

Executive Summary: US Economic Outlook

September 2019



Contacts

VP & Co-Heads US Economics

Joel Prakken, PhD, CBE, Chief US Economist	1-314-779-1980	joel.prakken@ihsmarkit.com
Chris Varvares, CBE	1-314-779-1970	chris.varvares@ihsmarkit.com

Executive Directors

Ben Herzon, PhD	1-314-779-1977	ben.herzon@ihsmarkit.com
Ken Matheny, PhD	1-314-779-1978	ken.matheny@ihsmarkit.com
Patrick Newport, PhD	1-781-301-9125	patrick.newport@ihsmarkit.com

Directors

Kathleen Navin, CBE	1-314-779-1976	kathleen.navin@ihsmarkit.com
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Associate Directors

James Bohnaker, CBE	1-781-301-9333	james.bohnaker@ihsmarkit.com
Mike Montgomery	1-781-301-9031	mike.montgomery@ihsmarkit.com

Principal Economists

David Deull	1-617-866-5339	david.deull@ihsmarkit.com
Michael Konidaris	1-314-779-1982	michael.konidaris@ihsmarkit.com

Economists and Senior Economists

Gordon Greer III	1-781-301-9139	gordon.greer@ihsmarkit.com
Rebecca Mitchell	1-781-301-9132	rebecca.mitchell@ihsmarkit.com
Akshat Goel	1-617-866-5162	akshat.goel@ihsmarkit.com
Lawrence Nelson	1-314-779-1981	lawrence.nelson@ihsmarkit.com
Juan Turcios	1-314-779-1986	juan.turcios@ihsmarkit.com

IHS Markit Customer Care

IHS Markit Customer Care	1-800-447-2273	customercare@ihsmarkit.com
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Additional tariffs trim growth, raise uncertainty; two more rate cuts

- Newly announced tariffs on China's exports to the US (see What's New) temporarily boost inflation and lower growth compared to last month's forecast. We left unchanged our projection of GDP growth for this year at 2.3%, but lowered growth the next two years by 0.2 percentage point, to 2.2% and 1.7%, respectively, in 2021 and 2022.¹
- Equity markets also reflected new tariffs and heightened uncertainty around tariff policy and potential retaliation, serving as a source of indirect trade-related drag on growth. Nevertheless, as the Fed has responded to elevated downside risks by signaling additional rate cuts, lower term yields provide considerable support to share values (see Equities) leaving financial conditions still supportive of solid above-trend growth.
- With a slightly softer growth outlook, the unemployment rate is now expected to reach a cycle low of roughly 3.5% later this year, where it will linger before starting a gradual rise in late 2021, once GDP growth drops to below trend. After a soft start to the year, inflation is firming, with core PCE inflation projected to run at a 2.3% pace in the third quarter and 2.4% in the fourth.² Core inflation is then expected to remain slightly above 2%.
- Despite above-trend growth, tight labor markets and inflation rising to slightly above its target, the Fed is focused on downside risks and is expected to cut the fed funds target range two more times, in October and January.

Projecting continued above-trend US growth

- Growth over 2019 is projected at 2.3%, close to last year's revised 2.5% pace, and above the roughly 2% pace we estimate as the growth rate of potential GDP.
- Private domestic final sales (GDP ex. net exports and inventory building) rose a solid 2.8% last year, but are expected to rise a somewhat slower 2.6% this year.
- A much slower 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. Yet, net exports still will decline slightly, imposing 0.1 point of drag on GDP growth this year.

Fiscal stimulus extends above-trend growth to 2020

- The recently enacted BBA 2019, as well as favorable financial conditions, support above-trend growth in our forecast of GDP growth through 2020.
- Restraining GDP growth are slowing global growth, less of a boost to domestic spending from rising stock prices, the effects of recent tariffs, slowing inventory accumulation, and the approach to capacity constraints.
- Upward revisions in the data on household incomes, and recently strong momentum in consumer expenditures, support our forecast of solid consumer spending this year and next of 3.0% and 2.6%, respectively.
- Growth of nonresidential fixed investment is expected to remain lackluster, at just 1.5% this year.
- The unemployment rate is now projected to drift down to 3.5% in the fourth quarter of this year.
- Recession risks, although somewhat elevated, remain contained in the absence of obvious triggers.

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

- Falling oil prices late last year, 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 other temporary factors restrained inflation early this year, holding core PCE inflation to just 1.1% (annualized) in Q1.
- Inflation has turned higher of late and inflation fundamentals and tariffs are still expected to push core PCE inflation to over 2% in the second half of this year.
- A rising dollar path the next few years is expected to continue to restrain import prices and core inflation.
- Newly implemented tariffs temporarily boost inflation compared to last month's forecast in Q4, Q1 and Q2.

Fed policy: taking out some more insurance

- The Fed cut the fed funds rate one quarter point at the July policy meeting, as insurance against downside risks from tariffs and slowing foreign growth.
- We now see two additional quarter-point cuts, but 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 2022.

Equities sustained by low rates, restrained by tariffs

- Lower current and expected fed funds rates are restraining term yields and are supporting equities.
- We look for an 18% gain in the S&P 500 over 2019.

¹ This forecast originally was completed and issued on 4 September 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

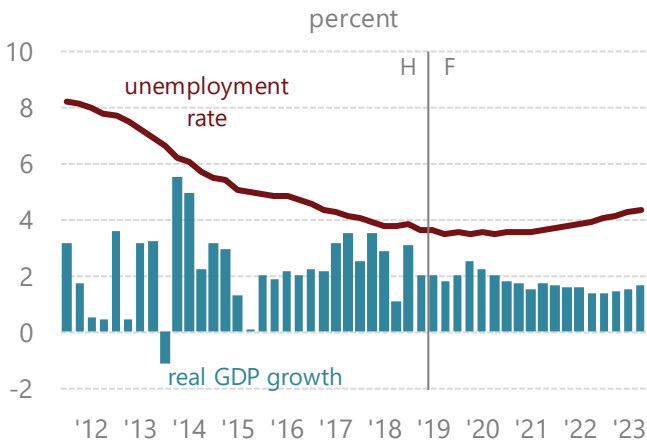
	Annual rates					Annual averages					Q4/Q4				
	2019:2	2019:3	2019:4	2020:1	2020:2	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Composition of Real GDP, Percent Change															
Gross Domestic Product	2.0	2.1	1.8	2.1	2.5	2.9	2.3	2.1	1.9	1.6	2.5	2.3	2.2	1.7	1.6
Final Sales of Domestic Product	3.0	1.9	2.5	3.6	1.8	2.8	2.2	2.4	1.7	1.6	2.2	2.5	2.2	1.7	1.6
Gross Domestic Income	2.1	2.1	1.9	2.1	2.6	2.5	2.2	2.2	2.0	1.7	2.3	2.3	2.3	1.8	1.6
Avg. of GDP and GDI	2.1	2.1	1.9	2.1	2.6	2.7	2.2	2.2	1.9	1.6	2.4	2.3	2.3	1.7	1.6
Total Consumption	4.7	3.6	2.6	2.5	2.5	3.0	2.7	2.8	2.5	2.3	2.6	3.0	2.6	2.4	2.3
Durables	13.0	5.3	3.6	3.7	4.0	6.3	4.5	4.7	5.0	4.8	3.8	5.4	4.4	5.0	4.8
Nondurables	6.8	6.1	2.9	2.1	2.1	3.0	3.8	3.0	1.9	1.5	2.5	4.5	2.1	1.7	1.5
Services	2.8	2.7	2.3	2.5	2.4	2.5	2.1	2.5	2.3	2.2	2.5	2.2	2.4	2.3	2.1
Nonresidential Fixed Investment	-0.6	-2.2	4.5	4.5	1.6	6.4	2.6	2.4	2.5	2.5	5.9	1.5	2.9	2.5	2.5
Equipment	0.7	-6.8	5.8	6.9	-0.3	6.8	1.5	2.3	2.5	3.2	5.0	-0.2	2.8	2.9	3.3
Information Processing Equipment	7.1	0.7	4.9	2.7	2.3	9.2	5.1	3.1	2.6	2.6	5.6	5.4	2.6	2.5	2.7
Industrial Equipment	1.7	-5.1	1.8	2.6	0.2	4.5	0.6	1.3	5.3	3.7	3.4	-1.3	3.0	5.4	3.4
Transportation equipment	-10.3	-16.0	2.3	37.6	-5.2	6.4	-1.7	2.5	-3.5	3.8	7.3	-7.3	2.3	0.6	4.2
Aircraft	-43.2	-9.5	0.0	882.5	-48.0	4.1	-22.2	38.1	-4.4	13.8	14.6	-31.9	29.2	12.4	13.6
Other Equipment	3.3	-8.9	15.2	-10.4	1.1	5.6	0.5	1.8	6.5	3.1	3.0	0.5	3.6	3.6	3.2
Intellectual Property Products	3.7	8.2	6.2	4.5	4.8	7.4	8.2	5.3	4.1	3.2	9.3	7.2	4.7	3.6	3.0
Structures	-9.4	-8.6	-0.6	-0.1	0.1	4.1	-3.4	-1.8	0.1	-0.0	2.6	-3.8	0.0	-0.0	0.1
Commercial & Health Care	-11.4	-7.0	4.1	3.8	5.7	-0.1	-4.5	2.3	5.8	3.9	-2.8	-2.1	5.9	4.8	3.1
Manufacturing	-3.5	4.9	5.9	9.8	-1.3	-6.1	5.0	3.3	-1.6	-5.0	-2.0	6.0	1.1	-0.5	-7.8
Power & Communication	-4.9	-27.1	-18.5	-28.1	-10.0	-0.7	-8.9	-17.3	-11.4	-15.4	1.1	-12.9	-12.3	-16.7	-13.6
Mining & Petroleum	-15.6	-1.5	-5.1	2.2	-10.2	24.2	-3.3	-6.1	-6.2	-0.3	14.4	-5.9	-8.0	-3.4	3.9
Other	-6.7	-6.8	10.7	11.6	11.1	2.6	-0.8	6.7	5.6	5.4	2.8	-1.0	8.3	6.2	3.9
Residential Fixed Investment	-2.9	1.7	1.4	-0.6	-2.5	-1.5	-2.2	-0.8	-2.1	-0.3	-4.4	-0.2	-1.7	-1.7	-0.5
Exports	-5.8	0.3	1.9	13.6	1.2	3.0	-0.1	3.8	2.6	2.5	0.4	0.1	4.7	2.8	2.4
Imports	0.1	2.3	1.8	5.0	5.5	4.4	1.7	3.9	4.8	4.2	3.2	0.6	5.3	4.4	4.3
Federal Government	8.1	1.7	1.3	4.2	6.5	2.9	3.1	3.2	-0.0	-0.8	2.7	3.3	2.5	-0.6	-1.1
State & Local Government	2.3	-0.8	0.4	1.6	1.4	1.0	1.2	1.0	1.0	0.9	0.9	1.3	1.3	0.9	0.9
Prices & Wages, Percent Change															
GDP Deflator	2.4	2.5	2.9	2.6	2.6	2.4	2.0	2.6	2.5	2.5	2.3	2.2	2.5	2.5	2.5
Consumer Prices	2.9	1.9	2.5	2.7	2.0	2.4	1.8	2.3	2.3	2.4	2.2	2.0	2.2	2.4	2.4
Producer Prices, Finished Goods	4.6	0.2	1.7	2.7	1.7	3.1	0.9	1.9	1.9	2.2	2.2	1.0	1.8	2.2	2.3
Employment Cost Index - Total Comp.	2.1	3.2	3.2	3.1	3.6	2.9	2.7	3.2	3.5	3.6	3.0	2.8	3.4	3.6	3.6
Other Key Measures, Percent Change															
Total Industrial Production	-2.1	-0.5	-1.2	2.0	1.3	3.9	0.6	0.6	1.2	1.0	4.0	-1.5	1.6	1.0	0.9
Payroll Employment	1.2	1.3	1.1	1.3	1.9	1.7	1.5	1.2	0.8	0.4	1.8	1.3	1.1	0.7	0.3
Financial Markets, NSA, Quarter Average															
S&P 500 Stock Index (four-quarter % change)															
(Average of period)	25.8	18.3	-8.1	2.7	2.0	12.1	5.2	3.4	2.2	2.2	3.3	9.3	2.3	2.2	2.1
(End of period)	8.2	0.6	17.9	4.8	1.4	8.0	8.2	2.7	2.3	2.2	-6.2	17.9	2.2	2.3	2.1
Exchange Rate, Broad Index (%change, annual rate)	3.8	6.0	5.4	0.2	0.9	0.7	5.1	2.5	1.6	1.7	6.5	3.0	1.0	1.8	1.5
Incomes, Percent Change															
Personal Income	5.5	3.9	4.9	4.3	4.5	5.6	4.9	4.5	4.5	4.3	4.9	5.1	4.5	4.4	4.2
Real Disposable Income	2.5	2.5	2.5	1.8	2.2	4.0	3.2	2.2	2.3	2.1	3.9	3.0	2.2	2.2	2.0
			Levels					Annual averages					Q4 values		
Billions of Dollars															
Real GDP	19023	19121	19208	19305	19427	18638	19070	19476	19849	20173	18784	19208	19636	19973	20285
Nominal GDP	21339	21580	21835	22086	22367	20580	21463	22495	23508	24495	20898	21835	22890	23876	24860
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	68.89	62.01	65.67	65.67	64.33	70.96	64.94	63.83	63.73	66.70	67.42	65.67	61.00	64.72	67.88
Factory Operating Rate	75.5	75.2	74.5	74.4	74.4	76.6	75.4	74.5	74.3	73.8	77.0	74.5	74.5	74.1	73.6
Nonfarm Inven. Chg. (Bil. 2012 \$)	79.8	85.8	44.8	-38.1	0.8	55.2	84.2	14.1	56.8	56.3	103.0	44.8	49.2	56.5	55.2
Light Vehicle Sales (Mil. units, saar)	17.00	16.64	16.77	16.66	16.64	17.21	16.81	16.63	16.50	16.39	17.41	16.77	16.59	16.44	16.40
Housing Starts (Mil. units, saar)	1.258	1.213	1.229	1.237	1.236	1.250	1.228	1.239	1.234	1.260	1.185	1.229	1.244	1.251	1.253
Exist. House Sales (Total, Mil. saar)	5.287	5.450	5.460	5.562	5.628	5.341	5.351	5.593	5.556	5.564	5.143	5.460	5.571	5.580	5.547
Unemployment Rate (%)	3.6	3.6	3.5	3.6	3.5	3.9	3.7	3.5	3.6	3.8	3.8	3.5	3.5	3.7	3.9
Federal Surplus (Unified, nsa, bil. \$)	-55.9	-295.7	-334.9	-396.6	-92.9	-873.0	-1058.8	-1082.2	-1126.6	-1169.5	-318.9	-334.9	-323.1	-345.9	-321.6
Current Account Balance (Bil. \$)	-473.4	-498.3	-499.3	-461.1	-489.0	-491.0	-498.2	-496.8	-542.9	-590.5	-575.7	-499.3	-517.1	-556.8	-610.8
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.22	1.97	1.72	1.64	1.83	2.25	1.67	2.03	2.39	2.22	1.97	1.68	2.16	2.39
3-Month Treasury Bill Rate (%)	2.30	2.00	1.97	1.69	1.57	1.94	2.16	1.59	1.85	2.16	2.32	1.97	1.56	1.96	2.15
10-Year Treasury Note Yield (%)	2.33	1.73	1.65	1.84	2.03	2.91	2.09	2.11	2.73	3.15	3.03	1.65	2.37	2.92	3.25
30-Year Fixed Mortgage Rate (%)	4.01	3.65	3.57	3.68	3.81	4.54	3.90	3.87	4.34	4.70	4.78	3.57	4.06	4.50	4.79
S&P 500 Stock Index (average of period)	2883	3007	2943	2963	2977	2745	2889	2987	3054	3121	2692	2943	3013	3080	3145
S&P 500 Stock Index (end of period)	2942	2932	2955	2970	2984	2695	2916	2995	3062	3129	2507	2955	3020	3089	3155
Incomes															
After-Tax Profits (Billions of \$)	20.5	3.4	2.1	3.2	3.2	1.7	1.7	4.5	4.2	3.0	9.8	4.6	4.2	3.8	2.8

Source: IHS Markit

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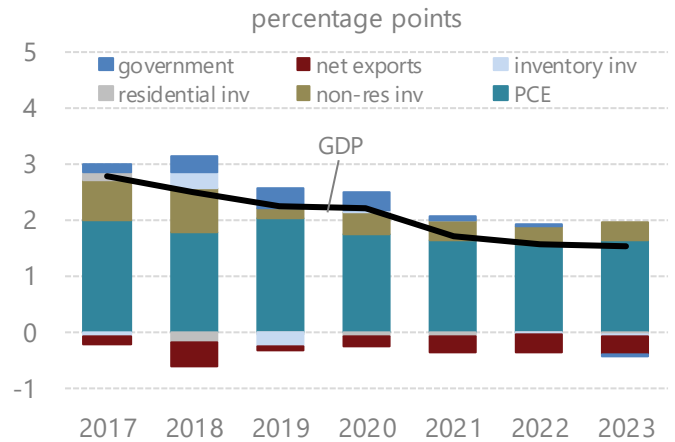
Modestly above-trend growth supported by low interest rates

Growth remains above trend through 2020



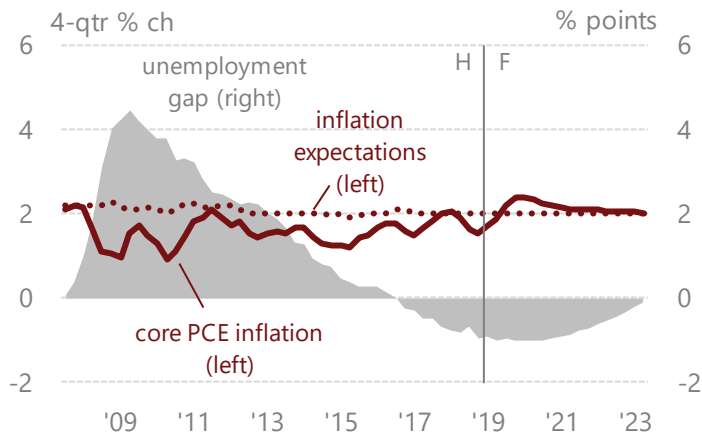
Source: Macroeconomic Advisers by IHS Markit, BEA, BLS

Contributions to GDP growth



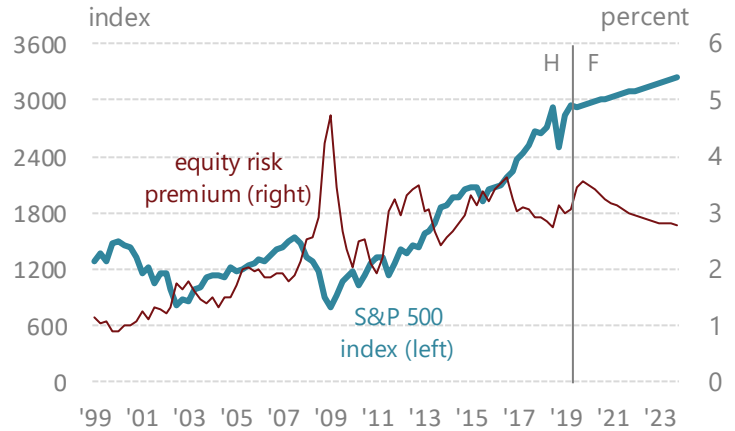
Source: Macroeconomic Advisers by IHS Markit, BEA

Core PCE inflation is on the rise



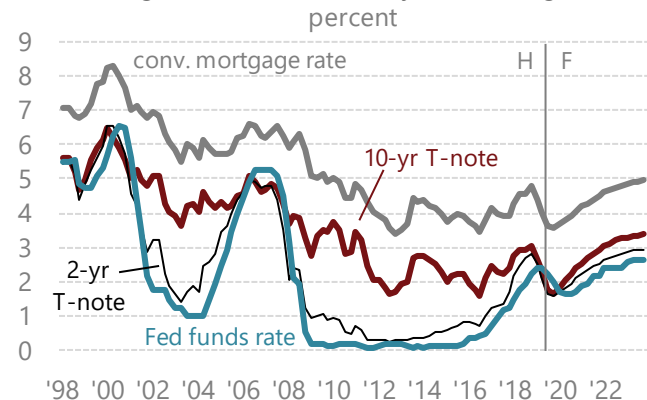
Source: Macroeconomic Advisers by IHS Markit, Philly Fed, BEA, BLS

Equities to resume upward trend



Source: Macroeconomic Advisers by IHS Markit, S&P

Fed cuts funds rate in Oct. and again in Jan. before reversing in late 2020, term yields rise gradually



Source: Macroeconomic Advisers by IHS Markit, FRB

Forecast overview

	2018	2019	2020	2021	2022	2023
Real GDP*	2.5	2.3	2.2	1.7	1.6	1.5
Pvt Final Dom Dem*	2.8	2.6	2.4	2.3	2.2	2.2
Unemployment Rate**	3.8	3.5	3.5	3.7	3.9	4.4
Core PCE Inflation*	1.9	1.9	2.3	2.1	2.1	2.0

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

More tariffs, slower growth, lower rates

This month's forecast reflects new tariffs announced by the US and China in August. These include: effective 1 October, an increase from 25% to 30% in the tariff on imports from China already subject to Section 301 tariffs; a 15% tariff, effective in two steps (1 September and 15 December) on most of the rest of imports from China; and, China's retaliatory tariffs on \$75 billion of US exports. The new levies will push the US effective tariff rate to nearly 6% (see chart).

Largely as a consequence of these additional tariffs—both directly through price and income effects and indirectly through lower stock prices—we've revised down our forecast for real GDP growth 0.2 percentage point both next year and in 2021 (see chart), and revised up our forecast of the unemployment rate in 2022 by 0.3 percentage point. The tariffs also push up consumer price inflation by 0.2 percentage point in 2020.

