed fund targets starting in 2015. Now there is talk of returning to a lower fed fund rate to stimulate the U. S. economy in 2019, causing some economists to question the policy of targeting low interest rates to stimulate the economy.

The Fisher Effect and Policy Implications

The Fisher effect explains the observed relationship between inflation and the fed fund rate. Neo-Fisher economists now argue for inflation rate targeting rather than interest rate targeting. This departure from conventional wisdom is gaining support within the Fed with leadership from economists at the Federal Reserve Bank of St. Louis. Rather than the conventional wisdom of interest rates determining inflation, the focus of the policy shift is that inflation rates determine interest rates. If the causality runs from inflation to interest rates, a decrease (increase) in inflation leads to a decrease (increase) in nominal interest rates. Inflation becomes the target rather than the short-term interest rate. The Fisher effect has empirical support since we observe that inflation and interest rates are positively correlated (lower inflation corresponds to lower interest rates), suggesting that successive interest rates cuts ultimately leads to lower rather than higher inflation. Figure 2 illustrates the relationship between the fed fund rate and inflation over time.

Figure 2. Relationship between the Fed Funds Rate and Inflation in the U.S.



Fed. Fund Rate ***PCE Core Inflation Rate*** *Source: Federal Reserve Bank of St. Louis*

Resurgence of the Fisher effect as a guide to central bank policy rests on the dynamic relationships between nominal interest rates (r_n), real interest rates (r_r) and expected inflation rates (e_i). In its simple form, the fisher equation appears as follows:

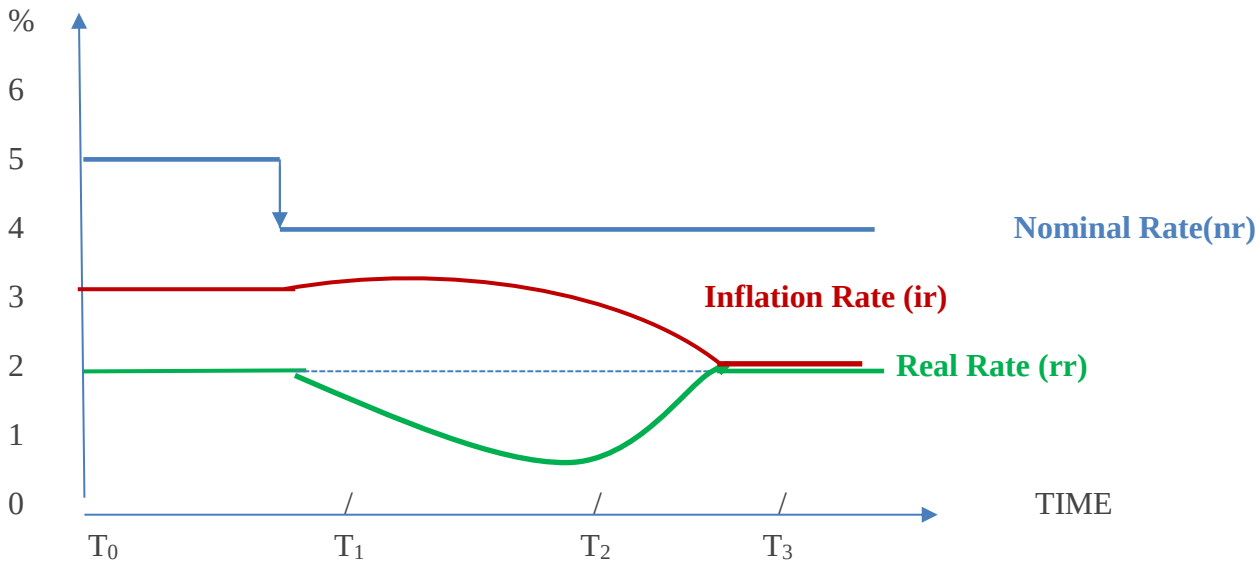
$$\text{Nominal rate } (r_r) = \text{real rate } (r_r) + \text{expected inflation } (e_i)$$

Borrowers and lenders in credit markets care about real rates of interest (r_r), which measure how much better off the lender is in real purchasing power. If, for example, the nominal interest rate is 6% and the lender expects 2% inflation, the real rate of interest is 4%. Since lenders are primarily focused on preserving real rates of interest, higher inflation leads to higher nominal interest rates.

