MACROECONOMIC ADVISERS
By IHS Markit

IHS Markit

Executive Summary: US Economic Outlook

November 2019

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Forecast Overview

Expansion continues at slightly above-trend pace

- Despite some near-term wobbles related to special factors, the US economy continues to grow at a slightly above-trend pace. GDP growth this year is projected at 2.1%, same as last month.[1] Strong gains in household sector wealth and solid, albeit diminishing, growth in real income provide a firm foundation for continued strength in consumer spending. Recent softness in business fixed investment is expected to be replaced with a modest upturn. The GM strike lasted longer than expected, resulting in a mark-down of fourth-quarter growth to 1.5%.
- The end to the GM strike, a resumption of 737 MAX shipments next year, and spending on the decennial census help raise growth in 2020 to 2.3%. We see growth slipping to a below-trend pace of 1.8% in 2021.
- Equity markets pushed to record highs on news that the US and China are indeed making some progress in resolve trade issues and with help from the Fed's cut to its policy rate to a range of 1½% to 1¾% in late October.
- With employment gains projected to remain healthy through mid 2020, the unemployment rate is expected to reach a cycle low near 3.5%. After a soft start to the year, inflation has firmed, with core PCE inflation projected to average 2.1% over the second half of this year.[2] Core inflation is then expected to remain slightly above 2%.
- Near-term recession risks appear to be contained and the manufacturing sector weakness seems to be abating.

Projecting continued above-trend US growth

- Growth over 2019 is projected at 2.1%, below last year's revised 2.5% pace, but identical to last month's forecast, and slightly above the roughly 2% pace we estimate as the growth rate of potential GDP.
- Private domestic final sales (GDP excl. net exports and inventory building) rose a solid 2.6% last year, but are expected to rise a somewhat slower 2.4% this year.
- A reduced pace of inventory accumulation this year implies a 0.3 percentage point drag on growth.
- Net exports rebounded early in 2019, following the surge in imports last year as importers aimed to beat new tariffs. As a result, net exports will be roughly neutral as it relates to GDP growth this year.

Fiscal stimulus extends above-trend growth to 2020

- The recently enacted BBA 2019, as well as favorable financial conditions, support slightly above-trend growth in our forecast of GDP growth through 2020.
- Restraining GDP growth are slowing global growth, the effects of recent tariffs, slowing inventory accumulation, and the approach to capacity constraints.
- Upward revisions in the data on household wealth and continued strength in income growth support our forecast of solid consumer spending this year and next of 2.8% and 2.6%, respectively.
- Growth of nonresidential fixed investment is expected to remain lackluster, at just 0.4% this year, but firm next year to grow 3.0%.
- Recession risks remain contained. Our recession probability model suggests about a 20% chance of a recession beginning within the next 12 months. Recession odds rise once growth slows to below-trend.

Inflation rising over second half of 2019, but to remain in check and near 2% on a sustained basis

- Falling oil prices, and a slowing in import price inflation as the dollar rose sharply over the year, helped to hold inflation in check in 2018.
- Continued dollar strength and oil price weakness, and other temporary factors restrained inflation early this year, holding core PCE inflation to just 1.1% in Q1.
- Inflation fundamentals and tariffs are expected to push core PCE inflation to 2.1% in the second half of this year.
- A rising dollar over the next few years is expected to continue to restrain import prices and core inflation.
- Recently implemented tariffs temporarily boost inflation in Q4, Q1 and Q2.

Fed policy: taking out some more insurance

- The Fed cut the fed funds rate another quarter point at the October policy meeting as insurance against downside risks from tariffs and slower foreign growth.
- We believe the Fed is done for now, and expect a 100-basis-point reversal through 2023.
- We expect the 10-yr T-note yield to trend slowly higher, but not breach 3% until early 2023.

Equities sustained by low rates, restrained by tariffs

- Despite trade policy weighing on equity values, lower rates and solid growth are expected to support a robust 22% gain in the S&P 500 index this year.

[1] This forecast originally was completed and issued on 4 November, 2019. Unless otherwise noted, all quarterly growth rates are expressed as compound annual rates, all expenditure components of GDP are chained 2012 dollars, and all annual growth rates are stated as Q4 over Q4 percent changes.
[2] PCE is the acronym for personal consumption expenditures.

Summary of the US Economy

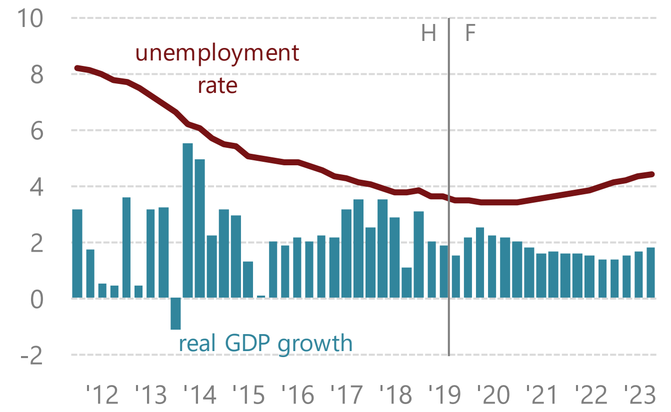
	Annual rates					Annual averages					Q4/Q4				
	2019:3	**2019:4**	**2020:1**	**2020:2**	**2020:3**	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Composition of Real GDP, Percent Change															
Gross Domestic Product	1.9	1.5	2.2	2.5	2.2	2.9	2.3	2.1	2.0	1.6	2.5	2.1	2.3	1.8	1.5
Final Sales of Domestic Product	2.0	2.1	3.3	2.1	1.5	2.8	2.2	2.4	1.8	1.6	2.2	2.4	2.2	1.7	1.6
Gross Domestic Income	2.6	1.6	2.2	2.6	2.3	2.5	2.2	2.2	2.0	1.6	2.3	2.3	2.3	1.8	1.5
Avg. of GDP and GDI	2.3	1.5	2.2	2.6	2.3	2.7	2.2	2.1	2.0	1.6	2.4	2.2	2.3	1.8	1.5
Total Consumption	2.9	2.7	2.7	2.6	2.5	3.0	2.6	2.8	2.4	2.1	2.6	2.8	2.6	2.3	2.1
Durables	7.6	4.0	4.7	4.4	4.0	6.3	4.8	5.2	4.4	4.1	3.8	6.1	4.3	4.5	3.9
Nondurables	4.4	3.4	3.3	2.0	2.2	3.0	3.5	3.2	1.9	1.4	2.5	4.1	2.4	1.6	1.3
Services	1.7	2.3	2.2	2.5	2.4	2.5	2.0	2.3	2.2	2.0	2.5	1.9	2.3	2.1	2.0
Nonresidential Fixed Investment	-3.0	1.3	4.2	1.5	2.8	6.4	2.2	1.7	3.0	2.8	5.9	0.4	3.0	3.0	2.7
Equipment	-3.8	1.1	6.4	-0.6	2.2	6.8	1.6	1.7	3.0	3.3	5.0	-0.5	2.9	3.3	3.2
Information Processing Equipment	-7.4	3.9	3.7	3.0	3.1	9.2	4.0	2.2	3.1	3.1	5.6	3.0	3.2	3.1	3.2
Industrial Equipment	7.0	-3.6	-2.2	1.9	1.0	4.5	1.7	0.6	5.6	4.0	3.4	0.3	1.7	6.2	3.4
Transportation equipment	-9.9	-10.2	48.4	-10.0	-10.6	6.4	-1.4	2.5	-3.0	3.6	7.3	-8.4	4.1	0.5	3.9
Aircraft	-80.0	0.2	1936.7	-55.5	-62.7	4.1	-33.8	26.9	-8.8	13.1	14.6	-53.3	40.6	12.1	12.6
Other Equipment	-1.0	15.1	-16.7	3.2	17.6	5.6	1.5	1.3	7.2	2.6	3.0	2.6	2.2	4.1	2.4
Intellectual Property Products	6.6	6.2	5.1	4.8	5.0	7.4	8.0	5.3	4.5	3.5	9.3	6.8	5.0	4.0	3.2
Structures	-15.3	-6.4	-1.7	0.0	0.5	4.1	-4.9	-4.3	0.6	0.6	2.6	-7.5	-0.1	0.6	0.8
Commercial & Health Care	-11.9	1.9	-0.9	2.9	8.1	-0.1	-5.7	-0.3	7.4	2.8	-2.8	-4.6	5.1	5.6	1.0
Manufacturing	-0.8	9.2	12.0	-2.4	-0.4	-6.1	1.5	2.7	2.1	-4.0	-2.0	1.3	2.0	3.5	-7.6
Power & Communication	-7.6	-25.3	-23.2	-1.9	-9.9	-0.7	-6.3	-14.3	-10.2	-8.5	1.1	-8.9	-11.4	-11.9	-4.4
Mining & Petroleum	-29.3	-18.4	0.4	-10.0	-8.3	24.2	-7.9	-12.1	-8.1	0.4	14.4	-16.6	-6.5	-7.0	6.8
Other	-18.6	5.7	8.9	8.0	6.4	2.6	-2.7	2.5	4.6	5.9	2.8	-5.3	6.2	5.8	4.4
Residential Fixed Investment	5.1	3.0	-0.2	-1.4	-1.7	-1.5	-1.7	0.5	-1.1	0.5	-4.4	1.0	-0.7	-0.8	0.5
Exports	0.7	-0.3	7.2	1.3	1.5	3.0	-0.2	2.1	3.0	3.0	0.4	-0.3	3.6	3.0	3.0
Imports	1.2	0.3	1.1	4.9	5.6	4.4	1.5	2.4	4.9	4.3	3.2	0.0	4.3	4.6	4.3
Federal Government	3.4	-0.7	3.4	9.4	0.7	2.9	3.3	3.4	0.4	-0.7	2.7	3.2	3.2	-0.4	-1.1
State & Local Government	1.1	1.1	0.3	0.8	1.0	1.0	1.6	1.0	1.1	0.9	0.9	2.1	0.9	1.1	0.9
Prices & Wages, Percent Change															
GDP Deflator	1.7	2.3	2.1	2.2	2.1	2.4	1.8	2.1	2.3	2.5	2.3	1.9	2.1	2.4	2.5
Consumer Prices	1.8	2.4	1.6	2.4	1.4	2.4	1.8	1.9	1.8	2.5	2.2	2.0	1.5	2.3	2.5
Producer Prices, Finished Goods	-1.9	0.7	1.3	2.0	0.8	3.1	0.7	1.0	1.0	2.3	2.2	0.4	0.9	1.8	2.4
Employment Cost Index - Total Comp.	3.3	3.1	3.0	3.5	3.1	2.9	2.7	3.1	3.2	3.4	3.0	2.8	3.2	3.3	3.4
Other Key Measures, Percent Change															
Total Industrial Production	1.2	-0.6	0.1	0.5	1.3	3.9	0.8	0.3	1.4	1.0	4.0	-0.9	0.9	1.2	0.9
Payroll Employment	1.4	1.3	1.2	1.8	0.6	1.7	1.6	1.2	0.8	0.4	1.8	1.4	1.1	0.7	0.2
Financial Markets, NSA, Quarter Average															
S&P 500 Stock Index (four-quarter % change)															
(Average of period)	10.9	11.4	6.3	5.5	-0.1	12.1	5.7	7.3	0.1	3.1	3.3	12.9	2.5	0.9	3.6
(End of period)	2.2	21.7	10.2	6.5	4.9	8.0	9.5	5.8	0.1	3.4	-6.2	21.7	1.9	1.6	3.7
Exchange Rate, Broad Index (%change, annual rate)	4.9	0.0	-0.8	1.2	3.6	0.7	4.6	1.6	3.2	1.8	6.5	1.4	2.0	2.6	1.3
Incomes, Percent Change															
Personal Income	3.8	3.8	4.0	3.5	3.6	5.6	4.8	3.9	4.1	4.2	4.9	4.8	3.7	4.3	4.2
Real Disposable Income	2.9	1.9	2.2	1.2	1.9	4.0	3.2	2.0	2.2	2.1	3.9	2.9	1.9	2.2	2.0
	Levels					Annual averages					Q4 values				
Billions of Dollars															
Real GDP	19113	19184	19287	19408	19516	18638	19061	19458	19846	20165	18784	19184	19622	19968	20274
Nominal GDP	21526	21731	21960	22217	22457	20580	21424	22333	23298	24253	20898	21731	22699	23653	24607
Other Key Measures															
Brent Crude, Spot Price ($/bbl)	61.93	60.95	59.00	60.67	57.00	70.96	63.74	57.00	52.17	57.43	67.42	60.95	51.33	55.00	59.63
Factory Operating Rate	75.5	75.0	74.7	74.5	74.5	76.6	75.6	74.6	74.5	73.9	77.0	75.0	74.6	74.3	73.7
Nonfarm Inven. Chg. (Bil. 2012 $)	76.7	38.9	-22.6	1.3	37.0	55.2	80.0	15.1	58.0	56.6	103.0	38.9	44.7	58.4	55.3
Light Vehicle Sales (Mil. units, saar)	17.00	16.83	16.75	16.69	16.65	17.21	16.92	16.68	16.53	16.45	17.41	16.83	16.62	16.49	16.43
Housing Starts (Mil. units, saar)	1.282	1.270	1.267	1.267	1.269	1.250	1.255	1.268	1.256	1.279	1.185	1.270	1.271	1.271	1.274
Exist. House Sales (Total, Mil. saar)	5.433	5.504	5.544	5.618	5.603	5.341	5.358	5.572	5.492	5.487	5.143	5.504	5.525	5.496	5.465
Unemployment Rate (%)	3.6	3.5	3.5	3.4	3.4	3.9	3.7	3.4	3.5	3.8	3.8	3.5	3.4	3.6	4.0
Federal Surplus (Unified, nsa, bil. $)	-237.3	-330.0	-393.9	-94.2	-273.0	-873.0	-995.5	-1089.5	-1151.7	-1193.5	-318.9	-330.0	-328.3	-352.9	-327.3
Current Account Balance (Bil. $)	-542.1	-564.0	-541.6	-586.8	-614.1	-491.0	-540.9	-586.6	-614.0	-634.4	-575.7	-564.0	-603.8	-627.9	-641.7
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.19	1.70	1.62	1.63	1.63	1.83	2.17	1.64	2.02	2.38	2.22	1.70	1.67	2.15	2.38
3-Month Treasury Bill Rate (%)	1.98	1.57	1.56	1.54	1.52	1.94	2.06	1.54	1.84	2.14	2.32	1.57	1.54	1.95	2.14
10-Year Treasury Note Yield (%)	1.80	1.73	1.80	2.01	2.19	2.91	2.13	2.08	2.66	2.96	3.03	1.73	2.34	2.82	3.00
30-Year Fixed Mortgage Rate (%)	3.66	3.73	3.75	3.87	3.97	4.54	3.94	3.91	4.29	4.54	4.78	3.73	4.07	4.41	4.58
S&P 500 Stock Index (average of period)	2959	3040	3087	3128	3127	2745	2901	3114	3118	3214	2692	3040	3115	3144	3258
S&P 500 Stock Index (end of period)	2977	3050	3123	3132	3122	2695	2951	3121	3124	3229	2507	3050	3108	3157	3273
Incomes															
After-Tax Profits (Billions of $)	-11.2	3.6	0.7	4.9	5.0	1.7	-1.2	1.9	5.3	4.9	9.8	-0.3	3.5	5.9	4.6

Source: IHS Markit

Modestly above-trend growth supported by low interest rates

Growth to slow in second half of 2019

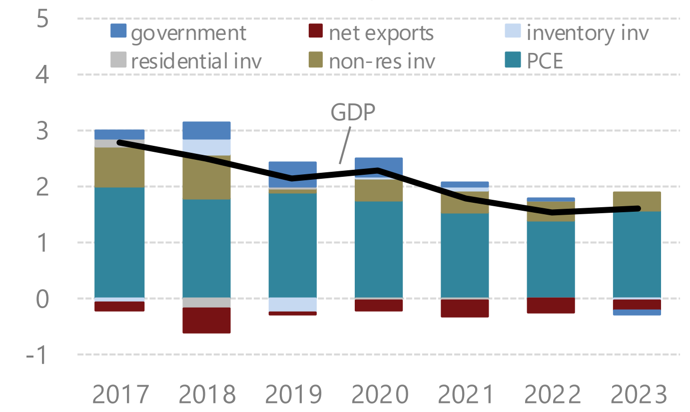
percent



Source: Macroeconomic Advisers by IHS Markit, BEA, BLS

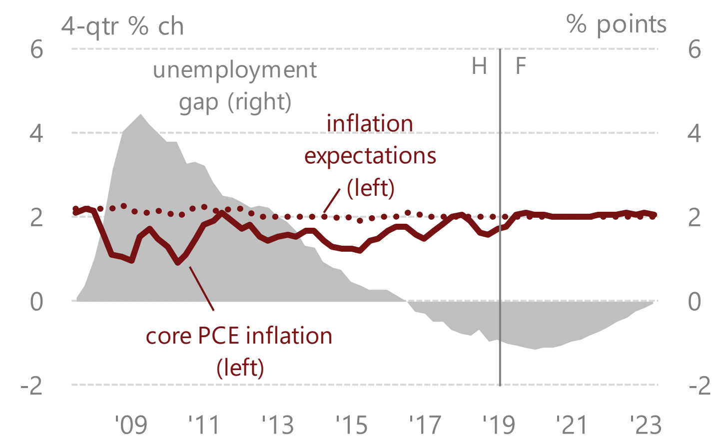
Contributions to GDP growth

percentage points



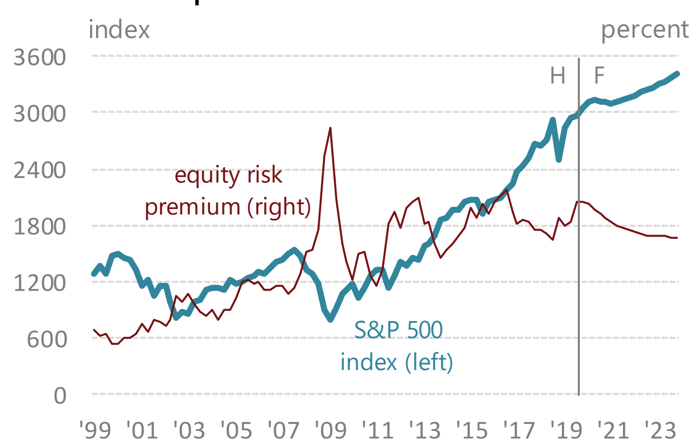
Source: Macroeconomic Advisers by IHS Markit, BEA

Core PCE inflation has firmed



Source: Macroeconomic Advisers by IHS Markit, Philly Fed, BEA, BLS

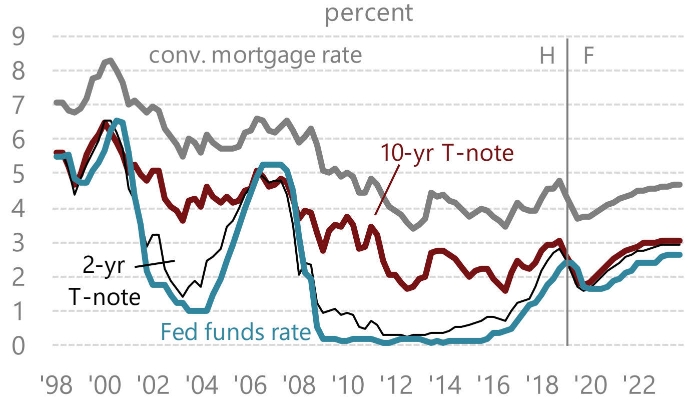
Equities slow in 2020 and 2021



Source: Macroeconomic Advisers by IHS Markit, S&P

Fed holds funds rate steady after cut in Oct. before reversing in late 2020, term yields rise gradually

percent



Source: Macroeconomic Advisers by IHS Markit, FRB

Forecast overview

	2018	2019	2020	2021	2022	2023
Real GDP*	2.5	2.1	2.3	1.8	1.5	1.6
		2.1	2.1	1.8	1.6	1.5
Pvt Final Dom Dem*	2.8	2.3	2.5	2.2	2.1	2.2
		2.4	2.5	2.4	2.2	2.1
Unemployment Rate**	3.8	3.5	3.4	3.6	4.0	4.4
		3.6	3.5	3.6	3.9	4.3
Core PCE Inflation*	1.9	1.8	2.1	2.0	2.1	2.1
		1.9	2.1	2.0	2.1	2.1

* Q4 to Q4 percent change, ** Q4 average
Note: Prior forecast values shown below each line.

Q3 beats forecast; longer GM strike; lower term yields & oil prices

BEA's advance estimate of third-quarter real GDP growth was 1.9%, 0.3 percentage point above last month's forecast and 0.6 percentage point above our final tracking estimate for the quarter. Unanticipated strength in final sales to domestic purchasers and in net exports was not fully offset by weaker-than-expected inventory accumulation.

Recent data on consumer spending and business fixed investment were on the soft side, and the UAW strike against GM lasted 6 weeks instead of the 3 weeks assumed last month. Hence, we've marked down our forecast for fourth-quarter growth by 0.4 percentage point, to just 1.5%, leaving our forecast for GDP growth this year unrevised at 2.1%. Projected growth over 2020 is revised up 0.2 percentage point, to 2.3%, partly the result of lower term yields and a weaker dollar, but also because the longer auto strike this year implies a bigger rebound in vehicle production next year.

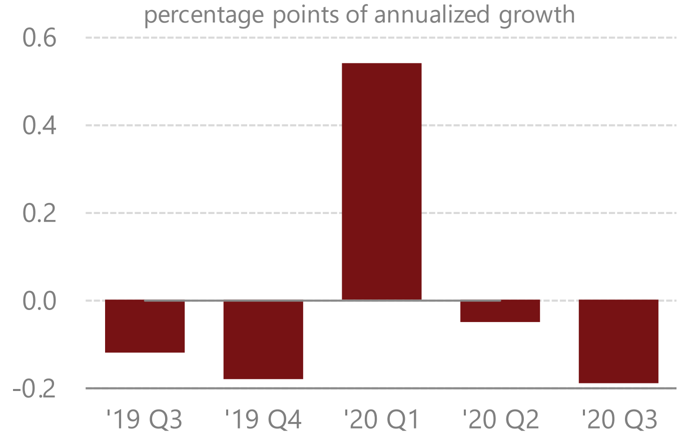
Last month's forecast assumed the UAW strike against GM lasted three weeks when, in fact, it lasted six. Under our assumptions about the catch-up in production, the extended strike subtracts roughly 0.2 percentage point from GDP growth in the fourth quarter of this year, but adds 0.5 percentage point to growth in the first quarter of next year (see chart), and nearly 0.1 percentage point to growth over the four quarters of 2020.

The Fed cut the federal funds rate—its last cut in this easing cycle, we believe—by 25 basis points at the October meeting of the FOMC, one meeting earlier than we assumed but otherwise with little impact on the forecast. However, we have reassessed our projection of the Fed's balance sheet, including the system's holdings of term Treasuries, which we now assume will begin growing in the fourth quarter of this year rather than decline for several more years as previously assumed. This contributed importantly to a downward revision in the forecast for term yields (see chart).