Given these new downside risks, we've introduced into this month's forecast two more 25 basis point cuts in the federal funds rate (in October and January), but still expect the Fed to resume raising rates late next year under our baseline assumption that the worst downside risks currently priced into financial markets don't materialize. Similarly, while we've revised down significantly our near-term projections of term yields to reflect currently elevated bond prices, we expect the 10-year T-note yield to revert gradually towards last month's paths (see chart).

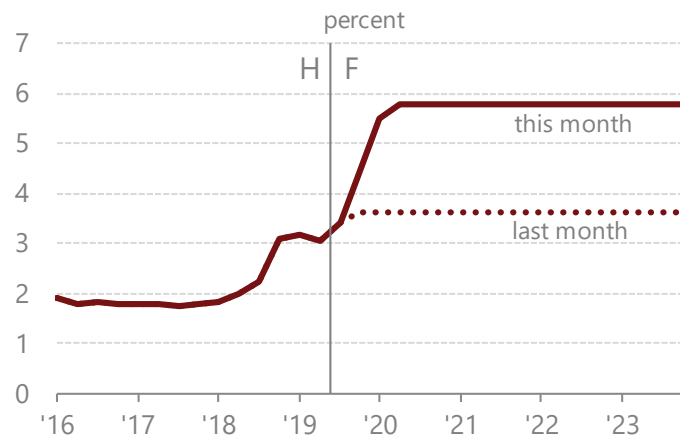
We adjusted the assumed recovery in Boeing's production of 737 MAX jets to be spread over the first half of 2020 instead of assuming it all in the first quarter. This reduced first-quarter GDP growth next year but raised second-quarter growth, briefly narrowing the gap between this month's GDP growth path and last month's.

Our historical estimates of capital stocks, meant to be consistent with BEA's annual revisions of investment, have been replaced with BEA's estimates. Our estimates were close, so there was little impact on the forecast.

We adopted CBO's updated projection of the NAIRU, which falls to 4.38% by 2029, approximately 0.1 percentage point lower than the agency's previous estimate.

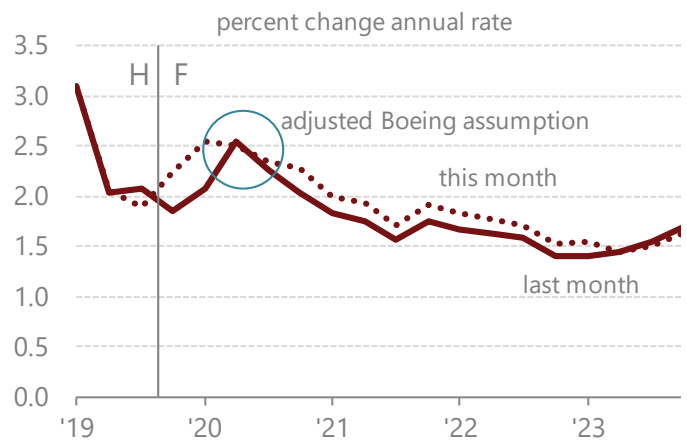
The US Department of Agriculture released details of this year's income-support program to backstop farmers hurt by the tariff battle. Payments will spike around the end of the year, implying a spike in farm proprietors' income in the fourth quarter of this year and the first quarter of next year.

US effective tariff rate, non-petro goods



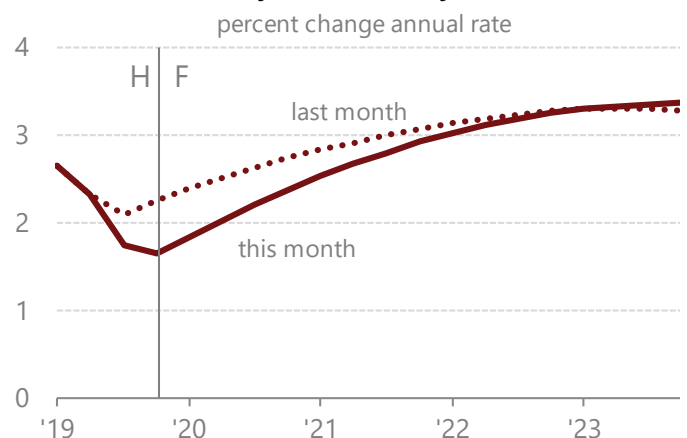
Source: Macroeconomic Advisers by IHS Markit

Growth of real GDP



Source: Macroeconomic Advisers by IHS Markit, BEA

10-year T-note yield



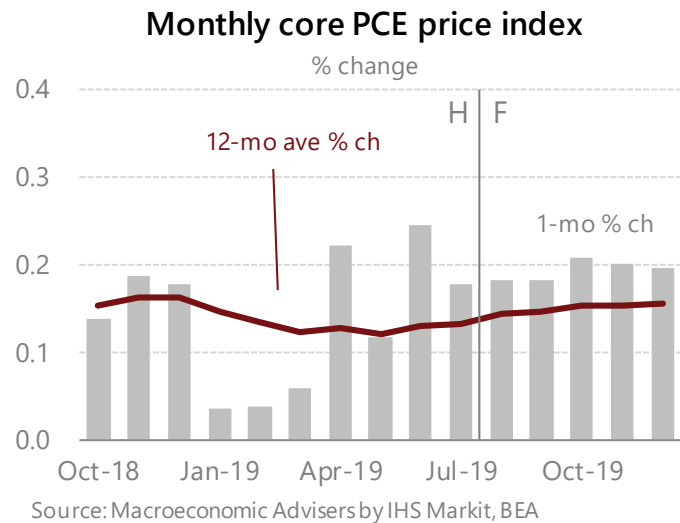
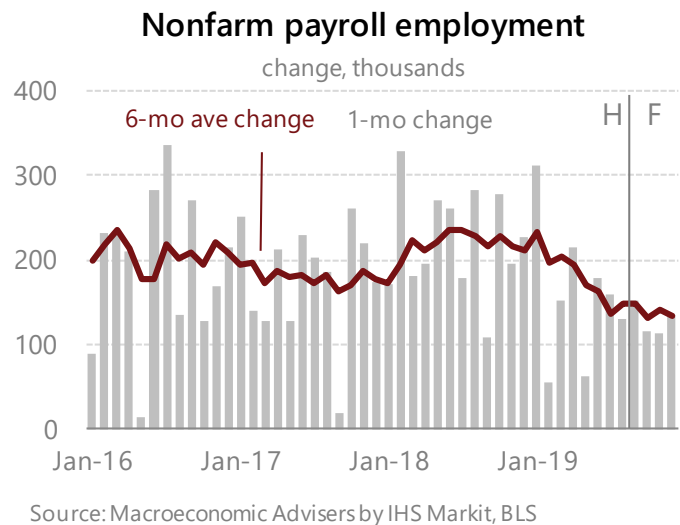
Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

H2 growth at 2% with slowing employment and firming inflation

Over the second half of this year, GDP growth is expected to remain close to the 2.0% rate of the second quarter; we look for 2.1% growth in the third quarter and 1.8% growth in the fourth quarter. Steady overall growth reflects a slowdown in final sales to domestic purchasers (from 3.6% in the second quarter to 2.3% averaged over the second half) that is just offset by a step up in contributions to growth from net exports and inventory investment, both of which are forecast to subtract less from growth in the second half than in the second quarter. The slowdown in final sales to domestic purchasers is mainly in personal consumption expenditures, which remains robust in the second half (averaging 3.1% growth), but nevertheless slows from the outsized, 4.7% rate of increase in the second quarter. Troubles at Boeing are also shaping the second-half forecast. Boeing has already cut the monthly production rate of its 737 line of aircraft from 52 per month to 42 per month. In this forecast we assume a further cut in the fourth quarter to 32 per month. This stepdown in production shaves 0.2 percentage point from fourth-quarter GDP growth.

The 2.0% growth we expect averaged over the second, third, and fourth quarters is a notable slowdown from 2.7% growth averaged over the prior four quarters. This is expected to contribute to a continued slowing trend in employment gains. The six-month average of monthly payroll gains was generally above 200 thousand per month for most of last year and into the early months of this year. This rate has since slowed and stood at 150 thousand per month over the six months ending in August. Over the balance of this year, we expect payroll gains to slow further to an average of around 130 thousand per month. This is enough payroll growth to lower the unemployment rate a tenth or so from the August reading of 3.7%.

Following modest increases over the first three months of this year (reflecting temporary weakness in a few key components), the core PCE price accelerated. In July, the 12-month increase stood at 1.6% and the 3-month annualized increase stood at 2.2%. Tight labor markets, anchored inflation expectations, and pass-through from tariffs are expected to raise the 12-month increase in the core PCE price index to 1.9% by December and the 3-month annualized increase to 2.5% by then. All currently planned tariffs are informing this forecast, including the latest rounds announced in August.



Real GDP growth transitions to below-trend in 2021

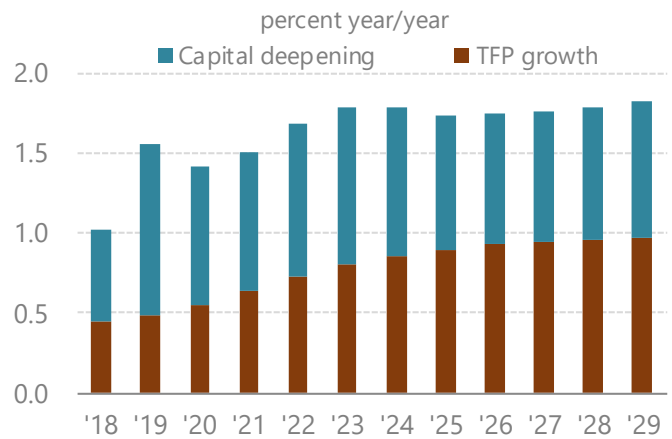
On the supply side of the economy, we project full-employment (or “trend”) GDP growth of 2% per year over the coming decade—one tenth lower over the first five years, one tenth higher over the last five—but with a shift in composition from growth in the labor force towards growth in productivity. Growth of full-employment productivity is projected to rise from 1% in 2018 to a peak of 1.7% 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 1.5 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 2020, 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 and a small lift from the 2020 census; (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, rebounds in 2020 to support US exports; and (5) strong increases in US production of crude oil. These positive factors are partly offset by: (1) a cut in vehicle production; (2) a temporary negative “accelerator effect” on investment arising from GDP growth slowing in early 2019; and (3) drag from tariffs.

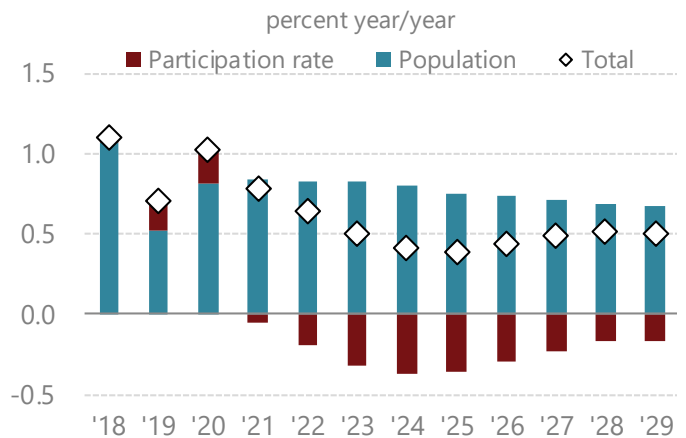
The slowdown after 2020 arises from: (1) waning fiscal stimulus (see Fiscal Policy); (2) lagged effects of recent tariff increases; (3) a reversal of monetary easing starting in late 2020 (4) an upward drift in long-term interest rates as the term premium in Treasury yields gradually normalizes; (5) 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



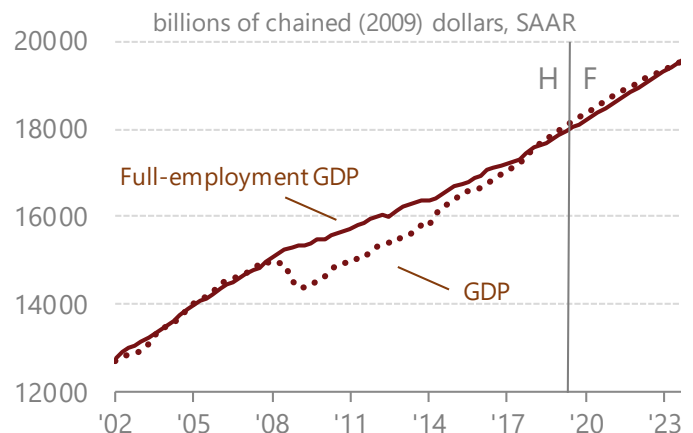
Source: Macroeconomic Advisers by IHS Markit

Growth of the labor force



Source: Macroeconomic Advisers by IHS Markit, BLS

Real GDP



Source: Macroeconomic Advisers by IHS Markit

Two fed rate cuts (later reversed), additional tariffs

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 until July 2021, is raised then uneventfully.

Monetary policy: The Fed cuts the federal funds rate twice, in October and January, by 25 basis points, before eventually hiking it 100 basis points, 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 stabilizes its balance this fall and maintains its 2% inflation objective (see Fed Call).

Tariffs: The forecast includes: tariffs on solar panels and metals; a 25% tariff (scheduled to rise to 30% on 1 October) on 44% of goods imported from China; a 15% tariff on most of 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.

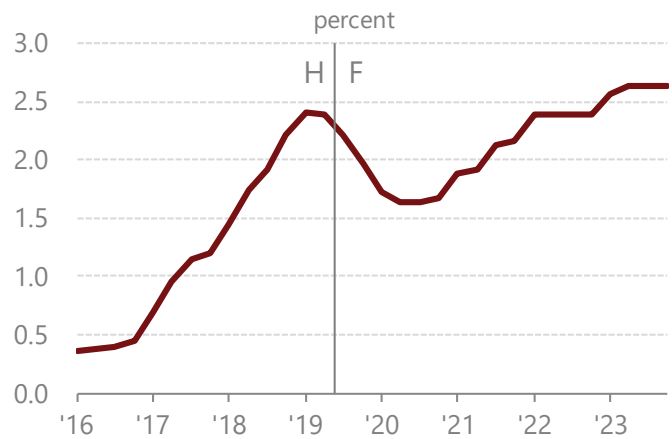
Global: Real, broad, trade-weighted growth of foreign GDP slows from 3.1% (year/year) in 2017 to 1.7% in 2019 before recovering to 2.4% by 2022 (see chart). The trade-weighted foreign bond yield dips in 2019 with slowing foreign growth, before rising to 2.2% by 2026.

Oil prices: The price of Brent crude is projected to fall from \$71 per barrel in 2018 to \$65 in 2020, before rising back to \$70 in 2023. Upward price pressure from US sanctions on Iran and new International Maritime Organization regulations on bunker fuel will be mitigated by rising US production.

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.

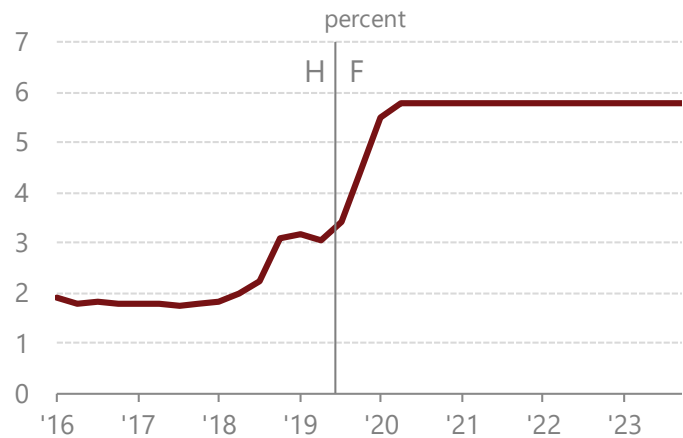
Productivity: In the MA/US model we assume growth of total factor productivity rises from 0.5% in 2018 to 0.9% by 2024, close to the average of the prior two decades). Growth of trend labor productivity rises from roughly 1% in 2018 to 1.7% by 2023.

Federal funds rate



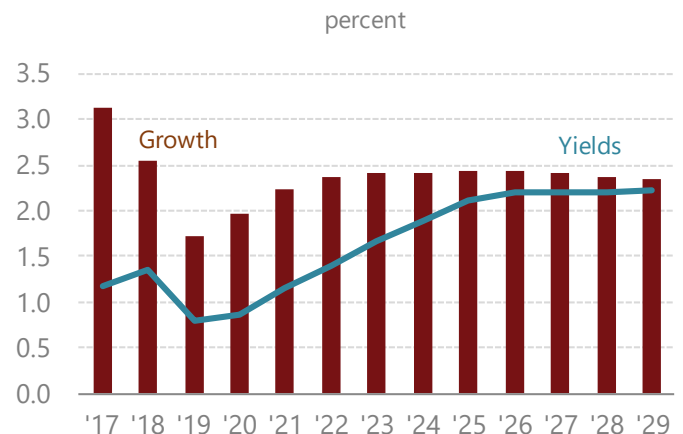
Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

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 135th month, a new record. In this simulation, business fixed investment is weaker than in the baseline. Potential growth as a result is also lower. With demand weak, inflation, as measured by the core consumer price index, has four-quarter growth drop from around 2.7% in the second quarter of 2020 to 2.2% in the second quarter of 2021.

The economy starts out growing only modestly slower than in the baseline. Yet rising prices have left the real estate market vulnerable, and this market's growth has been slowing. The slowdown turns into a decline, as real estate prices correct and confidence plunges. The financial sector shows initial strength, with equity values moving close to the baseline through 2019. However, a growing sense of unease marked by declines in consumer confidence and an inverted yield curve spooks capital markets, resulting in sharp declines in asset values and broad-based declines in business fixed investment. The S&P 500 plummets 7.3% in 2020, not recovering to the baseline levels until late 2024.

Negative wealth effects and employment declines lead households to sharply curtail their spending in early 2020. Foreign growth also slows. The result is a three-quarter recession starting in the third quarter of 2020.

Housing starts bottom out in late 2020 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 2021, catching up to baseline growth in mid-2022 before outpacing it, while business fixed investment catches up with baseline growth in Q2 2021 before moving above it.

The peak-to-trough decline in real GDP during the three quarter recession is a modest 1.9%. The unemployment rate climbs through 2020 and 2021, peaking at 5.8% in the fourth quarter of 2021, then declines over the remainder of the forecast. The Fed responds to the recession by lowering interest rates from Q3 2019 through Q4 2020. With interest rates initially so low, it finds its recession-fighting arsenal lacking. With no capacity to use fiscal policy, the end 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 is 0.8 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; the jobless rate averages 4.0% from 2024–2029. Core personal consumption expenditure (PCE) inflation averages 2.0% over the next ten years, the same as in 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 2021, the lower natural rate of unemployment keeps core PCE inflation at the baseline pace over the next several years. Stronger economic growth and the higher equilibrium federal funds rate allow the Fed to keep rates steady over the next several quarters (rather than cut rates) and resume rate hikes in the second half of 2020. After several additional hikes, 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 2.6% from 2019 to 2029, nearly 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 3.6% during 2020–22. Thanks to improved finances and higher employment, household formation accelerates. This spurs a healthy rise in housing starts, which peak at 1.38 million, above the 1.27-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 \$84.30/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 faster than it does in the baseline over the remainder of the forecast, due to a widening US current account deficit.