The Fisher equation offers a better explanation of the outcomes of central bank policies in response to slow global growth, especially in the post-recession period. For example, when central banks intervene in the securities markets with expansionary moves to drop nominal rates by 1% the goal is to stimulate real economic activity and employment by lowering the real rate of interest (r_r). Economists have long concluded that there is a short-run decline in the real rate from expansionary policies due to money illusion and imperfect information. It is also widely accepted by economists that the real effects fade over time. The adjustment of the real rate back to its natural level is more rapid when nominal interest rate cuts are frequent, generating rational expectations. Eventually, the 1% lower nominal interest rate results in 1% lower inflation. Extending this argument to observed central bank policies over time explains why global nominal interest rates are currently so low while inflation is also low.

Figure 3 illustrates the Fisher effect adjustment over time for nominal rates, real rates, and expected inflation rates. In the example, the starting point is a nominal rate of 5%. At time T_1 the central bank cuts the interest rate target to 4%. The reduction in the nominal rate by 1% results in a short term drop in the real rate until inflation adjustments take place (time T_1 to T_2). This is the window of conventional wisdom where economic stimulation should occur. Ultimately, the Neo-Fisher argument is that the real rate returns to the original level, as almost all economist agree that it should, and 1% lower inflation occurs to reach an equilibrium (T_2 to T_3). The new target of 4% rests on the original 2% real rate and 2% inflation. Low inflation and low nominal interest rates persist without permanent increases in growth and employment. As central banks follow successive interest rate cuts the time lag from T_1 to T_3 shortens and bank policy becomes counterproductive.

Figure 3. Neo-Fisher View of Long Run and Short Run Consequences of Conventional Central Bank Policy



Notes:

At T1: Central Bank cuts the nominal interest rate from 5% to 4%

T1 to T2: Short run adjustment is to simulate the economy, lower real rates stimulate economic activity, and inflation ticks up. This is what economists call the non-neutrality of money adjustment.

T2 to T3: In the longer run, money is neutral and the real rate returns to a long run equilibrium of 2%, inflation falls to 2%, and the nominal rate is 4%.

Global Low Inflation Trap?

Conventional wisdom illustrated in Figure 3 can be destructive. If central banks follow conventional wisdom aggressively, they eventually hit a "zero bound" after successive reductions in the nominal interest rate target. As nominal interest rates fall people prefer to hold cash, the velocity of money tanks to offset expansionary moves of the central bank, and even more aggressive expansionary policy follows. Successive rounds of lower nominal interest rate targets ultimately drive nominal interest rates to zero. Even negative rates may occur. The central bank falls into a low-inflation and low interest rate trap and will not get out unless it abandons the interest rate target approach. Neo-Fisher economists point to Japan with an average inflation rate of zero and interest rate targets close to zero for the past 21 years. Other examples of central banks in the low inflation trap include central banks in the European Union, Denmark, Sweden, Switzerland, and the U.K.

With slower global growth forecasts, the concern is that additional rounds of cutting interest rate targeting will follow. If the past provides an indication of how this will work out, a prolonged deflation with even lower interest rates may be on the horizon. Real economic growth is not likely to be stimulated with further rate cuts, making central bank policy more destabilizing than

stabilizing. A fresh look at how monetary policy works through inflation and interest rates may be forthcoming. If not, the U.S. may repeat the experiences in Japan and much of Europe.

Summary of Recent Economic Data

GDP Growth - *The U. S. economy ended the year with 2.2% GDP growth in the fourth quarter, down from the first announcement of 2.6% annual real growth. For the year, GDP grew at a very healthy 2.9% rate. Respectable GDP growth in the fourth quarter and lower taxes led to good growth in consumer disposable income and the saving rate. Consumer spending and fixed investment were the key drivers of growth.*

- The economy, as measured by real GDP, grew 2.2% on an annualized basis in the fourth quarter of 2018, falling short of the forecast in the last Outlook by only 30 basis points. This was the second estimate by the Bureau of Economic Analysis for the fourth quarter. Year-over-year growth was 2.9% for 2018.