Our energy team updated its intermediate-term projections for crude oil prices in light of: (a) faster-than-expected restoration in Saudi oil production following the attack in September that temporarily knocked out 5% of global oil production; (b) the ability of Saudi Arabia to maintain exports despite the interruption of production; (c) moderate projected growth in global demand; (d) adequate global stocks. The new path averages $5-$10 per barrel lower for Brent crude than last month's forecast (see chart). There is some pass-through to "core" prices, accounting for a 0.1 downward revision in our forecast for core inflation over 2020.

Impact of 6-week GM strike on GDP

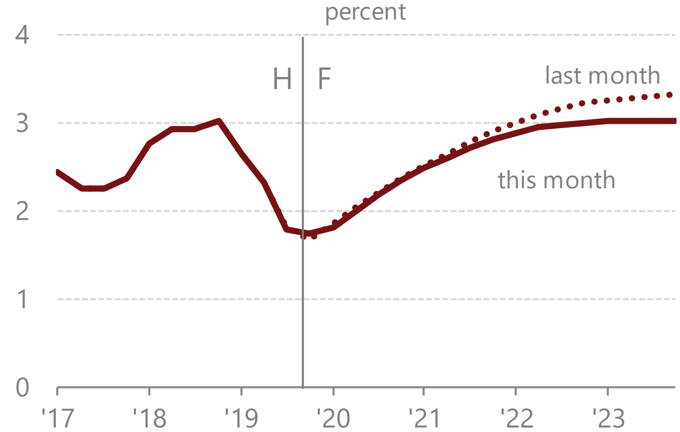
percentage points of annualized growth



Source: Macroeconomic Advisers by IHS Markit

10-Year Treasury note yield

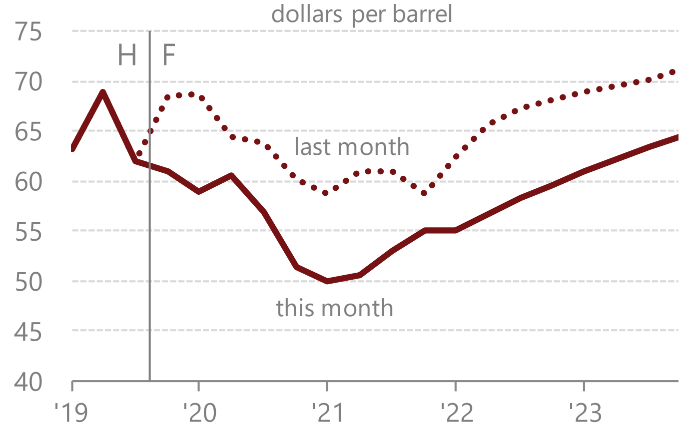
percent



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

Price of Brent crude oil

dollars per barrel



Source: Macroeconomic Advisers by IHS Markit

Tariffs, GM, and Boeing are shaping the near-term outlook

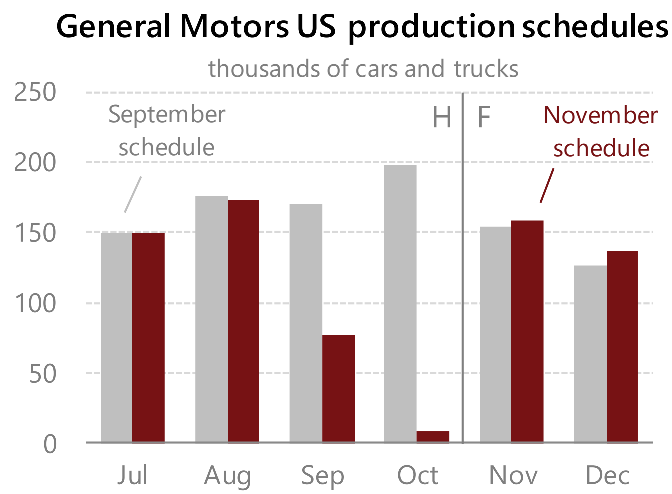
Developments at GM and Boeing are contributing to some volatility in GDP growth over the next couple of quarters, while recently enacted tariffs are expected to boost consumer price inflation. In this month's forecast, we look for 1.5% GDP growth in the fourth quarter and 2.2% growth in the first quarter of next year. The fourth-quarter figure is 0.4 percentage point below, while the first-quarter figure is 0.4 percentage point above last month's forecast. These revisions mainly reflect developments at GM. Last month's forecast included a strike against the automaker that was assumed to last three weeks, into early October. The strike, in fact, lasted six weeks, through most of October. Even though production at GM is assumed to rise above baseline beginning in November, the loss of assemblies in October was enough to lower our forecast of fourth-quarter GDP growth by 0.3 percentage point. The assumed rebound in production in the first quarter raised our forecast of first-quarter GDP growth by 0.5 percentage point.

Motor vehicle production schedules prepared following the conclusion of the strike show GM's November and December assemblies rising above levels scheduled for those months back in early September, prior to the strike. This is qualitatively what we were expecting, but the scheduled pace of GM's assemblies over November and December is below what we assumed in this forecast. This poses some modest downside risk to our forecast of fourth-quarter GDP growth.

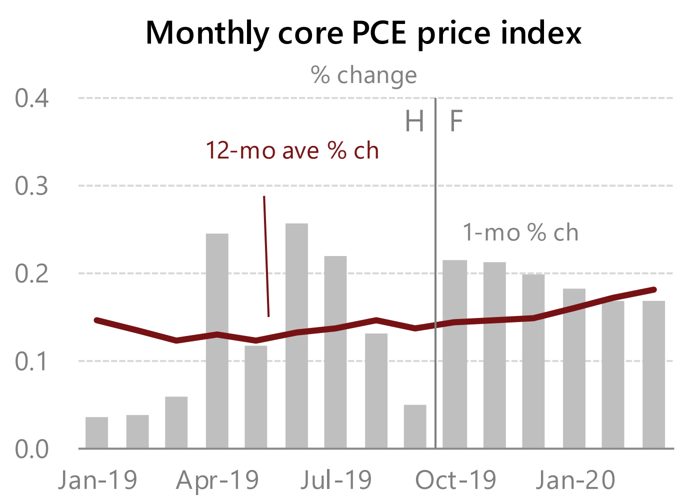
We continue to assume that production of Boeing's 737 line of aircraft will remain depressed in the fourth quarter, that Boeing will be cleared to fly and deliver the 737 Max in early January, and that 737 production will begin ramping up in the first quarter of 2020.

GDP growth averages 1.8% over the coming two quarters, down slightly from recent averages, and monthly payroll gains average 148 thousand per month from October through next March. Combined with a roughly flat labor-force participation rate, the latter keeps the unemployment rate averaging 3.5% over the fourth and first quarters, close to the ultimate trough of 3.4% in subsequent quarters. Tight labor markets and pass-through of recently enacted tariffs on goods imported from China push core PCE inflation up to just over 2.0% by the first quarter of next year. A further acceleration in core inflation is prevented by recent and prospective strength in the value of the US dollar, which is holding down pre-tariff import prices, and recent and prospective declines in energy prices, which are lowering production costs and prices of items in the core.

Source: Macroeconomic Advisers by IHS Markit



Source: Wards Intelligence



Source: Macroeconomic Advisers by IHS Markit, BEA

No recession, but growth transitions to below-trend in 2021

On the supply side of the economy, we project full-employment (or "trend") GDP growth of 2.05% per year over the coming decade—one tenth lower over the first five years, one tenth higher over the last five—but with a shift in composition from growth in the labor force towards growth in productivity. Growth of full-employment productivity is projected to rise from 1% in 2018 to a peak of 1.8% in 2023 (see chart). Three-fifths of that increase is accounted for by an assumed increase in the growth of total factor productivity. The contribution from capital deepening, consistent with our forecast of capital spending, temporarily rises to 1 percentage point in 2019 before averaging 0.9 percentage point thereafter. Labor force growth slows as population growth slows and a near-term cyclical rise in the participation rate gives way to a secular decline driven by aging of the population (see chart).

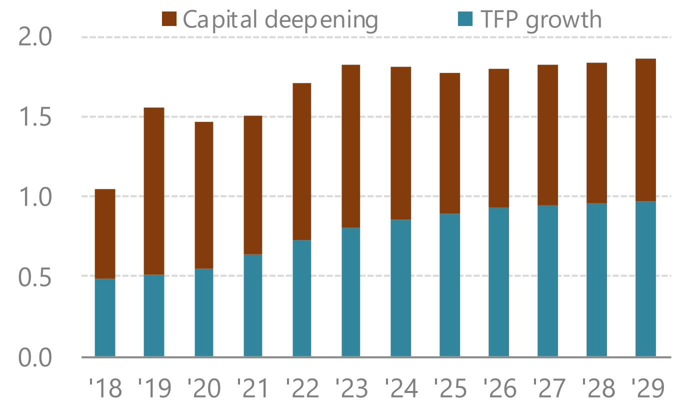
GDP growth is projected at 2.1% through early 2021, modestly above our estimate of potential growth. The year 2021 sees a transition to below-trend growth that persists through 2024, allowing the unemployment rate to drift up to "full employment," approximately 4.5%.

Several factors support above-trend growth through 2020: (1) this year, the 2017 Tax Act is still supporting private demand, while the Bipartisan Budget Act of 2018 is still supporting government spending; next year there is additional fiscal stimulus from the Bipartisan Budget Act of 2019; (2) interest rates are low; (3) recent gains in wealth, employment, and compensation, along with elevated consumer confidence, support growth of personal consumption expenditures; (4) foreign growth, while slowing in 2019, begins a rebound in 2020 that supports US exports; (5) strong increases in US production of crude oil. In addition, three special factors temporarily boost growth in 2020; (1) a rebound in vehicle production following the UAW strike against GM; (2) an assumed rebound in production at Boeing following recertification of the troubled 737 MAX jet airliner; and (3) spending on the 2020 decennial census.

The slowdown after 2020 arises from: (1) waning fiscal stimulus (see Fiscal Policy); (2) lagged effects of recent tariff increases and trade policy uncertainty; (3) a reversal of monetary easing starting in late 2020; (4) an upward drift in long-term interest rates as the term premium in Treasury yields gradually normalizes; (5) proximity to full employment that limits growth of labor income; and (6) a projected deceleration in household wealth as equity values flatten and house-price appreciation slows. As GDP growth slows after 2020, a small positive output gap is gradually eliminated (see chart).

Growth of full-employment productivity

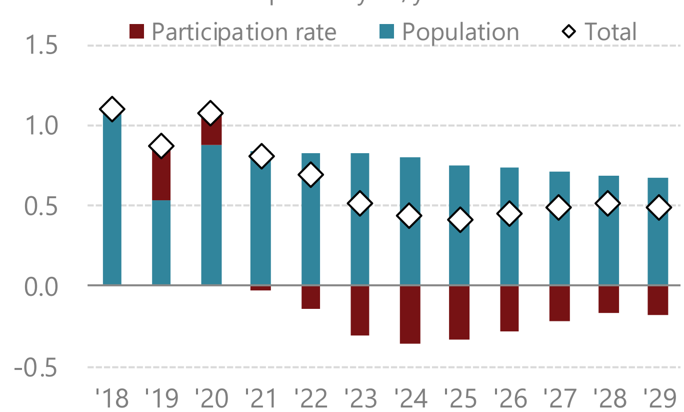
percent year/year



Source: Macroeconomic Advisers by IHS Markit

Growth of the labor force

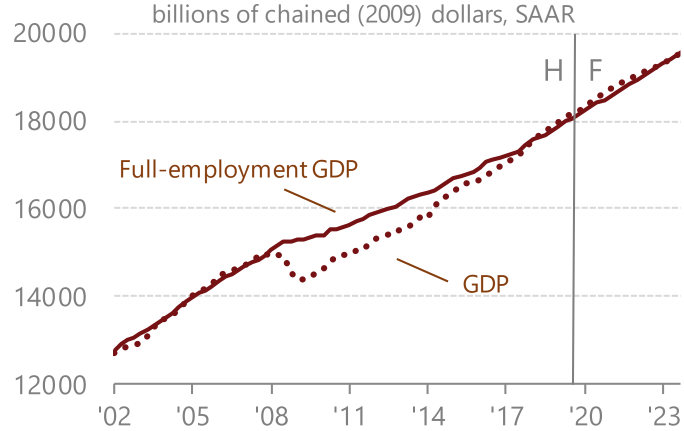
percent year/year



Source: Macroeconomic Advisers by IHS Markit, BLS

Real GDP

billions of chained (2009) dollars, SAAR



Source: Macroeconomic Advisers by IHS Markit

Fed done easing before eventual reversal

Fiscal policy: Federal retirement and health benefits remain governed by current law. Discretionary spending adheres to caps set by the Bipartisan Budget Act of 2019 (see Fiscal Policy), assumed to be extended beyond FY21. Disaster relief funding reverts to recent averages. Personal provisions of the 2017 Tax Act are extended. State and local governments maintain projected balanced operating budgets. The debt ceiling, suspended through July 2021, is raised then uneventfully.

Monetary policy: The Fed cut the federal funds rate by 25 basis points in October, but eventually reverses course and hikes it 100 basis points (see chart), both to limit a rise in inflation when feared downside risks to the outlook don't materialize, and to accommodate an eventual uptick in potential GDP growth (see Growth). The FOMC allows its balance sheet to start growing this fall and maintains its 2% inflation objective (see Fed Call).

Tariffs: The forecast includes: tariffs on solar panels and metals; a 25% tariff on approximately 44% of goods imported from China; a 15% tariff on most of the rest of imports from China, implemented in two steps on 1 September and 15 December; all of China's retaliatory tariffs on US exports to China.

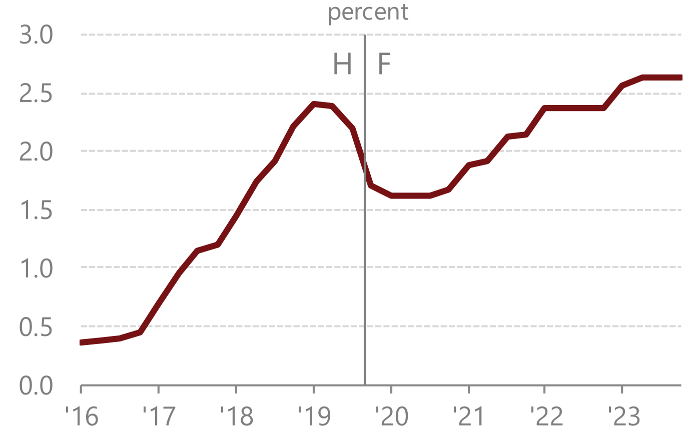
Global: Growth of real, trade-weighted foreign GDP slows from 3.1% (year/year) in 2017 to 1.6% in 2019 before firming to 2.4% by 2023 (see chart). The trade-weighted foreign bond yield dips to 0.7% in 2019 with slowing foreign growth, before rising to 2.2% by 2026.

Oil prices: The price of Brent crude is projected to fall from $71 per barrel in 2018 to $52 in 2021, before rising to $72 by 2025. Upward price pressure from US sanctions on Iran and new International Maritime Organization regulations on bunker fuel will be mitigated by rising US production and moderate global growth.

Demographics: Based on Census projections, growth of the working age population slows from 0.9% in 2017 to 0.8% by 2022. The demographically driven component of the labor force participation rate declines 1.3 percentage points, to 61.9%, by the end of 2022. The annual rate of household formations slips from 1.40 million in 2018 to 1.22 million in 2023.

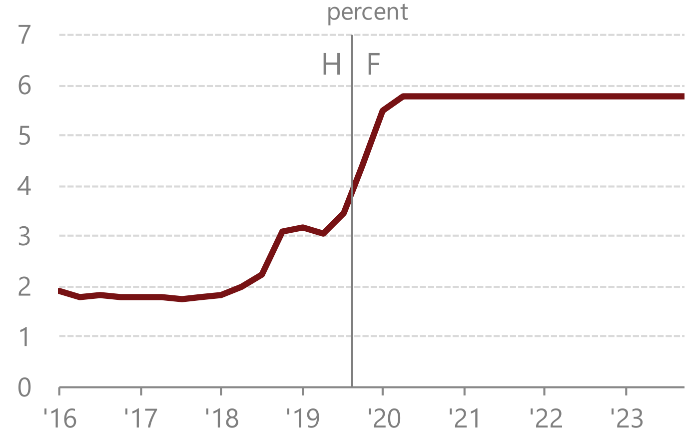
Productivity: In the MA/US model we assume growth of total factor productivity rises from 0.5% in 2018 to 0.9% by 2024, close to the average of the prior two decades. Growth of trend labor productivity rises from roughly 1% in 2018 to 1.8% by 2023.

Federal funds rate



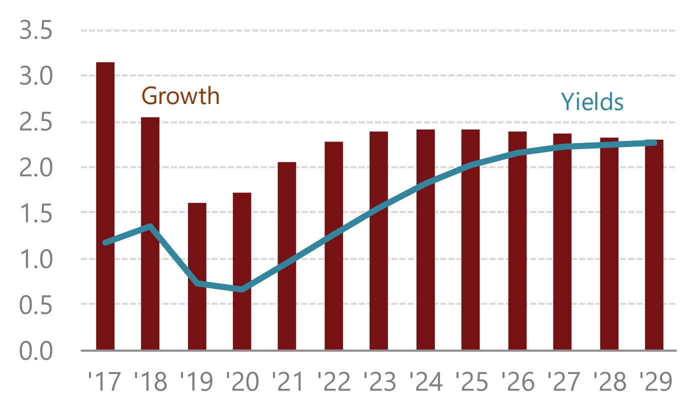
Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

Effective US tariff rate, non-petro goods



Source: Macroeconomic Advisers by IHS Markit

Foreign GDP growth and bond yields



Source: Macroeconomic Advisers by IHS Markit

Two alternative outcomes for the US economy

Broad-based loss of confidence and risk aversion result in a three-quarter recession (35% probability)

In the pessimistic scenario, a broad loss in confidence and growing aversion to risk lead to drops in a wide range of investment and consumer spending categories to end the expansion in its 138th month, a new record. In this simulation, growth in business fixed investment is negative in 2020 and 2021, but recovers starting in 2022. With demand weak, inflation, as measured by the four-quarter change in the core PCE price index, falls from around 2.1% in the second quarter of 2020 to 1.1% in the fourth quarter of 2023.

The economy starts out growing only modestly slower than in the baseline over the first few quarters of this scenario. Yet the recent sharp increases in real estate prices, along with the projected upturn in mortgage rates raises the cost of homeownership such that housing demand and starts begin to decline in early 2020. The financial sector shows initial strength, with equity values moving close to the baseline through the second quarter of 2020. However, a growing sense of unease marked by declines in consumer confidence results in sharp declines in asset values and business fixed investment. The S&P 500 declines 4.9% in 2020 and does not return to baseline levels through the end of forecast.

Negative wealth effects and employment declines lead to an easing in the growth in consumer spending. Foreign GDP growth also slows. The result is a three-quarter recession starting in the fourth quarter of 2020.

Housing starts bottom out in the first quarter of 2021, some 30% below the baseline, before starting to recover, but remain well below the baseline over the rest of the forecast due to a lower household formation rate. Consumer spending growth starts to pick up again in late-2021, catching up to baseline growth in early-2023 before outpacing it, while business fixed investment catches up with baseline growth in 2021 before moving above it.

The peak-to-trough decline in real GDP during the three quarter recession is a modest 2.0%. The unemployment rate climbs through 2019 and 2020, peaking at 5.8% in the fourth quarter of 2021, and then declines over the remainder of the forecast. The Fed responds to slowing GDP growth by lowering interest rates from Q2 2020 through Q1 2021. With interest rates initially so low, it finds its recession-fighting arsenal lacking. With no capacity to use fiscal policy, the result is a weak recovery and an economy that fails to get fully back on track.

Strong growth of productivity and a less inflation prone economy (10% probability)

Three key assumptions underpin this optimistic scenario: faster productivity growth, a lower nonaccelerating inflation rate of unemployment (4.0% rather than 4.6%), and a higher equilibrium real federal funds rate (1.30% rather than 0.75%). GDP growth averages 0.9 percentage point higher than its baseline rate over 2019–29, while the unemployment rate declines to a cyclical low of 3.1% before gradually rising to its long-run equilibrium of 4.0% over the next several years. Core personal consumption expenditure (PCE) inflation averages 1.9% over the next ten years, one-tenth less than the baseline. The federal funds rate target range settles at 3.25–3.50%.

Even though the unemployment rate dips to as low as 3.1% in 2020, the lower natural rate of unemployment keeps average core PCE inflation near the baseline pace over the forecast horizon. Stronger economic growth and the higher equilibrium federal funds rate allow the Fed to begin raising the federal funds rate in early 2021. After additional hikes over the next several years, the federal funds rate settles at 3.25%-3.50%, remaining 75 basis points above its baseline level over the rest of the forecast.

Productivity rises at an annual average rate of 2.7% from 2019 to 2029, about one percentage point faster than the baseline, and rebounding from a lackluster post-recession pace that averaged just 0.8% over 2011–18. Wages grow more quickly as a result. With more real income to spend and brighter job prospects in a low-inflation environment, consumers pick up their spending, driving the growth of real personal consumption expenditures to an average annual rate of 3.3% during 2020–22. Thanks to improved finances and higher employment, household formation accelerates. This spurs a healthy rise in housing starts, which rise to 1.43 million, above the 1.29-million high in the baseline.

The rest of the world also experiences stronger economic growth due to faster productivity gains, although to a lesser extent than enjoyed in the United States. Due to stronger global demand, the price of Brent crude oil averages $80/barrel over the forecast horizon, about $10/barrel higher than the baseline. After strengthening in the near term, the broad, real trade-weighted dollar depreciates to a level slightly lower than the baseline by 2027 due to a widening US current account deficit.

