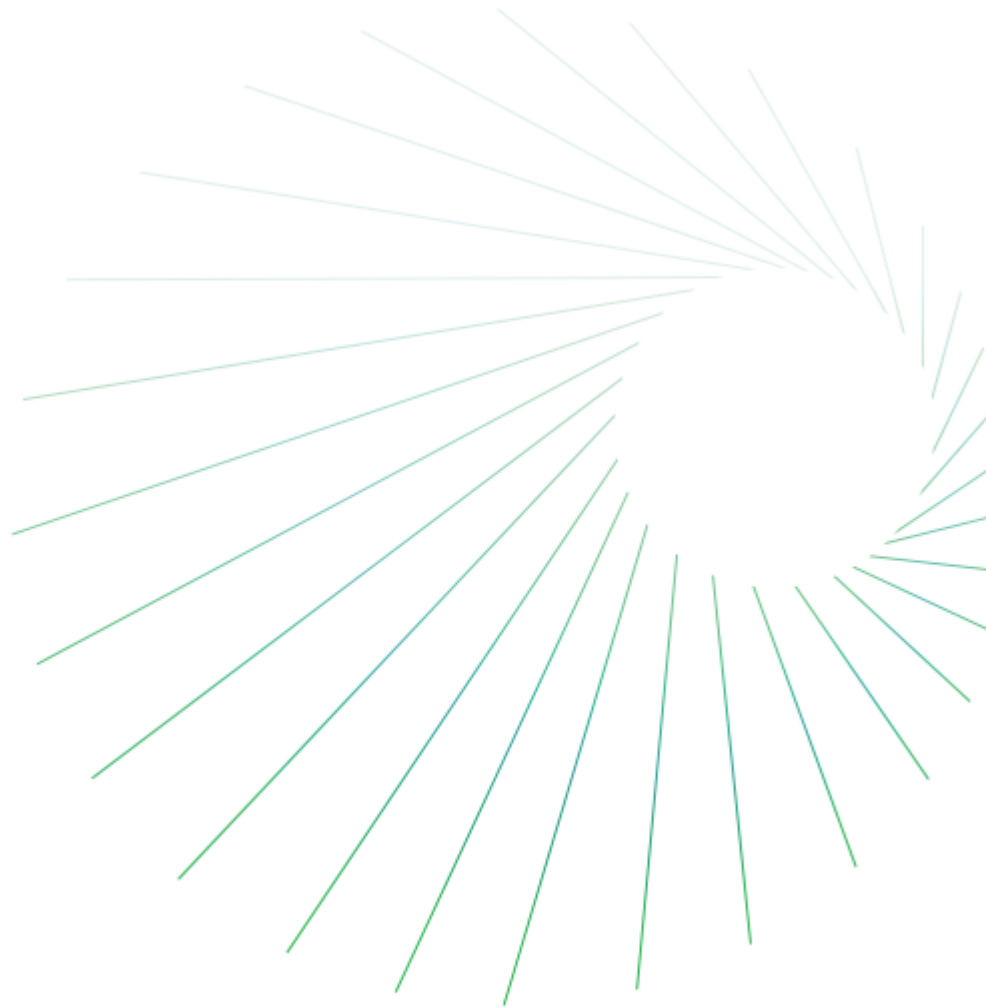


Executive Summary: US Economic Outlook

June 2019



Contacts

VP & Co-Heads US Economics

Joel Prakken, PhD, CBE, Chief US Economist
Chris Varvares, CBE

1-314-779-1980
1-314-779-1970

joel.prakken@ihsmarkit.com
chris.varvares@ihsmarkit.com

Executive Directors

Ben Herzon, PhD
Ken Matheny, PhD
Patrick Newport, PhD

1-314-779-1977
1-314-779-1978
1-781-301-9125

ben.herzon@ihsmarkit.com
ken.matheny@ihsmarkit.com
patrick.newport@ihsmarkit.com

Directors

Kathleen Navin, CBE

1-314-779-1976

kathleen.navin@ihsmarkit.com

Associate Directors

James Bohnaker, CBE
Mike Montgomery

1-781-301-9333
1-781-301-9031

james.bohnaker@ihsmarkit.com
mike.montgomery@ihsmarkit.com

Principal Economists

David Deull
Michael Konidaris

1-617-866-5339
1-314-779-1982

david.deull@ihsmarkit.com
michael.konidaris@ihsmarkit.com

Economists and Senior Economists

Gordon Greer III
Rebecca Mitchell
Lawrence Nelson
Juan Turcios

1-781-301-9139
1-781-301-9132
1-314-779-1981
1-314-779-1986

gordon.greer@ihsmarkit.com
rebecca.mitchell@ihsmarkit.com
lawrence.nelson@ihsmarkit.com
juan.turcios@ihsmarkit.com