- Overall, key contributors to growth included investment in intellectual property, structures and equipment, national defense and durable goods spending. Table 3 provides a summary of growth in GDP and GDP components over the past two years.

Table 3. U. S. Real GDP and Component Growth (Annual Percentage Change)

	IV Q 2018	III Q 2018	II Q 2018	I Q 2018	IV Q 2017	III Q 2017	II Q 2017	I Q 2017
Real GDP	2.17	3.36	4.16	2.22	2.29	2.82	2.99	1.79
Consumption	1.66	2.37	2.57	0.36	2.64	1.52	1.95	1.22
Fixed Investment	0.54	0.21	1.10	1.30	1.04	0.44	0.70	1.60
Inventories	0.11	2.33	-1.17	0.27	-0.91	1.04	0.23	-0.80
Next Exports	-0.08	-1.99	1.22	-0.02	-0.89	0.01	0.08	-0.10
Government	-0.07	0.44	0.43	0.27	0.41	-0.18	0.01	-0.13

Source: Bureau of Economic Analysis

- The overall composition of GDP growth in the fourth quarter improved from the third quarter. Slower growth in fourth quarter inventories represents a positive condition for first quarter 2019 growth. Trade was a drag on fourth quarter growth, but less than in the prior quarter. Growth in fixed investment improved. While consumer spending slowed from the prior quarter, it still accounted for almost three-quarters of fourth quarter growth.

- Tax cuts and reductions in regulation continue to provide tailwinds for the economy, but most economists expect these favorable conditions to wane in 2019. Nevertheless, real disposable income growth accelerated to 4.24% in the fourth quarter from an upwardly revised 2.6% in the third quarter. The saving rate also climbed to 6.7% from a revised 6.4% in the third quarter.

- Inflation remained low even while the economy continued to perform well. The personal consumption expenditure (PCE) inflation index increased only 1.5% at an annual rate compared to a 1.6% rate in the third quarter. Excluding food and energy, inflation was only slightly higher with a 1.7% annual increase in the fourth quarter.

Unemployment and Labor Market Conditions *– Healthy job growth and a 3.8% unemployment rate suggest that the economy is either at or near full employment. Improvement in real wage growth continues due to a combination of higher wage growth and moderating inflation. Unit labor costs rose 2.2% in the fourth quarter, but gained only 1% on a year-ago-basis. The labor force participation rate is 63.2% and holding steady. Added improvement in real wage growth should begin to increase the participation rate. Overall, the labor market is very strong.*

- The headline unemployment rate fell to 3.8% in February and the labor force participation rate remained at 63.2%. The number of unemployed workers seeking jobs fell by 300,000. The temporary shutdown in the federal government was partly responsible for this decline.

- Payroll expansion was uneven in the first two months of 2019. In February, payrolls increased by only 20,000 jobs following an unusually large 311,000 job gain in January. The average gain for the first two months is in line with expected job expansion of about 160,000 per month.

- Average hourly earnings grew 3.4% in February on a year-over-year basis, which is the best growth rate since the Great Recession. Real gains in earnings improved with higher wage growth while inflation moderated.

- Table 4 summarizes monthly data on labor market conditions. The data are very stable with the exception of payrolls in January and February, although the moving average is consistent with a healthy labor market. The increase in the unemployment rate in January is largely due to the temporary government shutdown.

Table 4. Payrolls, Hourly Earnings, Unemployment and Labor Force Participation Rate Data

	Feb. 2019	Jan. 2019	Dec 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018
Nonfarm Payrolls Change (000s)	20	311	227	196	277	108	286	165
Average Hourly Earnings % Change	0.4	0.1	0.4	0.3	0.2	0.3	0.4	0.3
Average workweek (hours)	34.4	34.5	34.5	34.5	34.5	34.4	34.5	34.5
Unemployment Rate (%)	3.8	4.0	3.4	3.7	3.7	3.7	3.9	3.9
Labor Force Participation Rate (%)	63.2	63.2	63.1	62.9	62.9	62.7	62.7	62.9

Source: Bureau of Labor statistics

- Productivity continues to grow at a moderate rate. Nonfarm productivity (output per hour) grew 1.9% at an annualized rate in the fourth quarter of 2018. Third quarter productivity growth was revised to 1.8% from the prior 2.2% rate. Hours worked increased 1.2% with overall nonfarm business output increasing 3.1% at an annual rate.