US Macro Forecast Snapshot*

	Baseline (55%)	Pessimistic (35%)	Optimistic (10%)
GDP growth	Growth slows to 2.1% in 2019 amid slowing global growth and rises to 2.3% in 2020 reflecting a rebound in production at GM and Boeing	GDP grows at 0.3% in 2020 and 0.1% in 2021, with a recession running from the fourth quarter of 2020 through the second quarter of 2021	Growth remains, on average, 0.9 percentage point higher than baseline over forecast interval
Consumer spending	Growth edges up to 2.8% in 2019 then declines to 2.6% in 2020	Grows at 2.8% in 2109 and slows to 1.7% in 2020 and 0.6% in 2021 amid a loss of confidence before bouncing back to 1.7% in 2022	Growth expands 2.8% in 2019 then jumps to 3.3% in 2020 thanks to faster real income growth
Business fixed investment	Growth is projected to fall to 0.4% in 2019 as nonfarm business sec-tor output slows, then climbs to 3.0% in 2020	Slows to 0.4% growth in 2019, and then declines 3.7% in 2020 and 3.5% in 2021 as businesses trim capex in the face of falling de-mand	Growth cools to 0.4% in 2019, before rising to 4.4% in 2020
Housing	Housing starts expected to rise from 1.27 million in fourth quarter 2019 and remain there in fourth quarter 2019	Housing starts drop below their baseline levels in 2020 and never surpass 1.1 million units thereafter	Young adults form households in greater numbers due to strength-ening economy, resulting in nearly 1.43 million starts by 2022
Exports	Fall 0.3% in 2019 and rise 3.6% in 2020	Fall 0.3% in 2019 and are flat in 2020 before recovering 2.0% in 2021	Fall 0.3% in 2019 and rise 4.4% in 2020
Fiscal policy	Personal tax cuts extended, while entitlement spending will follow current program guidelines	Same assumptions as in baseline	Same assumptions as in baseline
Monetary policy	Fed is at the end of its easing cy-cle and the federal funds rate eventually rises to 2.63%	Fed lowers the federal funds rate from second quarter of 2020 to the first quarter of 2021, reaching the zero bound	The federal funds rate eventually rises to 3.25-3.50%, around 0.75 percentage point higher than the baseline
Credit conditions	Gradually easing	Lending standards remain high	Rapidly easing
Productivity growth	Averages 1.5% from 2019 through 2022	Averages 1.3% during 2019–22, 0.2 percentage points below the baseline	Averages 2.3% during 2019–22, 0.8 percentage points above the baseline
Consumer confidence	Gradually declines from the third quarter in 2020 through the end of forecast	Declines through the recession and continues below the baseline through the end of forecast	Outperforms baseline over the entire forecast interval
Oil prices (Dollars/barrel)	Brent crude oil averages $64 in 2019 and $57 in 2020	Brent crude oil averages $64 in 2019 and $53 in 2020	Higher than the baseline over the forecast interval
Stock markets	The S&P 500 gains 21.7% over 2019 (Dec. to Dec.) but only regis-ters a gain of 1.9% in 2020 (Dec. to Dec.)	The S&P 500 increases by 21.7% in 2019 before declining 4.9% in 2020 (Dec. to Dec.)	The S&P 500 climbs 21.7% in 2019 (Dec. to Dec.) and rises 6.5% in 2020 (Dec. to Dec.)
Inflation (PCE)	Core personal consumption (PCE) price inflation rises 1.8% in 2019, then grows at 2.1% in 2020 and 2.0% in 2021	Core personal consumption (PCE) price inflation rises 1.8% in 2019, then grows at 2.0% in 2020 and 1.5% in 2021	Core PCE inflation is lower than the baseline from 2020 through the end of forecast
Foreign growth	In 2019, Eurozone growth drops to 1.1%, while China's growth eas-es to 6.2%	Foreign growth slows during US recession period	Foreign growth improves thanks to a rebound in productivity growth
US dollar	The real dollar falls in the next couple of quarters before gradual-ly appreciating through 2023	Roughly below baseline over the entire forecast interval	Remains above baseline over the entire forecast interval

*Annual percent changes are fourth-quarter over fourth-quarter

Alternative Scenarios of the US Economy

	Annual rates					Annual averages					Q4/Q4				
	2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Pessimistic: Loss of confidence leads to a three-quarter recession (Prob. = 35%)															
Composition of Real GDP, Percent Change															
Gross Domestic Product	1.9	1.5	2.1	2.1	0.0	2.9	2.3	1.4	-1.0	2.2	2.5	2.1	0.3	0.1	2.1
Total Consumption	2.9	2.7	2.5	1.8	1.6	3.0	2.6	2.4	0.8	1.4	2.6	2.8	1.7	0.6	1.7
Nonresidential Fixed Investment	-3.0	1.3	3.2	-1.4	-1.6	6.4	2.2	-0.8	-7.4	5.9	5.9	0.4	-3.7	-3.5	7.8
Residential Fixed Investment	5.1	3.0	-0.2	-6.2	-12.5	-1.5	-1.7	-2.7	-8.7	3.0	-4.4	1.0	-8.0	-3.6	2.7
Exports	0.7	-0.3	7.2	1.8	1.4	3.0	-0.2	1.3	-3.1	6.6	0.4	-0.3	-0.0	2.0	4.7
Imports	1.2	0.3	1.2	3.9	3.2	4.4	1.5	1.6	-0.7	7.4	3.2	-0.0	2.0	0.3	9.2
Federal Government	3.4	-0.7	3.4	9.4	0.7	2.9	3.3	3.4	0.5	-0.3	2.7	3.2	3.2	-0.2	-0.7
State & Local Government	1.1	1.1	0.4	0.8	1.2	1.0	1.6	1.0	1.2	1.2	0.9	2.1	0.9	1.1	1.2
Prices & Wages, Percent Change															
Consumer Prices	1.8	2.4	1.3	2.2	1.1	2.4	1.8	1.8	1.6	2.3	2.2	2.0	1.3	2.1	2.3
Producer Prices, Finished Goods	-1.9	0.7	0.6	1.5	0.0	3.1	0.7	0.5	0.5	1.8	2.2	0.4	0.2	1.6	1.6
Employment Cost Index - Total Comp.	3.3	2.9	2.8	3.2	2.9	2.9	2.7	2.9	2.3	2.0	3.0	2.7	2.9	1.9	2.1
Other Key Measures, Percent Change															
Productivity	0.3	-0.3	2.1	1.5	-0.3	1.3	1.6	0.7	0.1	2.7	1.0	1.4	0.0	2.2	1.5
Total Industrial Production	1.2	-0.6	0.2	0.1	-2.1	3.9	0.8	-0.7	-3.6	2.2	4.0	-0.9	-1.9	-2.0	2.6
Incomes, Percent Change															
Personal Income	3.8	3.8	3.9	3.0	2.2	5.6	4.8	3.3	1.0	3.5	4.9	4.8	2.4	1.2	4.3
After-Tax Profits (Four-qtr.% change)	-2.8	-0.3	1.0	-1.1	0.1	1.7	-1.2	-1.6	-4.2	10.0	9.8	-0.3	-6.4	6.6	5.3
	Levels					Annual averages					Q4 values				
Other Key Measures															
Brent Crude, Spot Price ($/bbl)	61.93	60.95	57.00	57.67	52.00	70.96	63.74	52.75	46.20	52.96	67.42	60.95	44.33	50.15	55.38
Nonfarm Inven. Chg. (Bil.2012 $)	76.7	39.0	-12.5	34.4	16.7	55.2	80.1	9.3	-37.8	80.9	103.0	39.0	-1.3	-13.4	105.0
Consumer Sentiment Index	93.8	91.2	88.2	88.1	86.5	98.4	94.5	86.7	80.4	79.7	98.1	91.2	84.1	79.6	80.1
Light Vehicle Sales (Mil. units, saar)	17.00	16.83	16.73	16.47	16.34	17.21	16.92	16.33	15.20	15.67	17.41	16.83	15.77	15.31	15.81
Housing Starts (Mil. units, saar)	1.282	1.270	1.266	1.149	1.071	1.250	1.255	1.111	0.929	1.055	1.185	1.270	0.960	1.001	1.064
Unemployment Rate (%)	3.6	3.5	3.5	3.4	3.6	3.9	3.7	3.6	5.2	5.7	3.8	3.5	3.9	5.8	5.6
Federal Surplus (Unified, FY, bil. $)	-237.3	-330.8	-394.7	-95.8	-278.0	-779.0	-984.4	-1099.3	-1235.3	-1344.0	-318.9	-330.8	-342.2	-389.6	-353.0
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.19	1.70	1.61	1.46	1.28	1.83	2.17	1.26	0.12	0.17	2.22	1.70	0.70	0.12	0.29
10-Year Treasury Note Yield (%)	1.80	1.73	1.75	1.71	1.61	2.91	2.13	1.65	1.41	2.31	3.03	1.73	1.52	1.74	2.59
	Annual rates					Annual averages					Q4/Q4				
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)															
Composition of Real GDP, Percent Change															
Gross Domestic Product	1.9	1.5	2.5	3.5	3.2	2.9	2.3	2.5	3.0	2.7	2.5	2.1	3.1	2.9	2.6
Total Consumption	2.9	2.7	3.2	3.5	3.2	3.0	2.6	3.2	3.4	3.2	2.6	2.8	3.3	3.4	3.3
Nonresidential Fixed Investment	-3.0	1.3	4.4	2.7	5.1	6.4	2.2	2.3	5.1	5.3	5.9	0.4	4.4	5.4	5.2
Residential Fixed Investment	5.1	3.0	2.1	3.5	3.4	-1.5	-1.7	2.8	2.5	1.1	-4.4	1.0	3.0	2.0	0.3
Exports	0.7	-0.3	7.0	1.7	3.2	3.0	-0.2	2.5	4.2	4.1	0.4	-0.3	4.4	4.3	3.7
Imports	1.2	0.3	1.6	6.7	8.1	4.4	1.5	3.3	6.7	5.5	3.2	-0.0	5.9	6.1	5.4
Federal Government	3.4	-0.7	3.4	9.6	0.9	2.9	3.3	3.5	0.5	-0.6	2.7	3.2	3.3	-0.3	-1.0
State & Local Government	1.1	1.1	0.2	1.4	0.7	1.0	1.6	1.0	0.9	1.0	0.9	2.1	0.8	1.0	1.0
Prices & Wages, Percent Change															
Consumer Prices	1.8	2.4	2.0	2.8	1.6	2.4	1.8	2.2	2.0	2.3	2.2	2.0	1.9	2.3	2.3
Producer Prices, Finished Goods	-1.9	0.7	1.9	2.3	1.1	3.1	0.7	1.2	1.3	2.1	2.2	0.4	1.3	1.9	2.1
Employment Cost Index - Total Comp.	3.3	2.6	2.4	3.6	3.2	2.9	2.7	2.9	3.1	3.1	3.0	2.7	3.1	3.0	3.1
Other Key Measures, Percent Change															
Productivity	0.3	-0.3	1.8	1.8	2.4	1.3	1.6	1.3	2.5	2.9	1.0	1.4	1.9	2.8	2.9
Total Industrial Production	1.2	-0.6	0.6	1.9	2.7	3.9	0.8	0.9	2.7	2.3	4.0	-0.9	2.1	2.5	2.2
Payroll Employment	1.4	1.3	1.3	2.3	0.8	1.7	1.6	1.4	0.8	0.3	1.8	1.4	1.4	0.5	0.2
Incomes, Percent Change															
Personal Income	3.8	3.8	4.6	5.4	4.7	5.6	4.8	4.5	4.7	4.8	4.9	4.8	4.8	4.6	4.8
After-Tax Profits (Four-qtr.% change)	-2.8	-0.3	3.3	0.2	4.6	1.7	-1.2	3.3	8.8	8.3	9.8	-0.3	5.2	10.6	7.6
	Levels					Annual averages					Q4 values				
Other Key Measures															
Brent Crude, Spot Price ($/bbl)	61.93	60.95	61.00	64.67	63.00	70.96	63.74	62.00	62.92	68.43	67.42	60.95	59.33	66.00	70.63
Nonfarm Inven. Chg. (Bil. 2012 $)	76.7	39.0	-21.3	4.5	47.3	55.2	80.1	23.4	82.4	89.6	103.0	39.0	63.1	87.2	89.3
Consumer Sentiment Index	93.8	97.7	100.1	100.9	101.3	98.4	96.1	101.0	101.8	99.7	98.1	97.7	101.7	101.6	98.9
Light Vehicle Sales (Mil. units, saar)	17.00	16.83	16.82	16.82	16.81	17.21	16.92	16.81	16.81	16.92	17.41	16.83	16.79	16.83	17.03
Housing Starts (Mil. units, saar)	1.282	1.270	1.306	1.334	1.356	1.250	1.255	1.342	1.403	1.420	1.185	1.270	1.373	1.419	1.413
Unemployment Rate (%)	3.6	3.5	3.4	3.2	3.2	3.9	3.7	3.2	3.2	3.6	3.8	3.5	3.1	3.4	3.7
Federal Surplus (Unified, FY, bil. $)	-237.3	-330.9	-393.5	-88.8	-264.2	-779.0	-984.4	-1077.5	-1072.3	-1136.8	-318.9	-330.9	-317.0	-333.9	-304.4
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.19	1.70	1.75	1.77	1.79	1.83	2.17	1.78	2.36	3.07	2.22	1.70	1.81	2.69	3.13
10-Year Treasury Note Yield (%)	1.80	1.73	2.10	2.30	2.50	2.91	2.13	2.40	3.20	3.90	3.03	1.73	2.70	3.50	4.07

Source: IHS Markit

A Deeper Dive

Unemployment rate near cyclical low with employment gains slowing

Slowing growth in production and a dearth of qualified workers are contributing to a material slowing in employment gains. Over 2018, monthly payroll gains averaged nearly 225 thousand, while through October of this year they averaged 167 thousand. Thanks to an increase in the labor force that outpaced an increase in civilian employment, the unemployment rate edged up to 3.6%. We expect the unemployment rate to resume drifting lower through mid-2020 before edging higher through 2023, as employment gains continue to slow in an economy that by then will be growing below trend.

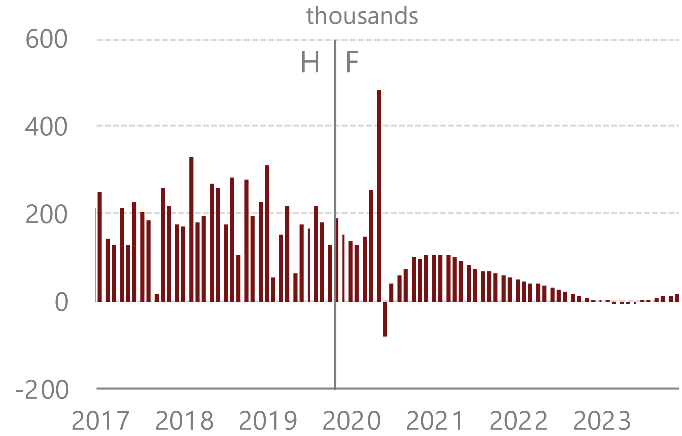
Nonfarm payrolls rose a soft 128 thousand in October, with private payrolls rising 131 thousand. Payroll gains are projected to average about 171 thousand per month in the final months of 2019. In the Household Survey, the unemployment rate edged up to 3.6%, following a large (241 thousand) gain in employment and 325 thousand rise in the labor force.

By mid-2021, below-trend growth of output will result in employment growth slowing to below the growth of the working-age population and the employment-population ratio will begin to drift down. An expected hiring of some 350 thousand temporary Census workers for the 2020 Decennial Census over the first half of 2020, which then unwinds over the second half of that year, temporarily boosts the labor force and the employment-population ratio.

Strong employment gains have been driven by above-trend growth in private output. Nonfarm business sector output, for example, grew 2.9% in 2018, following 3.4% in 2017. Growth of private-sector output is expected to slow to 2.4% this year, largely accounting for the slower pace of employment gains. Importantly, growth of labor productivity, which reduces the growth of hours worked relative to growth of output, has recently firmed. After languishing over 2011–2015, when growth averaged just 0.5%, labor productivity growth (nonfarm business sector) firmed to 1.2% over 2016–2018. We project productivity growth to average 1.6% over 2019–2023.

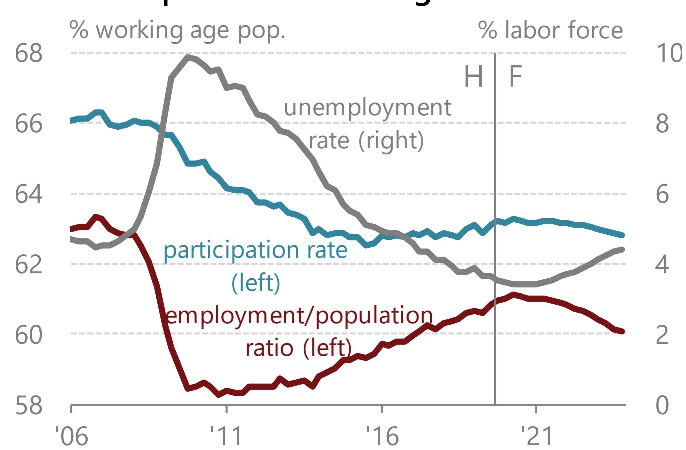
We project that the labor force participation rate will achieve a quarterly peak of 63.3% in mid-2020. As October came in at 63.3%, there is clearly some upside risk to the projected peak. Nevertheless, the rise since late 2015 reflected the gradual unwinding of the remaining "discouraged-worker" effects in the labor market, e.g. the still elevated average duration of unemployment. After mid-2020, we project a slow return to a trend decline in the aggregate labor force participation rate that is driven primarily by population aging.

Monthly employment gains



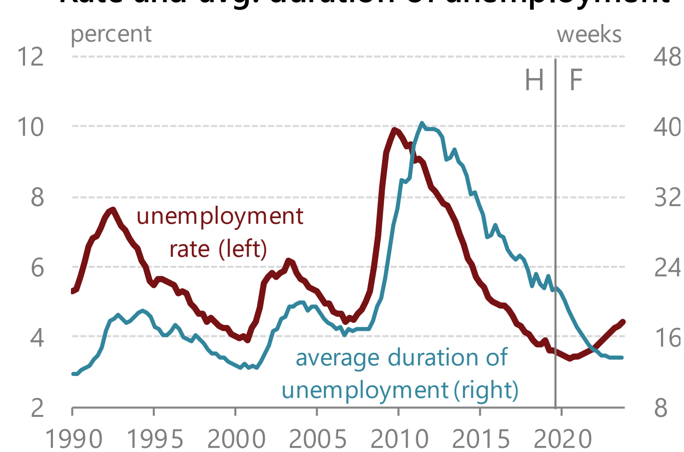
Source: Macroeconomic Advisers by IHS Markit, BLS

Emp. ratio to fall as growth slows



Source: Macroeconomic Advisers by IHS Markit, BLS

Rate and avg. duration of unemployment



Source: Macroeconomic Advisers by IHS Markit

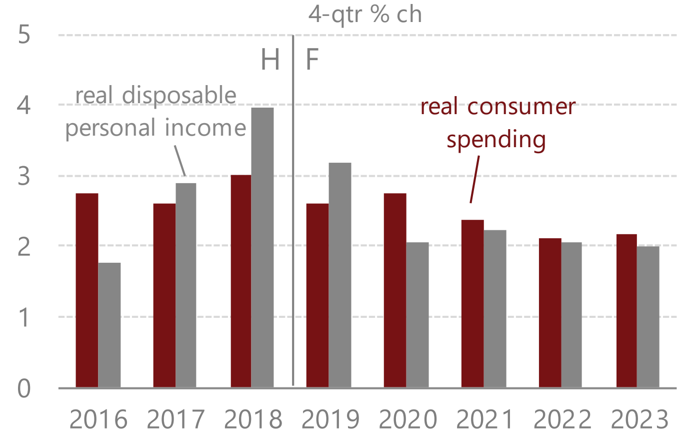
Income growth remains steady, boosted by farm subsidies

According to the BEA's advance estimate, real disposable personal income (DPI) grew at a 2.9% annual rate in the third quarter of 2019, up from the previous quarter's 2.4%. Personal income advanced 0.3% in September, matching the average growth rate of the prior two months. Compensation rose a modest 0.1% as wage and salary growth stalled. The BEA adjusted September wages and salaries downward by $1.9 billion (annual rate) to account for the United Automobile Workers work stoppage that began on 16 September; without this adjustment the month's increase would have barely rounded up to 0.1%. Farm proprietors' income increased $12 billion in September after a $23 billion increase in August; both months' gains were fueled by subsidy payments to farmers related to Chinese tariffs on agricultural goods. Due to income growth outpacing consumer spending, the saving rate rose 0.2 percentage point to 8.3%, a six-month high.

Compensation growth has continued its very gradual acceleration, which is supporting consumer spending. Four-quarter growth of the Employment Cost Index was 2.8% in the third quarter, up from 2.5% two years before. Four-quarter growth of compensation per hour in private business was 4.6%. Our real DPI growth forecast for 2019 is 3.0% (Q4/Q4), 0.2 point higher than last month. We are forecasting 1.9% growth in 2020 and 2.2% in 2021, which are 0.3 and 0.2 percentage point lower than last month's forecasts, respectively.

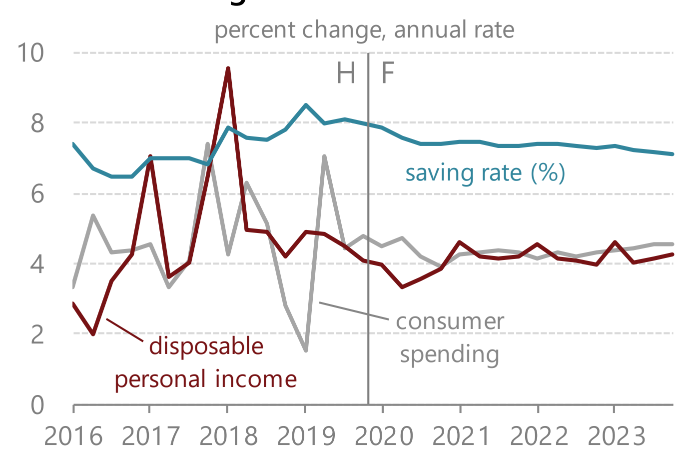
Major stock indices continued to set new record highs in late October and early November, boosting the value of household equity holdings. Household net worth is forecast to grow 9.5% in 2019 and 3.4% in 2020 (Q4/Q4) compared with last month's 9.3% and 2.7%, respectively.

Real income and consumption



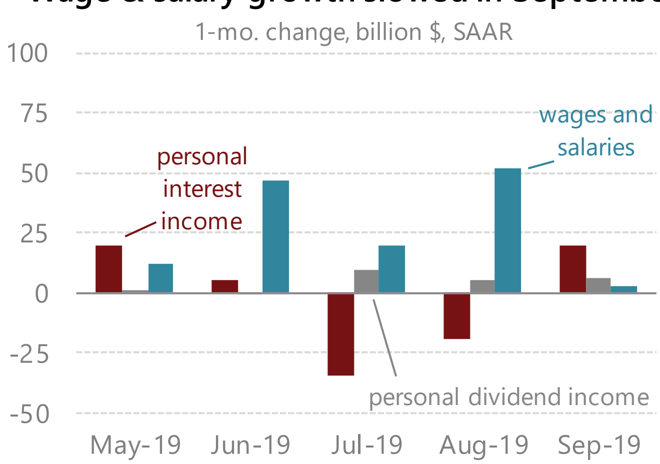
Source: Macroeconomic Advisers by IHS Markit, BEA

Saving rate remains elevated



Source: Macroeconomic Advisers by IHS Markit, BEA

Wage & salary growth slowed in September



Source: Macroeconomic Advisers by IHS Markit, BEA

Farm proprietors' income

Source: Macroeconomic Advisers by IHS Markit, BEA

Consumers resilient in spite of trade uncertainty

According to the BEA's advance estimate, real personal consumption expenditures (PCE) grew 2.9% (annual rate) in the third quarter, a touch above its average of 2.8% over the first two quarters of the year. Despite the solid quarterly number, the monthly pattern for real PCE implies less momentum heading into the final stretch of 2019. Compensation growth has also slowed, rising just 0.1% in September and implying somewhat less spending power for consumers in the fourth quarter.