	Baseline (55%)	Pessimistic (35%)	Optimistic (10%)
GDP growth	Growth slows to 2.3% in 2019 amid slowing global growth and weaker stock price growth, followed by 2.2% in 2020	Growth slows to of 2.1% in 2019 and then contracts 1.1% in 2020; a four-quarter recession begins in the third quarter of 2020	Growth attains 2.4% in 2019 as productivity picks up, then improves to roughly 0.8 percentage point higher than baseline over forecast interval
Consumer spending	Growth rises to 3.0% in 2019 then slows to 2.6% in 2020	Rises 2.9% in 2019, slows to 1.3% growth in 2020, followed by 1.2% in 2021 amid a broad-based loss of confidence	Growth expands 3.2% in 2019 then jumps to 3.3% in 2020 thanks to faster real income growth
Business fixed investment	Growth is projected to cool to 1.5% in 2019 as nonfarm business sector output slows, then registers 2.9% in 2020	Slows to 1.3% growth in 2019, then drops 7.2% in 2020 as businesses trim capex due to falling demand, recovering 1.4% in 2021	Grows 1.6% in 2019 before swelling to 4.8% growth in 2020
Housing	Gradual improvement, with housing starts rising from 1.19 million in fourth quarter 2018 to above 1.25 million after the end of 2021	Housing starts drop below their baseline levels in 2019 and never surpass 1.1 million units thereafter	Young adults form households in greater numbers, resulting in 1.37 million starts annually by 2028
Exports	Rise 0.1% in 2019 and 4.7% in 2020	Rise 0.1% in 2019 before falling 2.4% in 2020, then rebounding 6.3% in 2021	Rise 0.1% in 2019 and then rise 6.6% 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	The Fed cuts rates twice by early 2020, bringing the upper end of the target range to 1.75%	Fed continues to lower the federal funds rate over the next year, keeping it stable through 2021 before increasing it in 2022	The Fed is not compelled to cut rates further. It begins raising rates in summer 2020. The fed funds rate settles in the range of 3.25-3.50%
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 point below the baseline	Averages 2.3% during 2019–22, 0.8 percentage point above the baseline
Consumer confidence	Rises through mid-2020 after a sharp drop in the third quarter of 2019, before trending down over the remainder of the forecast	Drops early in the forecast; recovers steadily thereafter but remains below baseline throughout forecast interval	Outperforms baseline over the entire forecast interval
Oil prices (Dollars/barrel)	Brent crude oil averages \$65 in 2019 and \$64 in 2020	Modestly lower than the baseline over the forecast interval starting in the fourth quarter of 2019	Averages \$10/barrel higher than the baseline over the forecast interval
Stock markets	The S&P 500 recovers some of its recent losses, gaining 17.9% over 2019 (Dec. to Dec.)	The S&P 500 increases by 17.9% in 2019 before declining 7.3% in 2020 (Dec. to Dec.)	The S&P 500 climbs 20.6% in 2019 and rises 4.1% in 2020 (Dec. to Dec.)
Inflation (PCE)	Core personal consumption (PCE) price inflation rises 1.9% in 2019, then grows at 2.3% in 2020 and 2.1% in 2021	Core PCE inflation is the same as baseline levels till 2021, after which it remains below the baseline through the end of forecast	Despite stronger economic growth, core PCE inflation remains at the baseline throughout the forecast due to the lower natural rate of unemployment
Foreign growth	In 2019, Eurozone growth cools to 1.1%, while China's growth eases 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 strengthens until 2023 before slowly depreciating through the end of the forecast	Appreciates over recession period due to tariffs	Strengthens initially, then depreciates due to wider comparative current account deficit

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

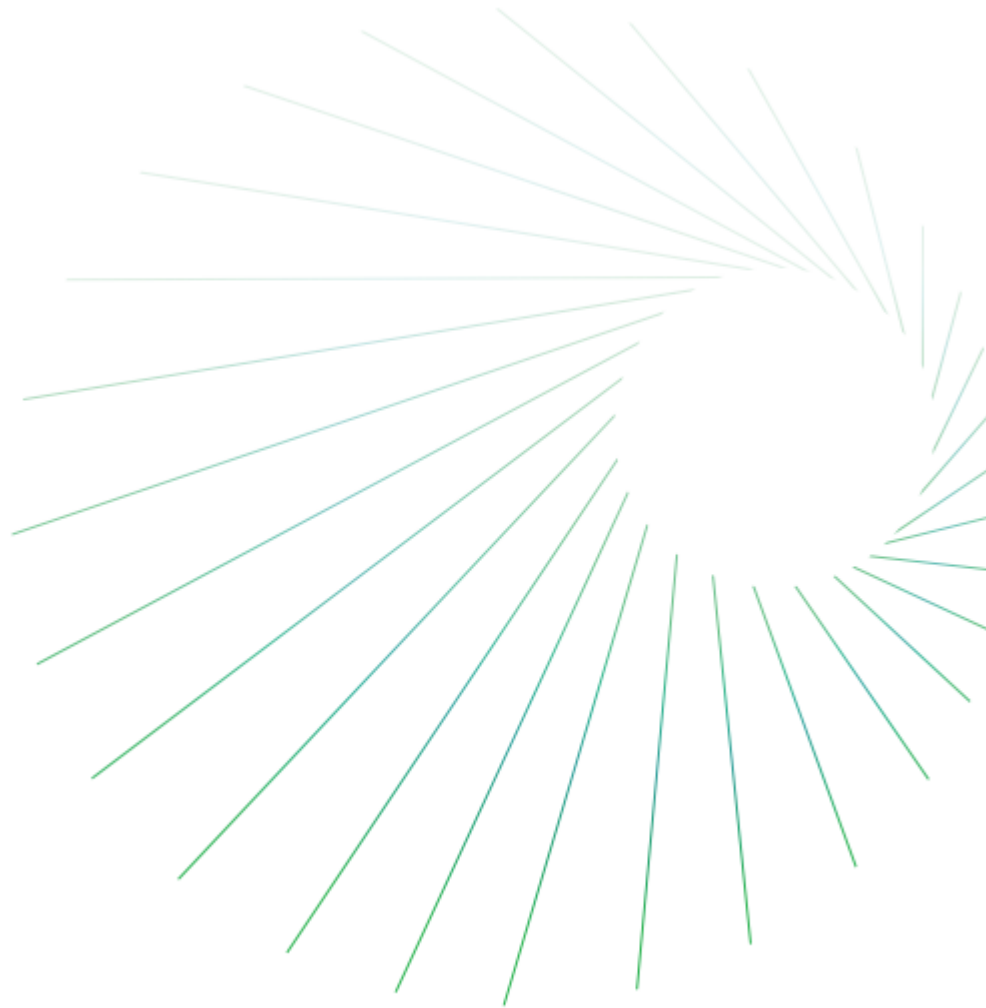
Alternative Scenarios of the US Economy

	Annual rates					Annual averages					Q4/Q4				
	2019:2	2019:3	2019:4	2020:1	2020:2	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	2.0	2.1	1.4	1.3	0.4	2.9	2.3	0.4	-0.2	2.6	2.5	2.1	-1.1	1.8	2.3
Total Consumption	4.7	3.6	2.4	1.8	1.7	3.0	2.7	2.1	0.9	1.9	2.6	2.9	1.3	1.2	2.1
Nonresidential Fixed Investment	-0.6	-2.2	3.7	1.6	-3.8	6.4	2.5	-2.5	-5.3	7.0	5.9	1.3	-7.2	1.4	7.2
Residential Fixed Investment	-2.9	1.7	1.3	-5.9	-13.5	-1.5	-2.2	-6.7	-7.1	2.6	-4.4	-0.3	-12.3	-0.3	1.5
Exports	-5.8	0.3	1.9	14.2	1.2	3.0	-0.1	1.2	-0.6	5.6	0.4	0.1	-2.4	6.3	3.7
Imports	0.1	2.3	1.7	3.8	2.7	4.4	1.7	1.7	-0.1	7.5	3.2	0.6	0.3	3.2	7.4
Federal Government	8.1	1.7	1.3	4.2	6.5	2.9	3.1	3.2	0.1	-0.4	2.7	3.3	2.5	-0.3	-0.8
State & Local Government	2.3	-0.8	0.5	1.6	1.5	1.0	1.3	1.0	1.1	1.1	0.9	1.3	1.4	1.1	1.1
Prices & Wages, Percent Change															
Consumer Prices	2.9	1.9	2.2	2.4	1.9	2.4	1.8	2.2	2.0	2.3	2.2	2.0	2.0	2.2	2.3
Producer Prices, Finished Goods	4.6	0.2	1.3	2.3	1.4	3.1	0.9	1.7	1.4	1.8	2.2	0.9	1.6	1.6	1.7
Employment Cost Index - Total Comp.	2.1	3.1	2.9	2.6	3.1	2.9	2.7	2.8	2.3	2.2	3.0	2.7	2.8	2.1	2.3
Other Key Measures, Percent Change															
Productivity	2.3	0.7	0.5	0.5	-0.5	1.3	1.7	-0.2	1.2	2.5	1.0	1.7	-1.3	3.5	1.4
Total Industrial Production	-2.1	-0.6	-1.8	0.9	-2.2	3.9	0.5	-2.0	-2.5	3.2	4.0	-1.6	-3.6	0.9	2.8
Incomes, Percent Change															
Personal Income	5.5	3.9	4.6	3.6	3.1	5.6	4.8	3.3	1.4	4.2	4.9	5.0	2.0	2.4	4.5
After-Tax Profits (Four-qr.% change)	1.7	2.4	3.6	5.6	-1.0	1.7	1.5	-3.0	-0.1	8.9	9.8	3.6	-9.7	12.0	4.4
	Levels					Annual averages					Q4 values				
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	68.89	62.01	64.49	63.85	61.93	70.96	64.64	61.00	58.69	64.06	67.42	64.49	57.55	61.03	65.31
Nonfarm Inven. Chg. (Bil.2012 \$)	79.8	86.1	32.2	-45.0	-52.0	55.2	81.2	-65.7	-75.4	82.5	103.0	32.2	-101.5	-5.3	94.9
Consumer Sentiment Index	98.5	98.1	99.9	100.3	100.6	98.4	97.7	100.6	100.2	98.1	98.1	99.9	100.6	99.8	96.9
Light Vehicle Sales (Mil. units, saar)	17.00	16.65	16.75	16.44	16.33	17.21	16.81	16.00	15.30	15.83	17.41	16.75	15.39	15.53	16.04
Housing Starts (Mil. units, saar)	1.258	1.213	1.228	1.117	1.040	1.250	1.228	0.988	0.945	1.049	1.185	1.228	0.863	1.014	1.060
Unemployment Rate (%)	3.6	3.6	3.6	3.9	4.0	3.9	3.7	4.2	5.5	5.6	3.8	3.6	4.6	5.8	5.5
Federal Surplus (Unified, FY, bil. \$)	-55.9	-297.3	-336.5	-399.4	-99.3	-779.0	-1044.4	-1120.7	-1250.3	-1318.1	-318.9	-336.5	-350.8	-383.7	-346.9
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.22	1.95	1.55	1.29	1.83	2.24	0.91	0.14	0.27	2.22	1.95	0.14	0.14	0.49
10-Year Treasury Note Yield (%)	2.33	1.73	1.60	1.55	1.45	2.91	2.08	1.41	1.61	2.52	3.03	1.60	1.29	2.03	2.76
	Annual rates					Annual averages					Q4/Q4				
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)															
Composition of Real GDP, Percent Change															
Gross Domestic Product	2.0	1.9	2.5	3.1	3.4	2.9	2.3	2.8	3.0	2.9	2.5	2.4	3.2	3.0	2.8
Total Consumption	4.7	3.5	3.4	3.3	3.0	3.0	2.8	3.4	3.6	3.6	2.6	3.2	3.3	3.7	3.6
Nonresidential Fixed Investment	-0.6	-2.4	5.2	6.4	3.2	6.4	2.6	3.7	5.0	5.2	5.9	1.6	4.8	5.3	5.2
Residential Fixed Investment	-2.9	2.3	1.9	5.4	-1.4	-1.5	-2.1	0.7	-2.9	-0.9	-4.4	0.0	-1.1	-2.1	-0.6
Exports	-5.8	-0.2	2.3	15.3	3.6	3.0	-0.2	5.0	4.2	3.5	0.4	0.1	6.6	4.1	3.2
Imports	0.1	2.2	2.2	6.6	7.1	4.4	1.7	4.9	6.0	5.3	3.2	0.7	6.7	5.5	5.4
Federal Government	8.1	1.7	1.4	4.5	6.8	2.9	3.2	3.4	0.1	-0.7	2.7	3.3	2.8	-0.4	-1.1
State & Local Government	2.3	-1.0	0.8	1.7	1.3	1.0	1.2	1.0	1.0	1.0	0.9	1.3	1.3	1.0	0.9
Prices & Wages, Percent Change															
Consumer Prices	2.9	1.7	2.9	2.8	2.1	2.4	1.8	2.4	2.2	2.2	2.2	2.1	2.3	2.3	2.2
Producer Prices, Finished Goods	4.6	0.1	2.0	2.8	1.8	3.1	0.9	2.1	1.9	2.0	2.2	1.1	2.0	2.0	2.1
Employment Cost Index - Total Comp.	2.1	2.6	2.7	2.9	3.5	2.9	2.6	2.9	3.2	3.3	3.0	2.5	3.1	3.3	3.3
Other Key Measures, Percent Change															
Productivity	2.3	0.4	1.5	2.1	2.2	1.3	1.7	1.7	2.1	2.7	1.0	1.9	2.0	2.3	2.9
Total Industrial Production	-2.1	-0.7	-0.7	3.2	2.5	3.9	0.6	1.4	2.6	2.4	4.0	-1.4	2.8	2.5	2.3
Payroll Employment	1.2	1.3	1.0	1.2	1.4	1.7	1.5	1.2	1.1	0.6	1.8	1.3	1.2	1.0	0.4
Incomes, Percent Change															
Personal Income	5.5	3.4	5.5	4.8	4.9	5.6	4.8	4.9	5.0	5.0	4.9	5.1	4.9	5.0	5.0
After-Tax Profits (Four-qr.% change)	1.7	2.7	5.9	9.2	5.3	1.7	2.1	6.8	6.7	5.9	9.8	5.9	6.3	6.6	5.9
	Levels					Annual averages					Q4 values				
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	68.89	62.01	67.67	69.67	70.33	70.96	65.44	70.83	74.73	77.70	67.42	67.67	71.00	75.72	78.88
Nonfarm Inven. Chg. (Bil. 2012 \$)	79.8	86.1	43.6	-36.5	12.7	55.2	84.0	27.8	88.3	97.9	103.0	43.6	71.1	94.5	97.4
Consumer Sentiment Index	98.5	98.1	101.9	104.4	105.2	98.4	98.2	105.3	106.2	104.0	98.1	101.9	106.0	105.9	103.1
Light Vehicle Sales (Mil. units, saar)	17.00	16.65	16.85	16.83	16.82	17.21	16.83	16.83	16.87	16.99	17.41	16.85	16.83	16.88	17.12
Housing Starts (Mil. units, saar)	1.258	1.220	1.231	1.306	1.285	1.250	1.231	1.275	1.245	1.259	1.185	1.231	1.249	1.253	1.260
Unemployment Rate (%)	3.6	3.5	3.5	3.4	3.2	3.9	3.6	3.3	3.1	3.2	3.8	3.5	3.2	3.1	3.3
Federal Surplus (Unified, FY, bil. \$)	-55.9	-298.4	-335.4	-395.5	-91.4	-779.0	-1045.5	-1088.9	-1077.7	-1128.1	-318.9	-335.4	-318.6	-333.2	-299.5
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.22	2.17	2.17	2.17	1.83	2.30	2.29	2.75	3.11	2.22	2.17	2.42	2.89	3.11
10-Year Treasury Note Yield (%)	2.33	1.73	2.25	2.40	2.55	2.91	2.24	2.62	3.24	3.84	3.03	2.25	2.85	3.48	4.03

Source: IHS Markit

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A Deeper Dive



Unemployment rate near cyclical low with employment gains slowing

Slowing growth in production and the dearth of qualified workers are contributing to a material slowing in employment gains. Over 2018, monthly payroll gains averaged nearly 225 thousand, while through July of this year they averaged 158 thousand. Even with a projected further slowing, job gains are expected to exceed growth of the labor force and push the unemployment rate down to a cyclical low of 3.5% by later this year. We expect the unemployment rate to begin to drift upward in late 2021, as employment gains continue to slow in an economy that by then will be growing below trend.

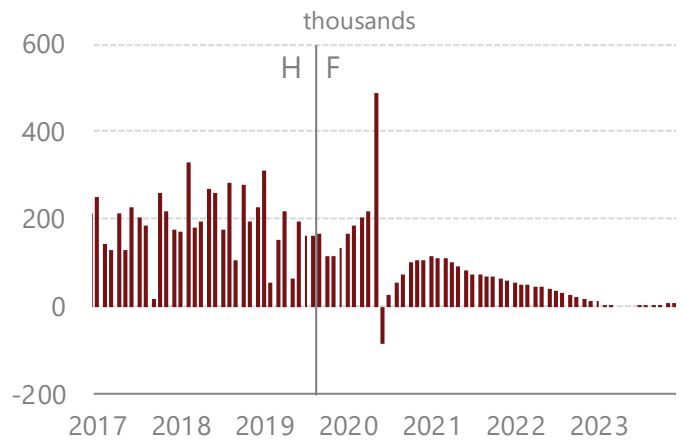
Nonfarm payrolls rose a soft 130 thousand in August, with private payrolls rising only 96 thousand. Payroll gains are projected to average about 130 thousand per month over the remainder of 2019. In the Household Survey, the unemployment rate remained at 3.7%, just balancing a massive 571 thousand surge in the labor force and 590 thousand jump in employment.

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 2.6% 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 1.5% over 2019–2023.

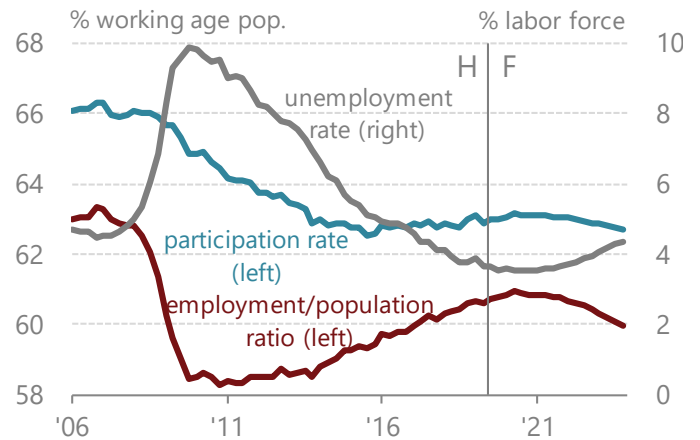
We continue to project that the labor force participation rate will attain a quarterly peak at 63.2% (its August value) in mid-2020. There is some upside risk to the projected peak. Nevertheless, that rise reflects the gradual unwinding of the remaining “discouraged-worker” effects still present in the 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



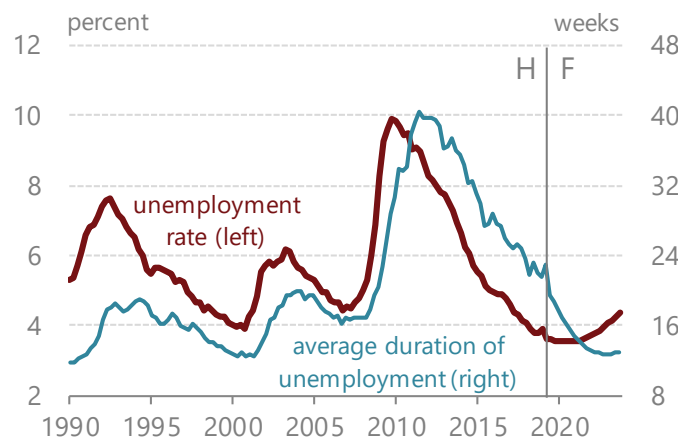
Source: Macroeconomic Advisers by IHS Markit, BLS

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

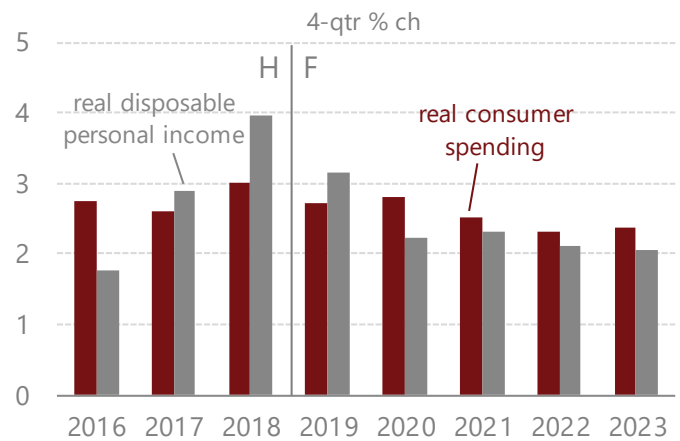
Sturdy wage growth but volatile markets

According to the BEA's second estimate, real disposable personal income (DPI) grew at a 2.5% annual rate in the second quarter of 2019, a step down from the first quarter's 4.5% rate but unchanged from the advance estimate. Personal income growth flagged in July, with its 0.1% increase the slowest pace since last September. However, this came on the heels of a vigorous 0.5% increase in June. Wage and salary growth was 0.2% in July, and its twelve-month change was a solid 5.2%, as labor markets remain tight. As a result of consumer spending outpacing personal income in July, the saving rate decreased 0.3 percentage point to 7.7%. The saving rate had been revised sharply upward in previous months and remains higher than during most of 2016-2018, still implying ample "room to run" for consumers.

The August employment report held further evidence of steady wage growth. Despite a payrolls total that was below expectations, average hourly earnings rose a robust 0.4%, and previous months' figures were revised higher; the 12-month gain stood at 3.2%. Our real DPI forecast for 2019 has increased by 0.3 point to 3.0% (Q4/Q4). We are forecasting 2.2% growth in 2020, 0.8 percentage point beneath last month's forecast, and 2.2% in 2021, 0.3 point lower. These markdowns stem primarily from the various effects of the tariff escalations announced in August: modestly slower economic growth, lower interest rates, and faster inflation.

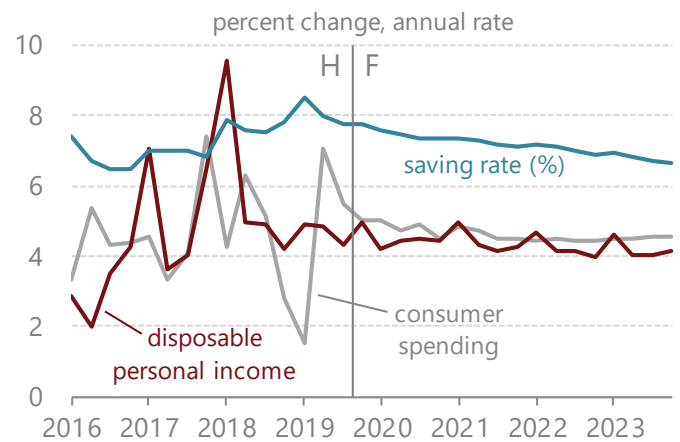
Amid the escalating trade tensions, the S&P 500 Index fell 1.8% in August. This forecast includes a lower path of share prices than last month, which flows through to household holdings of financial assets. Household net worth is forecast to grow 8.5% in 2019 (Q4/Q4) compared with last month's 9.4%.