- Manufacturing productivity increased at an annualized rate of 2% in the fourth quarter based on an output increase of 2.7% and an increase of .8% in hours worked. Durable goods manufacturing grew 3.3% while nondurable productivity rose 1.9%.

- Total nonfarm unit labor costs grew at a modest 2% annualized rate while manufacturing unit labor costs rose 2.2%. Real hourly compensation for nonfarm businesses rose 2.4% at an annualized rate in the fourth quarter. Real hourly compensation in manufacturing gained 2.6% at an annualized rate with both durables and nondurables increasing 2.6%. Table 5 summarizes quarterly productivity and compensation data over the past two years.

Table 5. Quarterly Productivity, Compensation and Costs (Annualized Percentage Change)

	IV Q 2018	III Q 2018	II Q 2018	I Q 2018	IV Q 2017	III Q 2017	II Q 2017	I Q 2017
Nonfarm Business								
Output per Hour	1.9	1.8	2.8	0.6	-0.4	2.2	1.6	0.4
Compensation per Hour	3.9	3.5	-.10	4.0	1.9	5.1	1.3	4.7
Unit Labor Costs	2.0	1.6	-2.8	3.5	2.3	2.8	-0.3	4.2
Nonfinancial Corporations								
Output per Hour	N.A.	6.1	-2.1	3.2	1.4	1.1	4.5	3.1
Compensation per Hour	N.A.	3.6	-0.2	4.7	0.3	2.8	-0.1	8.1
Unit Labor Costs	N.A.	-2.3	1.9	1.4	-1.1	1.7	-4.4	4.9
Manufacturing								
Output per Hour	2.0	1.0	1.2	-0.1	4.4	-5.0	3.5	-0.3
Compensation per Hour	4.3	2.8	-5.0	4.6	1.6	2.4	3.0	3.9
Unit Labor Costs	2.2	1.8	-6.1	5.5	-2.7	7.8	-0.5	4.2

Source: Bureau of Labor Statistics

Personal Income, Consumption, and Sales - *Sales slumped at the end of 2018 but rebounded slightly in January. The inventory to sales ratio edged up to 1.38 but there is no evidence of excessive inventory accumulation. Growth in personal income helped fuel increased savings at the end of 2018. Overall, consumers have the income to drive GDP growth going into 2019.*

- Wages and salaries, which account for half of total personal income, rose 0.3% in January, following a 0.5% rise in December. Service-providing industries logged steady gains in nominal wage income in December and January while goods producers posted a slight decline in January. Government wages and salaries posted steady gains in December and January despite the partial government shutdown. Overall, wages and salaries are growing just under 4% at an annual rate.

- Nominal personal income fell 0.1% in January following a 1% increase in December. Meanwhile, nominal disposable income fell by 0.2% in January and gained 1.1% in December. Disposable income grew at 4.3% year-over-year rate in January. The personal savings rate jumped from 6.1% in November to 7.6% in December.

- Table 6 provides a summary of the last seven months of data on changes in personal income, employment compensation, and disposable income.

Table 6. Monthly Change in Personal Income, Compensation, and Disposable Income

	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018
Total Personal Income (% change)	-0.1	1.0	0.3	0.5	0.2	0.4	0.4
Employment Compensation (% change)	0.3	0.5	0.3	0.4	0.3	0.6	0.3
Disposable Income (% change)	-0.2	1.1	0.3	0.6	0.2	0.4	0.4
Disposable Income (year over year % change)	4.3	5.0	4.3	4.4	4.3	4.6	4.6

Source: Bureau of Economic Analysis

- U.S. household borrowing increased 0.54% in January. The increase was broad based across different credit sources. Year-over-year growth in borrowing slowed to 3.87% from 3.94% a month earlier.

- Real consumer spending fell 0.6% in December after growing 0.5% in the prior two months. The December decline was the largest since 2009. Durable goods fell the most.

- Federal Reserve data showed a sharp decline in demand for credit. Approximately 18.2% of banks reported weaker demand, which is the largest since the Fed started collecting the data. The shrinking demand for loans was broad based across auto loans, credit card loans, and consumer loans.