IHS Markit Customer Care

IHS Markit Customer Care

1-800-447-2273

customercare@ihsmarkit.com

Tariffs and worsened financial conditions slow growth

- Despite quite solid 3.1% (annualized) GDP growth in the first quarter, growth over 2019 is now projected at just 2.0% (Q4 over Q4).¹ This is four-tenths below last month's projection, as worsened financial conditions, tariff increases, and greater uncertainty around additional tariffs are expected to combine to slow growth of consumer and business spending more than previously expected.
- Investor concerns over the impact on earnings of another round of US and retaliatory tariffs, along with rising risks of a downturn after 2019, continue to weigh on financial conditions. Although helped by a dovish pivot in Fed policy, financial conditions will remain volatile as uncertainty over tariffs rises and falls.
- The unemployment rate is expected to reach a cycle low of roughly 3½% this summer, where it will linger before starting a gradual rise once GDP growth drops below trend.
- After a soft start to the year, inflation is expected to pick up, with core PCE inflation projected to run above a 2% annualized pace in the second half.² Nevertheless, we removed the Fed tightening in December from the forecast.
- Risks of a downturn rise as US growth slows from above-trend in 2018-19 to trend growth or lower in 2020-2021.

US GDP growth in process of a marked slowing

- Growth jumped to a revised 3.1% pace in the first quarter, from 2.2% in the fourth quarter, led by a surge in net exports and another strong gain in inventory building.
- Following a surge in non-petroleum merchandise imports last year—likely to beat possible tariffs—they fell in Q1, boosting net exports. The decline in imports was not matched with lower inventory-building.
- Indeed, inventory investment rose sharply, but to a pace we view as well above one that is sustainable, setting up a decline in coming quarters.
- GDP growth is expected to fall to 1.5% in Q2 as a result of a partial reversal of the surge in net exports and a drop in inventory building.
- Final sales (GDP excluding net exports and inventory building) rose a solid 2.6% last year, and are expected to slow slightly, increasing 2.2% this year.

US growth to slow to 2.0% in 2019

- Contributing to a material slowing in GDP growth are slowing global growth, less boost to domestic spending from rising stock prices, the effects of recent tariffs, a decline in the pace of inventory accumulation, and the approach to capacity constraints.
- Of note, a rising pace of inventory accumulation contributed 0.4 percentage point to growth last year and is expected to subtract 0.2 point this year, accounting for 0.6 percentage point of the one percentage point slowing in GDP growth we now project.
- Consumer spending growth is projected to slow from 2.6% last year to 2.0% this year.
- The unemployment rate is projected to decline to 3.5% this summer before starting to drift up in 2020.

Inflation to remain in check near 2% thanks to slowing global growth, restrained commodity prices, a strong dollar and steady inflation expectations

- 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 have restrained inflation early this year, holding core PCE inflation to just 1.0% in Q1.
- Inflation fundamentals are still expected to push core consumer price inflation to 2.0% on a sustained basis by later this year. A stronger dollar path this month helps cap core inflation at 2%, rather than 2.2%.
- If trade talks falter and the US goes ahead with still more tariffs, inflation could temporarily prove a few tenths stronger than forecast here.

Fed policy: Settling in for a long pause

- We now expect the Fed to implement only one more fed funds rate hike, which has been delayed until 2023, and to wind down balance-sheet run-off.
- This would bring the top of the fed funds range to 2.75%, near the longer-run nominal neutral rate.
- We expect the 10-yr T-note yield to trend slowly higher, but not breach 3% until late in 2021.

Equities to rebound to near record highs this year

- Lower expected Fed rates are restraining term yields and are supporting equities.
- We look for a 15.2% gain in the S&P 500 over 2019.