Real income and consumption



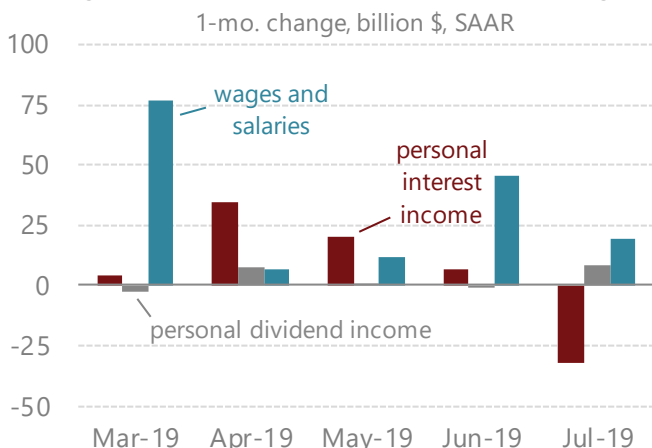
Source: Macroeconomic Advisers by IHS Markit, BEA

Saving soared in Q1



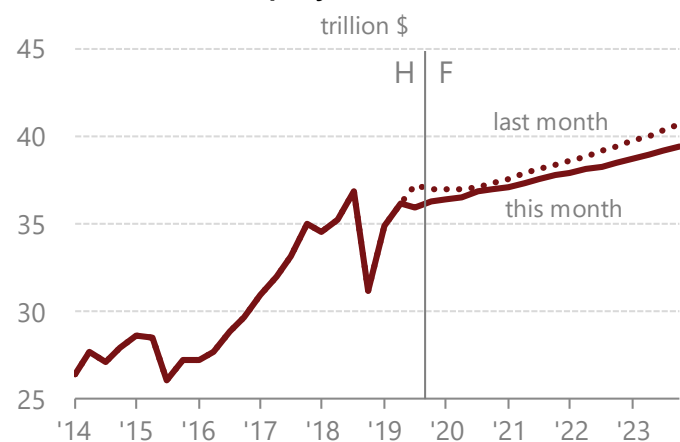
Source: Macroeconomic Advisers by IHS Markit, BEA

Wages & salaries drive recent income gains



Source: Macroeconomic Advisers by IHS Markit, BEA

Equity net worth



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

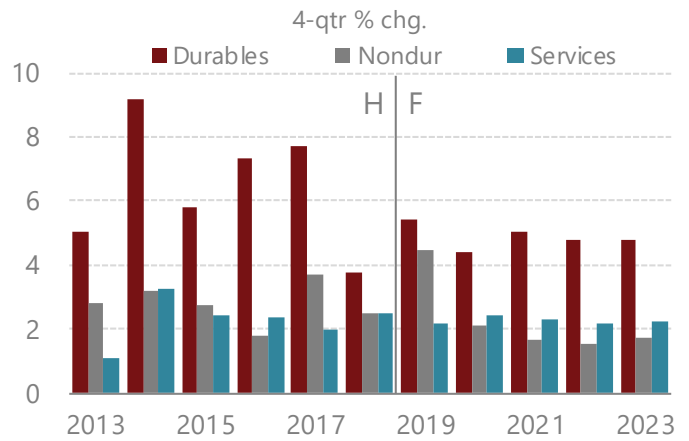
US consumers in the driver's seat

According to the BEA's second estimate, real personal consumption expenditures (PCE) grew 4.7% (annual rate) in the second quarter, up 0.4 percentage point from the advance estimate and the fastest rate since Q4 2014. This followed tepid 1.1% growth in the first quarter—the slowest in six years. The underlying trend in consumer spending is between the two, and consumers are set to remain potent drivers of the economic expansion, supported by the still-strong job market.

Real PCE grew 0.4% in July, a strong start to the third quarter, with broad spending increases led by durable goods. August light-vehicle sales were also considerably better than expected, at a 17.0 million-unit seasonally adjusted annual rate. Measures of consumer mood have been mixed, with the Conference Board's Consumer Confidence Index remaining elevated in August while the University of Michigan Consumer Sentiment Index plunged. We look for real PCE to grow 3.0% this year (Q4/Q4), up 0.3 percentage point from last month.

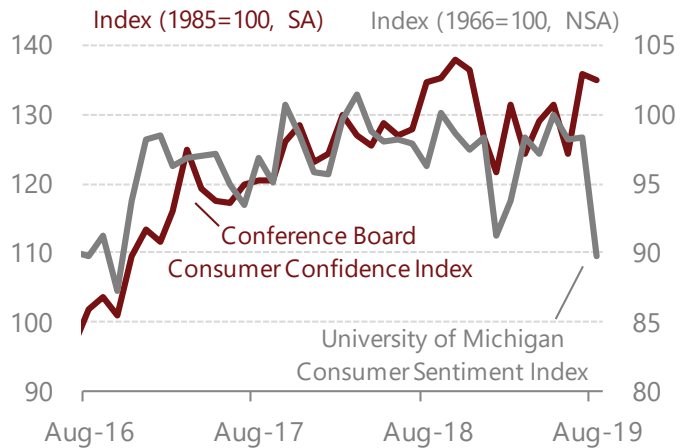
The outlook for consumer spending beyond this year has worsened, mainly owing to the escalating trade war with China. The US is currently set to subject the remaining goods imports from China to 15% tariffs in two phases (1 September and 15 December), and to raise the tariff rate by 5% on goods already affected by tariffs on 1 October. The goods targeted in the new lists are weighted more toward consumer items—especially clothing/footwear and electronics—than previous lists and imply a greater effect on consumer goods prices. The tariffs are expected to temporarily raise core PCE inflation by 0.2 percentage point in 2020. We now expect PCE growth of 2.6% in 2020 and 2.4% in 2021, each a 0.3-percentage-point downgrade from last month.

Real consumer spending



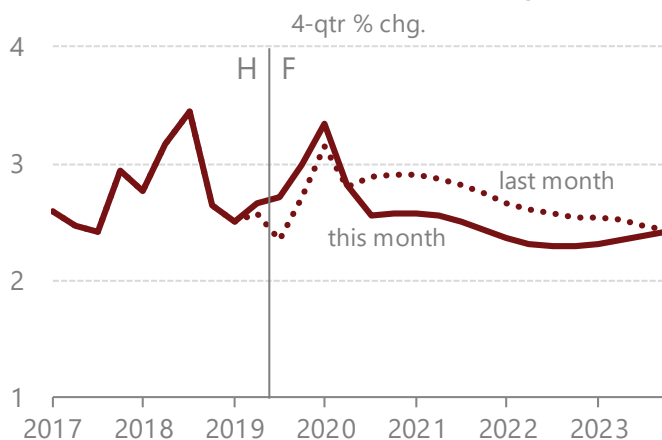
Source: Macroeconomic Advisers by IHS Markit, BEA

Consumer Confidence and Sentiment



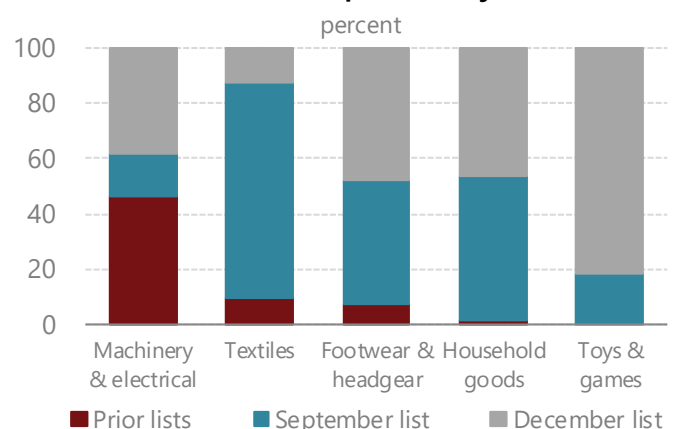
Source: Conference Board, University of Michigan

Real consumer spending



Source: Macroeconomic Advisers by IHS Markit, BEA

Share of Chinese imports subject to tariffs



Source: IHS Markit

Troubles with 737 MAX lead to volatility in inventory investment

At \$116 billion, inventory investment was elevated in the first quarter of this year. And while inventory-building slowed to \$69 billion in the second quarter, it remained above a pace that would stabilize the inventory-to-sales ratio at a level desirable to firms given the trend in final sales. The second-quarter pace of inventory investment, though, was boosted by developments at Boeing, where deliveries of aircraft were reduced by about 25 per month, but where production of aircraft was reduced by only 10 per month. This boosted the pace of second-quarter inventory investment by roughly \$25 billion.

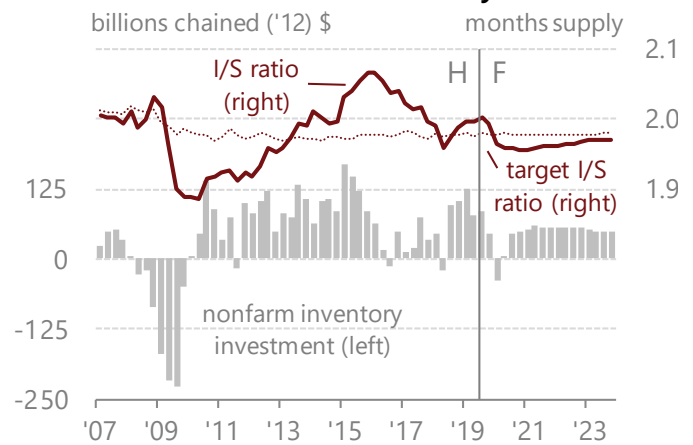
In this forecast, we assume that deliveries remain below baseline by 25 aircraft per month through December, while production remains 10 aircraft below baseline through September and then is cut further to be 20 aircraft below baseline per month through December. The further slowdown in production beginning in the fourth quarter lessens to boost to inventory investment stemming from troubles at Boeing.

Finally, for purposes of this forecast, we assume that deliveries of 737 MAX aircraft are allowed to resume in January of next year. Therefore, all deliveries forestalled during 2019 as well as deliveries originally contracted for early 2020 are expected to lead to a surge in final sales and sharp subtractions from inventories over the first half of next year, a pattern that was not in our forecast just two months ago. This is the primary impetus behind the inventory drawdown and sharp recovery in 2020.

Outside of aircraft, inventory investment follows a pattern we've expected for several months. Excessive inventory-building late last year and early this year has led to an overstock (relative to final sales) and an economy-wide desire to slow the pace of inventory investment, which is playing out now. After 2020, inventory investment is expected to rise to a pace that affects a gradual upward drift in the inventory-to-sales ratio to our estimate of the optimal level.

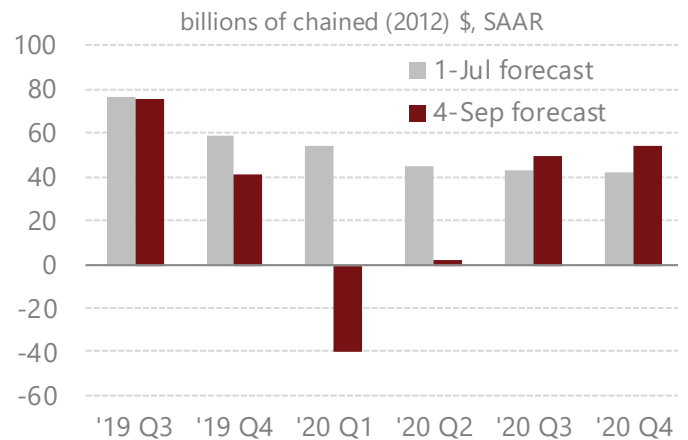
In the auto sector, a couple of months of strong sales recently has lowered days supply to below 70 days. Industry production schedules issued in early August along with our forecast of a gradual slowing in light vehicle sales raises days supply to about 73 days by the end of September. Then, an assumed cut in auto production in the fourth quarter puts days supply on a downward drift through December.

Nonfarm I/S ratio & inventory investment



Source: Macroeconomic Advisers by IHS Markit, BEA

Real change in private inventories



Source: Macroeconomic Advisers by IHS Markit, BEA

Autos and light trucks days' supply



Source: Macroeconomic Advisers by IHS Markit, BEA, Wards

Capital spending slowing; trade policy uncertainty looms large

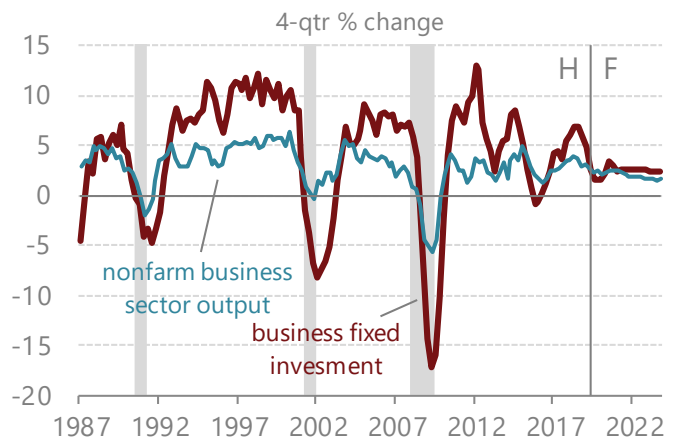
After rising 6.4% last year, on a year-over-year basis, nonresidential fixed investment is expected to slow to growth of roughly 2.5% from 2019 through 2023 (give our take a tenth or two). This slowing primarily reflects a slowing in nonfarm business-sector output from growth of 3.5% last year to 2.7% this year, 2.4% next year, and an average of 1.8% over the following three years. As output and sales slow, business slow the pace of capital accumulation so that capacity slows along with sales.

The slowing in nonresidential fixed investment is broadly based. Following positive contributions to growth of capital spending over 2017 and 2018, business fixed investment in structures is projected to decline this year and next and is little changed over the balance of the forecast. Growth of spending on business equipment slows sharply, from 6.8% last year (year-over-year) to 1.5% this year, but then picks up, yet still remaining well below last year's pace. Investment in intellectual property products is robust this year (8.2% growth), but then slows over the balance of the forecast.

While slowing growth of output is the primary factor shaping business fixed investment, other factors are playing a role as well. Uncertainty about trade policy has been weighing on capital investment plans recently, and the latest round of China tariffs and counter tariffs has raised trade policy uncertainty in August — as measured by Baker, Bloom, and Davis — to the highest level since the mid-1990's. We expect attitudes about risk (including trade policy uncertainty) to improve in the forecast, as indicated by a narrowing risk spreads in corporate debt yields. This will support capital spending in the coming years.

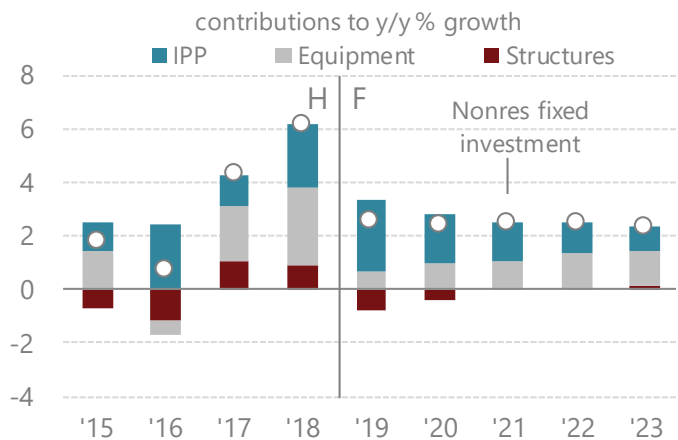
Over the next few quarters, business fixed investment is depressed by suspended deliveries of Boeing's 737 MAX line of aircraft, roughly 25% of which would have fed into domestic capital spending. In this forecast, we assume that the suspension lasts through December and is lifted in January. By that time, and by our estimation, roughly 240 deliveries will have been forestalled, with about 60 of them originally planned for domestic investment. We assume two-thirds of these forestalled domestic deliveries are shipped in the first quarter of 2020 and one-third are shipped in the second quarter. We further assume that domestic deliveries originally contracted for the first half of 2020 are fulfilled according to plan. This leads to a jump in the growth rate of equipment spending in the first quarter of next year followed by a sharp slowing of growth in the second quarter.

Nonres fixed investment & business output



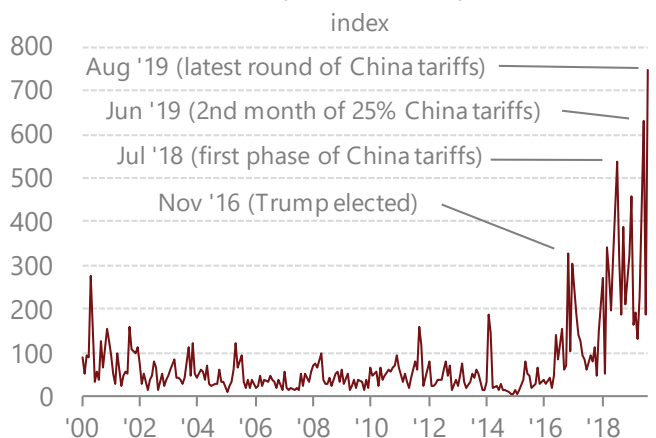
Source: Macroeconomic Advisers by IHS Markit, BEA

Growth of nonresidential fixed investment



Source: Macroeconomic Advisers by IHS Markit, BEA

Economic policy uncertainty index: trade



Source: Baker, Bloom and Davis, www.PolicyUncertainty.com

The housing market's response to plunging interest rates: lukewarm

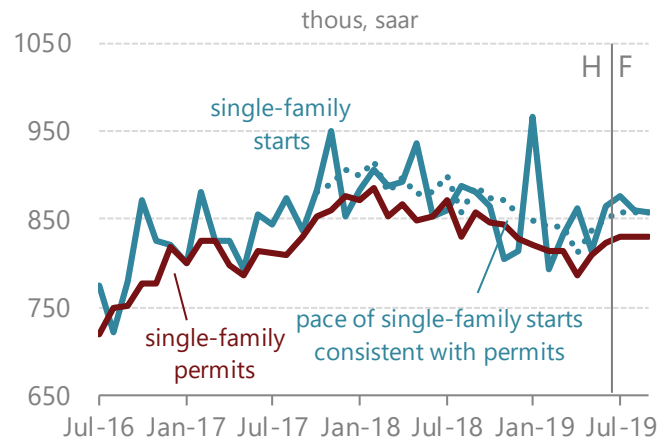
The 30-year fixed rate mortgage fell to 3.49% in the week ending 5 September, just 18 basis points above the all-time low set in November 2012 and a 145-basis point plunge from last November. The plunge made housing more affordable and ended a year-long housing market slump. But a recovery has yet to play out. Existing homes sales have picked up but remain lackluster compared with sales in 2016 and 2017; single-housing permits appear to have bottomed, but also remain below 2017 and 2018 levels. And although this forecast included a 1.7% rise in residential investment in the third quarter, weak employment growth in remodeling in the latest employment report points to a much weaker, 0.5% annualized decline.

Home prices increased in all 50 states and the District of Columbia between the second quarter of 2018 and the second quarter of 2019. Idaho remained in the lead for the fourth quarter in a row with growth registering at 11.4% y/y in the second quarter. On a national level, home prices rose in all the 100 largest metropolitan areas, ranging from 13.6% y/y growth in Boise City, Idaho, to 0.5% in the Ventura, California, metropolitan area. Home price growth is expected to moderate from the feverish pace of the past few years and eventually settle at just under 3% growth.

Mortgage delinquencies remain at historically low levels, despite increases in the first and second quarters. The Mortgage Bankers Association (MBA) believes that weather events in some states—heavy rains, flooding, extreme heat, and tornadoes—may also have pushed some borrowers into arrears.

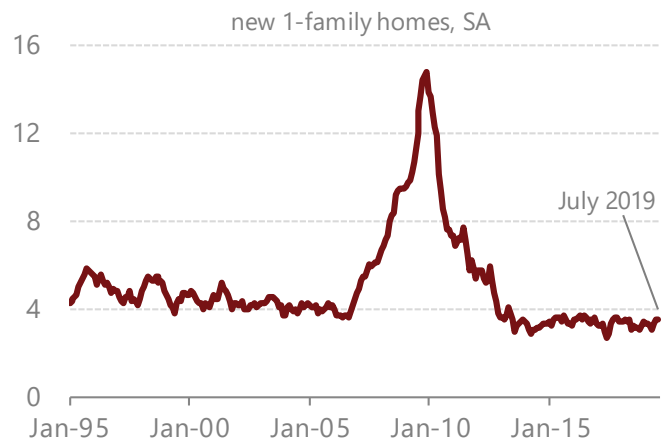
Housing starts are marginally different in this forecast compared to the last, totaling 1.228 million this year (previously 1.236 million), 1.239 million in 2020 (previously 1.233 million), and 1.234 million in 2021 (previously 1.255 million). Residential investment will mostly be a small drag on growth over the next 5 years, deducting 0.05 percentage point per year from GDP growth, despite a forecast in which the 30-year mortgage rate stays below 5.0%. Home sales, the sum of new and existing, are forecasted to climb to 6.24 million units in 2020 up from 6.0 million this year and a small upgrade from last month's 6.13 million; housing becoming more affordable accounts for the upward revision.

Single-family starts and permits



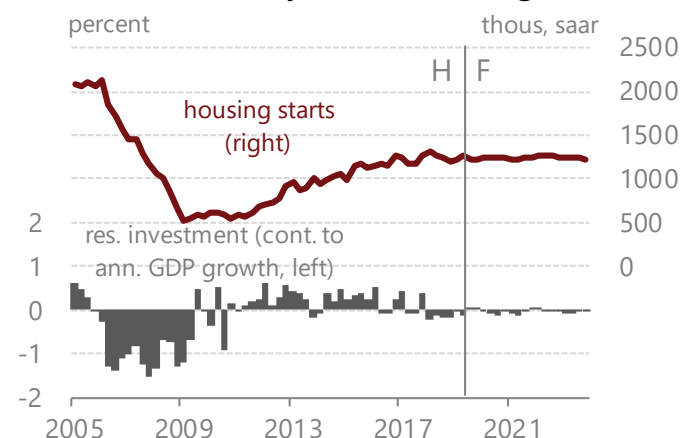
Source: Macroeconomic Advisers by IHS Markit, Census Bureau

Median months on market



Source: Census Bureau (SA by IHS Markit)

Slow recovery in starts through 2021



Source: Macroeconomic Advisers by IHS Markit, Census, BEA

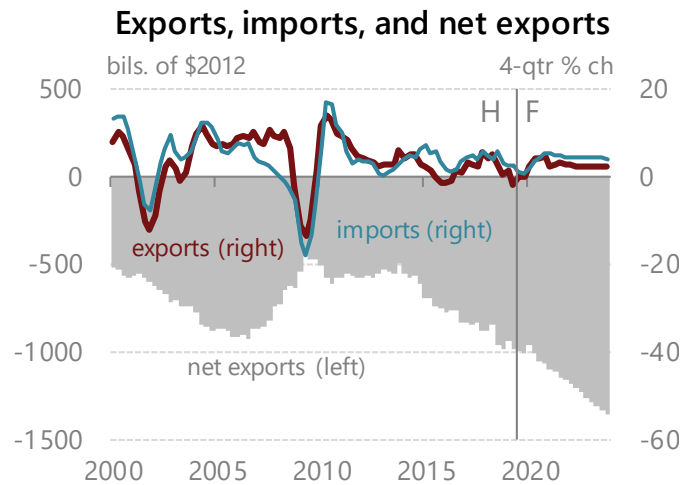
Strong dollar puts downward pressure on net exports

According to BEA's second estimate, real net exports of goods and services declined \$39 billion in the second quarter of 2019, enough to subtract 0.7 percentage point from second-quarter GDP growth. Net exports subtract an average of 0.2 percentage point from GDP growth over the balance of this year. A jump in exports in the first quarter of next year, reflecting our assumption that exports of the Boeing MAX 737 resume at that time, contribute to a strong quarter for net exports that adds 0.8 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. On average, net exports subtract 0.3 percentage point from GDP growth per quarter through 2023.