- Sales grew 0.2% in January while December and November sales were revised lower. Total sales were up 2.3% on a year-ago basis, compared with a 1.6% gain in December. Non-auto retail sales were up 2.8%, and core sales were up 3.7% on a year-ago basis. Table 7 provides monthly retail and service sales data.

Table 7. Retail and Food Services Sales (Percentage change)

	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018	June 2018
Retail & Food Services Sales	0.2	-1.6	0.0	1.0	-0.2	-0.1	0.6	0.2
Year over Year % Change	2.3	1.6	4.0	4.6	4.0	6.4	6.6	6.1

Source: Census Bureau

***Production and Manufacturing** – U. S. production weathered the initial storm caused by trade disruptions from tariffs in 2018. Durable good shipments made modest improvement since trade shocks in October. Increased investment in the last two months is encouraging but volatile month-to-month spending remains likely. International trade disruption*

remains a key threat to U.S. manufacturing. U.S. – China talks will shape manufacturing for the remainder of 2019.

- New orders for durable goods increased 0.4% in January following an upward revision to 1.3% in December. Overall, orders are 8.4% higher than in January 2018. Defense capital goods orders fell by 2.3% in January but grew a whopping 54.2% on a year-ago basis.

- Excluding transportation, total orders fell 0.1% but were up 4.5% from a year earlier. Excluding defense, total orders increased 0.7% and were 7.1% higher than last year. Defense capital goods orders fell by 2.3% in January but grew a whopping 54.2% on a year-ago basis.

- Durable goods inventories rose 0.4% in January. Inventories increased in 24 of the last 25 months, but the durable goods inventory to sales ratio remains stable at 1.6. Table 8 summarizes the monthly percentage changes in durable goods orders.

Table 8. Monthly Durable Goods Orders and Shipments (Monthly Percentage Changes)

	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018	June 2018
Durable Goods (Monthly Percentage Change)								
Total New Orders for Capital Goods	0.4	1.3	0.9	-4.3	0.0	4.7	-1.2	0.9
Nondefense Capital Goods	2.5	4.4	0.2	-4.2	-3.1	7.4	-3.7	2.2
Total Shipments of Capital Goods	-0.5	0.7	1.0	-0.3	0.9	0.9	-0.1	1.7
Total Shipments of Nondefense Capital Goods	-1.6	0.1	2.4	-1.9	2.4	3.0	-4.0	2.3
Durable Goods Inventory/Sales Ratio (percent)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

Source: Census Bureau

- The ISM nonmanufacturing index, which captures economic activity and sentiment, increased to 59.7 in February from 56.7 in January. In general, the index has been rising since 2016.

- The nonmanufacturing sector represents about 88% of the economy, making it an important indicator of overall economic activity. Table 9 provides the monthly Nonmanufacturing ISM index for the last 8 months.

Table 9. Monthly ISM Nonmanufacturing Composite Index

	Jan. 2019	**Dec. 2018**	**Nov. 2018**	**Oct. 2018**	**Sept. 2018**	**Aug. 2018**	**July 2018**	**June 2018**
Composite ISM Nonmanufacturing Index	59.7	56.7	58.0	60.3	61.6	58.5	55.7	59.1

Source: Institute of Supply Management

- While expectations for the nonmanufacturing segment of the economy remain high, the same is not true for the manufacturing segment. The ISM Manufacturing Production Index is at a current level of 54.80, down from 60.50 last month and down from 62.00 one year ago. The change from one month ago is -9.42% and is -11.61% from one year ago. Table 10 provides the monthly data on the Manufacturing ISM index over the last 9 months. The index is relatively volatile in the fourth quarter of 2018.

Table 10. Monthly ISM Manufacturing Composite Index.

	Feb. 2019	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018	June 2018
Composite ISM Manufacturing Index	54.8	60.5	54.1	60.6	59.5	63.9	63.3	55.7	59.1

Source: Institute of Supply Management

Inflation – *Inflation measured by the Fed's preferred measure, the personal consumption expenditure index (PCE), remains weak. The headline PCE increased 1.7% on a year-ago basis in December while the core PCE increased 1.9%. While these rates are closing in on the Fed's 2% target, inflation will need to accelerate before this is a real concern. Higher inflation does not currently appear on the horizon. There is little inflation pressure from producer prices and the fears of tariff-induced inflation are abating. A strong link between higher wages and increased product prices has not developed.*

- The headline PCE index increased 0.1% in December following a 0.1% increase in November.