¹ This forecast was completed and issued on 5 June 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

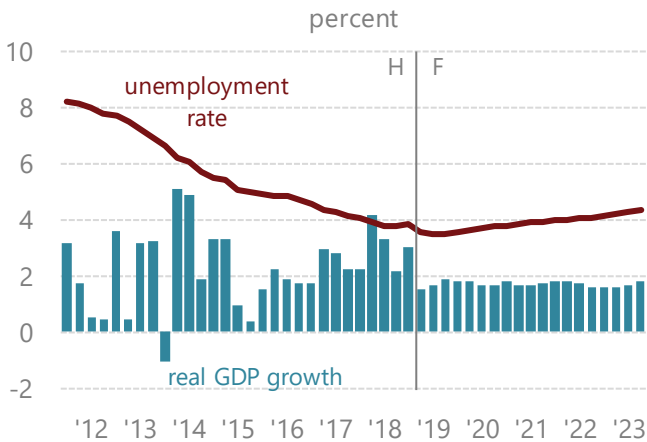
	Annual rates					Annual averages					Q4/Q4				
	2019:1	2019:2	2019:3	2019:4	2020:1	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Composition of Real GDP, Percent Change															
Gross Domestic Product	3.1	1.5	1.7	1.9	1.8	2.9	2.5	1.8	1.7	1.8	3.0	2.0	1.8	1.7	1.7
Final Sales of Domestic Product	2.5	2.4	1.9	2.2	1.9	2.7	2.3	2.0	1.7	1.7	2.6	2.2	1.8	1.7	1.7
Gross Domestic Income	1.4	1.8	1.9	2.1	2.0	2.3	1.8	2.0	1.8	1.8	2.4	1.8	1.9	1.8	1.8
Avg. of GDP and GDI	2.2	1.7	1.8	2.0	1.9	2.6	2.1	1.9	1.8	1.8	2.7	1.9	1.8	1.8	1.8
Total Consumption	1.3	2.9	1.7	2.1	2.1	2.6	2.4	2.2	2.5	2.5	2.6	2.0	2.3	2.5	2.5
Durables	-4.6	11.1	1.8	3.2	4.0	5.5	2.9	4.3	5.4	5.4	3.4	2.7	4.7	5.5	5.4
Nondurables	2.0	3.6	2.0	1.8	1.7	2.8	2.7	2.0	1.8	1.6	2.7	2.3	1.9	1.7	1.6
Services	2.1	1.6	1.5	2.1	2.0	2.1	2.2	2.0	2.3	2.3	2.4	1.8	2.2	2.3	2.3
Nonresidential Fixed Investment	2.3	-1.8	2.8	2.7	1.9	6.9	2.6	2.0	2.3	2.6	7.0	1.5	2.2	2.4	2.8
Equipment	-1.1	-7.5	0.7	2.1	1.6	7.4	0.4	1.1	2.7	3.3	5.8	-1.5	2.1	2.9	3.5
Information Processing Equipment	-0.3	1.9	2.9	3.3	3.3	9.5	1.8	3.1	3.1	3.2	6.4	1.9	3.2	3.1	3.3
Industrial Equipment	-2.8	-5.0	-5.5	0.2	0.9	5.2	-0.4	0.9	6.4	4.7	4.6	-3.3	4.0	6.3	4.6
Transportation equipment	6.2	-20.5	0.4	13.3	3.4	7.0	0.6	3.1	-2.3	2.5	7.0	-1.0	1.1	-0.1	2.4
Aircraft	-39.1	-61.7	9.9	128.6	37.6	7.9	-16.5	30.4	11.8	10.8	20.0	-12.5	24.3	9.9	10.9
Other Equipment	-8.1	-7.1	3.5	-8.9	-2.1	7.0	-1.2	-3.5	4.5	3.2	4.4	-5.3	-0.1	3.0	3.9
Intellectual Property Products	7.2	8.0	6.1	5.3	4.0	7.5	7.7	4.6	3.3	3.0	10.2	6.7	3.7	3.1	2.9
Structures	1.7	-4.9	1.7	-0.1	-0.7	5.0	-0.7	-0.3	0.1	0.8	4.9	-0.4	-0.0	0.1	1.2
Commercial & Health Care	6.6	-2.9	5.6	1.4	-1.8	0.6	-0.5	0.1	1.8	6.1	-1.1	2.6	-0.4	2.9	7.4
Manufacturing	3.8	-4.2	4.2	2.3	1.8	-7.7	1.6	-1.7	3.3	-4.1	-3.1	1.5	-3.9	5.9	-6.4
Power & Communication	-0.1	-18.2	-20.4	-20.1	-29.3	-0.9	-10.6	-16.6	-8.3	-12.9	1.6	-15.1	-10.0	-13.7	-11.8
Mining & Petroleum	-1.3	6.9	13.5	9.3	13.2	28.8	5.3	7.3	-2.3	1.0	22.2	7.0	3.2	-1.8	1.5
Other	-1.4	-8.0	3.6	4.7	11.1	2.9	1.0	5.8	5.1	4.6	4.6	-0.4	6.9	5.4	4.0
Residential Fixed Investment	-3.5	-1.8	-0.4	0.9	-1.0	-0.3	-2.6	-1.1	-1.1	0.7	-3.3	-1.2	-1.6	-0.4	0.3
Exports	4.8	-4.2	3.8	3.7	3.7	4.0	1.3	2.9	2.4	2.1	2.3	1.9	3.1	2.1	2.2
Imports	-2.5	-3.0	2.1	2.1	2.9	4.5	0.6	2.6	4.2	4.2	3.4	-0.3	3.7	4.2	4.3