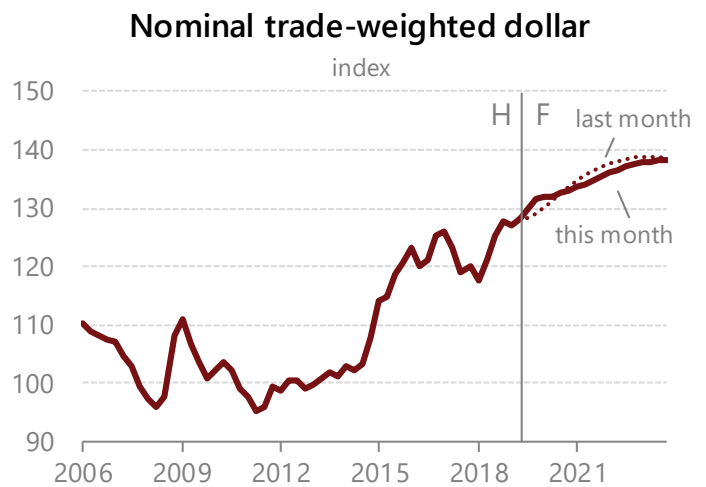
The nominal broad dollar appreciated sharply over most of 2018, as US trade tensions intensified and as US interest rates rose relative to those abroad. The dollar eased somewhat late last year and generally trended sideways through late April. Since then, the dollar has moved along with trade tensions between the US and China, turning up in May as those tensions flared before easing in June as tensions eased somewhat. Since the end of July, the dollar has appreciated sharply, as trade tensions escalated in early August. Looking ahead, we expect the broad nominal dollar to appreciate another 6%-7% by the end of 2023.

As in last month's forecast, the elevated dollar and a recent slowing in global growth exert downward pressure on exports. We expect export growth to average just 0.1% this year before firming to 4.7% next year, helped by the resumption of Boeing exports of 737 MAX aircraft. Export growth then moderates to an average of 2.5% over 2021–2023. At the same time, a strong dollar boosts imports, where growth is expected to firm, from 0.6% this year to 5.3% next year before moderating to a still-solid 4.3% averaged over 2021–2023.

This forecast includes previously enacted US tariffs on \$250 billion of goods imported from China. As of this month, this forecast also includes newly announced tariffs, including a 15% tariff on the remaining imported goods from China, taking effect in two steps (1 September and 15 December). In addition, the tariff rate already imposed under Section 301 will increase from 25% to 30% as of 1 October. This forecast reflects all retaliatory tariffs from China to date, including the most recent announcement for additional tariffs on \$75 billion of US exports, also taking effect in two steps on 1 September and 15 December.



Source: Macroeconomic Advisers by IHS Markit, BEA



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve



Source: Macroeconomic Advisers by IHS Markit, BEA

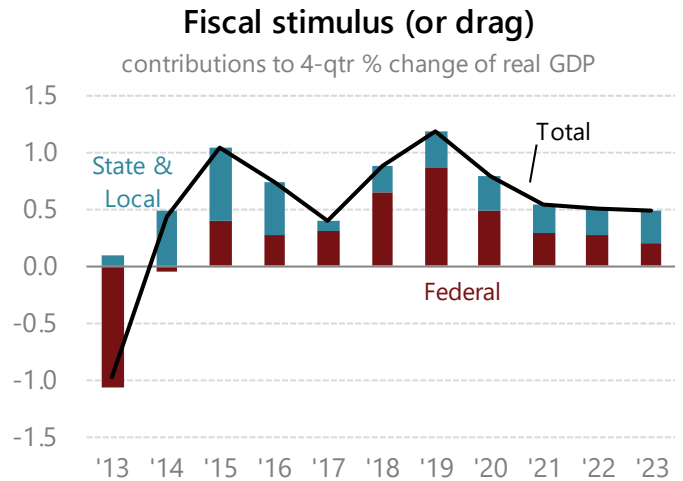
Budget deal implies bigger deficits, except...

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 just over one percentage point this year before then receding to 0.5 percentage point by 2022 (see chart).

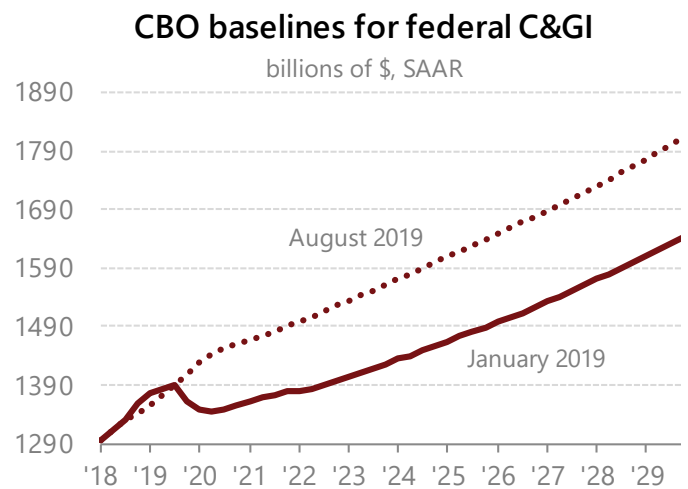
In August CBO updated its Budget and Economic Outlook to reflect, among other recent developments, the enactment of the Bipartisan Budget Act of 2019. BBA19 sets budget authority (BA) for fiscal years (FY) 2020 and 2021 approximately \$50 billion above BA in FY19, suspends the debt ceiling until July of 2021, and disallows “poison pills” in pending appropriations bills.

Relative to CBO’s January “current law” baseline, which showed a 10% cut in BA required under the Budget Control Act of 2011 (BCA111), the August baseline shows an increase in federal consumption and gross investment of about \$100 billion by the end of 2021. Under CBO’s rules for constructing the baseline, this difference is then maintained in inflation-adjusted terms, widening in nominal terms to \$150 billion by 2029 (see chart). Therefore, the Agency projects that BBA19 will add \$1.7 trillion to federal debt over the next decade. However, CBO revised down its projection of interest rates dramatically. In 2020, new assumptions for the 10-year note yield are 140 basis points below January’s line, and remain 60 basis point below it in 2029 (see chart). This generates \$1.4 trillion in cumulative savings, offsetting nearly all the additional cost of BBA19!

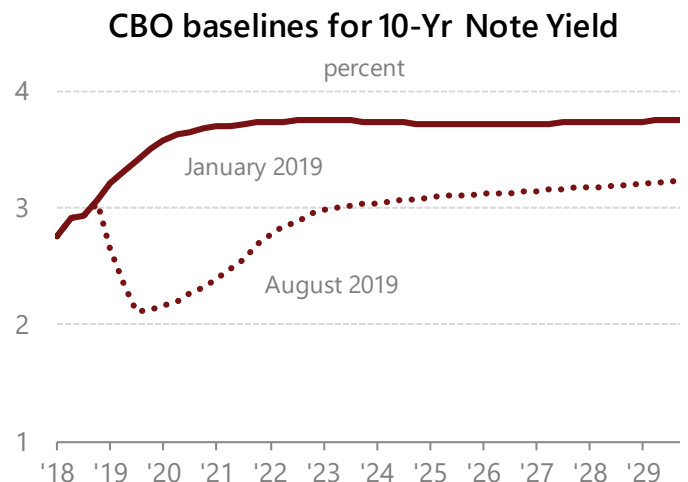
Because it suspends the debt ceiling and allows spending increases rather than requiring the spending cuts implied by BCA11, BBA19 mitigates downside fiscal risks that had been weighing on the outlook. It does not, however, eliminate them entirely. In particular, to avoid a federal shutdown on 1 October and automatic spending cuts in FY21, Congress must finish work on (and the President sign) twelve regular appropriations bills or, more likely at this point, fund the government temporarily through a continuing resolution (CR) while negotiations on the budget for FY20 are completed. The House has passed ten of the twelve bills but the Senate has yet to begin work on them. Ahead may be a bruising battle over funding for the Department of Homeland Security (with jurisdiction over immigration issues, including “the wall”) that could culminate in another shutdown. We assume—perhaps optimistically—these speedbumps are circumvented without incident.



Source: Macroeconomic Advisers by IHS Markit



Source: CBO



Source: CBO

Core inflation is firming

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 some temporary factors. However, core inflation has firmed after a slowdown over the second half of last year and into early 2019. The annualized 3-month change in the core PCE price index rose sharply to 2.4% as of June, up from 0.5% as recently as March. Increases in price indices covering financial services, healthcare, airline transportation, and certain apparel components contributed to the recent firming in core inflation.

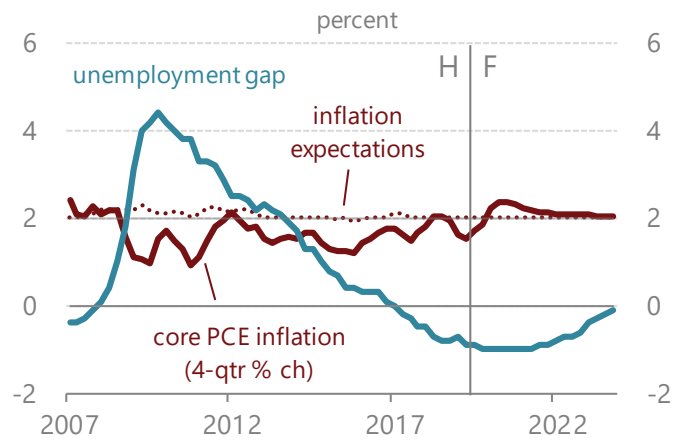
We expect the core PCE inflation rate (quarterly change at an annual rate) to rise to 2.3% in the third quarter, up from an average of 1.5% over the prior four quarters. Looking beyond the third quarter, we expect the trend in core PCE inflation to settle in slightly above 2.0% for the next few years. By year, we expect core PCE inflation to rise from 1.9% in 2019 to 2.3% in 2020, and settle at 2.1% in 2021 and 2022.

This forecast reflects newly imposed 15% tariffs on a range of consumer goods imported from China and not previously subject to tariffs, in two steps, effective 1 September and 15 December. It also includes the increase in the tariff rate from 25% to 30% on imports from China already subject to section 301 tariffs, effective 1 October. The long-term impact on inflation from this source is minimal, but price increases stemming from such tariffs raised our near-term projections of PCE inflation. For example, core PCE inflation in Q4 of this year is 0.2 point higher, and inflation is 0.4 point and 0.3 point higher in Q1 and Q2 of next year, respectively.

Movements in energy and other commodity prices are expected to be a minor factor in broad inflation trends over the next couple of years. The PCE price index for energy is projected to decline at a 3.3% rate over the second half of this year, edge down another percentage point next year and rise roughly 3.5% in both 2021 and 2022. The overall PCE price index is projected to rise 1.7% this year, followed by 2.2% in 2021 and 2022.

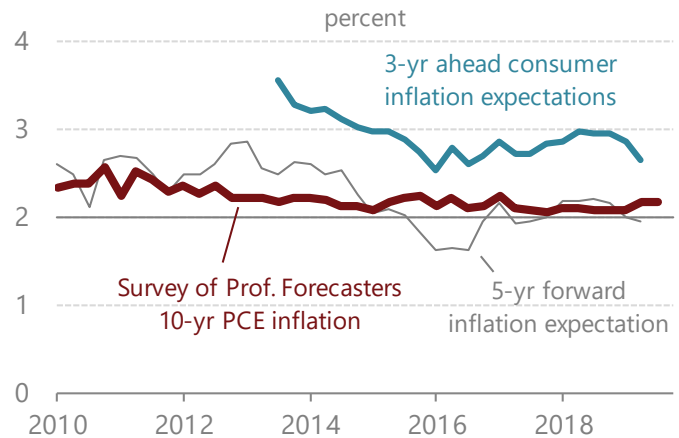
By some measures long-run inflation expectations remain well-anchored and consistent with the Fed's 2% inflation objective. However, some policymakers have pointed to lower readings on market-based measures of inflation compensation as an indication that inflation expectations could soften. With tight labor markets and inflation poised to rise to slightly above 2% on a sustained basis, we judge the risk of this happening as low.

Core PCE inflation is on the rise



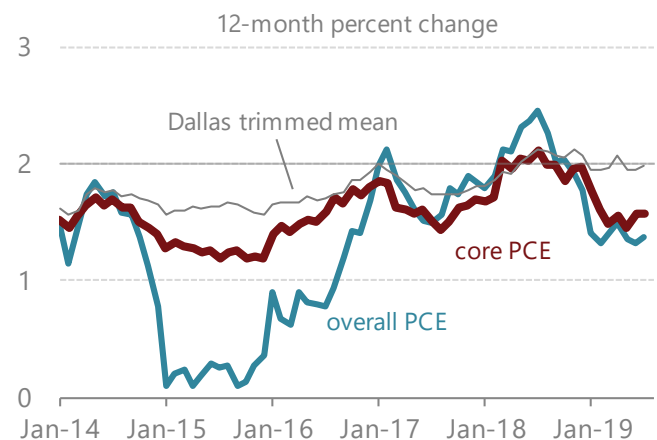
Source: MA by IHS Markit, BLS, Philly Fed Survey

Inflation expectations near 2%



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

Some inflation measures below 2%



Source: Bureau of Economic Analysis, Dallas FRB

Fed to add more accommodation in 2019

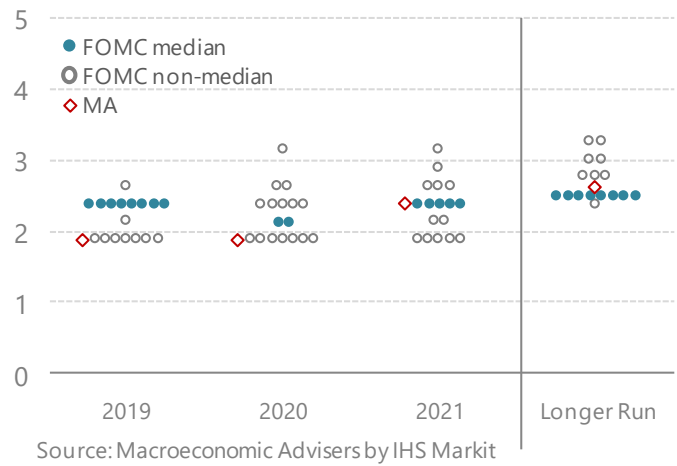
Chairman Powell and some colleagues on the Federal Open Market Committee (FOMC) appear poised to inject additional accommodation in the form of cuts to the target for the federal funds rate. The FOMC voted to cut the funds-rate target by a quarter-point to a range of 2% to 2¼% at the meeting that ended on 31 July. We anticipate there will be two more quarter-point cuts, which will eventually lower the funds rate target to a range of 1½% to 1¾%. Fed rate cuts can be viewed as a form of insurance against potential fall-out from downside risks, including heightened uncertainty over the effects of higher tariffs and the trade war with China, the risk of a slowdown in global growth, and other geopolitical risks, including the extraordinary series of events surrounding Brexit.

At the time the forecast covered by this report was prepared, we assumed that additional Fed rate cuts would take place in October and January. Chairman Powell, speaking at event in Zurich Switzerland on the 6th of September, left the door open to rate cuts (as we anticipated), and did not talk down expectations that the next rate cut could occur as soon as the meeting that ends on 18 September. Hence, we adjusted our Fed outlook slightly to reflect that the next two rate cuts will occur about one month earlier than previously anticipated, in September and December, respectively. This tweak had no effect on our overall economic forecast. It should be noted that there is a range of views about the appropriate stance of monetary policy among members on the FOMC. There is likely to vigorous discussion and some formal dissent at the upcoming meeting this month.

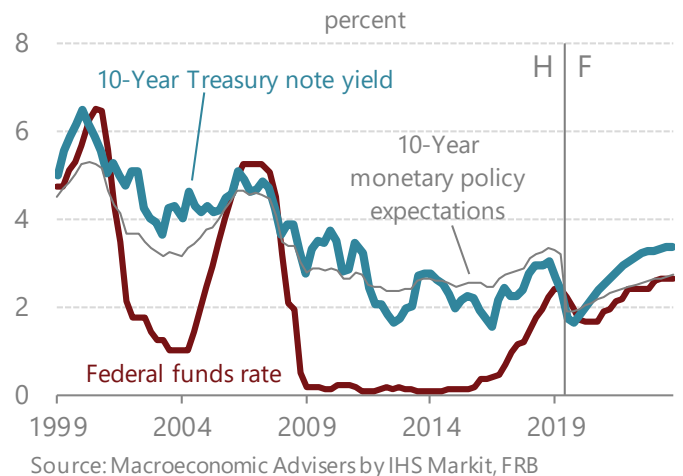
Our base outlook continues to anticipate broadly trend-like GDP growth over the next few years, strong labor markets (albeit with some moderation in the pace of employment gains), and a rise of inflation to slightly above 2%. The Fed rate cuts in 2019 are likely to be reversed within the next one to two years if our relatively benign base forecast proves accurate. Hence, we continue to anticipate that the target for the federal funds rate will be pushed back above 2% in 2021.

Investor expectations, as reflected in fed funds futures and overnight index swaps, anticipate approximately another 75 basis points of Fed rate reduction by early 2020 and for the funds rate target to remain well below 2% for an extended period. We expect these expectations will change over time to better align with our forecast for somewhat less accommodation in amount and duration, resulting in higher bond yields over time.

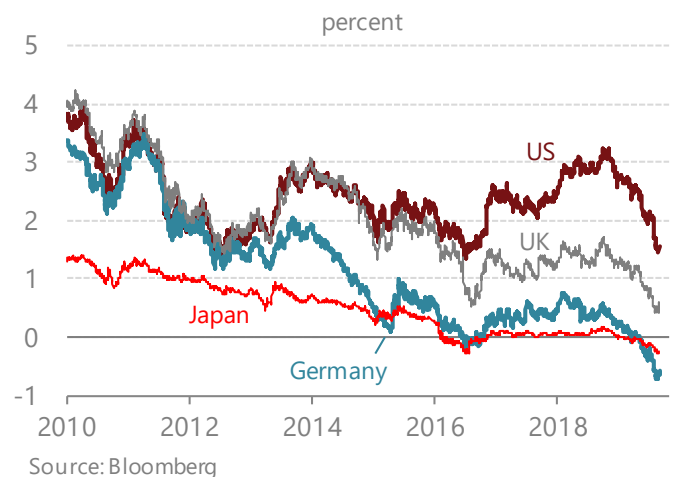
FOMC dots and MA funds rate forecast



Bond yields to increase only gradually



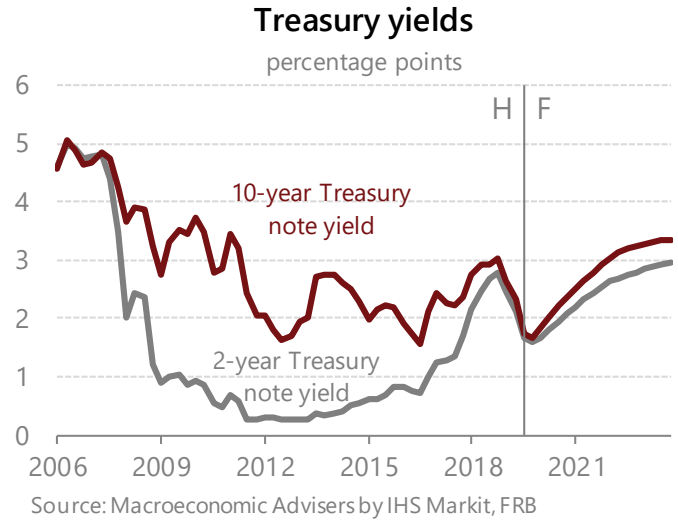
Global bond yields drift further negative



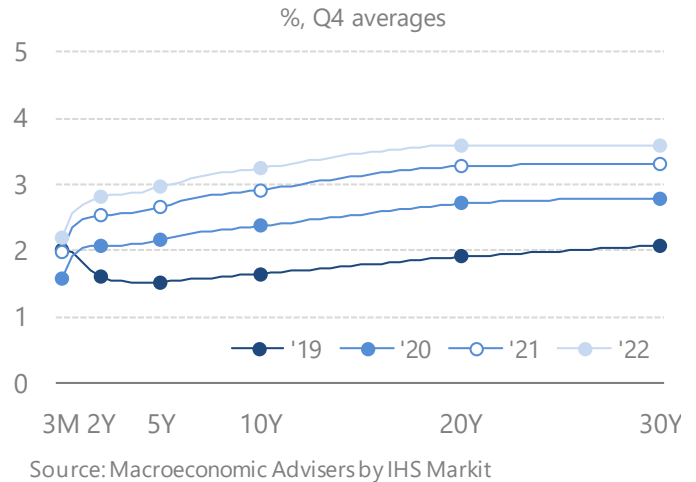
Treasury yields at very low levels

Treasury yields fell sharply over the month of August. As the FOMC announced its decision on the afternoon of 31 July, the 10-year Treasury yield was trading near 2.03%, down from 2.13% approximately 3 weeks earlier. Following the FOMC announcement and the Chairman's remarks that afternoon, the 10-year yield edged down only another basis point. This relatively muted response was followed by sharp declines over the next few trading days, in response to the threat by President Trump to impose additional tariffs on imports from China, a threat on which he subsequently followed through. As of this writing, the 10-year yield is trading near 1.55%, with the two-year yield near 1.53%. The entire Treasury yield curve is below the effective federal funds rate (of approximately 2.13%). The 3-year yield, at 1.46%, is approximately 65 basis points below the funds rate and 40 basis points below the 3-month bill yield, an indication that Treasury investors anticipate additional reductions in short-term interest rates that are (in their view) likely to be sustained. We assume two additional quarter-point rate cuts, consistent with the low level of rates at the front end of the curve.