- The core PCE has been higher that the headline PCE due to the lower prices of energy goods and services. While food prices were up 0.1% in December, energy goods and services prices were down 2.9% following a decline of 2.8% in November.

- On a year-ago basis, the headline PCE deflator was up 1.7% for December and the core PCE deflator increased 1.9%. Table 11 provides the monthly PCE data for the last six months of 2018.

Table 11. Personal Consumption Expenditure (PCE) Deflator

	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018
Core PCE (Year-ago % Change)	*1.9*	*1.9*	*1.8*	*1.9*	*1.9*	*2.0*
PCE %(Year –ago % change)	*1.7*	*1.8*	*2.0*	*2.0*	*2.2*	*2.3*

Source: Bureau of Economic Analysis

- The consumer price index gained 0.2% in February after being unchanged in each of the prior three months. On a year-ago basis in February the CPI was up only 1.5%. Food prices firmed in January and February and food prices will likely rise in 2019 due to the consequences of flooding in the Midwest.

- The CPI for energy also rose 0.4% in February as gasoline prices increased 1.5% and fuel oil prices gained 2.6%. Excluding food and energy, the CPI came in lighter than expected, rising a below trend 0.1%. The core CPI was up 2.1% on a year-ago basis. Table 12 provides the monthly CPI and PCE inflation data.

Table 12. U. S. Consumer Price Index (CPI) and Core Consumer Price Index

	Feb. 2019	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018

Core CPI (Monthly % change)	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2
CPI (Monthly % change)	0.2	0.0	0.0	0.0	0.3	0.1	0.2	0.2
Core CPI (Year ago % change)	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.3
CPI (Year ago % change)	1.5	1.5	1.9	0.2	2.5	2.3	2.7	2.9

Source: Bureau of Labor Statistics

- The CPI rose 0.2% in February after being unchanged in each of the prior three months.
- February's gain leaves the CPI up 0.6% at an annualized rate over the prior three months. The CPI rose an annualized 1% in the prior six months and was up 1.5% on a year-ago basis.
- There is little pressure from producer prices on the overall inflationary rate at this point. The PPI for final demand rose 0.1% in February after dropping in each of the prior three months. The February PPI for food fell 0.3% while energy prices were up 1.8%. Nevertheless, the increase in February did little to offset the declines in energy prices over the prior few months.
- On a year-ago basis, the PPI for final demand in February was up 1.8%, compared with the 2% gain in January. Table 13 provides monthly data for the PPI over the past eight months.

Table 13. Monthly Producer Price Index (PPI)

	Feb. 2019	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018
PPI (Final Demand - % change)	0.1	-0.1	-0.1	-0.2	0.6	0.2	-0.1	0.0
PPI (Year-ago % change)	1.8	2.0	2.5	2.6	3.2	2.6	3.0	3.2

Source: Bureau of Labor Statistics

- Producer prices are trending lower due largely to declines in global oil prices. Going forward, oil prices could pick up as the OPEC agreement, sanctions against Iran, and sanctions against Venezuela restrict the global supply of oil.

***Housing** – Housing prices cooled off in the last half of 2018 and first part of 2019. For the remainder of the year housing prices should pick up somewhat as mortgage rates decline, consumer incomes remain healthy, unemployment remains low, and new construction remains slow. The seasonally adjusted median price of new homes was $319, 675 in January, which is down by 3.8% from January 2018.*

- Homebuilder sentiment is holding steady going into March. The NAHB housing market index reached 62, well above the 50-point threshold that suggests positive building conditions. Out of the three housing market index components, current sales and expected sales increased while buyer traffic declined. On a three-month moving average, all four regional index scores increased in March except the Midwest.

- The S&P CoreLogic Case-Shiller Home Price Indices provide highly used measures of residential real estate prices. The index series tracks national (composite) as well as a 10-city and 20-city benchmark home prices. Housing prices declined in the first months of 2019. On an annual basis, housing prices increased 4.7% for the composite index compared to a 5.4% rate over the last three years. The five-year annual increase in housing prices is 5.2% but a much lower 3% rate occurred over the last ten-year window. Table 14 provides the percentage change data for the composite as well as the 10 and 20 city data.