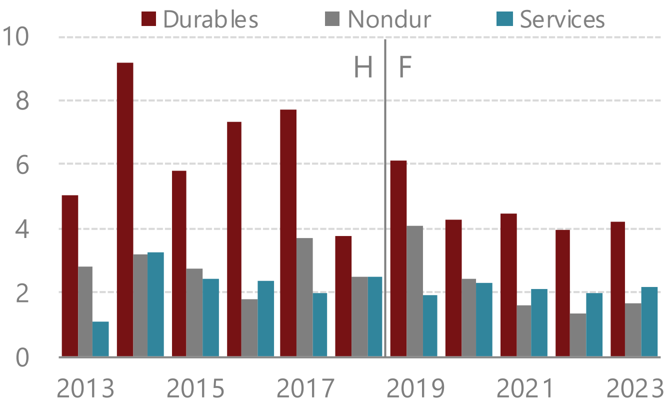
Vehicle sales have downshifted as well. With an estimated sales pace of 16.5 million units (SAAR) in October, light vehicle demand fell sharply from the 17 million unit pace over the second and third quarters. We project that vehicle sales will slowly edge lower over the next few years consistent with a decelerating economy.

Although consumers remain in very good spirits, both the University of Michigan Consumer Sentiment Index and the Conference Board Consumer Confidence Index have edged lower since the most recent round of tariffs were announced in early August. These tariffs target consumer goods and would likely result in higher prices for a wide range of products including clothing, toys, and electronics. Consumers report that tariffs are a negative, but trade policy has not yet had a large negative effect on spending. Tariffs could have a more noticeable impact during the holiday season; this is the primary downside risk to near-term retail sales.

We expect real PCE to grow 2.8% this year (Q4/Q4), before softening to 2.6% in 2020 and 2.3% in 2021. Slowing growth of personal income and equity wealth contribute to this expected deceleration over the next several years.

Real consumer spending

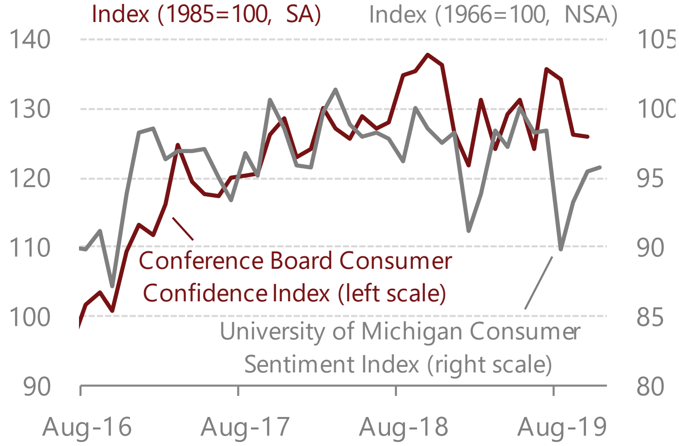
4-qtr % chg.



Source: Macroeconomic Advisers by IHS Markit, BEA

Consumer Confidence and Sentiment

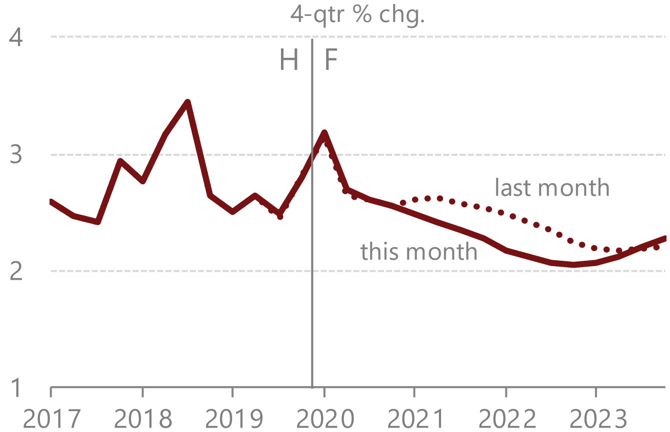
Index (1985=100, SA) Index (1966=100, NSA)



Source: Conference Board, University of Michigan

Real consumer spending

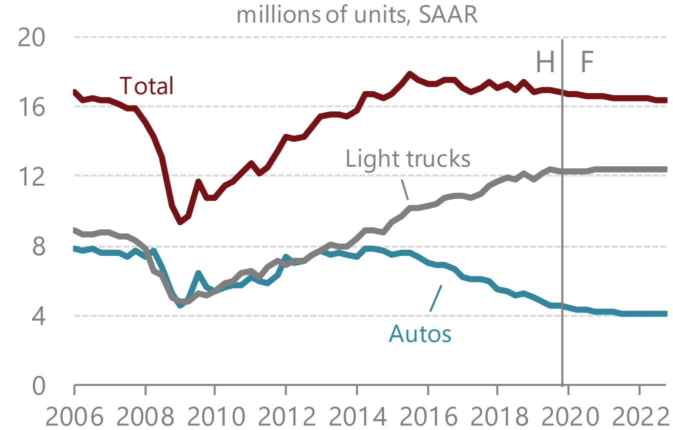
4-qtr % chg.



Source: Macroeconomic Advisers by IHS Markit, BEA

Light vehicle sales

millions of units, SAAR



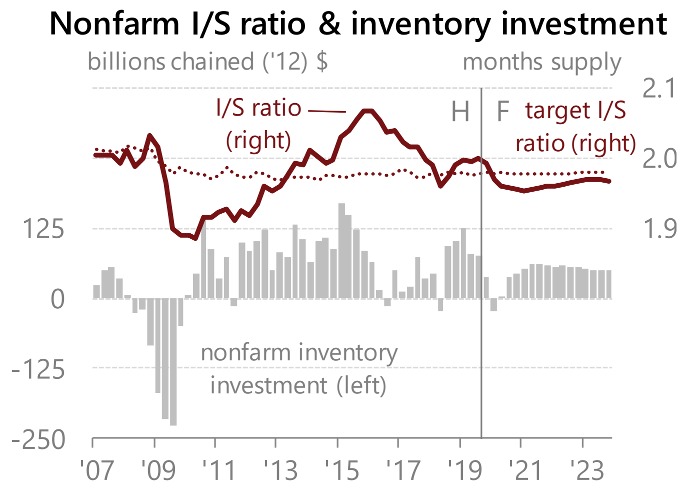
Source: Macroeconomic Advisers by IHS Markit, BEA

Inventory flow correction may have run its course

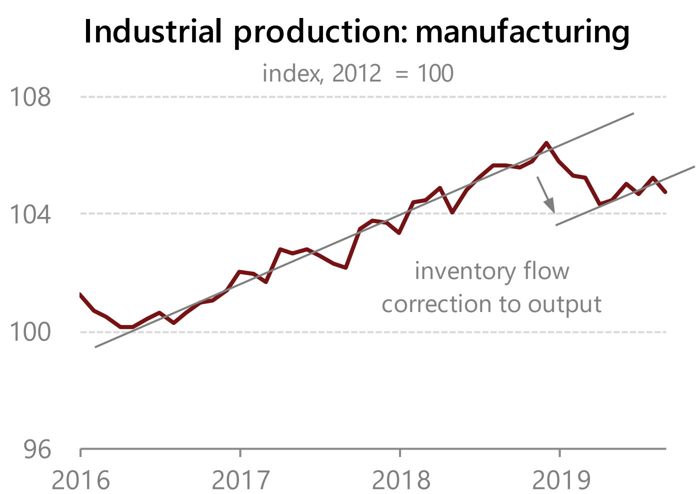
At $116 billion, inventory investment was elevated in the first quarter of this year. This contributed to an inventory flow correction, wherein firms cut the pace of production to slow the pace of inventory-building. Such an effect is evident in the manufacturing sector, where output peaked last December, declined sharply through April of this year, and has since been trending higher, albeit unevenly. The re-leveling down of manufacturing output is contributing to a slower pace of inventory-building. That manufacturing output has apparently resumed rising suggests that the inventory flow correction to the level of output may have run its course.

Over the next few quarters, two special factors are contributing to volatility in inventory investment. First, the grounding last spring of Boeing's 737 MAX line of aircraft reduced Boeing deliveries by about 25 aircraft per month, and Boeing has since cut production by at least 10 aircraft per month, and possibly more — we assume that beginning in October, Boeing has cut 737 production by 14 aircraft per month. In any event, inventory investment has been boosted recently by this excess of production over sales. We also assume that, beginning early next year, Boeing will be cleared to deliver the 737 MAX, leading to a sharp drawdown of inventories over the first half of next year.

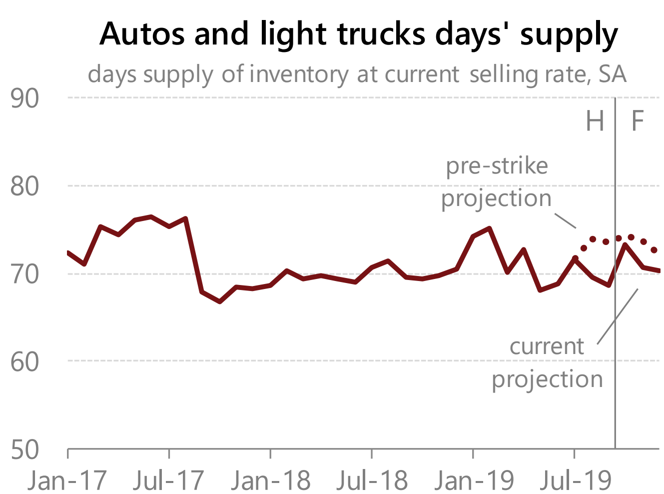
The second special factor is the six-week (now resolved) strike against GM, which led to a drawdown of vehicle inventories over half of September and most of October. While GM assemblies have resumed, output was reduced enough in October that the fourth-quarter pace of motor vehicle production will finish below baseline, leading to a drawdown of inventories over the fourth quarter that will be reversed in the first quarter.



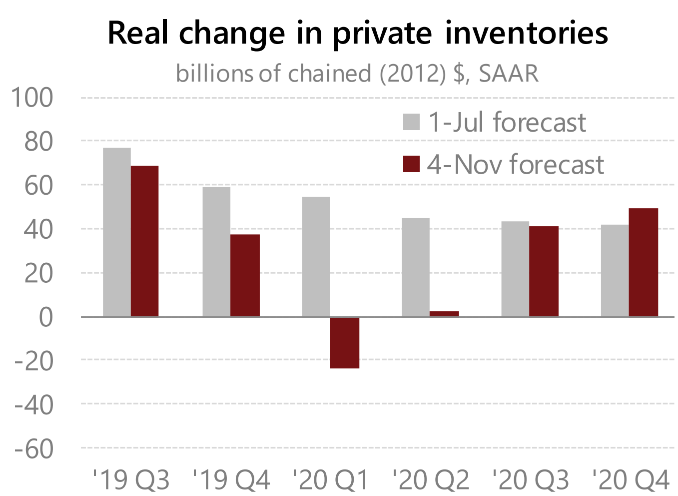
Source: Macroeconomic Advisers by IHS Markit, BEA



Source: Federal Reserve



Source: Macroeconomic Advisers by IHS Markit, BEA, Wards



Source: Macroeconomic Advisers by IHS Markit, BEA

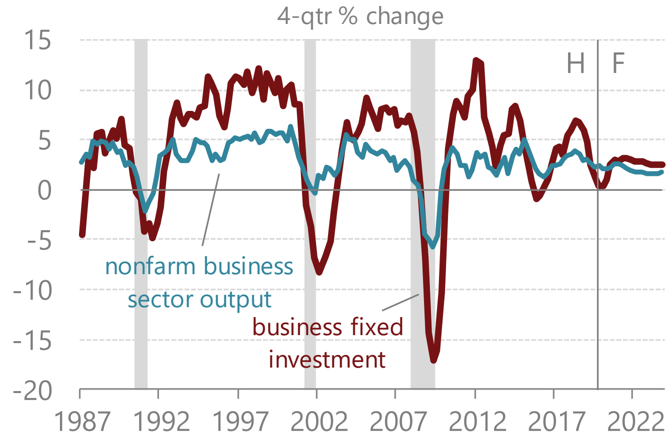
Nonresidential fixed investment in the midst of a slowdown

On a year-over-year basis, growth of business fixed investment is expected to slow from 6.4% last year to 2.2% this year and an average of 2.5% from 2020 – 2023. This slowing primarily reflects a slowing in the growth of nonfarm business-sector output from 3.5% last year to 2.6% this year and an average of 2.0% from 2020 – 2023. As output growth slows, businesses slow the accumulation of plant and equipment so that capacity slows along with sales. The slowing is expected to occur in each of the major components: growth of spending on equipment slows from 6.8% last year to an average of 2.8% from 2020 – 2023, growth of spending on structures slows from 4.1% last year to an average of -0.4%, and growth of business spending on intellectual-property products slows from 7.4% to 4.0%.

While slowing growth of output is the primary factor shaping business fixed investment, other factors are playing a role as well. In the very near term, the forecast of business fixed investment in equipment is restrained by the halt in deliveries of Boeing's 737 MAX. We assume these deliveries will remain on hold through December and then jump early next year, when we assume Boeing is cleared to resume deliveries. This provides a material boost to equipment spending early next year.

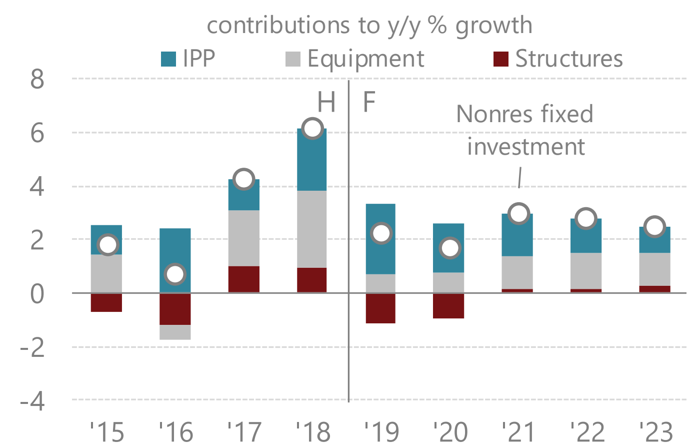
Other factors shaping business fixed investment are trade policy uncertainty and bank lending standards. By a couple of different measures, uncertainty about trade policy has been elevated recently, holding down the level of business fixed investment (by our estimation) by roughly $100 billion. Furthermore, after easing over much of 2017 and 2018, bank lending standards appear to have stopped easing and perhaps begun tightening, which could weigh on capital spending going forward.

Nonres fixed investment & business output



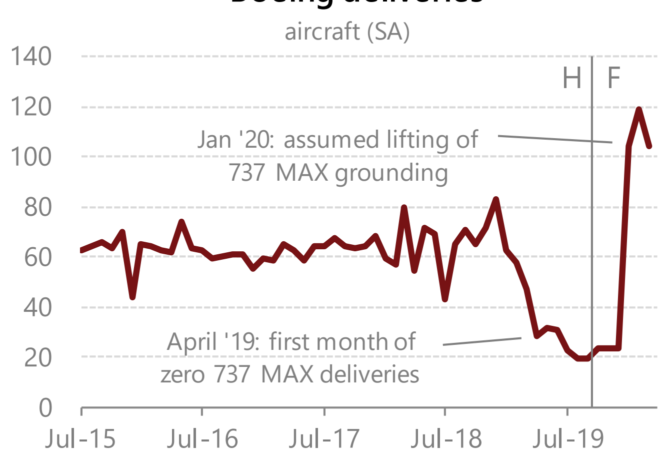
Source: Macroeconomic Advisers by IHS Markit, BEA

Growth of nonresidential fixed investment



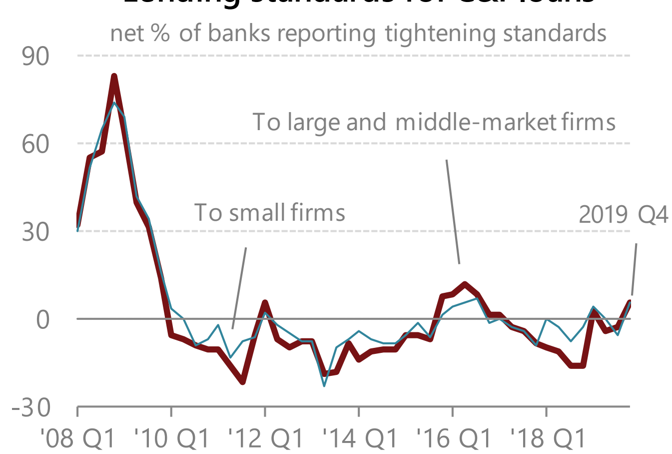
Source: Macroeconomic Advisers by IHS Markit, BEA

Boeing deliveries



Source: Macroeconomic Advisers by IHS Markit, Boeing

Lending standards for C&I loans



Source: Federal Reserve

Housing bounces back

The housing market turned in a solid third-quarter performance, aided by falling mortgage rates. New home sales and single-family housing starts both climbed to levels last seen in the third quarter of 2007, while housing starts moved up to their second highest level in 12 years. The seasonally-adjusted homeownership rate rose four ticks from the second quarter to 64.7%—the best reading since the second quarter of 2014. Existing home sales posted a third straight quarterly increase. The bottom line: residential investment increased at a 5.1% annual rate in the third quarter, contributing 0.18 percentage point to GDP growth. This followed six straight negative growth quarters. With GDP growth slowing to 1.9%, the pickup up came at an auspicious time.

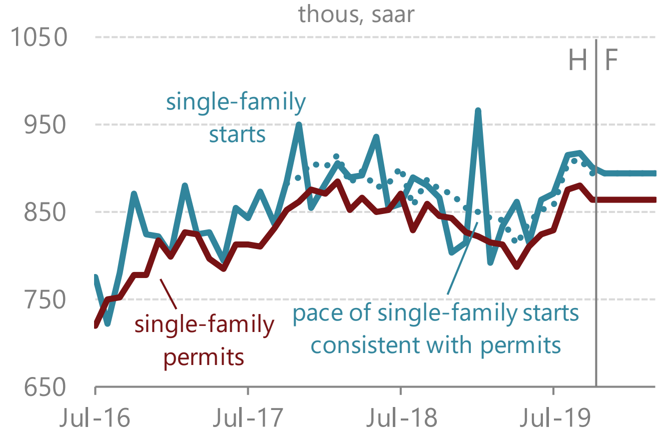
On the Friday just before this report went to press (8 November), the 10-year Treasury Note yield closed at 1.94% or 38 basis points higher than just four Fridays earlier. Mortgage rates, which tend to track the 10-year yield, will reflect this, taking some of the wind out of the sails that propelled the housing market in the third quarter. The spread between the conventional 30-year mortgage rate and the 10-year Treasury Note yield recently widened to close to 200 basis points, up from an average of 163 in 2018. That widening prevented the recent decline in Treasury yields from passing through fully to mortgage rates. In the forecast, this spread narrows in the next six quarters, dropping below 170 basis points in early 2021. We expect mortgage rates to remain quite low in historical context, with the 30-year fixed commitment rate averaging just 3.91% next year

Housing starts are little changed in this forecast compared to the last, totaling 1.255 million this year 1.268 million in 2020, and 1.256 million in 2021, compared to 1.257 million, 1.266 million and 1.246 million, respectively. With the pace of starts relatively flat, residential investment will not influence growth of overall GDP much over the next 5 years, averaging virtually zero percentage point contribution to GDP growth. This is despite a forecast in which the 30-year mortgage rate averages on 4.42% and only gets up to 4.70% through 2024.

Home sales, the sum of new and existing sales, are forecasted to climb to 6.23 million units in 2020 up from 6.03 million this year. Home price appreciation is expected to moderate from the roughly 5% pace averaged over the past five years and eventually settle at around 3%.

Single-family starts and permits

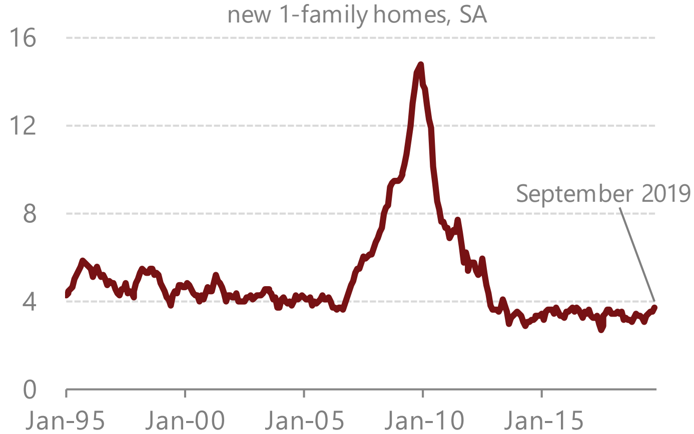
thous, saar



Source: Macroeconomic Advisers by IHS Markit, Census Bureau

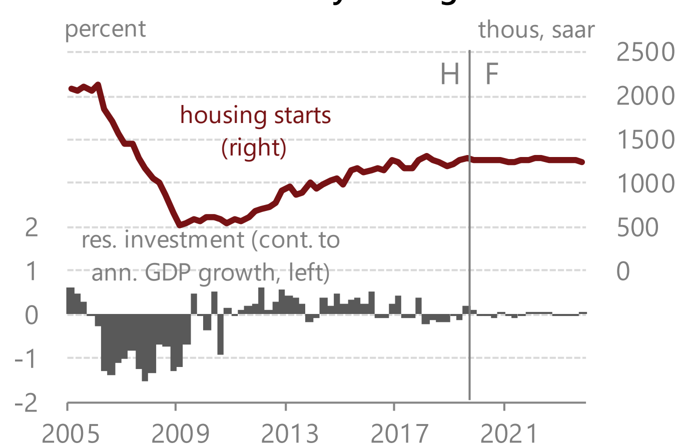
Median months on market

new 1-family homes, SA



Source: Census Bureau (SA by IHS Markit)

Starts steady through 2022



Source: Macroeconomic Advisers by IHS Markit, Census, BEA

Strong dollar puts downward pressure on net exports

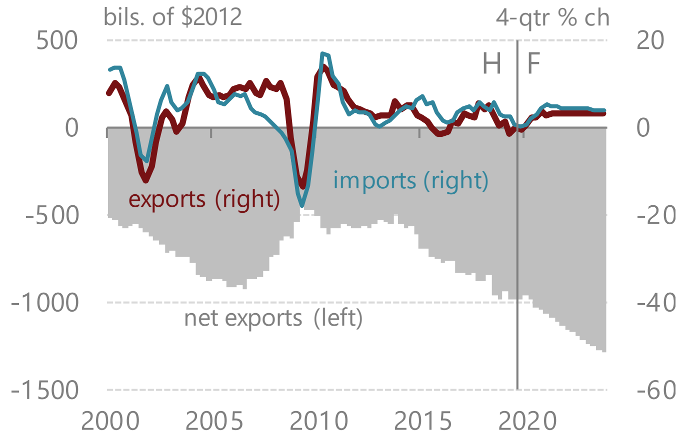
According to BEA's advance estimate, real net exports of goods and services declined $6 billion in the third quarter of 2019, subtracting 0.1 percentage point from third-quarter GDP growth. We project net exports will decline $5 billion in the fourth quarter, subtracting 0.1 percentage point from GDP growth. A jump in exports in the first quarter of next year, reflecting our assumption that exports of Boeing's 737 MAX resume at that time, contributes to a strong quarter for net exports that adds 0.6 percentage point to GDP growth. Thereafter, the declining trend that began in 2014 resumes, and net exports return to a consistent source of drag for GDP growth over the next few years.