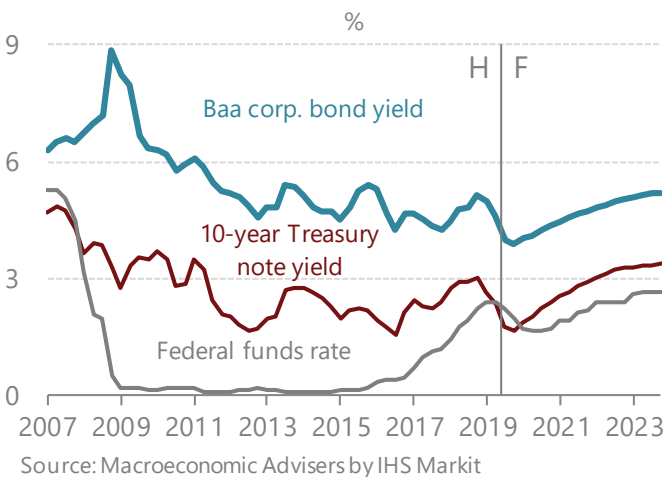
As noted in the discussion of Fed interest rate policy, we believe market expectations have priced in more Fed accommodation over the next couple of years than is warranted given current data and economic forecasts. We anticipate that as investors come to realize that the Fed will not cut aggressively, fixed-income pricing will evolve to incorporate a higher expected path for the federal funds rate. This will result in upward pressure on Treasury yields that, in our view, will more than offset downward pressure from low global bond yields. We project that the 10-year Treasury yield will return to near 3% by late 2021.



Yield curve falls on trade tensions



Bond yields low



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	3.78	1.16	1.70	2.39	2.76
Rates view	-1.10	0.84	-0.23	-0.41	-0.22	-0.16
Rolldown	0.14	0.13	-0.22	0.03	0.07	0.10
Interest income	1.71	2.81	1.61	2.08	2.54	2.82
10-year T-Note	-2.68	14.93	-3.97	-1.77	0.68	2.67
Rates view	-5.32	11.72	-5.82	-4.39	-2.53	-0.88
Rolldown	0.25	0.16	0.19	0.23	0.27	0.28
Interest income	2.39	3.05	1.66	2.39	2.94	3.27
30-year T-Bond	-5.41	29.64	####	-6.74	-1.87	2.03
Rates view	-8.64	26.18	####	-9.70	-5.23	-1.60
Rolldown	0.39	0.17	0.39	0.15	0.03	0.00
Interest income	2.84	3.29	2.09	2.81	3.33	3.63

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

Risk spreads to continue to edge lower from elevated levels

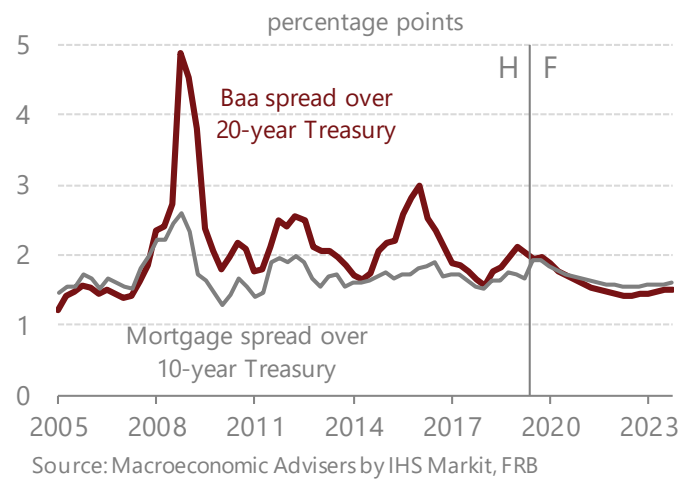
Corporate risk spreads gapped during the swoon in financial markets in late 2018. Spreads then narrowed through April of this year as markets calmed and financial conditions recovered. Renewed uncertainty over US trade policy in May through early June again left markets unsettled. Spreads then narrowed with the spread between the yields on Baa corporate bonds and comparable Treasuries narrowing from 215 basis points as of 7 June to 184 basis points as of the end of July when last month's forecast was being completed. Since then, this spread has widened, reflecting an escalation in trade tensions between the US and China as, on 1 August, the US announced additional tariffs on the remaining imported goods from China that had yet to be taxed. As of 4 September, this spread had widened to 199 basis points, up 15 basis points since the end of July.

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 201 basis points in the second quarter of 2019 to 151 basis points by the end of 2023. Following the projected pattern in Treasury yields, the Baa yield is projected to ease from 4.60% in the second quarter of 2019 to 3.87% in the fourth. As Treasury yields begin to turn up later this year, so too does the Baa yield, rising gradually to 5.21% by the fourth quarter of 2023.

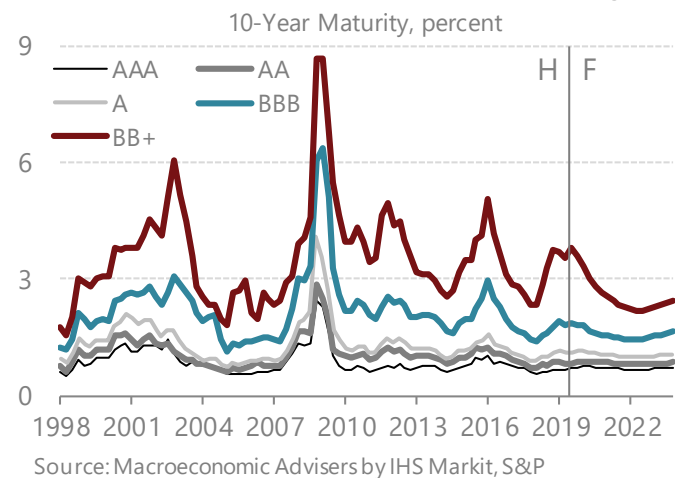
Market volatility, as measured by the VIX, spiked late last year then retreated for much of 2019 until renewed trade tensions in late May and early June led to a temporary pop. Market volatility had been low heading into last month's forecast until the 1 August announcement of additional tariffs. By 5 August, the VIX had spiked to 24.6 before beginning to ease, reaching 16.3 as of 5 September. We look for the VIX to stabilize near its long-run value over the short-term forecast.

Mortgage rates have declined sharply over the past few months, broadly in line with declines in term Treasury yields. The conventional 30-year mortgage rate was 3.49% as of 5 September, down from 4.94% in mid-November of last year, and nearly matching the record low reached in October of 2016. 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 4.96% by the end of 2023. These are levels that are still low in historical context.

Risk spreads narrow over forecast horizon



Risk spreads to narrow across ratings



CBOE volatility index for S&P 500



Trade policy uncertainty weighs on stock prices

President Trump's escalating tariff battle with China, and the uncertainty it has spawned, have taken a toll on the equity market, undermining investors' appetite for risk. Since early May, our S&P daily equity risk premium has risen 65 basis points, to levels in excess of 3.6%—higher than before the 2016 Presidential election (see chart). Not surprisingly, investors' uncertainty reflects the concerns of corporate CEOs and stock analysts covering companies perceived at risk. Recently, researchers at the Federal Reserve analyzed the transcripts of thousands of corporate quarterly earnings calls, searching for mentions of uncertainty related to trade or trade policy. From these data they constructed an aggregate measure of Trade Policy Uncertainty (TPU) that, until recently, varied within a fairly narrow range but, since the 2016 Presidential election, has rescaled the chart. This measure of TPU closely mirrors a second measure based on analysis of newspaper coverage of trade tensions. It, too, is off the previous charts (see chart).

Given the jump in the equity premium, were it not for offsetting sharp declines in risk-free discount rates, share values would have fallen 25% over the last four months. But, as it stands, the S&P share price index closed at 2938 on 4 September, only 3% below the record close of 3026 on July 26, and a record quarterly close at the end of September is within reach. Still, in response to recent developments we've lowered our projection for the S&P by between one and three percent, an important factor contributing to the downward revision this month in our projections for GDP growth.

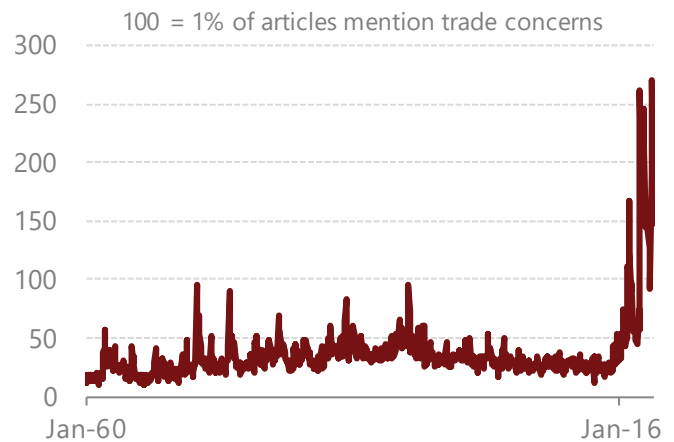
Now re-scheduled for October, trade negotiations that rescinded recent tariffs and reduced TPU could boost stock prices appreciably. However, in our forecast the tariffs are assumed permanent and perceived risk surrounding trade policy wanes only slowly. Hence, through 2023, total returns on equities are limited to less than 5% annually by other fundamentals (see chart). Growth of corporate earnings is constrained by the economy's proximity to potential. Recent tariffs undermine profitability directly, but also indirectly as firms incur the costs of shifting global supply chains in efforts to reduce the burden of those tariffs. Margins are eroded by rising wages in a tight labor market. 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 undermine share values.

Daily S&P equity risk premium



Source: Macroeconomic Advisers by IHS Markit

Trade Policy Uncertainty Index



Source: Federal Reserve

Total return on equities



Source: Macroeconomic Advisers by IHS Markit

Monthly Economic Indicators

	Jul. 2018	Aug. 2018	Jan. 2019	Feb. 2019	Mar. 2019	Apr. 2019	May. 2019	Jun. 2019	Jul. 2019	Aug. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	108.7	109.5	110.1	109.6	109.7	109.0	109.2	109.4	109.2		102.1	104.4	108.6
Percent Change	0.4	0.8	-0.4	-0.5	0.1	-0.6	0.2	0.2	-0.2		-2.0	2.3	3.9
Percent Change Year Earlier	3.9	5.3	3.6	2.7	2.3	0.7	1.7	1.1	0.5				
Capacity Utilization, Manufacturing (%)	76.7	77.0	76.7	76.3	76.1	75.4	75.4	75.8	75.4		74.2	75.1	76.6
Unemployment Rate (%)	3.9	3.8	4.0	3.8	3.8	3.6	3.6	3.7	3.7	3.7	4.9	4.4	3.9
Payroll Employment (Mil.)	149.185	149.467	150.587	150.643	150.796	151.012	151.074	151.252	151.411	151.541	144.348	146.611	149.064
Change (Mil.)	0.178	0.282	0.312	0.056	0.153	0.216	0.062	0.178	0.159	0.130	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.104	1.109	1.113	1.115	1.117	1.118	1.117	1.116	1.122		1.000	1.040	1.099
Percent Change	0.6	0.5	0.0	0.2	0.2	0.1	-0.1	-0.1	0.5		1.0	4.0	5.7
New Orders, Mfg. (Bil. \$)	498.2	509.3	501.7	496.8	503.3	497.2	490.7	493.4	500.3		440.4	465.5	499.4
Percent Change	-0.3	2.2	0.1	-1.0	1.3	-1.2	-1.3	0.5	1.4		-2.9	5.7	7.3
Inv. Chg., Mfg. & Trade (Bil. \$)	12.9	11.1	17.0	7.8	0.1	11.1	6.0	-0.1			30.1	61.6	93.7
Merchandise Trade Bal. (Bil. \$)	-73.1	-75.3	-71.9	-69.9	-71.8	-70.9	-74.8	-74.2	-72.5		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012\$)	14578	14634	14824	14889	14922	14933	14965	15011	15020		13609	14003	14556
Percent Change	0.3	0.4	0.1	0.4	0.2	0.1	0.2	0.3	0.1		1.8	2.9	4.0
Personal Income (Bil. \$)	17879	17952	18257	18363	18446	18527	18596	18679	18703		16121	16879	17819
Percent Change	0.5	0.4	0.3	0.6	0.4	0.4	0.4	0.5	0.1		2.6	4.7	5.6
Personal Saving Rate (%)	7.5	7.5	8.3	8.8	8.4	8.1	8.0	8.0	7.7		6.8	7.0	7.7
Consumer Expenditures (Bil. \$)	14077	14128	14228	14217	14355	14448	14518	14568	14661		12748	13312	13999
Percent Change	0.5	0.4	0.6	-0.1	1.0	0.7	0.5	0.3	0.6		3.8	4.4	5.2
Retail Sales (Bil. \$)	506.1	506.0	507.2	504.4	513.6	515.5	518.1	519.9	523.5		5492.1	5746.8	6024.3
Percent Change	0.6	-0.0	1.5	-0.5	1.8	0.4	0.5	0.3	0.7		2.7	4.6	4.8
Non-Auto. Retail Sales (Bil. \$)	405.2	406.0	406.8	404.4	410.1	412.5	414.6	416.0	420.3		4354.0	4569.8	4818.9
Percent Change	0.6	0.2	2.4	-0.6	1.4	0.6	0.5	0.3	1.0		2.4	5.0	5.5
New Light-Vehicle Sales (Mil.)	16.9	16.9	16.7	16.5	17.3	16.5	17.4	17.2	16.8	17.0	17.5	17.1	17.2
Housing Starts (Mil.)	1.184	1.279	1.291	1.149	1.199	1.27	1.264	1.241	1.191		1.178	1.209	1.250
New Home Sales (Mil.)	0.609	0.604	0.644	0.669	0.693	0.656	0.602	0.728	0.635		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.390	5.350	4.930	5.480	5.210	5.210	5.360	5.290	5.420		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. \$)	25.1	21.4	17.1	15.7	10.0	16.5	16.8	13.8	23.3		233.1	184.1	181.5
Prices and Wages													
CPI, All Urban Consumers	2.516	2.519	2.527	2.531	2.541	2.550	2.552	2.553	2.562		2.400	2.451	2.511
Percent Change Year Earlier	2.9	2.7	1.5	1.5	1.9	2.0	1.8	1.7	1.8		1.3	2.1	2.4
Core Cons. Price Defl. (2012=100.0)	110.1	110.1	110.9	110.9	111.0	111.2	111.3	111.6	111.8		106.1	107.8	109.9
Percent Change Year Earlier	2.1	2.0	1.8	1.6	1.5	1.5	1.5	1.6	1.6		1.6	1.6	2.0
PPI, Finished Goods	2.049	2.05	2.027	2.032	2.058	2.067	2.064	2.055	2.067		1.919	1.980	2.041
Percent Change Year Earlier	4.2	3.7	0.2	0.4	1.4	1.9	1.0	0.5	0.9		-1.0	3.2	3.1
PPI, Industrial Commodities (NSA)	2.065	2.061	2.002	2.003	2.022	2.035	2.028	2.010	2.020		1.846	1.937	2.037
Percent Change Year Earlier	7.1	6.3	0.6	-0.1	1.2	1.1	-0.8	-2.3	-2.2		-2.3	4.9	5.2
Avg. Private Hourly Earnings (\$)	22.71	22.8	23.11	23.17	23.25	23.3	23.38	23.43	23.48	23.59	21.55	22.05	22.70
Percent Change Year Earlier	2.9	3.1	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.5	2.5	2.3	3.0
Brent Crude, Spot Price (\$/bbl.)	74.25	72.53	59.41	63.96	66.14	71.23	71.17	64.28	63.92	59.04	44.24	54.83	70.96
Percent Change Year Earlier	51.1	51.1	-14.0	-2.1	0.2	-1.0	-7.4	-13.6	-13.9	-18.6	-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	2.26	2.99	2.94
Percent Change Year Earlier	-9.0	-9.6	13.8	37.6	40.8	-20.3	1.0	9.3	-5.5	-6.0	-25.2	32.3	-1.7
Financial Markets, Period Average													
Federal Funds Rate (%)	1.91	1.91	2.40	2.40	2.41	2.42	2.39	2.38	2.40	2.13	0.40	1.00	1.83
3-Month T-Bill Rate (%)	1.96	2.03	2.37	2.39	2.40	2.38	2.35	2.17	2.10	1.95	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	5.00	5.00	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.25	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	2.89	2.89	2.71	2.68	2.57	2.53	2.40	2.07	2.06	1.63	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.53	4.55	4.47	4.40	4.28	4.14	4.07	3.80	3.77	3.62	3.65	3.99	4.54
M1 Money Supply (Bil. \$)	3677	3680	3743	3763	3720	3777	3784	3824	3852		3249	3524	3678
Percent Change	0.6	0.1	-0.2	0.5	-1.1	1.5	0.2	1.1	0.7		7.7	7.8	3.8
M2 Money Supply (Bil. \$)	14149	14191	14445	14461	14495	14542	14633	14771	14871		12852	13585	14106
Percent Change	0.3	0.3	0.5	0.1	0.2	0.3	0.6	0.9	0.7		6.9	4.8	3.7

Source: IHS Markit

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Monthly Economic Indicators

	Jul. 2018	Aug. 2018	Jan. 2019	Feb. 2019	Mar. 2019	Apr. 2019	May. 2019	Jun. 2019	Jul. 2019	Aug. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	108.7	109.5	110.1	109.6	109.7	109.0	109.2	109.4	109.2		102.1	104.4	108.6
Percent Change (Q4/Q4 for Annual Values)	0.4	0.8	-0.4	-0.5	0.1	-0.6	0.2	0.2	-0.2		-0.3	3.6	4.0
Percent Change Year Earlier	3.9	5.3	3.6	2.7	2.3	0.7	1.7	1.1	0.5				
Capacity Utilization, Manufacturing (%)	76.7	77.0	76.7	76.3	76.1	75.4	75.4	75.8	75.4		74.2	75.1	76.6
Unemployment Rate (%)	3.9	3.8	4.0	3.8	3.8	3.6	3.6	3.7	3.7	3.7	4.9	4.4	3.9
Payroll Employment (Mil.)	149.185	149.467	150.587	150.643	150.796	151.012	151.074	151.252	151.411	151.541	144.348	146.611	149.064
Change (Mil.)	0.178	0.282	0.312	0.056	0.153	0.216	0.062	0.178	0.159	0.130	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.104	1.109	1.113	1.115	1.117	1.118	1.117	1.116	1.122		1.000	1.040	1.099
Percent Change (Q4/Q4 for Annual Values)	0.6	0.5	0.0	0.2	0.2	0.1	-0.1	-0.1	0.5		1.0	5.6	4.8
New Orders, Mfg. (Bil. \$)	498.2	509.3	501.7	496.8	503.3	497.2	490.7	493.4	500.3		440.4	465.5	499.4
Percent Change (Q4/Q4 for Annual Values)	-0.3	2.2	0.1	-1.0	1.3	-1.2	-1.3	0.5	1.4		1.1	6.9	4.3
Inv. Chg., Mfg. & Trade (Bil. \$)	12.9	11.1	17.0	7.8	0.1	11.1	6.0	-0.1			30.1	61.6	93.7
Merchandise Trade Bal. (Bil. \$)	-73.1	-75.3	-71.9	-69.9	-71.8	-70.9	-74.8	-74.2	-72.5		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012\$)	14578	14634	14824	14889	14922	14933	14965	15011	15020		13609	14003	14556
Percent Change (Q4/Q4 for Annual Values)	0.3	0.4	0.1	0.4	0.2	0.1	0.2	0.3	0.1		1.6	3.4	3.9
Personal Income (Bil. \$)	17879	17952	18257	18363	18446	18527	18596	18679	18703		16121	16879	17819
Percent Change (Q4/Q4 for Annual Values)	0.5	0.4	0.3	0.6	0.4	0.4	0.4	0.5	0.1		2.9	5.4	4.9
Personal Saving Rate (%)	7.5	7.5	8.3	8.8	8.4	8.1	8.0	8.0	7.7		6.8	7.0	7.7
Consumer Expenditures (Bil. \$)	14077	14128	14228	14217	14355	14448	14518	14568	14661		12748	13312	13999
Percent Change (Q4/Q4 for Annual Values)	0.5	0.4	0.6	-0.1	1.0	0.7	0.5	0.3	0.6		4.3	4.8	4.6
Retail Sales (Bil. \$)	506.1	506.0	507.2	504.4	513.6	515.5	518.1	519.9	523.5		549.1	574.8	602.4
Percent Change (Q4/Q4 for Annual Values)	0.6	-0.0	1.5	-0.5	1.8	0.4	0.5	0.3	0.7		3.4	5.5	3.4
Non-Auto. Retail Sales (Bil. \$)	405.2	406.0	406.8	404.4	410.1	412.5	414.6	416.0	420.3		435.4	456.8	481.9
Percent Change (Q4/Q4 for Annual Values)	0.6	0.2	2.4	-0.6	1.4	0.6	0.5	0.3	1.0		3.1	6.1	3.9
New Light-Vehicle Sales (Mil.)	16.9	16.9	16.7	16.5	17.3	16.5	17.4	17.2	16.8	17.0	17.5	17.1	17.2
Housing Starts (Mil.)	1.184	1.279	1.291	1.149	1.199	1.27	1.264	1.241	1.191		1.178	1.209	1.250
New Home Sales (Mil.)	0.609	0.604	0.644	0.669	0.693	0.656	0.602	0.728	0.635		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.390	5.350	4.930	5.480	5.210	5.210	5.360	5.290	5.420		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. \$)	25.1	21.4	17.1	15.7	10.0	16.5	16.8	13.8	23.3		233.1	184.1	181.5
Prices and Wages													
CPI, All Urban Consumers	2.516	2.519	2.527	2.531	2.541	2.550	2.552	2.553	2.562		2.400	2.451	2.511
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.9	2.7	1.5	1.5	1.9	2.0	1.8	1.7	1.8		1.8	2.1	2.2
Core Cons. Price Defl. (2012=100.0)	110.1	110.1	110.9	110.9	111.0	111.2	111.3	111.6	111.8		106.1	107.8	109.9
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.1	2.0	1.8	1.6	1.5	1.5	1.5	1.6	1.6		1.8	1.7	1.9
PPI, Finished Goods	2.049	2.05	2.027	2.032	2.058	2.067	2.064	2.055	2.067		1.919	1.980	2.041
Percent Change Year Earlier (Q4/Q4 for Annual Values)	4.2	3.7	0.2	0.4	1.4	1.9	1.0	0.5	0.9		1.0	3.4	2.2
PPI, Industrial Commodities (NSA)	2.065	2.061	2.002	2.003	2.022	2.035	2.028	2.010	2.020		1.846	1.937	2.037
Percent Change Year Earlier (Q4/Q4 for Annual Values)	7.1	6.3	0.6	-0.1	1.2	1.1	-0.8	-2.3	-2.2		1.7	4.9	4.2
Avg. Private Hourly Earnings (\$)	22.71	22.8	23.11	23.17	23.25	23.3	23.38	23.43	23.48	23.59	21.55	22.05	22.70
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.9	3.1	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.5	2.5	2.3	3.4
Brent Crude, Spot Price (\$/bbl.)	74.25	72.53	59.41	63.96	66.14	71.23	71.17	64.28	63.92	59.04	44.24	54.83	70.96
Percent Change Year Earlier (Q4/Q4 for Annual Values)	51.1	51.1	-14.0	-2.1	0.2	-1.0	-7.4	-13.6	-13.9	-18.6	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	2.26	2.99	2.94
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	3.8	2.8	0.0
Financial Markets, Period Average													
Federal Funds Rate (%)	1.91	1.91	2.40	2.40	2.41	2.42	2.39	2.38	2.40	2.13	0.40	1.00	1.83
3-Month T-Bill Rate (%)	1.96	2.03	2.37	2.39	2.40	2.38	2.35	2.17	2.10	1.95	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	5.00	5.00	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.25	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	2.89	2.89	2.71	2.68	2.57	2.53	2.40	2.07	2.06	1.63	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.53	4.55	4.47	4.40	4.28	4.14	4.07	3.80	3.77	3.62	3.65	3.99	4.54
M1 Money Supply (Bil. \$)	3677	3680	3743	3763	3720	3777	3784	3824	3852		3249	3524	3678
Percent Change (Q4/Q4 for Annual Values)	0.6	0.1	-0.2	0.5	-1.1	1.5	0.2	1.1	0.7		9.1	8.1	3.0
M2 Money Supply (Bil. \$)	14149	14191	14445	14461	14495	14542	14633	14771	14871		12852	13585	14106
Percent Change (Q4/Q4 for Annual Values)	0.3	0.3	0.5	0.1	0.2	0.3	0.6	0.9	0.7		7.3	4.9	3.5