Table 14. S&P CoreLogic Case-Shiller ® Home Price Index Percentage Change

	Index Dec. '19	1 month	3 months	1 Yr	3 Yrs	5 Yrs.	10 Yrs.
National Composite Index % Change	205.4	-.14	-.18	4.7	5.4	5.2	3.0
10-city Composite Index % Change	226.6	-.23	-.36	3.7	4.8	4.7	3.4
20-city Composite Index % Change	212.6	-.23	-.42	4.2	5.3	4.7	3.5

Source: CoreLogic.Inc.

- Year-over-year growth in housing prices is the slowest in nearly seven years. Higher mortgage rates are partly to blame for lower housing price appreciation in 2018. The 30-year mortgage rate peaked at about 5.2% in November of 2018, which is the highest since 2010. Mortgage rates are moderating as we move into 2019, suggesting a resurgence in housing prices for the rest of the year. The more "dovish" posture of the Fed with respect to interest rate increases for the remainder of the year may also lower mortgage rates.

- On an annual basis, seasonally adjusted housing starts totaled 1.23 million in January. Housing starts increased by 18.6% from December but were down by 7.8% from January 2018.

- The inventory-to-sales ratio for January was 6.6 months of sales, up from 6.3 months in December and up from 5.6 months in January 2018.

Consumer Confidence and Sentiment – *Consumer confidence faded in the final quarter of 2018 but the trend was broken in February. An end to the government shutdown, improved wages and salaries, low inflation, healthy jobs growth, improved equity markets, and moderate energy prices are all working in favor of consumers. Overall, confidence measures are near cyclical highs.*

- Consumer confidence measured by the Conference Board's Consumer Confidence Index rebounded in February by rising to 131.4, which is a three-month high. The present conditions as well as the expectations components of the index both posted gains. The present conditions index improved to a post-2000 record of 173.5. The expectations index reached 103.4 following 89.4 in January. Table 15 summarizes the monthly movement in the index.

Table 15. Conference Board Consumer Confidence Index (1985 = 100)

Index	Feb. 2019	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018
Overall Index	131.4	121.7	126.6	136.4	137.9	135.3	134.7
Change in Overall Index	+9.7	-4.9	-9.8	-1.5	-2.6	+.6	
Expectations Index	103.4	89.4	97.7	112.3	115.1	112.5	109.3
Change in Expectations Index	+14	-8.3	-14.6	-2.8	+2.6	+3.2	

Source: Conference Board

- The University of Michigan Consumers Confidence Index rose from 93.8 in February to 97.8 in March. Consumers' assessment of current conditions rose from 108.5 in February to 111.2 in March. The expectations component increased from 84.4 to 89.2, the highest since October.

- The consumer expectations index strengthened in March reaching a four-month high. Components of the expectations index were uniformly strong. Business conditions expectations improved with 19.7% of the survey expecting better conditions in the next six months. The employment component also reflected optimism with 18.5% reporting improved expectations for the labor market. Finally, the income component increased 20%.

- Inflation expectations in the March Michigan Index fell from February's index. Table 16 summarizes the March University of Michigan Consumer Confidence Index data.

Table 16. University of Michigan Consumer Confidence Index

	Mar. 2019	Feb. 2019	Jan. 2019	Dec. 2018	Nov. 2018	Oct. 2018
Overall Index	97.8	93.8	91.2	98.3	97.5	98.6
Change in Overall Index	+4	+2.6	-7.1	0.8	-1.1	
Expectations Index	89.2	84.4	79.9	87	88.1	89.3
Change in Expectations Index	4.7	4.5	-7.1	-1.1	-1.2	
Expected Inflation (1 year)	2.4	2.6	2.7	2.7	2.8	
Expected Inflation (5 year)	2.5	2.7	2.6	2.5	2.6	2.6

Source: University of Michigan

- While consumer confidence measured by the University of Michigan Consumer Confidence Index increased in March, short run improvement in confidence may not be predictive of economic improvement in the coming months.