The nominal broad trade-weighted dollar appreciated sharply over most of 2018, as US trade tensions intensified and as US interest rates rose relative to those abroad. The dollar eased somewhat late last year and generally trended sideways through late April. Since then, the dollar has responded to ongoing trade tensions between the US and China, turning up in May as those tensions flared before easing in June as tensions eased somewhat. From the end of July through early September, the dollar appreciated sharply, as trade tensions escalated in early August, reaching a high of 131.9 on 3 September. More recently, the dollar has been trending lower, falling over the inter-forecast period from 131.5 as of 1 October to 129.1 as of 1 November. The recent decline in the dollar provided a lower jump-off in this month's forecast. Looking ahead, we expect the broad nominal dollar to move higher, appreciating roughly 5%-6% by the end of 2023.

The elevated dollar and a recent slowing in global growth continue to exert downward pressure on exports. We expect export growth to average just -0.3% this year before firming to 3.6% next year, helped by the resumption of Boeing exports of 737 MAX aircraft. Export growth then moderates to an average of 3.1% over 2021–2023. Meanwhile, although a strong dollar provides a boost to imports, tariffs and slowing domestic demand are putting downward pressure on imports. On balance, import growth is expected to firm, from 0.0% this year to an average of 4.3% over 2020–2023.

This forecast includes all US tariffs on goods imported from China that were in place at the time of the forecast, as well as the assumed second step of a 15% tariff on the remaining goods not yet taxed scheduled for 15 December. This forecast also reflects all retaliatory tariffs from China implemented or scheduled to date.

Exports, imports, and net exports

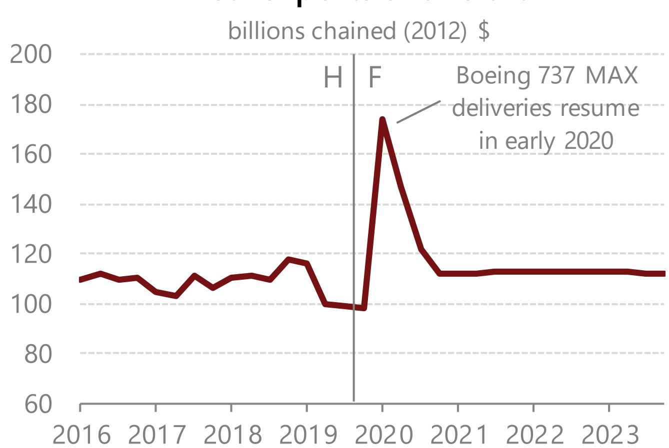


Source: Macroeconomic Advisers by IHS Markit, BEA

Nominal trade-weighted dollar

Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

Real exports of aircraft



Source: Macroeconomic Advisers by IHS Markit, BEA

Continuing resolutions = downside fiscal risk

Our fiscal assumptions are unchanged from last month (see Key Forecast Assumptions). Excluding multiplier effects, overall fiscal stimulus—from personal taxes, direct government purchases, and transfer payments, both federal and state & local—will peak at 1.2 percentage points of GDP growth this year before receding to 0.5 percentage point by 2022 (see chart).

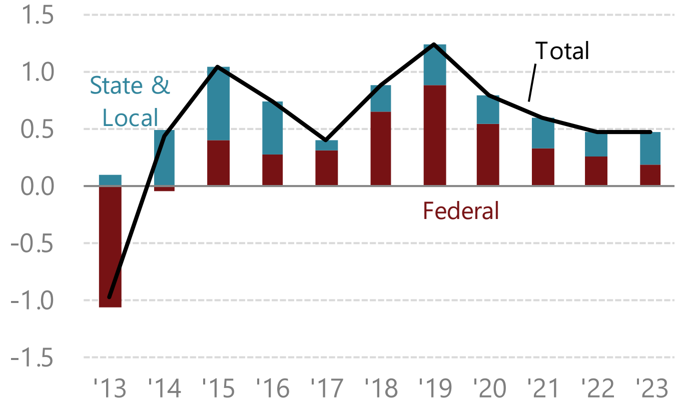
The Bipartisan Budget Act of 2019 (BBA19) set budget authority (BA) for fiscal years (FY) 2020 and 2021 approximately $50 billion above BA in FY19 and suspends the debt ceiling through July of 2021. Because it delays an encounter with the debt limit and allows spending increases rather than requiring the spending cuts implied by the Budget Control Act of 2011, BBA19 mitigates downside fiscal risks. It does not, however, eliminate them. To avoid a federal shutdown on 1 October, and automatic spending cuts in FY21, Congress had either to finish work on (and the President sign) twelve regular appropriations bills, or fund the government temporarily through a continuing resolution (CR) while negotiations on the budget for FY20 are completed. The House did pass ten of the twelve bills by the end of September, but the Senate none. Predictably, then, Congress adopted, and the President signed, an 8-week CR funding the government through November 21 at FY19 levels. Since then, the Senate has passed just four bills, and none has been reconciled with House versions. Furthermore, with Washington gripped by an impeachment inquiry, there is virtually no possibility spending bills can be passed in both chambers, reconciled, and sent to the President by November 21.

Our forecast assumes the federal government is fully funded this fiscal year at the caps set by BBA19. There is, however, the possibility that no such agreement is reached, and that a series of CRs carries federal funding through FY20 at FY19 levels. That would represent a fiscal contraction relative to our current assumptions, and so must be considered a downside fiscal risk. If, through such a series of CRs, BA for FY20 is limited to the 2019 level, the effect would be to trim about 0.25 percentage point from our forecast of real GDP growth over the four quarters of 2020, with the effect concentrated early in the year (see chart).

While the 2020 decennial census has not yet been funded, we do expect it to be in time for the planned spring canvass. The hiring of several hundred thousand temporary census takers next year (see chart) will add about 0.25 percentage points to GDP growth in the second quarter, with the effect largely reversing by year's end.

Fiscal stimulus (or drag)

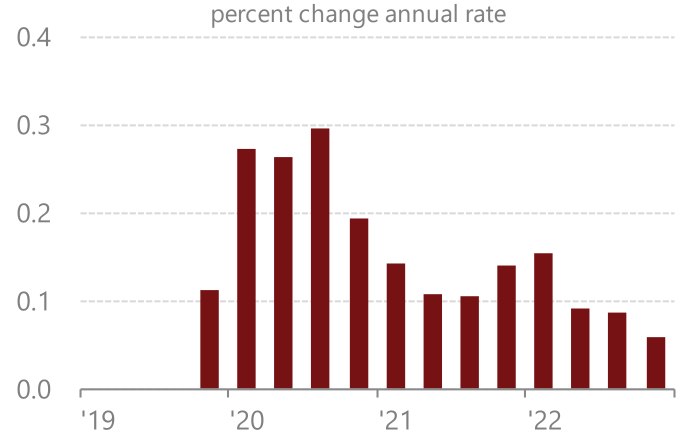
contributions to 4-qtr % change of real GDP



Source: Macroeconomic Advisers by IHS Markit

Impact of BBA19 on GDP growth

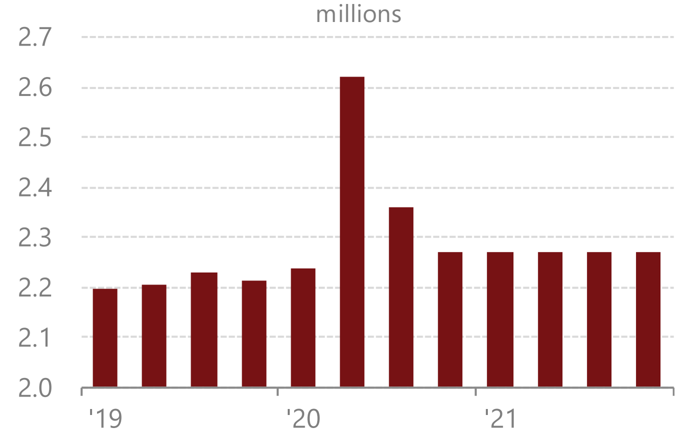
percent change annual rate



Source: Macroeconomic Advisers by IHS Markit

Federal civilian employment

millions



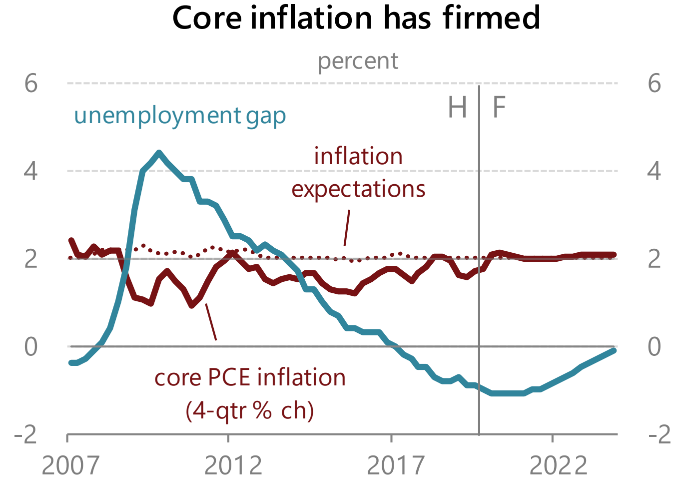
Source: Macroeconomic Advisers by IHS Markit

Core inflation to continue firming

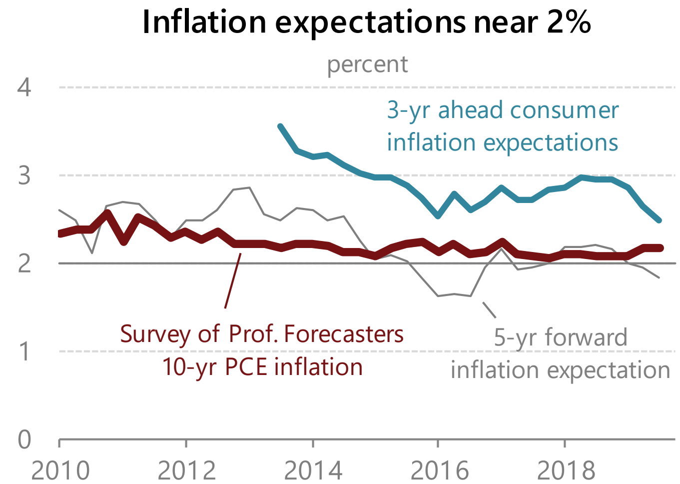
Over the past few years, inflation has remained generally muted as a result of relatively flat oil prices, a rising dollar, moderate increases in labor costs, stable inflation expectations, and temporary factors. Earlier this year core inflation eased, but it has firmed in recent months, supported by the reversal of temporary factors, stable long-run inflation expectations, and resource scarcity (including tight labor markets). The inflation rate for core PCE rose from 1.1% in the first quarter of 2019 to 1.9% in the second and 2.2% in the third. On a four-quarter change basis, core PCE inflation was 1.7% as of the third quarter of 2019, up from 1.6% as of each of the two previous quarterly readings. Headline PCE inflation has been running a bit lower on average, as energy prices have dipped, on balance. As of the third quarter, PCE inflation (4-quarter change) was 1.4%, identical to the previous two readings. Over the four quarters through the third quarter, the PCE price index for energy declined 3.8%, as the gasoline index declined 6.1% over that span.

Longer-run inflation expectations appear to remain reasonably well anchored at a level broadly consistent with the Federal Reserve's 2% objective. The mean 10-year inflation forecast from the Survey of Professional forecasters has been rock-solid at 2.0 for the last few years. Three-year-ahead inflation expectations from the Survey of Consumer Expectations (SCE) has eased in recent months but remains above 2.0%. Market-based indicators of inflation compensation suggest that investors expect inflation to average less than 2.0% over the next decade, but those measures should be interpreted cautiously as their implications for inflation expectations are obscured by time-variation in liquidity and inflation-risk premia. Careful attempts to adjust market-based measures, such as breakeven inflation rates derived from inflation-protected securities, suggest that underlying inflation expectations are fairly stable at a level consistent with the Fed's symmetric, 2% inflation objective.

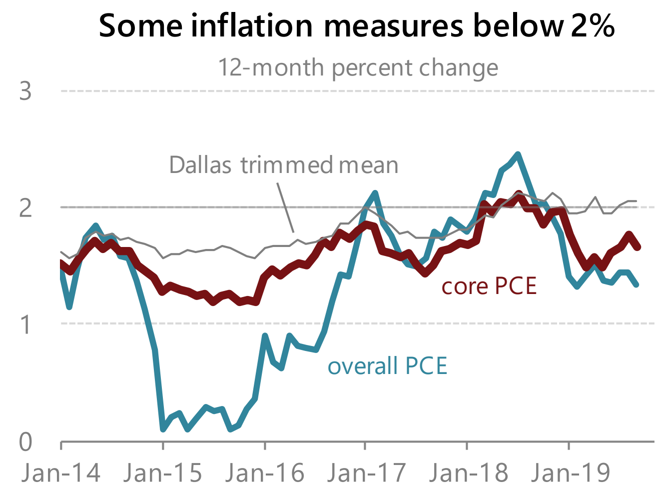
With stable longer-run inflation expectations and low levels of unemployment, we expect there to be a modest firming of core inflation, that will see core PCE inflation rise from 1.8% this year to 2.1% in 2020, and remain in the range of 2.0% to 2.1% in subsequent years. Tariffs are assumed to contribute to a brief, moderate bump of inflation in early 2020. Headline PCE inflation is projected to rise to 2.0% more gradually (reaching that pace not before 2021), as gasoline prices are projected to trend lower for the next year or so.



Source: MA by IHS Markit, BLS, Philly Fed Survey



Source: FRB New York, FRB Philadelphia, FRB St. Louis



Source: Bureau of Economic Analysis, Dallas FRB

Fed likely at the end of the 2019 easing cycle

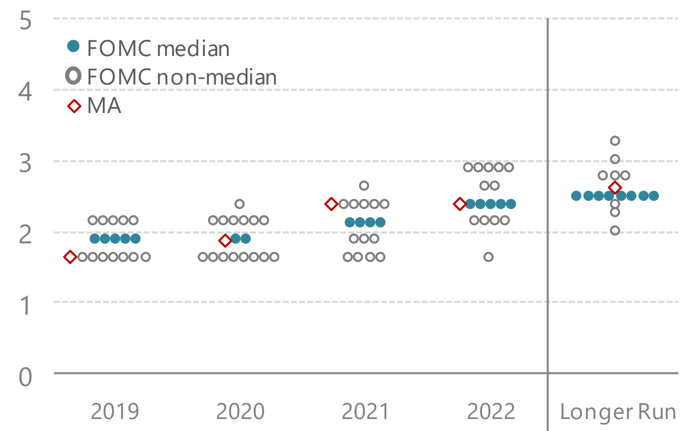
The Federal Open Market Committee voted 8–2 at its most recent policy meeting to lower the target for the federal funds rate to a range of 1½% to 1¾%. This marked the 3rd cut for this easing cycle. It occurred one meeting earlier than we had previously anticipated, but in all other respects the rate cut announced on 30 October and the reasoning offered by Chairman Powell in his post-meeting press conference aligned with our outlook.

First, we expect that last month's rate cut is likely to be the final cut in the current easing cycle. The Chairman indicated that he believed that both the economy generally and monetary policy specifically are "in a good place," an indication that he does not expect that further rate adjustments are called for. Reinforcing that judgment, he suggested that the current setting for interest rates would likely remain appropriate barring a "material" change in the outlook, such as a much sharper slowdown in global growth or a significant weakening of financial conditions.

Second, the Chairman suggested that the FOMC is unlikely to consider future interest-rate increases barring a significant increase in inflation or risks to the inflation forecast. This is consistent with our expectation that the Fed will remain on hold through the end of 2019 and throughout most of 2020.

We do continue to expect that there will eventually be pressure on the FOMC to consider adjusting interest rates upward, but that pressure will not be clearly evident until late 2020. A forecast consisting of solid GDP growth, strong labor markets, and a sustained firming of inflation consistent with the Fed's symmetric 2% objective implies that eventually policymakers will be forced to consider moving interest rates back up closer to a neutral setting. Policymakers' views on what constitutes a neutral federal funds rate vary, but most members judge a real rate of about 0.5% to 0.75% constitutes neutral, suggesting that the current setting for the federal funds rate is approximately a percentage point below what would be considered neutral when inflation is at 2.0% on a sustained basis. We expect that the first rate hike will occur in late 2020, and that the FOMC will slowly raise the federal funds rate over a year back toward an approximately neutral setting. By the end of 2021 we anticipate that the upper end of the target range for the federal funds rate will be 2½%.

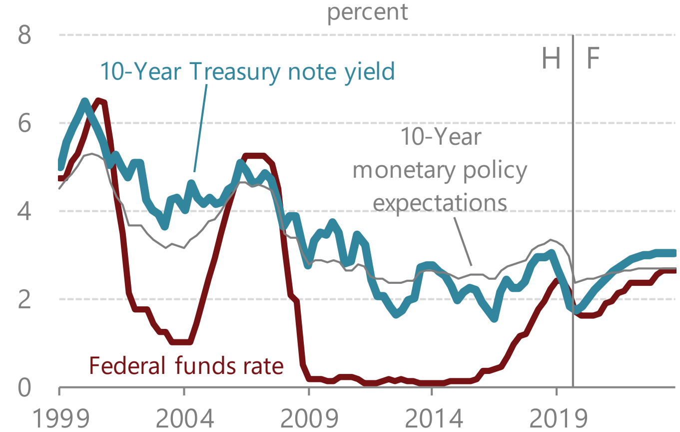
FOMC dots and our funds rate forecast



Source: Macroeconomic Advisers by IHS Markit

Bond yields low

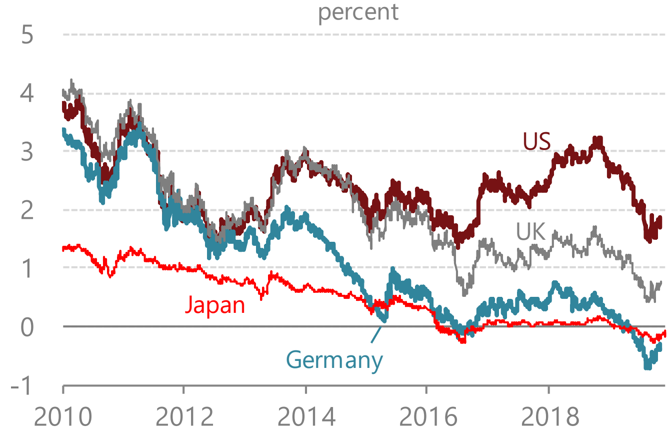
percent



Source: Macroeconomic Advisers by IHS Markit, FRB

Global bond yields below zero

percent



Source: Bloomberg

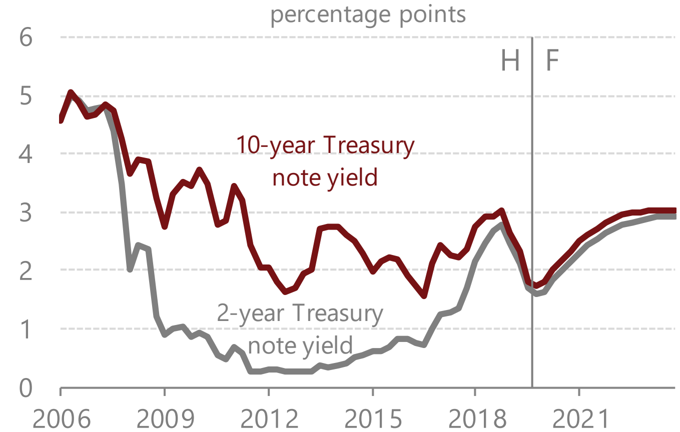
Treasury yield curve buffeted by trade, changing Fed expectations

On balance during October, term Treasury yields rose, but over the last several months their trajectory could be described as a sideways waffle. At the end of October, the 10-year Treasury Note yield was 1.78%, up from 1.68% at the end of September, but down from yields that averaged above 2% during most of June and July. (Since the forecast was completed, term Treasury yields rose further in early November.) Indications that the US and China may agree to a "phase-1" trade deal helped support higher bond yields, as did generally encouraging economic data consistent with forecasts for solid growth and strong labor markets. Although the Federal Reserve did lower the federal funds rate at the end of October, recent developments have prompted investors to scale back expectations for additional rate cuts through 2020, underscoring the forces leading to moderate increases in term Treasury yields of late.

Looking ahead, we continue to expect that bond yields will be subject on balance to upward pressure. First, market pricing (as in fed funds futures) continues to price in a significant probability of at least one more Fed rate cut (albeit not until late 2020). If our Fed call is accurate, these expectations will be adjusted upward over time, resulting in upward pressure on bond yields. Second, we expect the Fed to begin raising interest rates in late 2020, another factor supporting a reassessment of the path of interest rates by investors. Thirdly, we expect there to occur a gradual upward drift in term premia, which are unusually low. Relative to our previous forecast, we slowed the increase in term premia to reflect a higher assumed path for the Fed's portfolio of term Treasury securities suggested by updated guidance about how proceeds from its MBS and Treasury portfolio will be reinvested in Treasuries.