Source: IHS Markit

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Summary of the US Economy

	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4	2021:1	2021:2	2021:3	2021:4	2022:1
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	3.1	2.0	2.1	1.8	2.1	2.5	2.3	2.0	1.8	1.7	1.6	1.7	1.7
Final Sales of Domestic Product	2.6	3.0	1.9	2.5	3.6	1.8	1.4	1.9	1.7	1.7	1.6	1.8	1.7
Gross Domestic Income	3.2	2.1	2.1	1.9	2.1	2.6	2.3	2.1	1.9	1.8	1.6	1.8	1.7
Avg. of GDP and GDI	3.2	2.1	2.1	1.9	2.1	2.6	2.3	2.1	1.8	1.8	1.6	1.8	1.7
Total Consumption	1.1	4.7	3.6	2.6	2.5	2.5	2.6	2.6	2.6	2.5	2.4	2.3	2.3
Durables	0.3	13.0	5.3	3.6	3.7	4.0	5.1	4.9	5.5	5.1	4.8	4.8	4.8
Nondurables	2.2	6.8	6.1	2.9	2.1	2.1	2.0	2.2	1.8	1.7	1.6	1.6	1.5
Services	1.0	2.8	2.7	2.3	2.5	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.1
Nonresidential Fixed Investment	4.4	-0.6	-2.2	4.5	4.5	1.6	2.6	2.9	2.6	2.5	2.3	2.6	2.6
Equipment	-0.1	0.7	-6.8	5.8	6.9	-0.3	1.8	3.0	2.7	2.9	2.7	3.2	3.3
Information Processing Equipment	9.2	7.1	0.7	4.9	2.7	2.3	2.7	2.7	2.9	2.3	2.2	2.5	2.6
Industrial Equipment	-3.4	1.7	-5.1	1.8	2.6	0.2	3.5	5.7	7.7	6.6	2.0	5.3	3.0
Transportation equipment	-4.1	-10.3	-16.0	2.3	37.6	-5.2	-14.9	-1.5	-3.5	-3.9	2.0	8.1	2.3
Aircraft	-58.1	-43.2	-9.5	0.0	882.5	-48.0	-53.1	16.2	12.2	10.8	13.5	13.2	15.0
Other Equipment	-5.7	3.3	-8.9	15.2	-10.4	1.1	20.3	5.9	4.7	7.4	4.8	-2.2	6.0
Intellectual Property Products	10.8	3.7	8.2	6.2	4.5	4.8	5.0	4.5	3.9	3.7	3.3	3.5	3.3
Structures	4.0	-9.4	-8.6	-0.6	-0.1	0.1	0.1	0.1	0.1	0.0	-0.0	-0.2	-0.1
Commercial & Health Care	7.0	-11.4	-7.0	4.1	3.8	5.7	6.1	8.1	4.7	6.3	5.0	3.3	4.8
Manufacturing	17.8	-3.5	4.9	5.9	9.8	-1.3	-1.6	-2.1	-2.6	-2.2	-0.5	3.3	-6.1
Power & Communication	1.9	-4.9	-27.1	-18.5	-28.1	-10.0	0.0	-8.6	-10.8	-15.0	-17.9	-22.7	-11.9
Mining & Petroleum	-0.7	-15.6	-1.5	-5.1	2.2	-10.2	-15.8	-7.1	-1.7	-5.5	-3.6	-2.6	-4.4
Other	-0.1	-6.7	-6.8	10.7	11.6	11.1	8.4	2.4	3.8	6.3	6.8	8.1	5.1
Residential Fixed Investment	-1.0	-2.9	1.7	1.4	-0.6	-2.5	-2.9	-0.6	-2.6	-3.7	-1.3	0.7	0.7
Exports	4.1	-5.8	0.3	1.9	13.6	1.2	0.6	4.0	3.0	2.8	2.4	2.9	2.5
Imports	-1.5	0.1	2.3	1.8	5.0	5.5	5.5	5.2	4.9	4.2	4.4	4.0	4.2
Federal Government	2.2	8.1	1.7	1.3	4.2	6.5	0.3	-0.8	-0.3	-0.6	-0.7	-0.7	-0.4
State & Local Government	3.4	2.3	-0.8	0.4	1.6	1.4	1.1	1.2	1.0	0.9	0.9	0.9	0.9
Billions of Dollars													
Real GDP	18927.3	19023.0	19121.0	19207.8	19305.5	19427.3	19536.7	19635.7	19724.7	19810.2	19887.2	19973.1	20055.9
Nominal GDP	21098.8	21339.1	21580.3	21835.1	22086.1	22366.7	22636.7	22890.1	23141.8	23388.5	23625.7	23875.9	24125.7
Prices & Wages, Percent Change, Annual Rate													
GDP Deflator	1.1	2.4	2.5	2.9	2.6	2.6	2.6	2.5	2.6	2.5	2.5	2.5	2.5
Consumer Prices	0.9	2.9	1.9	2.5	2.7	2.0	2.4	1.5	2.5	2.5	2.3	2.3	2.4
Producer Prices, Finished Goods	-2.3	4.6	0.2	1.7	2.7	1.7	1.9	1.0	2.0	2.5	2.2	2.2	2.2
Employment Cost Index - Total Comp.	2.7	2.1	3.2	3.2	3.1	3.6	3.3	3.4	3.6	3.5	3.7	3.6	3.7
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	63.17	68.89	62.01	65.67	65.67	64.33	64.33	61.00	62.32	63.76	64.11	64.72	65.49
Productivity (%ch., saar)	3.5	2.3	0.6	0.7	0.9	1.3	1.6	1.3	1.1	1.2	1.3	1.5	1.6
Total Industrial Production (%ch., saar)	-1.9	-2.1	-0.5	-1.2	2.0	1.3	1.5	1.6	1.2	1.0	0.6	1.0	1.2
Factory Operating Rate	76.4	75.5	75.2	74.5	74.4	74.4	74.5	74.5	74.5	74.4	74.2	74.1	74.0
Nonfarm Inven. Chg. (Bil. 2012 \$)	126.6	79.8	85.8	44.8	-38.1	0.8	44.7	49.2	53.8	58.8	58.1	56.5	56.2
Consumer Sentiment Index	94.5	98.5	93.5	95.7	96.1	96.4	96.6	96.4	96.2	96.0	95.8	95.6	95.4
Light Vehicle Sales (Mil. units, saar)	16.83	17.00	16.64	16.77	16.66	16.64	16.61	16.59	16.56	16.53	16.49	16.44	16.40
Housing Starts (Mil. units, saar)	1.213	1.258	1.213	1.229	1.237	1.236	1.238	1.244	1.222	1.226	1.239	1.251	1.267
Exist. House Sales (Total, Mil. saar)	5.207	5.287	5.450	5.460	5.562	5.628	5.610	5.571	5.533	5.544	5.567	5.580	5.573
Unemployment Rate (%)	3.9	3.6	3.6	3.5	3.6	3.5	3.5	3.5	3.5	3.6	3.6	3.7	3.7
Payroll Employment (%ch., saar)	1.7	1.2	1.3	1.1	1.3	1.9	0.5	0.7	0.9	0.8	0.6	0.5	0.4
Federal Surplus (Unified, nsa, bil. \$)	-372.2	-55.9	-295.7	-334.9	-396.6	-92.9	-269.6	-323.1	-399.7	-99.9	-281.1	-345.9	-416.7
Current Account Balance (Bil. \$)	-521.6	-473.4	-498.3	-499.3	-461.1	-489.0	-519.9	-517.1	-527.6	-537.8	-549.4	-556.8	-569.4
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.40	2.22	1.97	1.72	1.64	1.64	1.68	1.89	1.92	2.14	2.16	2.39
3-Month Treasury Bill Rate (%)	2.39	2.30	2.00	1.97	1.69	1.57	1.55	1.56	1.74	1.76	1.94	1.96	2.16
10-Year Treasury Note Yield (%)	2.65	2.33	1.73	1.65	1.84	2.03	2.21	2.37	2.52	2.66	2.80	2.92	3.02
30-Year Fixed Mortgage Rate (%)	4.38	4.01	3.65	3.57	3.68	3.81	3.94	4.06	4.18	4.29	4.41	4.50	4.59
S&P 500 Stock Index	2722	2883	3007	2943	2963	2977	2995	3013	3028	3045	3063	3080	3097
(Four-Quarter % change)	-0.4	6.6	5.5	9.3	8.8	3.3	-0.4	2.3	2.2	2.3	2.3	2.2	2.3
Exchange Rate, Broad Index of Partners	1.272	1.284	1.303	1.320	1.321	1.324	1.328	1.334	1.339	1.344	1.351	1.358	1.364
(% change, annual rate)	-3.0	3.8	6.0	5.4	0.2	0.9	1.4	1.7	1.5	1.6	1.9	2.2	1.7
Incomes													
Personal Income (% ch., saar)	6.2	5.5	3.9	4.9	4.3	4.5	4.5	4.5	4.9	4.4	4.2	4.3	4.6
Real Disposable Income (%ch., saar)	4.5	2.5	2.5	2.5	1.8	2.2	2.2	2.5	2.6	2.0	2.0	2.1	2.5
Saving Rate (%)	8.5	8.0	7.8	7.7	7.5	7.5	7.4	7.3	7.4	7.3	7.2	7.1	7.1
After-Tax Profits (Billions of \$)	1800	1886	1902	1912	1927	1942	1976	1993	2015	2036	2049	2068	2081
(Four-quarter % change)	3.5	5.2	7.8	10.0	8.9	6.2	4.3	4.1	4.0	3.9	3.9	3.8	3.6

Source: IHS Markit

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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	1.9	1.6	1.5	1.8
Final Sales of Domestic Product	2.1	1.6	2.7	2.6	2.2	2.3	2.8	2.2	2.4	1.7	1.6	1.5	1.8
Gross Domestic Income	3.4	1.3	3.2	2.7	0.8	2.1	2.5	2.2	2.2	2.0	1.7	1.5	1.8
Avg. of GDP and GDI	2.8	1.6	2.9	2.8	1.2	2.2	2.7	2.2	2.2	1.9	1.6	1.5	1.8
Total Consumption	1.5	1.5	3.0	3.7	2.7	2.6	3.0	2.7	2.8	2.5	2.3	2.4	2.4
Durables	6.0	6.1	7.2	7.5	6.1	6.9	6.3	4.5	4.7	5.0	4.8	4.8	4.7
Nondurables	0.4	1.8	2.6	3.4	2.4	2.5	3.0	3.8	3.0	1.9	1.5	1.6	1.8
Services	1.2	0.6	2.4	3.2	2.3	2.0	2.5	2.1	2.5	2.3	2.2	2.2	2.3
Nonresidential Fixed Investment	9.5	4.1	7.2	1.8	0.7	4.4	6.4	2.6	2.4	2.5	2.5	2.4	2.6
Equipment	11.0	4.7	7.0	3.2	-1.3	4.7	6.8	1.5	2.3	2.5	3.2	3.1	3.2
Information Processing Equipment	9.2	6.2	5.2	6.6	5.3	9.8	9.2	5.1	3.1	2.6	2.6	2.8	3.1
Industrial Equipment	8.4	-1.4	3.9	0.2	-1.1	6.3	4.5	0.6	1.3	5.3	3.7	2.9	2.0
Transportation equipment	18.4	10.8	11.1	10.6	-5.5	-4.9	6.4	-1.7	2.5	-3.5	3.8	5.8	2.5
Aircraft	1.6	5.5	13.4	1.8	-10.5	11.0	4.1	-22.2	38.1	-4.4	13.8	11.7	11.5
Other Equipment	9.5	2.2	7.9	-6.6	-5.3	7.9	5.6	0.5	1.8	6.5	3.1	1.0	5.4
Intellectual Property Products	5.0	5.4	4.8	3.6	7.9	3.7	7.4	8.2	5.3	4.1	3.2	2.5	2.5
Structures	13.0	1.3	11.0	-3.0	-5.0	4.7	4.1	-3.4	-1.8	0.1	-0.0	0.8	1.8
Commercial & Health Care	8.4	3.6	12.9	10.6	17.7	3.2	-0.1	-4.5	2.3	5.8	3.9	1.2	1.3
Manufacturing	15.2	4.2	12.9	33.8	-5.1	-15.2	-6.1	5.0	3.3	-1.6	-5.0	-3.3	-5.1
Power & Communication	21.0	-4.4	15.0	-3.4	0.3	-0.9	-0.7	-8.9	-17.3	-11.4	-15.4	-13.0	-0.5
Mining & Petroleum	11.9	1.6	8.0	-29.2	-42.9	40.9	24.2	-3.3	-6.1	-6.2	-0.3	6.4	4.7
Other	10.7	3.3	8.3	9.3	7.0	1.7	2.6	-0.8	6.7	5.6	5.4	4.2	4.4
Residential Fixed Investment	13.0	12.4	3.8	10.2	6.5	3.5	-1.5	-2.2	-0.8	-2.1	-0.3	-1.5	-0.6
Exports	3.4	3.6	4.2	0.5	-0.0	3.5	3.0	-0.1	3.8	2.6	2.5	2.4	2.7
Imports	2.7	1.5	5.0	5.3	2.0	4.7	4.4	1.7	3.9	4.8	4.2	4.2	4.1
Federal Government	-1.9	-5.5	-2.6	-0.1	0.4	0.8	2.9	3.1	3.2	-0.0	-0.8	-2.2	-1.5
State & Local Government	-2.2	-0.3	0.2	3.2	2.6	0.6	1.0	1.2	1.0	1.0	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	19069.8	19476.3	19848.8	20173.3	20471.5	20834.2
Nominal GDP	16197.0	16784.9	17527.3	18224.8	18715.0	19519.4	20580.2	21463.3	22494.9	23508.0	24495.5	25468.5	26522.7
Prices & Wages, Percent Change													
GDP Deflator	1.9	1.8	1.8	1.0	1.0	1.9	2.4	2.0	2.6	2.5	2.5	2.5	2.3
Consumer Prices	2.1	1.5	1.6	0.1	1.3	2.1	2.4	1.8	2.3	2.3	2.4	2.3	2.3
Producer Prices, Finished Goods	1.9	1.2	1.9	-3.3	-1.0	3.2	3.1	0.9	1.9	1.9	2.2	2.2	2.2
Employment Cost Index - Total Comp.	1.9	1.9	2.1	2.1	2.1	2.5	2.9	2.7	3.2	3.5	3.6	3.6	3.6
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	111.77	108.74	99.83	52.68	44.24	54.83	70.96	64.94	63.83	63.73	66.70	69.89	73.17
Productivity (%ch.)	0.9	0.5	0.9	1.3	0.3	1.3	1.3	1.7	1.1	1.3	1.5	1.7	1.9
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	0.6	0.6	1.2	1.0	0.6	1.0
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.4	74.5	74.3	73.8	73.1	72.9
Nonfarm Inven. Chg. (Bil. 2012 \$)	89.9	98.2	90.1	131.3	28.5	35.3	55.2	84.2	14.1	56.8	56.3	49.7	54.2
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	95.5	96.4	95.9	95.2	94.8	94.6
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.21	16.81	16.63	16.50	16.39	16.51	16.60
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.228	1.239	1.234	1.260	1.235	1.222
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.351	5.593	5.556	5.564	5.510	5.507
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	3.5	3.6	3.8	4.2	4.5
Payroll Employment (%ch.)	1.7	1.6	1.9	2.1	1.8	1.6	1.7	1.5	1.2	0.8	0.4	0.1	0.1
Federal Surplus (Unified, FY, bil. \$)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-1058.8	-1082.2	-1126.6	-1169.5	-1200.9	-1198.7
Current Account Balance (Bil. \$)	-426.8	-348.8	-365.2	-407.8	-428.3	-439.6	-491.0	-498.2	-496.8	-542.9	-590.5	-638.8	-690.2
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.25	1.67	2.03	2.39	2.62	2.64
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.16	1.59	1.85	2.16	2.36	2.38
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.09	2.11	2.73	3.15	3.33	3.33
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	3.90	3.87	4.34	4.70	4.91	4.95
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2889	2987	3054	3121	3195	3300
(Percent change)	8.7	19.1	17.5	6.8	1.5	17.0	12.1	5.2	3.4	2.2	2.2	2.4	3.3
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.295	1.327	1.348	1.371	1.383	1.378
(% change, annual rate)	2.7	1.1	3.1	12.5	4.6	-0.3	0.7	5.1	2.5	1.6	1.7	0.9	-0.3
Incomes													
Personal Income (% ch.)	5.1	1.2	5.7	4.8	2.6	4.7	5.6	4.9	4.5	4.5	4.3	4.2	4.4
Real Disposable Income (%ch.)	3.3	-1.3	4.1	4.1	1.8	2.9	4.0	3.2	2.2	2.3	2.1	2.0	2.2
Saving Rate (%)	8.9	6.4	7.4	7.6	6.8	7.0	7.7	8.0	7.4	7.2	7.0	6.7	6.6
After-Tax Profits (Billions of \$)	1821	1789	1857	1740	1740	1814	1844	1875	1959	2042	2104	2232	2390
(Percent change)	18.5	-1.8	3.8	-6.3	-0.0	4.2	1.7	1.7	4.5	4.2	3.0	6.1	7.1