- The University of Michigan Consumer Confidence Index posted weaker confidence for respondents earning less than $25,000 and the largest gain in confidence occurred among households earning more than $100,000 per year.

***U. S. Trade** – The chronic trade deficit remains a drag on GDP growth. The December deficit in trade was the highest in a decade. Slower global growth and trade tariffs were largely responsible for December's poor showing, but trade has been consistently in the*

$50 billion to $60 billion dollar range in the last half of 2018. A strong dollar and continued weakness in the economies of key trading partners will create conditions for continued U. S. trade deficit growth in 2019.

- The December nominal trade deficit widened to the highest level in a decade. The softening global economy and ongoing trade war took a toll. Net exports fell $9.5 billion from November, placing the goods and services deficit at $59.8 billion. The goods deficit increased $9 billion, while the services surplus declined $483 million. Total nominal exports fell 1.9% from November, while total nominal imports increased 2.1%. A summary of the monthly trade account data appears in Table 17.

Table 17. U. S. International Trade in Goods (Billions of $s)

	Dec. 2018	Nov. 2018	Oct. 2018	Sept. 2018	Aug. 2018	July 2018	June 2018
Goods Balance	-59.8	-50.3	-56.3	-55.4	-54.4	-51.2	-47
Exports	205.1	209.1	210.4	210.6	207.5	209	211.1
Imports	264.9	259.4	266.7	266.0	262.0	260.3	258.0

Source: Bureau of Economic Analysis/Census Bureau

- The goods deficit increased $9 billion, while the services surplus declined $483 million. Total nominal exports fell 1.9% from November, while total nominal imports increased 2.1%.

- For the year, the U.S. ran a total trade deficit of $621 billion in 2018. This overall deficit comes from a $891 billion deficit in trade of goods and a surplus of $270 billion in trade of services. This was the largest annual nominal goods deficit in U.S. history. In contrast, 2018's nominal services surplus was also the largest on record, topping 2015's surplus of $261 billion.

- Capital goods posted the largest import gain across goods categories, with imports rising 4.8%. Consumer goods imports increased 4.5%, though this came on the heels of a surprising 7.5% decline in November. Foods, feeds and beverages imports gained 3.6%, while industrial supplies and automotive imports each rose 0.1%.

International Economic Conditions – *Analyst expect slower global growth in the coming years. The OECD projection for global growth for 2019 is 3.3% and 3.4% for 2020. All G20 economies took downward revisions in the most recent OECD report with especially low forecasts for Germany, Italy, U.K., Canada, and Turkey. Trade tensions and slower growth in China, Europe, and the U.S. weigh down the forecasts.*

The OECD report highlights three key risks to the global economy. The first risk centers on the uncertainty of trade policies. Even if trade talks continue and agreements materialize, there is a chance that specific trade sectors, such as autos, will slow under less favorable trade conditions. Uncertainty about the depth of China's slowdown represents the second key risk to the global economy. China is unwinding high corporate sector debt while also taking aggressive steps to stimulate the economy. Much like the U.S. economy unwinding from the mortgage crisis in 2009, there are many unknowns with respect to the effectiveness of China's expansionary policies. China is now a large part of the global economy and indirect effects of a China slowdown would be especially hard on countries in East Asia.

Europe's economy poses a third key risk to global growth. The trade linkages in the EU result in a contagion from weakness in any subset of European countries. Germany, Italy, and the U.K. are facing disruptions that could easily drag down growth in all of Europe. Central banks in Europe already have miniscule interest rates leaving little room for monetary policies aimed at lower rates to be of much help in stimulating growth. Brexit also represents a downside risk that could be a catalyst for weaker economic performance across Europe.

The final risk to global growth comes from the potential for corporate bond downgrades and defaults if global growth slows significantly. The increase in debt by both sovereign and corporate borrowers since 2008 is dramatic. Both the amount and quality of outstanding debt poses a problem. If a slower global economy in combination with slower earnings growth takes place, the problem will mushroom. Defaults and downgrades will contribute to further slowing and added rounds of defaults and downgrades. As explained in an earlier Outlook last year, emerging market economies such as Turkey, Argentina, Egypt, and Brazil are especially vulnerable to this problem. Even China has a significant bond repayment schedule over the next few years.