Treasury yields

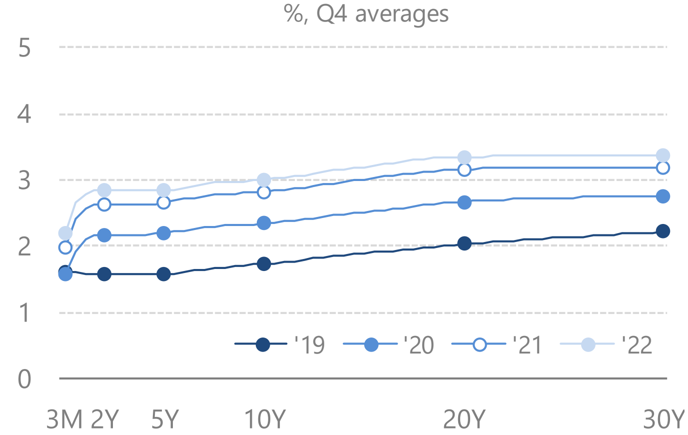
percentage points



Source: Macroeconomic Advisers by IHS Markit, FRB

Yield curve falls on trade tensions

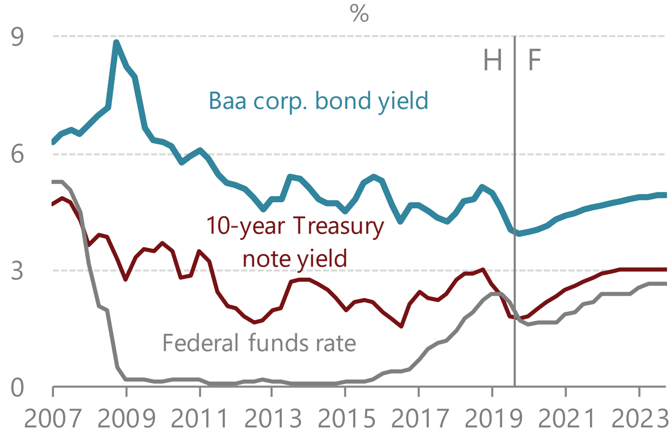
%, Q4 averages



Source: Macroeconomic Advisers by IHS Markit

Bond yields poised to rise

%



Source: Macroeconomic Advisers by IHS Markit

Holding period returns on treasuries

1-year holding period return through Q4, percent

	'18	'19	'20	'21	'22	'23
2-year T-Note	0.75	4.02	1.09	1.77	2.50	2.81
Rates view	-1.10	1.08	-0.50	-0.47	-0.22	-0.13
Rolldown	0.14	0.13	0.00	0.07	0.06	0.06
Interest income	1.71	2.81	1.59	2.17	2.66	2.88
10-year T-Note	-2.68	14.25	-3.11	-1.27	1.57	3.03
Rates view	-5.32	11.04	-5.06	-3.78	-1.44	-0.16
Rolldown	0.25	0.16	0.22	0.16	0.17	0.16
Interest income	2.39	3.05	1.73	2.35	2.84	3.03
30-year T-Bond	-5.41	26.38	-8.61	-5.42	0.09	2.90
Rates view	-8.64	22.92	-11.21	-8.36	-3.18	-0.51
Rolldown	0.39	0.17	0.38	0.16	0.05	0.01
Interest income	2.84	3.29	2.22	2.78	3.22	3.40

Note: "Interest income" includes return from coupon reinvestment.

Risk spreads to continue to edge lower from elevated levels

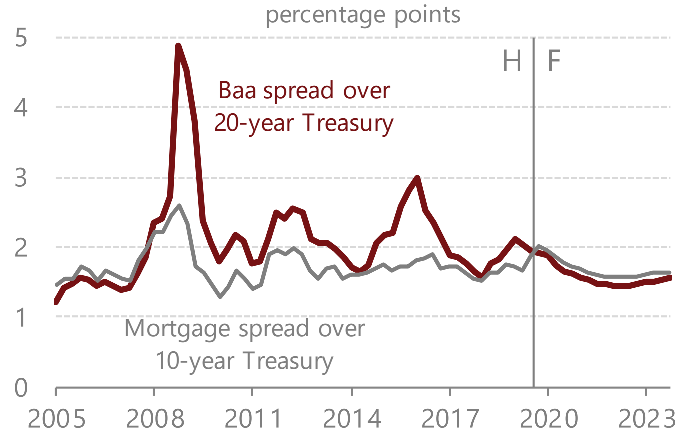
Corporate risk spreads rose fairly sharply during the swoon in financial markets in late 2018. Spreads then narrowed through April of this year as markets calmed and financial conditions recovered. However, renewed uncertainty over trade policy in May sent spreads higher, with the spread between yields on Baa corporate bonds and comparable Treasuries widening from 189 basis points on 1 May to 215 basis points on 7 June. Spreads have moved unevenly lower since the recent high in early June. As of 6 November, this spread had narrowed to 182 basis points.

We expect risk spreads to narrow over the next few years, supported by solid GDP growth, corporate liquidity, and broadly stable financial conditions. On balance, the Baa spread cited above is projected to narrow from an average of 194 basis points in the third quarter of 2019 to 145 basis points by early 2022 before edging higher to 155 basis points by the end of 2023. Following the projected pattern in Treasury yields, the Baa yield is projected to ease from 4.02% in the third quarter of 2019 to 3.93% in the fourth. As Treasury yields begin to turn up early next year, so too does the Baa yield, rising gradually to 4.93% by the fourth quarter of 2023.

Market volatility, as measured by the VIX, spiked late last year then retreated through late April 2019. Ongoing uncertainty over US trade policy has contributed to increased volatility since then. Most recently the VIX has been retreating from a spike in early October, falling from 20.6 on 2 October to 12.7 as of 7 November, as a "phase-1" trade deal with China began to look more and more likely. We look for the VIX to stabilize near its long-run value of around 16 over the short-term forecast horizon.

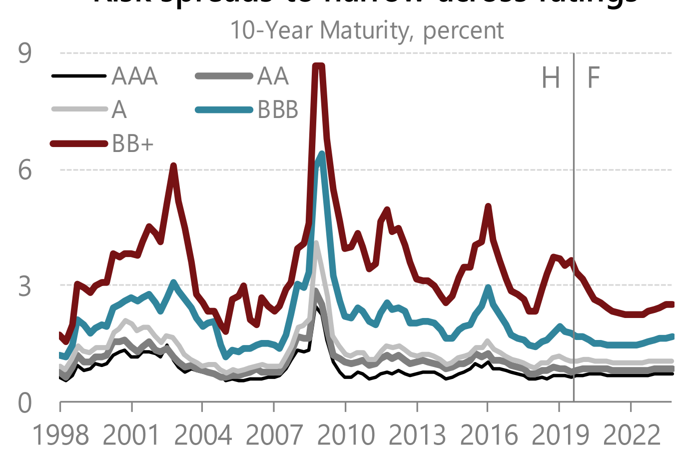
Mortgage rates declined sharply from November of last year until early September this year, broadly in line with declines in term Treasury yields, although the spread did widen. The conventional 30-year mortgage rate had fallen to just 3.49% as of 5 September, down from 4.94% in mid-November of last year. However, it has moved up in the weeks since, though remains low, with a reading of 3.69% as of 7 November. Looking ahead, we expect the conventional 30-year mortgage rate to follow the gradual rise in Treasury yields, with the mortgage rate reaching 4.06% by the fourth quarter of 2020 and 4.67% by the end of 2023. These are levels that are still low in historical context.

Risk spreads narrow over forecast horizon



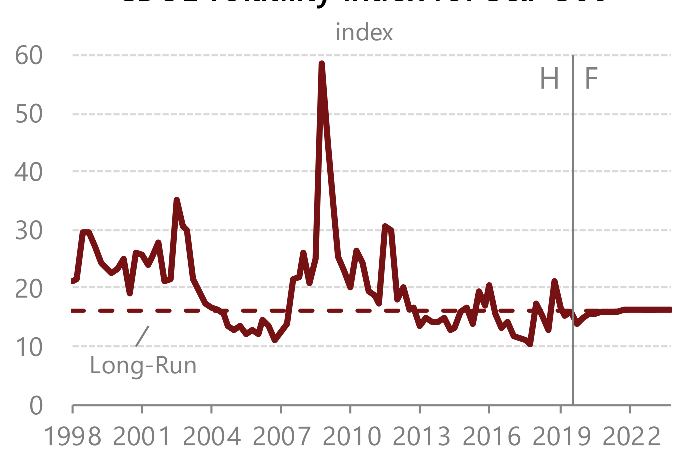
Source: Macroeconomic Advisers by IHS Markit, FRB

Risk spreads to narrow across ratings



Source: Macroeconomic Advisers by IHS Markit, S&P

CBOE volatility index for S&P 500



Source: Macroeconomic Advisers by IHS Markit, CBOE

De-risking?

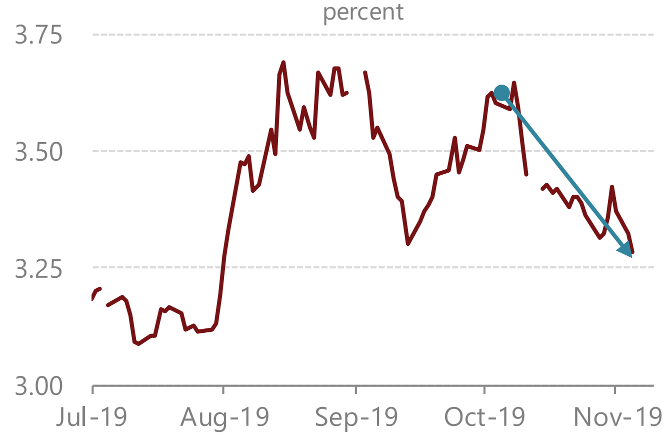
On 5 November, the S&P 500 stock price index closed at a record high of 3078, already above the year-end close of 3050 shown in this forecast. Apparently investors have taken the measure of recent developments and decided that many of the risks weighing on the market of late are receding. Media reports are that a "phase-1" trade pact with China may be within reach, a "deal" that might not only reduce trade policy uncertainty but even roll back recently enacted or announced tariffs. Political developments in the UK suggest the odds of a scary "no deal Brexit" have diminished. There is some emerging evidence that global growth and manufacturing activity in the US are stabilizing. Recent employment gains have been strong and revised up. With 74% of companies reporting, S&P operating earnings for the third quarter look to match second-quarter profits while S&P dividends rose nearly 4% in the quarter. The Fed, after cutting interest rates in October—we think for the last time in this easing cycle—has hinted that both policy and the economy are in "a good place".

Talk of imminent recession has faded and in mid-October the yield curve, which had briefly inverted, reverted to a positive 10-year / 3-month slope. At least for now, investors seem unconcerned with the ongoing impeachment inquiry. Our estimate of the S&P 500 equity risk premium has fallen 42 basis points from a high of 3.70%, reached on 15 August amidst a new flurry of tariff announcements and threats, to 3.28% by 5 November. This has driven stock prices higher despite a 35 basis point increase in the yield on the 10-year Treasury note that, all else equal, undermines valuations.

All good news, to be sure. However, our view on equities remains guarded. While our base forecast does not show a recession, it does show average GDP growth below trend over the coming decade (constrained by the economy's proximity to potential) and S&P operating earnings already near a record-high share of GDP (see chart). Margins will be squeezed by the costs of tariffs, rising wages in a tight labor market, and rising interest expense. Under the 2017 Tax Act, the corporate tax base gradually broadens as some favorable provisions are phased out and other unfavorable provisions become more important. Finally, as the Fed eventually resumes removing monetary accommodation, and term premia normalize, rising risk-free interest rates will constrain share values even as risk appetite improves. From the third quarter of 2019 through 2023, we expect total returns on equities to be limited to roughly 6% annually by this combination of fundamentals (see chart).

Daily S&P equity risk premium

percent



Source: Macroeconomic Advisers by IHS Markit

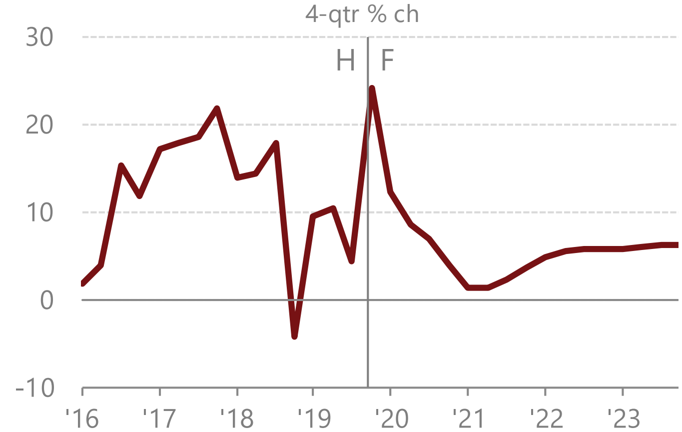
S&P 500 operating earnings

percent of GDP

Source: Macroeconomic Advisers by IHS Markit, S&P

Total return on equities

4-qtr % ch



Source: Macroeconomic Advisers by IHS Markit

Monthly Economic Indicators

	Sep. 2018	Oct. 2018	Mar. 2019	Apr. 2019	May. 2019	Jun. 2019	Jul. 2019	Aug. 2019	Sep. 2019	Oct. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	109.7	109.9	109.7	109.0	109.3	109.3	109.1	109.9	109.5		102.1	104.4	108.6
Percent Change	0.1	0.2	0.1	-0.6	0.2	0.1	-0.2	0.8	-0.4		-2.0	2.3	3.9
Percent Change Year Earlier	5.4	4.1	2.3	0.7	1.8	1.1	0.4	0.4	-0.1				
Capacity Utilization, Manufacturing (%)	76.9	76.8	76.2	75.4	75.4	75.7	75.4	75.7	75.3		74.2	75.1	76.6
Unemployment Rate (%)	3.7	3.8	3.8	3.6	3.6	3.7	3.7	3.7	3.5	3.6	4.9	4.4	3.9
Payroll Employment (Mil.)	149.575	149.852	150.796	151.012	151.074	151.252	151.418	151.637	151.817	151.945	144.348	146.611	149.064
Change (Mil.)	0.108	0.277	0.153	0.216	0.062	0.178	0.166	0.219	0.180	0.128	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.115	1.114	1.117	1.118	1.118	1.118	1.122	1.12	1.119		1.000	1.040	1.099
Percent Change	0.5	-0.1	0.2	0.1	0.0	0.0	0.4	-0.2	-0.1		1.0	4.0	5.7
New Orders, Mfg. (Bil. $)	514.5	503.2	503.3	497.2	490.7	493.4	500.2	499.6	496.7		440.4	465.5	499.4
Percent Change	1.0	-2.2	1.3	-1.2	-1.3	0.5	1.4	-0.1	-0.6		-2.9	5.7	7.3
Inv. Chg., Mfg. & Trade (Bil. $)	7.2	13.9	0.1	11.1	6.0	-0.6	6.6	0.4			30.1	61.6	93.7
Merchandise Trade Bal. (Bil. $)	-76.2	-76.1	-71.8	-70.9	-74.8	-74.2	-72.4	-73.0	-70.5		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012$)	14628	14656	14922	14931	14963	15005	15005	15085	15136		13609	14003	14556
Percent Change	-0.0	0.2	0.2	0.1	0.2	0.3	-0.0	0.5	0.3		1.8	2.9	4.0
Personal Income (Bil. $)	17955	18007	18446	18528	18595	18676	18697	18785	18835		16121	16879	17819
Percent Change	0.0	0.3	0.4	0.4	0.4	0.4	0.1	0.5	0.3		2.6	4.7	5.6
Personal Saving Rate (%)	7.5	7.3	8.4	8.1	8.0	8.1	7.8	8.1	8.3		6.8	7.0	7.7
Consumer Expenditures (Bil. $)	14138	14221	14355	14453	14516	14565	14640	14672	14696		12748	13312	13999
Percent Change	0.1	0.6	1.0	0.7	0.4	0.3	0.5	0.2	0.2		3.8	4.4	5.2
Retail Sales (Bil. $)	504.8	510.5	513.6	515.5	518.1	520.1	523.9	526.9	525.6		5492.1	5746.8	6023.4
Percent Change	-0.0	1.1	1.8	0.4	0.5	0.4	0.7	0.6	-0.3		2.7	4.6	4.8
Non-Auto. Retail Sales (Bil. $)	405.1	409.3	410.1	412.5	414.6	415.9	419.6	420.6	420.3		4354.0	4569.8	4818.7
Percent Change	-0.1	1.0	1.4	0.6	0.5	0.3	0.9	0.2	-0.1		2.4	5.0	5.4
New Light-Vehicle Sales (Mil.)	17.3	17.5	17.3	16.5	17.4	17.2	16.9	17.0	17.1	16.5	17.5	17.1	17.2
Housing Starts (Mil.)	1.236	1.211	1.199	1.27	1.264	1.233	1.204	1.386	1.256		1.178	1.209	1.250
New Home Sales (Mil.)	0.607	0.557	0.693	0.656	0.598	0.729	0.665	0.706	0.701		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.180	5.220	5.210	5.210	5.360	5.290	5.420	5.500	5.380		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. $)	14.3	19.9	10.0	16.5	16.9	13.2	22.8	17.8	9.5		233.1	184.1	181.5
Prices and Wages													
CPI, All Urban Consumers	2.520	2.528	2.541	2.550	2.552	2.553	2.562	2.563	2.564		2.400	2.451	2.511
Percent Change Year Earlier	2.3	2.5	1.9	2.0	1.8	1.7	1.8	1.8	1.7		1.3	2.1	2.4
Core Cons. Price Defl. (2012=100.0)	110.3	110.4	111.0	111.2	111.4	111.6	111.9	112.0	112.1		106.1	107.8	109.9
Percent Change Year Earlier	2.0	1.9	1.5	1.6	1.5	1.6	1.7	1.8	1.7		1.6	1.6	2.0
PPI, Finished Goods	2.048	2.064	2.058	2.07	2.07	2.055	2.067	2.055	2.044		1.919	1.980	2.041
Percent Change Year Earlier	3.0	3.6	1.4	2.1	1.3	0.5	0.9	0.2	-0.2		-1.0	3.2	3.1
PPI, Industrial Commodities (NSA)	2.066	2.076	2.022	2.033	2.029	2.010	2.020	2.004	1.994		1.846	1.937	2.037
Percent Change Year Earlier	5.7	6.1	1.2	1.0	-0.7	-2.3	-2.2	-2.8	-3.5		-2.3	4.9	5.2
Avg. Private Hourly Earnings ($)	22.86	22.9	23.25	23.3	23.38	23.43	23.51	23.6	23.66	23.7	21.55	22.05	22.70
Percent Change Year Earlier	3.0	3.2	3.4	3.3	3.4	3.4	3.5	3.5	3.5	3.5	2.5	2.3	3.0
Brent Crude, Spot Price ($/bbl.)	78.89	81.03	66.14	71.23	71.17	64.28	63.92	59.04	62.83	59.71	44.24	54.83	70.96
Percent Change Year Earlier	42.2	42.2	0.2	-1.0	-7.4	-13.6	-13.9	-18.6	-20.4	-26.3	-16.0	23.9	29.4
Henry Hub Spot Natural Gas ($/mmbtu)	2.80	2.81	3.28	4.15	3.96	3.12	2.69	2.95	2.64	2.64	2.23	2.99	2.93
Percent Change Year Earlier	-9.0	-9.6	13.8	37.6	40.8	-20.3	1.0	9.3	-5.5	-6.0	-30.7	33.7	-1.8
Financial Markets, Period Average													
Federal Funds Rate (%)	1.95	2.19	2.41	2.42	2.39	2.38	2.40	2.13	2.04	1.83	0.40	1.00	1.83
3-Month T-Bill Rate (%)	2.13	2.25	2.40	2.38	2.35	2.17	2.10	1.95	1.89	1.65	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	5.03	5.25	5.50	5.50	5.50	5.50	5.50	5.25	5.15	4.99	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	3.00	3.15	2.57	2.53	2.40	2.07	2.06	1.63	1.70	1.71	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.63	4.83	4.28	4.14	4.07	3.80	3.77	3.62	3.61	3.67	3.65	3.99	4.54
M1 Money Supply (Bil. $)	3704	3721	3721	3778	3788	3831	3858	3843	3903		3249	3524	3678
Percent Change	0.6	0.5	-1.1	1.6	0.3	1.1	0.7	-0.4	1.6		7.7	7.8	3.8
M2 Money Supply (Bil. $)	14225	14247	14495	14542	14632	14769	14861	14931	15028		12852	13585	14106
Percent Change	0.2	0.1	0.2	0.3	0.6	0.9	0.6	0.5	0.7		6.9	4.8	3.7