Source: IHS Markit

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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	2.3	2.2	1.7	1.6	1.5	1.9
Final Sales of Domestic Product	1.9	2.0	3.2	1.8	2.2	2.9	2.2	2.5	2.2	1.7	1.6	1.6	1.9
Gross Domestic Income	2.9	1.5	4.2	1.3	0.9	2.5	2.3	2.3	2.3	1.8	1.6	1.5	1.9
Avg. of GDP and GDI	2.2	2.1	3.5	1.6	1.5	2.6	2.4	2.3	2.3	1.7	1.6	1.5	1.9
Total Consumption	1.6	1.9	3.8	2.9	2.8	2.9	2.6	3.0	2.6	2.4	2.3	2.4	2.5
Durables	6.3	5.0	9.2	5.8	7.3	7.7	3.8	5.4	4.4	5.0	4.8	4.8	4.6
Nondurables	0.7	2.8	3.2	2.8	1.8	3.7	2.5	4.5	2.1	1.7	1.5	1.7	1.9
Services	1.2	1.1	3.2	2.5	2.4	2.0	2.5	2.2	2.4	2.3	2.1	2.3	2.3
Nonresidential Fixed Investment	5.6	5.4	6.9	-0.9	2.4	5.4	5.9	1.5	2.9	2.5	2.5	2.4	2.8
Equipment	7.8	5.4	5.6	1.9	-1.4	8.5	5.0	-0.2	2.8	2.9	3.3	3.0	3.3
Information Processing Equipment	8.8	5.8	6.4	7.0	5.0	12.0	5.6	5.4	2.6	2.5	2.7	2.8	3.2
Industrial Equipment	-0.0	-2.7	4.3	1.0	-0.3	8.0	3.4	-1.3	3.0	5.4	3.4	2.1	2.7
Transportation equipment	13.6	10.8	9.4	7.6	-8.8	1.3	7.3	-7.3	2.3	0.6	4.2	5.0	2.5
Aircraft	-6.8	22.9	-0.9	-11.4	2.6	8.2	14.6	-31.9	29.2	12.4	13.6	11.4	11.5
Other Equipment	8.8	6.8	1.7	-10.3	-2.2	12.6	3.0	0.5	3.6	3.6	3.2	2.2	5.1
Intellectual Property Products	3.7	4.5	6.9	2.9	6.6	4.0	9.3	7.2	4.7	3.6	3.0	2.3	2.6
Structures	4.0	6.7	9.3	-10.9	4.3	1.5	2.6	-3.8	0.0	-0.0	0.1	1.2	2.2
Commercial & Health Care	4.9	8.7	13.8	5.6	21.8	-2.3	-2.8	-2.1	5.9	4.8	3.1	0.7	1.4
Manufacturing	6.7	4.4	29.4	10.8	-7.7	-15.0	-2.0	6.0	1.1	-0.5	-7.8	-2.2	-6.0
Power & Communication	12.6	14.6	-16.1	9.1	10.6	-11.4	1.1	-12.9	-12.3	-16.7	-13.6	-8.9	1.7
Mining & Petroleum	-4.2	2.0	16.3	-46.8	-23.0	46.8	14.4	-5.9	-8.0	-3.4	3.9	4.9	6.1
Other	7.3	4.5	12.5	2.8	9.0	0.5	2.8	-1.0	8.3	6.2	3.9	4.8	4.2
Residential Fixed Investment	15.4	7.1	7.7	9.1	3.9	4.2	-4.4	-0.2	-1.7	-1.7	-0.5	-1.5	0.0
Exports	2.1	6.0	2.9	-1.5	1.1	5.5	0.4	0.1	4.7	2.8	2.4	2.4	2.9
Imports	0.6	3.0	6.5	3.2	3.4	5.6	3.2	0.6	5.3	4.4	4.3	4.2	3.9
Federal Government	-2.6	-6.1	-1.1	1.1	0.1	1.7	2.7	3.3	2.5	-0.6	-1.1	-2.4	-0.8
State & Local Government	-1.7	0.2	1.2	3.0	2.3	0.4	0.9	1.3	1.3	0.9	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	19069.8	19476.3	19848.8	20173.3	20471.5	20834.2
Nominal GDP	16197.0	16784.9	17527.3	18224.8	18715.0	19519.4	20580.2	21463.3	22494.9	23508.0	24495.5	25468.5	26522.7
Prices & Wages, Percent Change (Q4/Q4)													
GDP Deflator	2.1	1.8	1.5	0.9	1.5	2.0	2.3	2.2	2.5	2.5	2.5	2.4	2.3
Consumer Prices	1.9	1.2	1.2	0.4	1.8	2.1	2.2	2.0	2.2	2.4	2.4	2.3	2.3
Producer Prices, Finished Goods	1.7	0.9	0.6	-3.4	1.0	3.4	2.2	1.0	1.8	2.2	2.3	2.2	2.2
Employment Cost Index - Total Comp.	1.8	2.0	2.3	1.8	2.2	2.6	3.0	2.8	3.4	3.6	3.6	3.6	3.6
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	111.77	108.74	99.83	52.68	44.24	54.83	70.96	64.94	63.83	63.73	66.70	69.89	73.17
Productivity (%ch.)	0.3	1.5	0.5	0.5	1.2	1.3	1.0	1.8	1.3	1.3	1.6	1.8	2.0
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	0.6	0.6	1.2	1.0	0.6	1.0
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.4	74.5	74.3	73.8	73.1	72.9
Nonfarm Inven. Chg. (Bil. 2012 \$)	89.9	98.2	90.1	131.3	28.5	35.3	55.2	84.2	14.1	56.8	56.3	49.7	54.2
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	95.5	96.4	95.9	95.2	94.8	94.6
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.21	16.81	16.63	16.50	16.39	16.51	16.60
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.228	1.239	1.234	1.260	1.235	1.222
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.351	5.593	5.556	5.564	5.510	5.507
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	3.5	3.6	3.8	4.2	4.5
Payroll Employment (%ch.)	1.6	1.8	2.1	2.0	1.7	1.5	1.8	1.3	1.1	0.7	0.3	0.0	0.2
Federal Surplus (Unified, FY, bil. \$)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-1058.8	-1082.2	-1126.6	-1169.5	-1200.9	-1198.7
Current Account Balance (Bil. \$)	-426.8	-348.8	-365.2	-407.8	-428.3	-439.6	-491.0	-498.2	-496.8	-542.9	-590.5	-638.8	-690.2
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.25	1.67	2.03	2.39	2.62	2.64
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.16	1.59	1.85	2.16	2.36	2.38
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.09	2.11	2.73	3.15	3.33	3.33
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	3.90	3.87	4.34	4.70	4.91	4.95
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2889	2987	3054	3121	3195	3300
(Percent change, Q4/Q4)	15.7	24.8	13.6	2.0	6.4	19.2	3.3	9.3	2.3	2.2	2.1	2.6	3.8
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.295	1.327	1.348	1.371	1.383	1.378
(% change, Q4/Q4)	-0.4	2.2	6.5	11.8	3.9	-4.1	6.5	3.0	1.0	1.8	1.5	0.4	-0.8
Incomes													
Personal Income (%ch., Q4/Q4)	6.8	-0.3	6.7	3.7	2.9	5.4	4.9	5.1	4.5	4.4	4.2	4.2	4.5
Real Disposable Income (%ch., Q4/Q4)	4.9	-2.5	5.3	3.0	1.6	3.4	3.9	3.0	2.2	2.2	2.0	2.1	2.4
Saving Rate (%)	8.9	6.4	7.4	7.6	6.8	7.0	7.7	8.0	7.4	7.2	7.0	6.7	6.6
After-Tax Profits (Billions of \$)	1821	1789	1857	1740	1740	1814	1844	1875	1959	2042	2104	2232	2390
(Percent change, Q4/Q4)	10.4	3.0	2.2	-12.6	8.7	-6.7	9.8	4.6	4.2	3.8	2.8	6.5	7.3

Source: IHS Markit

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Alternative Scenarios of the US Economy

	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	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	3.1	2.0	2.1	1.4	1.3	0.4	2.9	2.3	0.4	-0.2	2.6	2.1	2.4
Total Consumption	1.1	4.7	3.6	2.4	1.8	1.7	3.0	2.7	2.1	0.9	1.9	2.7	3.3
Nonresidential Fixed Investment	4.4	-0.6	-2.2	3.7	1.6	-3.8	6.4	2.5	-2.5	-5.3	7.0	5.6	3.7
Residential Fixed Investment	-1.0	-2.9	1.7	1.3	-5.9	-13.5	-1.5	-2.2	-6.7	-7.1	2.6	-0.8	-2.2
Exports	4.1	-5.8	0.3	1.9	14.2	1.2	3.0	-0.1	1.2	-0.6	5.6	3.2	3.2
Imports	-1.5	0.1	2.3	1.7	3.8	2.7	4.4	1.7	1.7	-0.1	7.5	5.4	4.5
Federal Government	2.2	8.1	1.7	1.3	4.2	6.5	2.9	3.1	3.2	0.1	-0.4	-1.9	-1.2
State & Local Government	3.4	2.3	-0.8	0.5	1.6	1.5	1.0	1.3	1.0	1.1	1.1	1.1	1.0
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	0.9	2.9	1.9	2.2	2.4	1.9	2.4	1.8	2.2	2.0	2.3	2.2	2.2
Producer Prices, Finished Goods	-2.3	4.6	0.2	1.3	2.3	1.4	3.1	0.9	1.7	1.4	1.8	1.6	1.7
Employment Cost Index - Total Comp.	2.7	2.1	3.1	2.9	2.6	3.1	2.9	2.7	2.8	2.3	2.2	2.3	2.4
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	63.17	68.89	62.01	64.49	63.85	61.93	70.96	64.64	61.00	58.69	64.06	67.24	70.39
Productivity (%ch., saar)	3.5	2.3	0.7	0.5	0.5	-0.5	1.3	1.7	-0.2	1.2	2.5	1.5	2.0
Total Industrial Production (%ch., saar)	-1.9	-2.1	-0.6	-1.8	0.9	-2.2	3.9	0.5	-2.0	-2.5	3.2	1.9	1.8
Nonfarm Inven. Chg. (Bil. 2012 \$)	126.6	79.8	86.1	32.2	-45.0	-52.0	55.2	81.2	-65.7	-75.4	82.5	88.8	83.5
Consumer Sentiment Index	94.5	98.5	98.1	99.9	100.3	100.6	98.4	97.7	100.6	100.2	98.1	96.2	96.0
Light Vehicle Sales (Mil. units, saar)	16.83	17.00	16.65	16.75	16.44	16.33	17.21	16.81	16.00	15.30	15.83	16.41	16.70
Housing Starts (Mil. units, saar)	1.213	1.258	1.213	1.228	1.117	1.040	1.250	1.228	0.988	0.945	1.049	1.056	1.019
Unemployment Rate (%)	3.9	3.6	3.6	3.6	3.9	4.0	3.9	3.7	4.2	5.5	5.6	5.4	5.1
Payroll Employment (%ch., saar)	1.7	1.2	1.2	1.1	0.9	1.2	1.7	1.5	0.7	-1.2	0.4	0.9	0.8
Federal Surplus (Unified, FY, bil. \$)	-372.2	-55.9	-297.3	-336.5	-399.4	-99.3	-779.0	-1044.4	-1120.7	-1250.3	-1318.1	-1273.7	-1233.1
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.40	2.22	1.95	1.55	1.29	1.83	2.24	0.91	0.14	0.27	1.20	1.94
10-Year Treasury Note Yield (%)	2.65	2.33	1.73	1.60	1.55	1.45	2.91	2.08	1.41	1.61	2.52	2.97	3.06
Incomes													
Personal Income (% ch., saar)	6.2	5.5	3.9	4.6	3.6	3.1	5.6	4.8	3.3	1.4	4.2	4.2	4.5
After-Tax Profits (Four-qr.% change)	-2.0	1.7	2.4	3.6	5.6	-1.0	1.7	1.5	-3.0	-0.1	8.9	7.3	8.2
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)													
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	3.1	2.0	1.9	2.5	3.1	3.4	2.9	2.3	2.8	3.0	2.9	2.8	2.9
Total Consumption	1.1	4.7	3.5	3.4	3.3	3.0	3.0	2.8	3.4	3.6	3.6	3.8	3.7
Nonresidential Fixed Investment	4.4	-0.6	-2.4	5.2	6.4	3.2	6.4	2.6	3.7	5.0	5.2	5.2	4.9
Residential Fixed Investment	-1.0	-2.9	2.3	1.9	5.4	-1.4	-1.5	-2.1	0.7	-2.9	-0.9	-0.6	0.7
Exports	4.1	-5.8	-0.2	2.3	15.3	3.6	3.0	-0.2	5.0	4.2	3.5	3.0	3.3
Imports	-1.5	0.1	2.2	2.2	6.6	7.1	4.4	1.7	4.9	6.0	5.3	5.7	5.5
Federal Government	2.2	8.1	1.7	1.4	4.5	6.8	2.9	3.2	3.4	0.1	-0.7	-2.1	-1.5
State & Local Government	3.4	2.3	-1.0	0.8	1.7	1.3	1.0	1.2	1.0	1.0	1.0	0.9	0.8
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	0.9	2.9	1.7	2.9	2.8	2.1	2.4	1.8	2.4	2.2	2.2	2.2	2.3
Producer Prices, Finished Goods	-2.3	4.6	0.1	2.0	2.8	1.8	3.1	0.9	2.1	1.9	2.0	2.1	2.2
Employment Cost Index - Total Comp.	2.7	2.1	2.6	2.7	2.9	3.5	2.9	2.6	2.9	3.2	3.3	3.3	3.5
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	63.17	68.89	62.01	67.67	69.67	70.33	70.96	65.44	70.83	74.73	77.70	80.89	84.17
Productivity (%ch., saar)	3.5	2.3	0.4	1.5	2.1	2.2	1.3	1.7	1.7	2.1	2.7	3.0	3.2
Total Industrial Production (%ch., saar)	-1.9	-2.1	-0.7	-0.7	3.2	2.5	3.9	0.6	1.4	2.6	2.4	2.1	2.3
Nonfarm Inven. Chg. (Bil. 2012 \$)	126.6	79.8	86.1	43.6	-36.5	12.7	55.2	84.0	27.8	88.3	97.9	95.6	98.7
Consumer Sentiment Index	94.5	98.5	98.1	101.9	104.4	105.2	98.4	98.2	105.3	106.2	104.0	102.6	102.6
Light Vehicle Sales (Mil. units, saar)	16.83	17.00	16.65	16.85	16.83	16.82	17.21	16.83	16.83	16.87	16.99	17.47	17.82
Housing Starts (Mil. units, saar)	1.213	1.258	1.220	1.231	1.306	1.285	1.250	1.231	1.275	1.245	1.259	1.261	1.283
Unemployment Rate (%)	3.9	3.6	3.5	3.5	3.4	3.2	3.9	3.6	3.3	3.1	3.2	3.5	3.8
Payroll Employment (%ch., saar)	1.7	1.2	1.3	1.0	1.2	1.4	1.7	1.5	1.2	1.1	0.6	0.3	0.2
Federal Surplus (Unified, FY, bil. \$)	-372.2	-55.9	-298.4	-335.4	-395.5	-91.4	-779.0	-1045.5	-1088.9	-1077.7	-1128.1	-1076.9	-1024.6
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.40	2.22	2.17	2.17	2.17	1.83	2.30	2.29	2.75	3.11	3.34	3.36
10-Year Treasury Note Yield (%)	2.65	2.33	1.73	2.25	2.40	2.55	2.91	2.24	2.62	3.24	3.84	4.28	4.56
Incomes													
Personal Income (% ch., saar)	6.2	5.5	3.4	5.5	4.8	4.9	5.6	4.8	4.9	5.0	5.0	5.1	5.3
After-Tax Profits (Four-qr.% change)	-2.0	1.7	2.7	5.9	9.2	5.3	1.7	2.1	6.8	6.7	5.9	9.2	8.9

Source: IHS Markit

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Alternative Scenarios of the US Economy

	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	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	3.1	2.0	2.1	1.4	1.3	0.4	2.5	2.1	-1.1	1.8	2.3	2.2	2.5
Total Consumption	1.1	4.7	3.6	2.4	1.8	1.7	2.6	2.9	1.3	1.2	2.1	3.0	3.3
Nonresidential Fixed Investment	4.4	-0.6	-2.2	3.7	1.6	-3.8	5.9	1.3	-7.2	1.4	7.2	4.8	3.0
Residential Fixed Investment	-1.0	-2.9	1.7	1.3	-5.9	-13.5	-4.4	-0.3	-12.3	-0.3	1.5	-1.8	-1.7
Exports	4.1	-5.8	0.3	1.9	14.2	1.2	0.4	0.1	-2.4	6.3	3.7	3.0	3.4
Imports	-1.5	0.1	2.3	1.7	3.8	2.7	3.2	0.6	0.3	3.2	7.4	4.7	4.2
Federal Government	2.2	8.1	1.7	1.3	4.2	6.5	2.7	3.3	2.5	-0.3	-0.8	-2.1	-0.6
State & Local Government	3.4	2.3	-0.8	0.5	1.6	1.5	0.9	1.3	1.4	1.1	1.1	1.0	1.0
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	0.9	2.9	1.9	2.2	2.4	1.9	2.2	2.0	2.0	2.2	2.3	2.2	2.2
Producer Prices, Finished Goods	-2.3	4.6	0.2	1.3	2.3	1.4	2.2	0.9	1.6	1.6	1.7	1.6	1.7
Employment Cost Index - Total Comp.	2.7	2.1	3.1	2.9	2.6	3.1	3.0	2.7	2.8	2.1	2.3	2.3	2.5
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	63.17	68.89	62.01	64.49	63.85	61.93	70.96	64.64	61.00	58.69	64.06	67.24	70.39
Productivity (%ch., saar)	3.5	2.3	0.7	0.5	0.5	-0.5	1.0	1.7	-1.3	3.5	1.4	1.7	2.2
Total Industrial Production (%ch., saar)	-1.9	-2.1	-0.6	-1.8	0.9	-2.2	4.0	-1.6	-3.6	0.9	2.8	1.7	1.9
Nonfarm Inven. Chg. (Bil. 2012 \$)	126.6	79.8	86.1	32.2	-45.0	-52.0	55.2	81.2	-65.7	-75.4	82.5	88.8	83.5
Consumer Sentiment Index	94.5	98.5	98.1	99.9	100.3	100.6	98.4	97.7	100.6	100.2	98.1	96.2	96.0
Light Vehicle Sales (Mil. units, saar)	16.83	17.00	16.65	16.75	16.44	16.33	17.21	16.81	16.00	15.30	15.83	16.41	16.70
Housing Starts (Mil. units, saar)	1.213	1.258	1.213	1.228	1.117	1.040	1.250	1.228	0.988	0.945	1.049	1.056	1.019
Unemployment Rate (%)	3.9	3.6	3.6	3.6	3.9	4.0	3.9	3.7	4.2	5.5	5.6	5.4	5.1
Payroll Employment (%ch., saar)	1.7	1.2	1.2	1.1	0.9	1.2	1.8	1.3	-0.1	-1.0	0.9	0.9	0.7
Federal Surplus (Unified, FY, bil. \$)	-372.2	-55.9	-297.3	-336.5	-399.4	-99.3	-779.0	-1044.4	-1120.7	-1250.3	-1318.1	-1273.7	-1233.1
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.40	2.22	1.95	1.55	1.29	1.83	2.24	0.91	0.14	0.27	1.20	1.94
10-Year Treasury Note Yield (%)	2.65	2.33	1.73	1.60	1.55	1.45	2.91	2.08	1.41	1.61	2.52	2.97	3.06
Incomes													
Personal Income (% ch., saar)	6.2	5.5	3.9	4.6	3.6	3.1	4.9	5.0	2.0	2.4	4.5	4.2	4.7
After-Tax Profits (Four-qr.% change)	-2.0	1.7	2.4	3.6	5.6	-1.0	9.8	3.6	-9.7	12.0	4.4	7.8	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	3.1	2.0	1.9	2.5	3.1	3.4	2.5	2.4	3.2	3.0	2.8	2.8	2.9
Total Consumption	1.1	4.7	3.5	3.4	3.3	3.0	2.6	3.2	3.3	3.7	3.6	3.9	3.6
Nonresidential Fixed Investment	4.4	-0.6	-2.4	5.2	6.4	3.2	5.9	1.6	4.8	5.3	5.2	5.2	4.7
Residential Fixed Investment	-1.0	-2.9	2.3	1.9	5.4	-1.4	-4.4	0.0	-1.1	-2.1	-0.6	-0.4	1.4
Exports	4.1	-5.8	-0.2	2.3	15.3	3.6	0.4	0.1	6.6	4.1	3.2	3.0	3.5
Imports	-1.5	0.1	2.2	2.2	6.6	7.1	3.2	0.7	6.7	5.5	5.4	5.9	5.1
Federal Government	2.2	8.1	1.7	1.4	4.5	6.8	2.7	3.3	2.8	-0.4	-1.1	-2.4	-0.8
State & Local Government	3.4	2.3	-1.0	0.8	1.7	1.3	0.9	1.3	1.3	1.0	0.9	0.9	0.8
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	0.9	2.9	1.7	2.9	2.8	2.1	2.2	2.1	2.3	2.3	2.2	2.2	2.3
Producer Prices, Finished Goods	-2.3	4.6	0.1	2.0	2.8	1.8	2.2	1.1	2.0	2.0	2.1	2.1	2.2
Employment Cost Index - Total Comp.	2.7	2.1	2.6	2.7	2.9	3.5	3.0	2.5	3.1	3.3	3.3	3.3	3.6
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	63.17	68.89	62.01	67.67	69.67	70.33	70.96	65.44	70.83	74.73	77.70	80.89	84.17
Productivity (%ch., saar)	3.5	2.3	0.4	1.5	2.1	2.2	1.0	1.9	2.0	2.3	2.9	3.2	3.1
Total Industrial Production (%ch., saar)	-1.9	-2.1	-0.7	-0.7	3.2	2.5	4.0	-1.4	2.8	2.5	2.3	2.1	2.4
Nonfarm Inven. Chg. (Bil. 2012 \$)	126.6	79.8	86.1	43.6	-36.5	12.7	55.2	84.0	27.8	88.3	97.9	95.6	98.7
Consumer Sentiment Index	94.5	98.5	98.1	101.9	104.4	105.2	98.4	98.2	105.3	106.2	104.0	102.6	102.6
Light Vehicle Sales (Mil. units, saar)	16.83	17.00	16.65	16.85	16.83	16.82	17.21	16.83	16.83	16.87	16.99	17.47	17.82
Housing Starts (Mil. units, saar)	1.213	1.258	1.220	1.231	1.306	1.285	1.250	1.231	1.275	1.245	1.259	1.261	1.283
Unemployment Rate (%)	3.9	3.6	3.5	3.5	3.4	3.2	3.9	3.6	3.3	3.1	3.2	3.5	3.8
Payroll Employment (%ch., saar)	1.7	1.2	1.3	1.0	1.2	1.4	1.8	1.3	1.2	1.0	0.4	0.2	0.3
Federal Surplus (Unified, FY, bil. \$)	-372.2	-55.9	-298.4	-335.4	-395.5	-91.4	-779.0	-1045.5	-1088.9	-1077.7	-1128.1	-1076.9	-1024.6
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.40	2.40	2.22	2.17	2.17	2.17	1.83	2.30	2.29	2.75	3.11	3.34	3.36
10-Year Treasury Note Yield (%)	2.65	2.33	1.73	2.25	2.40	2.55	2.91	2.24	2.62	3.24	3.84	4.28	4.56
Incomes													
Personal Income (% ch., saar)	6.2	5.5	3.4	5.5	4.8	4.9	4.9	5.1	4.9	5.0	5.0	5.2	5.3
After-Tax Profits (Four-qr.% change)	-2.0	1.7	2.7	5.9	9.2	5.3	9.8	5.9	6.3	6.6	5.9	9.5	8.6

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