Source: IHS Markit

Monthly Economic Indicators

	Sep. 2018	Oct. 2018	Mar. 2019	Apr. 2019	May. 2019	Jun. 2019	Jul. 2019	Aug. 2019	Sep. 2019	Oct. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	109.7	109.9	109.7	109.0	109.3	109.3	109.1	109.9	109.5		102.1	104.4	108.6
Percent Change (Q4/Q4 for Annual Values)	0.1	0.2	0.1	-0.6	0.2	0.1	-0.2	0.8	-0.4		-0.3	3.6	4.0
Percent Change Year Earlier	5.4	4.1	2.3	0.7	1.8	1.1	0.4	0.4	-0.1				
Capacity Utilization, Manufacturing (%)	76.9	76.8	76.2	75.4	75.4	75.7	75.4	75.7	75.3		74.2	75.1	76.6
Unemployment Rate (%)	3.7	3.8	3.8	3.6	3.6	3.7	3.7	3.7	3.5	3.6	4.9	4.4	3.9
Payroll Employment (Mil.)	149.575	149.852	150.796	151.012	151.074	151.252	151.418	151.637	151.817	151.945	144.348	146.611	149.064
Change (Mil.)	0.108	0.277	0.153	0.216	0.062	0.178	0.166	0.219	0.180	0.128	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.115	1.114	1.117	1.118	1.118	1.118	1.122	1.12	1.119		1.000	1.040	1.099
Percent Change (Q4/Q4 for Annual Values)	0.5	-0.1	0.2	0.1	0.0	0.0	0.4	-0.2	-0.1		1.0	5.6	4.8
New Orders, Mfg. (Bil. $)	514.5	503.2	503.3	497.2	490.7	493.4	500.2	499.6	496.7		440.4	465.5	499.4
Percent Change (Q4/Q4 for Annual Values)	1.0	-2.2	1.3	-1.2	-1.3	0.5	1.4	-0.1	-0.6		1.1	6.9	4.3
Inv. Chg., Mfg. & Trade (Bil. $)	7.2	13.9	0.1	11.1	6.0	-0.6	6.6	0.4			30.1	61.6	93.7
Merchandise Trade Bal. (Bil. $)	-76.2	-76.1	-71.8	-70.9	-74.8	-74.2	-72.4	-73.0	-70.5		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012$)	14628	14656	14922	14931	14963	15005	15005	15085	15136		13609	14003	14556
Percent Change (Q4/Q4 for Annual Values)	-0.0	0.2	0.2	0.1	0.2	0.3	-0.0	0.5	0.3		1.6	3.4	3.9
Personal Income (Bil. $)	17955	18007	18446	18528	18595	18676	18697	18785	18835		16121	16879	17819
Percent Change (Q4/Q4 for Annual Values)	0.0	0.3	0.4	0.4	0.4	0.4	0.1	0.5	0.3		2.9	5.4	4.9
Personal Saving Rate (%)	7.5	7.3	8.4	8.1	8.0	8.1	7.8	8.1	8.3		6.8	7.0	7.7
Consumer Expenditures (Bil. $)	14138	14221	14355	14453	14516	14565	14640	14672	14696		12748	13312	13999
Percent Change (Q4/Q4 for Annual Values)	0.1	0.6	1.0	0.7	0.4	0.3	0.5	0.2	0.2		4.3	4.8	4.6
Retail Sales (Bil. $)	504.8	510.5	513.6	515.5	518.1	520.1	523.9	526.9	525.6		5492.1	5746.8	6023.4
Percent Change (Q4/Q4 for Annual Values)	-0.0	1.1	1.8	0.4	0.5	0.4	0.7	0.6	-0.3		3.4	5.5	3.4
Non-Auto. Retail Sales (Bil. $)	405.1	409.3	410.1	412.5	414.6	415.9	419.6	420.6	420.3		4354.0	4569.8	4818.7
Percent Change (Q4/Q4 for Annual Values)	-0.1	1.0	1.4	0.6	0.5	0.3	0.9	0.2	-0.1		3.1	6.1	3.9
New Light-Vehicle Sales (Mil.)	17.3	17.5	17.3	16.5	17.4	17.2	16.9	17.0	17.1	16.5	17.5	17.1	17.2
Housing Starts (Mil.)	1.236	1.211	1.199	1.27	1.264	1.233	1.204	1.386	1.256		1.178	1.209	1.250
New Home Sales (Mil.)	0.607	0.557	0.693	0.656	0.598	0.729	0.665	0.706	0.701		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.180	5.220	5.210	5.210	5.360	5.290	5.420	5.500	5.380		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. $)	14.3	19.9	10.0	16.5	16.9	13.2	22.8	17.8	9.5		233.1	184.1	181.5
Prices and Wages													
CPI, All Urban Consumers	2.520	2.528	2.541	2.550	2.552	2.553	2.562	2.563	2.564		2.400	2.451	2.511
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.3	2.5	1.9	2.0	1.8	1.7	1.8	1.8	1.7		1.8	2.1	2.2
Core Cons. Price Defl. (2012=100.0)	110.3	110.4	111.0	111.2	111.4	111.6	111.9	112.0	112.1		106.1	107.8	109.9
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.0	1.9	1.5	1.6	1.5	1.6	1.7	1.8	1.7		1.8	1.7	1.9
PPI, Finished Goods	2.048	2.064	2.058	2.07	2.07	2.055	2.067	2.055	2.044		1.919	1.980	2.041
Percent Change Year Earlier (Q4/Q4 for Annual Values)	3.0	3.6	1.4	2.1	1.3	0.5	0.9	0.2	-0.2		1.0	3.4	2.2
PPI, Industrial Commodities (NSA)	2.066	2.076	2.022	2.033	2.029	2.010	2.020	2.004	1.994		1.846	1.937	2.037
Percent Change Year Earlier (Q4/Q4 for Annual Values)	5.7	6.1	1.2	1.0	-0.7	-2.3	-2.2	-2.8	-3.5		1.7	4.9	4.2
Avg. Private Hourly Earnings ($)	22.86	22.9	23.25	23.3	23.38	23.43	23.51	23.6	23.66	23.7	21.55	22.05	22.70
Percent Change Year Earlier (Q4/Q4 for Annual Values)	3.0	3.2	3.4	3.3	3.4	3.4	3.5	3.5	3.5	3.5	2.5	2.3	3.4
Brent Crude, Spot Price ($/bbl.)	78.89	81.03	66.14	71.23	71.17	64.28	63.92	59.04	62.83	59.71	44.24	54.83	70.96
Percent Change Year Earlier (Q4/Q4 for Annual Values)	42.2	42.2	0.2	-1.0	-7.4	-13.6	-13.9	-18.6	-20.4	-26.3	17.4	20.3	9.6
Henry Hub Spot Natural Gas ($/mmbtu)	2.80	2.81	3.28	4.15	3.96	3.12	2.69	2.95	2.64	2.64	2.23	2.99	2.93
Percent Change Year Earlier (Q4/Q4 for Annual Values)	-9.0	-9.6	13.8	37.6	40.8	-20.3	1.0	9.3	-5.5	-6.0	-13.8	23.6	-4.3
Financial Markets, Period Average													
Federal Funds Rate (%)	1.95	2.19	2.41	2.42	2.39	2.38	2.40	2.13	2.04	1.83	0.40	1.00	1.83
3-Month T-Bill Rate (%)	2.13	2.25	2.40	2.38	2.35	2.17	2.10	1.95	1.89	1.65	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	5.03	5.25	5.50	5.50	5.50	5.50	5.50	5.25	5.15	4.99	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	3.00	3.15	2.57	2.53	2.40	2.07	2.06	1.63	1.70	1.71	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.63	4.83	4.28	4.14	4.07	3.80	3.77	3.62	3.61	3.67	3.65	3.99	4.54
M1 Money Supply (Bil. $)	3704	3721	3721	3778	3788	3831	3858	3843	3903		3249	3524	3678
Percent Change (Q4/Q4 for Annual Values)	0.6	0.5	-1.1	1.6	0.3	1.1	0.7	-0.4	1.6		9.1	8.1	3.0
M2 Money Supply (Bil. $)	14225	14247	14495	14542	14632	14769	14861	14931	15028		12852	13585	14106
Percent Change (Q4/Q4 for Annual Values)	0.2	0.1	0.2	0.3	0.6	0.9	0.6	0.5	0.7		7.3	4.9	3.5

Source: IHS Markit

Summary of the US Economy

	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4	2021:1	2021:2	2021:3	2021:4	2022:1	2022:2
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.0	1.9	1.5	2.2	2.5	2.2	2.2	2.0	1.8	1.6	1.7	1.6	1.6
Final Sales of Domestic Product	3.0	2.0	2.1	3.3	2.1	1.5	2.0	1.9	1.7	1.6	1.7	1.7	1.6
Gross Domestic Income	1.8	2.6	1.6	2.2	2.6	2.3	2.2	2.0	1.8	1.6	1.7	1.6	1.6
Avg. of GDP and GDI	1.9	2.3	1.5	2.2	2.6	2.3	2.2	2.0	1.8	1.6	1.7	1.6	1.6
Total Consumption	4.6	2.9	2.7	2.7	2.6	2.5	2.5	2.4	2.3	2.2	2.1	2.1	2.1
Durables	13.0	7.6	4.0	4.7	4.4	4.0	4.2	4.7	4.6	4.4	4.2	3.8	4.1
Nondurables	6.5	4.4	3.4	3.3	2.0	2.2	2.3	1.9	1.6	1.4	1.3	1.4	1.3
Services	2.8	1.7	2.3	2.2	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	2.0
Nonresidential Fixed Investment	-1.0	-3.0	1.3	4.2	1.5	2.8	3.5	3.3	3.1	2.8	2.9	2.8	2.8
Equipment	0.8	-3.8	1.1	6.4	-0.6	2.2	3.6	3.5	3.4	3.1	3.4	3.4	3.5
Information Processing Equipment	6.9	-7.4	3.9	3.7	3.0	3.1	3.0	3.4	2.9	2.9	3.1	3.0	3.3
Industrial Equipment	1.6	7.0	-3.6	-2.2	1.9	1.0	6.3	7.3	8.5	3.2	5.8	2.8	2.6
Transportation equipment	-9.3	-9.9	-10.2	48.4	-10.0	-10.6	-1.8	-0.8	-5.6	1.1	7.7	3.4	4.5
Aircraft	-43.2	-80.0	0.2	1936.7	-55.5	-62.7	15.4	12.4	10.5	13.4	12.2	14.7	16.2
Other Equipment	3.1	-1.0	15.1	-16.7	3.2	17.6	7.8	4.7	9.3	5.3	-2.6	4.4	3.5
Intellectual Property Products	3.6	6.6	6.2	5.1	4.8	5.0	5.0	4.6	4.1	3.7	3.7	3.5	3.3
Structures	-11.1	-15.3	-6.4	-1.7	0.0	0.5	0.7	0.7	0.6	0.6	0.5	0.6	0.6
Commercial & Health Care	-13.8	-11.9	1.9	-0.9	2.9	8.1	10.7	7.1	10.0	3.4	1.9	6.1	1.4
Manufacturing	-17.4	-0.8	9.2	12.0	-2.4	-0.4	-0.6	3.9	6.6	-0.2	3.8	-5.9	-11.7
Power & Communication	-2.2	-7.6	-25.3	-23.2	-1.9	-9.9	-9.1	-10.1	-14.5	-6.3	-16.2	-13.1	-1.3
Mining & Petroleum	-15.6	-29.3	-18.4	0.4	-10.0	-8.3	-7.9	-5.9	-12.8	-8.2	-0.6	-1.5	5.1
Other	-6.3	-18.6	5.7	8.9	8.0	6.4	1.7	2.5	4.5	7.4	9.0	6.0	4.9
Residential Fixed Investment	-3.0	5.1	3.0	-0.2	-1.4	-1.7	0.4	-1.5	-2.7	-0.5	1.5	1.5	0.6
Exports	-5.7	0.7	-0.3	7.2	1.3	1.5	4.7	3.1	2.9	3.0	3.2	2.9	3.1
Imports	-0.0	1.2	0.3	1.1	4.9	5.6	5.4	4.6	4.5	4.9	4.3	4.2	4.3
Federal Government	8.3	3.4	-0.7	3.4	9.4	0.7	-0.5	-0.1	-0.4	-0.5	-0.5	-0.3	-0.9
State & Local Government	2.7	1.1	1.1	0.3	0.8	1.0	1.2	1.3	1.1	1.0	0.9	1.0	0.8
Billions of Dollars													
Real GDP	19021.9	19112.5	19183.9	19286.5	19408.0	19515.9	19621.7	19720.0	19808.0	19885.9	19968.5	20049.8	20129.3
Nominal GDP	21340.3	21525.8	21730.9	21960.0	22217.0	22456.8	22699.0	22944.7	23182.4	23413.7	23653.0	23893.0	24136.5
Prices & Wages, Percent Change, Annual Rate													
GDP Deflator	2.4	1.7	2.3	2.1	2.2	2.1	2.2	2.3	2.4	2.4	2.4	2.4	2.5
Consumer Prices	2.9	1.8	2.4	1.6	2.4	1.4	0.7	1.7	2.2	2.6	2.6	2.2	2.6
Producer Prices, Finished Goods	5.2	-1.9	0.7	1.3	2.0	0.8	-0.5	0.4	1.6	2.5	2.7	2.0	2.4
Employment Cost Index - Total Comp.	2.1	3.3	3.1	3.0	3.5	3.1	3.2	3.2	3.2	3.3	3.3	3.5	3.5
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	68.89	61.93	60.95	59.00	60.67	57.00	51.33	50.00	50.67	53.00	55.00	55.02	56.79
Productivity (%ch., saar)	2.3	0.3	-0.3	1.6	1.5	1.6	1.5	1.4	1.3	1.3	1.5	1.6	1.6
Total Industrial Production (%ch., saar)	-2.2	1.2	-0.6	0.1	0.5	1.3	1.8	1.8	1.3	0.8	0.8	1.3	1.1
Factory Operating Rate	75.5	75.5	75.0	74.7	74.5	74.5	74.6	74.6	74.6	74.4	74.3	74.2	74.0
Nonfarm Inven. Chg. (Bil. 2012 $)	77.9	76.7	38.9	-22.6	1.3	37.0	44.7	53.0	60.0	60.5	58.4	57.0	57.4
Consumer Sentiment Index	98.5	93.8	96.0	96.4	96.7	96.9	96.7	96.5	96.3	96.1	95.9	95.7	95.5
Light Vehicle Sales (Mil. units, saar)	17.02	17.00	16.83	16.75	16.69	16.65	16.62	16.59	16.54	16.51	16.49	16.47	16.45
Housing Starts (Mil. units, saar)	1.256	1.282	1.270	1.267	1.267	1.269	1.271	1.245	1.248	1.259	1.271	1.286	1.281
Exist. House Sales (Total, Mil. saar)	5.287	5.433	5.504	5.544	5.618	5.603	5.525	5.480	5.485	5.508	5.496	5.492	5.492
Unemployment Rate (%)	3.6	3.6	3.5	3.5	3.4	3.4	3.4	3.4	3.5	3.5	3.6	3.7	3.8
Payroll Employment (%ch., saar)	1.2	1.4	1.3	1.2	1.8	0.6	0.7	0.8	0.8	0.6	0.5	0.4	0.3
Federal Surplus (Unified, nsa, bil. $)	-55.9	-237.3	-330.0	-393.9	-94.2	-273.0	-328.3	-405.0	-106.1	-287.7	-352.9	-422.8	-121.6
Current Account Balance (Bil. $)	-512.8	-542.1	-564.0	-541.6	-586.8	-614.1	-603.8	-602.0	-607.2	-619.0	-627.9	-628.3	-631.2
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.19	1.70	1.62	1.63	1.63	1.67	1.88	1.92	2.13	2.15	2.38	2.38
3-Month Treasury Bill Rate (%)	2.30	1.98	1.57	1.56	1.54	1.52	1.54	1.72	1.74	1.93	1.95	2.15	2.14
10-Year Treasury Note Yield (%)	2.33	1.80	1.73	1.80	2.01	2.19	2.34	2.49	2.61	2.72	2.82	2.89	2.95
30-Year Fixed Mortgage Rate (%)	4.01	3.66	3.73	3.75	3.87	3.97	4.07	4.17	4.25	4.34	4.41	4.48	4.53
S&P 500 Stock Index	2883	2959	3040	3087	3128	3127	3115	3104	3104	3120	3144	3172	3200
(Four-Quarter % change)	6.6	3.8	12.9	13.4	8.5	5.7	2.5	0.6	-0.7	-0.2	0.9	2.2	3.1
Exchange Rate, Broad Index of Partners	1.284	1.300	1.300	1.297	1.301	1.313	1.326	1.338	1.349	1.356	1.361	1.369	1.374
(% change, annual rate)	3.8	4.9	0.0	-0.8	1.2	3.6	4.0	3.7	3.3	2.2	1.4	2.4	1.6
Incomes													
Personal Income (% ch., saar)	5.4	3.8	3.8	4.0	3.5	3.6	3.9	4.6	4.2	4.1	4.2	4.5	4.2
Real Disposable Income (%ch., saar)	2.4	2.9	1.9	2.2	1.2	1.9	2.4	2.7	2.2	1.9	2.0	2.4	1.9
Saving Rate (%)	8.0	8.1	7.9	7.9	7.6	7.4	7.4	7.5	7.4	7.4	7.3	7.4	7.4
After-Tax Profits (Billions of $)	1860	1805	1822	1825	1847	1870	1885	1912	1942	1970	1997	2015	2040
(Four-quarter % change)	5.1	6.6	8.7	7.7	5.2	4.4	4.3	4.0	3.9	3.9	3.8	3.6	3.4

Source: IHS Markit

Summary of the US Economy

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Composition of Real GDP, Percent Change													
Gross Domestic Product	2.2	1.8	2.5	2.9	1.6	2.4	2.9	2.3	2.1	2.0	1.6	1.5	1.9
Final Sales of Domestic Product	2.1	1.6	2.7	2.6	2.2	2.3	2.8	2.2	2.4	1.8	1.6	1.5	1.9
Gross Domestic Income	3.4	1.3	3.2	2.7	0.8	2.1	2.5	2.2	2.2	2.0	1.6	1.5	1.9
Avg. of GDP and GDI	2.8	1.6	2.9	2.8	1.2	2.2	2.7	2.2	2.1	2.0	1.6	1.5	1.9
Total Consumption	1.5	1.5	3.0	3.7	2.7	2.6	3.0	2.6	2.8	2.4	2.1	2.2	2.4
Durables	6.0	6.1	7.2	7.5	6.1	6.9	6.3	4.8	5.2	4.4	4.1	4.1	4.2
Nondurables	0.4	1.8	2.6	3.4	2.4	2.5	3.0	3.5	3.2	1.9	1.4	1.5	1.8
Services	1.2	0.6	2.4	3.2	2.3	2.0	2.5	2.0	2.3	2.2	2.0	2.1	2.3
Nonresidential Fixed Investment	9.5	4.1	7.2	1.8	0.7	4.4	6.4	2.2	1.7	3.0	2.8	2.5	3.0
Equipment	11.0	4.7	7.0	3.2	-1.3	4.7	6.8	1.6	1.7	3.0	3.3	3.0	3.4
Information Processing Equipment	9.2	6.2	5.2	6.6	5.3	9.8	9.2	4.0	2.2	3.1	3.1	3.2	3.5
Industrial Equipment	8.4	-1.4	3.9	0.2	-1.1	6.3	4.5	1.7	0.6	5.6	4.0	3.1	1.3
Transportation equipment	18.4	10.8	11.1	10.6	-5.5	-4.9	6.4	-1.4	2.5	-3.0	3.6	4.0	3.5
Aircraft	1.6	5.5	13.4	1.8	-10.5	11.0	4.1	-33.8	26.9	-8.8	13.1	10.5	10.5
Other Equipment	9.5	2.2	7.9	-6.6	-5.3	7.9	5.6	1.5	1.3	7.2	2.6	1.2	5.2
Intellectual Property Products	5.0	5.4	4.8	3.6	7.9	3.7	7.4	8.0	5.3	4.5	3.5	2.7	2.9
Structures	13.0	1.3	11.0	-3.0	-5.0	4.7	4.1	-4.9	-4.3	0.6	0.6	1.4	2.5
Commercial & Health Care	8.4	3.6	12.9	10.6	17.7	3.2	-0.1	-5.7	-0.3	7.4	2.8	-0.9	1.8
Manufacturing	15.2	4.2	12.9	33.8	-5.1	-15.2	-6.1	1.5	2.7	2.1	-4.0	-3.7	-5.1
Power & Communication	21.0	-4.4	15.0	-3.4	0.3	-0.9	-0.7	-6.3	-14.3	-10.2	-8.5	-4.1	-3.6
Mining & Petroleum	11.9	1.6	8.0	-29.2	-42.9	40.9	24.2	-7.9	-12.1	-8.1	0.4	11.2	10.5
Other	10.7	3.3	8.3	9.3	7.0	1.7	2.6	-2.7	2.5	4.6	5.9	4.5	4.9
Residential Fixed Investment	13.0	12.4	3.8	10.2	6.5	3.5	-1.5	-1.7	0.5	-1.1	0.5	-0.4	0.2
Exports	3.4	3.6	4.2	0.5	-0.0	3.5	3.0	-0.2	2.1	3.0	3.0	3.1	3.5
Imports	2.7	1.5	5.0	5.3	2.0	4.7	4.4	1.5	2.4	4.9	4.3	4.1	3.9
Federal Government	-1.9	-5.5	-2.6	-0.1	0.4	0.8	2.9	3.3	3.4	0.4	-0.7	-2.2	-1.5
State & Local Government	-2.2	-0.3	0.2	3.2	2.6	0.6	1.0	1.6	1.0	1.1	0.9	0.8	0.8
Billions of Dollars													
Real GDP	16197.0	16495.4	16912.0	17403.8	17688.9	18108.1	18638.2	19061.4	19458.0	19845.6	20164.5	20467.2	20857.9
Nominal GDP	16197.0	16784.9	17527.3	18224.8	18715.0	19519.4	20580.2	21424.0	22333.2	23298.4	24252.9	25217.4	26296.5
Prices & Wages, Percent Change													
GDP Deflator	1.9	1.8	1.8	1.0	1.0	1.9	2.4	1.8	2.1	2.3	2.5	2.4	2.3
Consumer Prices	2.1	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.9	1.8	2.5	2.5	2.4
Producer Prices, Finished Goods	1.9	1.2	1.9	-3.3	-1.0	3.2	3.1	0.7	1.0	1.0	2.3	2.5	2.4
Employment Cost Index - Total Comp.	1.9	1.9	2.1	2.1	2.1	2.5	2.9	2.7	3.1	3.2	3.4	3.4	3.5
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	111.77	108.74	99.83	52.68	44.24	54.83	70.96	63.74	57.00	52.17	57.43	62.76	67.36
Productivity (%ch.)	0.9	0.5	0.9	1.3	0.3	1.3	1.3	1.6	1.1	1.4	1.5	1.8	2.0
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	0.8	0.3	1.4	1.0	0.8	1.5
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.6	74.6	74.5	73.9	73.4	73.3
Nonfarm Inven. Chg. (Bil. 2012 $)	89.9	98.2	90.1	131.3	28.5	35.3	55.2	80.0	15.1	58.0	56.6	50.5	58.5
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	95.7	96.7	96.2	95.5	95.1	94.8
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.21	16.92	16.68	16.53	16.45	16.42	16.50
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.255	1.268	1.256	1.279	1.259	1.243
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.358	5.572	5.492	5.487	5.448	5.512
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	3.4	3.5	3.8	4.3	4.5
Payroll Employment (%ch.)	1.7	1.6	1.9	2.1	1.8	1.6	1.7	1.6	1.2	0.8	0.4	0.1	0.2
Federal Surplus (Unified, FY, bil. $)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-995.5	-1089.5	-1151.7	-1193.5	-1217.2	-1198.0
Current Account Balance (Bil. $)	-426.8	-348.8	-365.2	-407.8	-428.3	-439.6	-491.0	-540.9	-586.6	-614.0	-634.4	-648.5	-665.9
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.17	1.64	2.02	2.38	2.61	2.62
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.06	1.54	1.84	2.14	2.34	2.36
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.13	2.08	2.66	2.96	3.02	3.03
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	3.94	3.91	4.29	4.54	4.65	4.69
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2901	3114	3118	3214	3340	3500
(Percent change)	8.7	19.1	17.5	6.8	1.5	17.0	12.1	5.7	7.3	0.1	3.1	3.9	4.8
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.289	1.309	1.351	1.375	1.376	1.361
(% change, annual rate)	2.7	1.1	3.1	12.5	4.6	-0.3	0.7	4.6	1.6	3.2	1.8	0.1	-1.1
Incomes													
Personal Income (% ch.)	5.1	1.2	5.7	4.8	2.6	4.7	5.6	4.8	3.9	4.1	4.2	4.2	4.5
Real Disposable Income (%ch.)	3.3	-1.3	4.1	4.1	1.8	2.9	4.0	3.2	2.0	2.2	2.1	2.0	2.3
Saving Rate (%)	8.9	6.4	7.4	7.6	6.8	7.0	7.7	8.1	7.6	7.4	7.3	7.2	7.1
After-Tax Profits (Billions of $)	1821	1789	1857	1740	1740	1814	1844	1822	1857	1955	2052	2219	2414
(Percent change)	18.5	-1.8	3.8	-6.3	-0.0	4.2	1.7	-1.2	1.9	5.3	4.9	8.1	8.8

Source: IHS Markit

Summary of the US Economy

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Composition of Real GDP, Percent Change (Q4/Q4)													
Gross Domestic Product	1.5	2.6	2.9	1.9	2.0	2.8	2.5	2.1	2.3	1.8	1.5	1.6	2.1
Final Sales of Domestic Product	1.9	2.0	3.2	1.8	2.2	2.9	2.2	2.4	2.2	1.7	1.6	1.6	2.0
Gross Domestic Income	2.9	1.5	4.2	1.3	0.9	2.5	2.3	2.3	2.3	1.8	1.5	1.6	2.1
Avg. of GDP and GDI	2.2	2.1	3.5	1.6	1.5	2.6	2.4	2.2	2.3	1.8	1.5	1.6	2.1
Total Consumption	1.6	1.9	3.8	2.9	2.8	2.9	2.6	2.8	2.6	2.3	2.1	2.3	2.4
Durables	6.3	5.0	9.2	5.8	7.3	7.7	3.8	6.1	4.3	4.5	3.9	4.2	4.2
Nondurables	0.7	2.8	3.2	2.8	1.8	3.7	2.5	4.1	2.4	1.6	1.3	1.6	1.8
Services	1.2	1.1	3.2	2.5	2.4	2.0	2.5	1.9	2.3	2.1	2.0	2.2	2.3
Nonresidential Fixed Investment	5.6	5.4	6.9	-0.9	2.4	5.4	5.9	0.4	3.0	3.0	2.7	2.6	3.2
Equipment	7.8	5.4	5.6	1.9	-1.4	8.5	5.0	-0.5	2.9	3.3	3.2	3.0	3.6
Information Processing Equipment	8.8	5.8	6.4	7.0	5.0	12.0	5.6	3.0	3.2	3.1	3.2	3.3	3.6
Industrial Equipment	-0.0	-2.7	4.3	1.0	-0.3	8.0	3.4	0.3	1.7	6.2	3.4	2.2	1.8
Transportation equipment	13.6	10.8	9.4	7.6	-8.8	1.3	7.3	-8.4	4.1	0.5	3.9	3.5	4.3
Aircraft	-6.8	22.9	-0.9	-11.4	2.6	8.2	14.6	-53.3	40.6	12.1	12.6	10.3	10.5
Other Equipment	8.8	6.8	1.7	-10.3	-2.2	12.6	3.0	2.6	2.2	4.1	2.4	2.7	4.7
Intellectual Property Products	3.7	4.5	6.9	2.9	6.6	4.0	9.3	6.8	5.0	4.0	3.2	2.6	3.0
Structures	4.0	6.7	9.3	-10.9	4.3	1.5	2.6	-7.5	-0.1	0.6	0.8	1.8	2.8
Commercial & Health Care	4.9	8.7	13.8	5.6	21.8	-2.3	-2.8	-4.6	5.1	5.6	1.0	-0.1	2.3
Manufacturing	6.7	4.4	29.4	10.8	-7.7	-15.0	-2.0	1.3	2.0	3.5	-7.6	-2.9	-5.0
Power & Communication	12.6	14.6	-16.1	9.1	10.6	-11.4	1.1	-8.9	-11.4	-11.9	-4.4	-5.1	-4.2
Mining & Petroleum	-4.2	2.0	16.3	-46.8	-23.0	46.8	14.4	-16.6	-6.5	-7.0	6.8	10.8	11.6
Other	7.3	4.5	12.5	2.8	9.0	0.5	2.8	-5.3	6.2	5.8	4.4	5.0	4.8
Residential Fixed Investment	15.4	7.1	7.7	9.1	3.9	4.2	-4.4	1.0	-0.7	-0.8	0.5	-0.5	0.6
Exports	2.1	6.0	2.9	-1.5	1.1	5.5	0.4	-0.3	3.6	3.0	3.0	3.2	3.6
Imports	0.6	3.0	6.5	3.2	3.4	5.6	3.2	0.0	4.3	4.6	4.3	4.0	3.7
Federal Government	-2.6	-6.1	-1.1	1.1	0.1	1.7	2.7	3.2	3.2	-0.4	-1.1	-2.4	-0.8
State & Local Government	-1.7	0.2	1.2	3.0	2.3	0.4	0.9	2.1	0.9	1.1	0.9	0.8	0.8
Billions of Dollars													
Real GDP	16197.0	16495.4	16912.0	17403.8	17688.9	18108.1	18638.2	19061.4	19458.0	19845.6	20164.5	20467.2	20857.9
Nominal GDP	16197.0	16784.9	17527.3	18224.8	18715.0	19519.4	20580.2	21424.0	22333.2	23298.4	24252.9	25217.4	26296.5
Prices & Wages, Percent Change (Q4/Q4)													
GDP Deflator	2.1	1.8	1.5	0.9	1.5	2.0	2.3	1.9	2.1	2.4	2.5	2.4	2.3
Consumer Prices	1.9	1.2	1.2	0.4	1.8	2.1	2.2	2.0	1.5	2.3	2.5	2.5	2.4
Producer Prices, Finished Goods	1.7	0.9	0.6	-3.4	1.0	3.4	2.2	0.4	0.9	1.8	2.4	2.5	2.4
Employment Cost Index - Total Comp.	1.8	2.0	2.3	1.8	2.2	2.6	3.0	2.8	3.2	3.3	3.4	3.4	3.6
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	111.77	108.74	99.83	52.68	44.24	54.83	70.96	63.74	57.00	52.17	57.43	62.76	67.36
Productivity (%ch.)	0.3	1.5	0.5	0.5	1.2	1.3	1.0	1.4	1.5	1.4	1.6	1.9	2.0
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	0.8	0.3	1.4	1.0	0.8	1.5
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.6	74.6	74.5	73.9	73.4	73.3
Nonfarm Inven. Chg. (Bil. 2012 $)	89.9	98.2	90.1	131.3	28.5	35.3	55.2	80.0	15.1	58.0	56.6	50.5	58.5
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	95.7	96.7	96.2	95.5	95.1	94.8
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.21	16.92	16.68	16.53	16.45	16.42	16.50
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.255	1.268	1.256	1.279	1.259	1.243
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.358	5.572	5.492	5.487	5.448	5.512
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	3.4	3.5	3.8	4.3	4.5
Payroll Employment (%ch.)	1.6	1.8	2.1	2.0	1.7	1.5	1.8	1.4	1.1	0.7	0.2	0.0	0.4
Federal Surplus (Unified, FY, bil. $)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-995.5	-1089.5	-1151.7	-1193.5	-1217.2	-1198.0
Current Account Balance (Bil. $)	-426.8	-348.8	-365.2	-407.8	-428.3	-439.6	-491.0	-540.9	-586.6	-614.0	-634.4	-648.5	-665.9
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.17	1.64	2.02	2.38	2.61	2.62
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.06	1.54	1.84	2.14	2.34	2.36
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.13	2.08	2.66	2.96	3.02	3.03
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	3.94	3.91	4.29	4.54	4.65	4.69
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2901	3114	3118	3214	3340	3500
(Percent change, Q4/Q4)	15.7	24.8	13.6	2.0	6.4	19.2	3.3	12.9	2.5	0.9	3.6	4.1	5.3
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.289	1.309	1.351	1.375	1.376	1.361
(% change, Q4/Q4)	-0.4	2.2	6.5	11.8	3.9	-4.1	6.5	1.4	2.0	2.6	1.3	-0.5	-1.5
Incomes													
Personal Income (%ch., Q4/Q4)	6.8	-0.3	6.7	3.7	2.9	5.4	4.9	4.8	3.7	4.3	4.2	4.3	4.7
Real Disposable Income (%ch., Q4/Q4)	4.9	-2.5	5.3	3.0	1.6	3.4	3.9	2.9	1.9	2.2	2.0	2.0	2.4
Saving Rate (%)	8.9	6.4	7.4	7.6	6.8	7.0	7.7	8.1	7.6	7.4	7.3	7.2	7.1
After-Tax Profits (Billions of $)	1821	1789	1857	1740	1740	1814	1844	1822	1857	1955	2052	2219	2414
(Percent change, Q4/Q4)	10.4	3.0	2.2	-12.6	8.7	-6.7	9.8	-0.3	3.5	5.9	4.6	8.7	8.6

Source: IHS Markit

Alternative Scenarios of the US Economy

	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022	2023	2024
Pessimistic: Loss of confidence leads to a three-quarter recession (Prob. = 35%)													
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.0	1.9	1.5	2.1	2.1	0.0	2.9	2.3	1.4	-1.0	2.2	1.9	2.4
Total Consumption	4.6	2.9	2.7	2.5	1.8	1.6	3.0	2.6	2.4	0.8	1.4	2.3	3.1
Nonresidential Fixed Investment	-1.0	-3.0	1.3	3.2	-1.4	-1.6	6.4	2.2	-0.8	-7.4	5.9	6.4	4.6
Residential Fixed Investment	-3.0	5.1	3.0	-0.2	-6.2	-12.5	-1.5	-1.7	-2.7	-8.7	3.0	-0.0	-1.2
Exports	-5.7	0.7	-0.3	7.2	1.8	1.4	3.0	-0.2	1.3	-3.1	6.6	4.1	4.0
Imports	-0.0	1.2	0.3	1.2	3.9	3.2	4.4	1.5	1.6	-0.7	7.4	7.1	5.6
Federal Government	8.3	3.4	-0.7	3.4	9.4	0.7	2.9	3.3	3.4	0.5	-0.3	-1.7	-1.0
State & Local Government	2.7	1.1	1.1	0.4	0.8	1.2	1.0	1.6	1.0	1.2	1.2	1.1	1.1
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	2.9	1.8	2.4	1.3	2.2	1.1	2.4	1.8	1.8	1.6	2.3	2.3	2.2
Producer Prices, Finished Goods	5.2	-1.9	0.7	0.6	1.5	0.0	3.1	0.7	0.5	0.5	1.8	1.6	1.5
Employment Cost Index - Total Comp.	2.1	3.3	2.9	2.8	3.2	2.9	2.9	2.7	2.9	2.3	2.0	2.2	2.4
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	68.89	61.93	60.95	57.00	57.67	52.00	70.96	63.74	52.75	46.20	52.96	58.89	64.08
Productivity (%ch., saar)	2.3	0.3	-0.3	2.1	1.5	-0.3	1.3	1.6	0.7	0.1	2.7	1.2	1.7
Total Industrial Production (%ch., saar)	-2.2	1.2	-0.6	0.2	0.1	-2.1	3.9	0.8	-0.7	-3.6	2.2	1.8	2.0
Nonfarm Inven. Chg. (Bil.2012 $)	77.9	76.7	39.0	-12.5	34.4	16.7	55.2	80.1	9.3	-37.8	80.9	94.9	86.1
Consumer Sentiment Index	98.5	93.8	91.2	88.2	88.1	86.5	98.4	94.5	86.7	80.4	79.7	81.5	83.5
Light Vehicle Sales (Mil. units, saar)	17.02	17.00	16.83	16.73	16.47	16.34	17.21	16.92	16.33	15.20	15.67	16.06	16.31
Housing Starts (Mil. units, saar)	1.256	1.282	1.270	1.266	1.149	1.071	1.250	1.255	1.111	0.929	1.055	1.078	1.038
Unemployment Rate (%)	3.6	3.6	3.5	3.5	3.4	3.6	3.9	3.7	3.6	5.2	5.7	5.4	5.1
Payroll Employment (%ch., saar)	1.2	1.4	1.3	1.1	1.5	-0.1	1.7	1.6	1.0	-1.1	-0.2	0.8	1.0
Federal Surplus (Unified, FY, bil. $)	-55.9	-237.3	-330.8	-394.7	-95.8	-278.0	-779.0	-984.4	-1099.3	-1235.3	-1344.0	-1305.0	-1283.2
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.19	1.70	1.61	1.46	1.28	1.83	2.17	1.26	0.12	0.17	0.93	1.81
10-Year Treasury Note Yield (%)	2.33	1.80	1.73	1.75	1.71	1.61	2.91	2.13	1.65	1.41	2.31	2.86	3.02
Incomes													
Personal Income (% ch., saar)	5.4	3.8	3.8	3.9	3.0	2.2	5.6	4.8	3.3	1.0	3.5	4.0	4.4
After-Tax Profits (Four-qtr.% change)	0.3	-2.8	-0.3	1.0	-1.1	0.1	1.7	-1.2	-1.6	-4.2	10.0	7.6	8.4
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)													
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.0	1.9	1.5	2.5	3.5	3.2	2.9	2.3	2.5	3.0	2.7	2.9	3.2
Total Consumption	4.6	2.9	2.7	3.2	3.5	3.2	3.0	2.6	3.2	3.4	3.2	3.8	4.0
Nonresidential Fixed Investment	-1.0	-3.0	1.3	4.4	2.7	5.1	6.4	2.2	2.3	5.1	5.3	5.6	5.8
Residential Fixed Investment	-3.0	5.1	3.0	2.1	3.5	3.4	-1.5	-1.7	2.8	2.5	1.1	-0.0	0.3
Exports	-5.7	0.7	-0.3	7.0	1.7	3.2	3.0	-0.2	2.5	4.2	4.1	3.8	4.2
Imports	-0.0	1.2	0.3	1.6	6.7	8.1	4.4	1.5	3.3	6.7	5.5	6.1	6.1
Federal Government	8.3	3.4	-0.7	3.4	9.6	0.9	2.9	3.3	3.5	0.5	-0.6	-2.0	-1.4
State & Local Government	2.7	1.1	1.1	0.2	1.4	0.7	1.0	1.6	1.0	0.9	1.0	0.9	0.9
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	2.9	1.8	2.4	2.0	2.8	1.6	2.4	1.8	2.2	2.0	2.3	2.2	2.2
Producer Prices, Finished Goods	5.2	-1.9	0.7	1.9	2.3	1.1	3.1	0.7	1.2	1.3	2.1	2.2	2.1
Employment Cost Index - Total Comp.	2.1	3.3	2.6	2.4	3.6	3.2	2.9	2.7	2.9	3.1	3.1	3.1	3.4
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	68.89	61.93	60.95	61.00	64.67	63.00	70.96	63.74	62.00	62.92	68.43	73.76	78.36
Productivity (%ch., saar)	2.3	0.3	-0.3	1.8	1.8	2.4	1.3	1.6	1.3	2.5	2.9	3.0	3.1
Total Industrial Production (%ch., saar)	-2.2	1.2	-0.6	0.6	1.9	2.7	3.9	0.8	0.9	2.7	2.3	2.2	2.9
Nonfarm Inven. Chg. (Bil. 2012 $)	77.9	76.7	39.0	-21.3	4.5	47.3	55.2	80.1	23.4	82.4	89.6	91.2	104.4
Consumer Sentiment Index	98.5	93.8	97.7	100.1	100.9	101.3	98.4	96.1	101.0	101.8	99.7	98.4	98.4
Light Vehicle Sales (Mil. units, saar)	17.02	17.00	16.83	16.82	16.82	16.81	17.21	16.92	16.81	16.81	16.92	17.34	17.79
Housing Starts (Mil. units, saar)	1.256	1.282	1.270	1.306	1.334	1.356	1.250	1.255	1.342	1.403	1.420	1.412	1.400
Unemployment Rate (%)	3.6	3.6	3.5	3.4	3.2	3.2	3.9	3.7	3.2	3.2	3.6	3.8	3.8
Payroll Employment (%ch., saar)	1.2	1.4	1.3	1.3	2.3	0.8	1.7	1.6	1.4	0.8	0.3	0.3	0.6
Federal Surplus (Unified, FY, bil. $)	-55.9	-237.3	-330.9	-393.5	-88.8	-264.2	-779.0	-984.4	-1077.5	-1072.3	-1136.8	-1098.5	-1032.8
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.19	1.70	1.75	1.77	1.79	1.83	2.17	1.78	2.36	3.07	3.36	3.38
10-Year Treasury Note Yield (%)	2.33	1.80	1.73	2.10	2.30	2.50	2.91	2.13	2.40	3.20	3.90	4.32	4.50
Incomes													
Personal Income (% ch., saar)	5.4	3.8	3.8	4.6	5.4	4.7	5.6	4.8	4.5	4.7	4.8	5.0	5.3
After-Tax Profits (Four-qtr.% change)	0.3	-2.8	-0.3	3.3	0.2	4.6	1.7	-1.2	3.3	8.8	8.3	11.4	10.3

Source: IHS Markit

Alternative Scenarios of the US Economy

	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022	2023	2024
Pessimistic: Loss of confidence leads to a three-quarter recession (Prob. = 35%)													
Composition of Real GDP, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Gross Domestic Product	2.0	1.9	1.5	2.1	2.1	0.0	2.5	2.1	0.3	0.1	2.1	2.0	2.5
Total Consumption	4.6	2.9	2.7	2.5	1.8	1.6	2.6	2.8	1.7	0.6	1.7	2.7	3.3
Nonresidential Fixed Investment	-1.0	-3.0	1.3	3.2	-1.4	-1.6	5.9	0.4	-3.7	-3.5	7.8	5.6	3.9
Residential Fixed Investment	-3.0	5.1	3.0	-0.2	-6.2	-12.5	-4.4	1.0	-8.0	-3.6	2.7	-0.8	-1.1
Exports	-5.7	0.7	-0.3	7.2	1.8	1.4	0.4	-0.3	-0.0	2.0	4.7	3.9	4.1
Imports	-0.0	1.2	0.3	1.2	3.9	3.2	3.2	-0.0	2.0	0.3	9.2	6.0	5.3
Federal Government	8.3	3.4	-0.7	3.4	9.4	0.7	2.7	3.2	3.2	-0.2	-0.7	-1.9	-0.3
State & Local Government	2.7	1.1	1.1	0.4	0.8	1.2	0.9	2.1	0.9	1.1	1.2	1.1	1.1
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	2.9	1.8	2.4	1.3	2.2	1.1	2.2	2.0	1.3	2.1	2.3	2.3	2.3
Producer Prices, Finished Goods	5.2	-1.9	0.7	0.6	1.5	0.0	2.2	0.4	0.2	1.6	1.6	1.5	1.6
Employment Cost Index - Total Comp.	2.1	3.3	2.9	2.8	3.2	2.9	3.0	2.7	2.9	1.9	2.1	2.2	2.5
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	68.89	61.93	60.95	57.00	57.67	52.00	70.96	63.74	52.75	46.20	52.96	58.89	64.08
Productivity (%ch., saar)	2.3	0.3	-0.3	2.1	1.5	-0.3	1.0	1.4	0.0	2.2	1.5	1.5	1.9
Total Industrial Production (%ch., saar)	-2.2	1.2	-0.6	0.2	0.1	-2.1	4.0	-0.9	-1.9	-2.0	2.6	1.7	2.1
Nonfarm Inven. Chg. (Bil.2012 $)	77.9	76.7	39.0	-12.5	34.4	16.7	55.2	80.1	9.3	-37.8	80.9	94.9	86.1
Consumer Sentiment Index	98.5	93.8	91.2	88.2	88.1	86.5	98.4	94.5	86.7	80.4	79.7	81.5	83.5
Light Vehicle Sales (Mil. units, saar)	17.02	17.00	16.83	16.73	16.47	16.34	17.21	16.92	16.33	15.20	15.67	16.06	16.31
Housing Starts (Mil. units, saar)	1.256	1.282	1.270	1.266	1.149	1.071	1.250	1.255	1.111	0.929	1.055	1.078	1.038
Unemployment Rate (%)	3.6	3.6	3.5	3.5	3.4	3.6	3.9	3.7	3.6	5.2	5.7	5.4	5.1
Payroll Employment (%ch., saar)	1.2	1.4	1.3	1.1	1.5	-0.1	1.8	1.4	0.4	-1.6	0.7	0.9	1.0
Federal Surplus (Unified, FY, bil. $)	-55.9	-237.3	-330.8	-394.7	-95.8	-278.0	-779.0	-984.4	-1099.3	-1235.3	-1344.0	-1305.0	-1283.2
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.19	1.70	1.61	1.46	1.28	1.83	2.17	1.26	0.12	0.17	0.93	1.81
10-Year Treasury Note Yield (%)	2.33	1.80	1.73	1.75	1.71	1.61	2.91	2.13	1.65	1.41	2.31	2.86	3.02
Incomes													
Personal Income (% ch., saar)	5.4	3.8	3.8	3.9	3.0	2.2	4.9	4.8	2.4	1.2	4.3	4.0	4.6
After-Tax Profits (Four-qtr.% change)	0.3	-2.8	-0.3	1.0	-1.1	0.1	9.8	-0.3	-6.4	6.6	5.3	8.3	8.5
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)													
Composition of Real GDP, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Gross Domestic Product	2.0	1.9	1.5	2.5	3.5	3.2	2.5	2.1	3.1	2.9	2.6	3.1	3.2
Total Consumption	4.6	2.9	2.7	3.2	3.5	3.2	2.6	2.8	3.3	3.4	3.3	4.0	3.9
Nonresidential Fixed Investment	-1.0	-3.0	1.3	4.4	2.7	5.1	5.9	0.4	4.4	5.4	5.2	5.8	5.8
Residential Fixed Investment	-3.0	5.1	3.0	2.1	3.5	3.4	-4.4	1.0	3.0	2.0	0.3	0.2	0.3
Exports	-5.7	0.7	-0.3	7.0	1.7	3.2	0.4	-0.3	4.4	4.3	3.7	3.9	4.3
Imports	-0.0	1.2	0.3	1.6	6.7	8.1	3.2	-0.0	5.9	6.1	5.4	6.4	5.7
Federal Government	8.3	3.4	-0.7	3.4	9.6	0.9	2.7	3.2	3.3	-0.3	-1.0	-2.3	-0.7
State & Local Government	2.7	1.1	1.1	0.2	1.4	0.7	0.9	2.1	0.8	1.0	1.0	0.9	0.8
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	2.9	1.8	2.4	2.0	2.8	1.6	2.2	2.0	1.9	2.3	2.3	2.2	2.3
Producer Prices, Finished Goods	5.2	-1.9	0.7	1.9	2.3	1.1	2.2	0.4	1.3	1.9	2.1	2.1	2.2
Employment Cost Index - Total Comp.	2.1	3.3	2.6	2.4	3.6	3.2	3.0	2.7	3.1	3.0	3.1	3.2	3.5
Other Key Measures													
Brent Crude, Spot Price ($/bbl)	68.89	61.93	60.95	61.00	64.67	63.00	70.96	63.74	62.00	62.92	68.43	73.76	78.36
Productivity (%ch., saar)	2.3	0.3	-0.3	1.8	1.8	2.4	1.0	1.4	1.9	2.8	2.9	3.1	3.0
Total Industrial Production (%ch., saar)	-2.2	1.2	-0.6	0.6	1.9	2.7	4.0	-0.9	2.1	2.5	2.2	2.5	3.0
Nonfarm Inven. Chg. (Bil. 2012 $)	77.9	76.7	39.0	-21.3	4.5	47.3	55.2	80.1	23.4	82.4	89.6	91.2	104.4
Consumer Sentiment Index	98.5	93.8	97.7	100.1	100.9	101.3	98.4	96.1	101.0	101.8	99.7	98.4	98.4
Light Vehicle Sales (Mil. units, saar)	17.02	17.00	16.83	16.82	16.82	16.81	17.21	16.92	16.81	16.81	16.92	17.34	17.79
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Unemployment Rate (%)	3.6	3.6	3.5	3.4	3.2	3.2	3.9	3.7	3.2	3.2	3.6	3.8	3.8
Payroll Employment (%ch., saar)	1.2	1.4	1.3	1.3	2.3	0.8	1.8	1.4	1.4	0.5	0.2	0.4	0.7
Federal Surplus (Unified, FY, bil. $)	-55.9	-237.3	-330.9	-393.5	-88.8	-264.2	-779.0	-984.4	-1077.5	-1072.3	-1136.8	-1098.5	-1032.8
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.19	1.70	1.75	1.77	1.79	1.83	2.17	1.78	2.36	3.07	3.36	3.38
10-Year Treasury Note Yield (%)	2.33	1.80	1.73	2.10	2.30	2.50	2.91	2.13	2.40	3.20	3.90	4.32	4.50
Incomes													
Personal Income (% ch., saar)	5.4	3.8	3.8	4.6	5.4	4.7	4.9	4.8	4.8	4.6	4.8	5.1	5.4
After-Tax Profits (Four-qtr.% change)	0.3	-2.8	-0.3	3.3	0.2	4.6	9.8	-0.3	5.2	10.6	7.6	11.7	9.4

Source: IHS Markit

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