Federal Government	-0.1	7.6	2.5	1.6	1.4	2.6	2.7	1.8	-0.8	-1.1	2.7	2.9	0.3	-0.8	-1.5
State & Local Government	4.0	3.3	1.0	0.8	1.2	0.8	1.9	1.3	1.2	1.0	0.8	2.3	1.3	1.0	1.0
Prices & Wages, Percent Change															
GDP Deflator	0.8	2.2	2.7	2.0	2.2	2.2	1.8	2.3	2.3	2.3	2.1	1.9	2.3	2.4	2.3
Consumer Prices	0.9	3.1	2.9	2.2	1.9	2.4	2.0	2.1	2.0	2.2	2.2	2.3	1.7	2.2	2.2
Producer Prices, Finished Goods	-2.4	5.9	2.4	3.0	2.3	3.1	1.5	2.3	1.8	2.1	2.2	2.2	1.5	2.1	2.1
Employment Cost Index - Total Comp.	3.0	2.6	2.7	3.3	3.2	2.9	2.8	3.2	3.5	3.6	3.0	2.9	3.4	3.6	3.6
Other Key Measures, Percent Change															
Total Industrial Production	-1.9	-0.6	1.1	1.3	0.9	3.9	1.2	1.0	1.0	1.1	4.0	-0.0	1.1	1.0	1.0
Payroll Employment	1.7	1.6	1.3	1.1	1.1	1.7	1.6	1.1	0.6	0.6	1.8	1.4	0.8	0.6	0.5
Financial Markets, NSA, Quarter Average															
S&P 500 Stock Index (four-quarter % change)															
(Average of period)	4.5	17.2	-3.1	2.8	1.8	12.1	1.9	3.3	4.0	3.0	3.3	5.1	4.0	3.2	3.2
(End of period)	7.3	4.5	0.9	15.2	2.3	8.0	6.7	2.5	3.3	3.0	-6.2	15.2	3.8	2.4	3.5
Exchange Rate, Broad Index (%change, annual rate)	-3.0	5.4	2.8	1.4	0.5	0.7	4.7	2.0	2.3	1.5	6.5	1.6	2.1	2.1	1.1
Incomes, Percent Change															
Personal Income	3.3	4.2	4.1	4.4	5.0	4.4	3.9	4.6	4.5	4.4	4.3	4.0	4.6	4.4	4.3
Real Disposable Income	2.2	1.1	1.5	2.3	3.0	2.8	2.1	2.5	2.5	2.3	3.0	1.8	2.8	2.4	2.3
			Levels					Annual averages					Q4 values		
Billions of Dollars															
Real GDP	18908	18979	19059	19148	19236	18566	19024	19361	19697	20044	18765	19148	19485	19825	20170
Nominal GDP	21049	21246	21478	21685	21905	20494	21365	22236	23150	24111	20865	21685	22566	23501	24473
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	63.17	69.34	70.67	72.67	70.33	70.96	68.96	67.25	66.73	68.75	67.42	72.67	64.00	67.42	69.55
Factory Operating Rate	76.4	75.9	75.8	75.7	75.6	76.6	75.9	75.4	75.0	74.6	77.0	75.7	75.3	74.8	74.5
Nonfarm Inven. Chg. (Bil. 2012 \$)	132.3	85.9	73.9	53.4	48.4	50.9	86.4	40.5	42.3	48.5	103.3	53.4	36.8	43.6	51.0
Light Vehicle Sales (Mil. units, saar)	16.82	16.76	16.67	16.79	16.68	17.19	16.76	16.63	16.48	16.40	17.50	16.79	16.57	16.43	16.44
Housing Starts (Mil. units, saar)	1.203	1.209	1.201	1.204	1.209	1.250	1.204	1.216	1.238	1.281	1.185	1.204	1.231	1.264	1.277
Exist. House Sales (Total, Mil. saar)	5.207	5.316	5.355	5.501	5.475	5.341	5.344	5.459	5.509	5.607	5.143	5.501	5.473	5.609	5.618
Unemployment Rate (%)	3.9	3.6	3.5	3.5	3.6	3.9	3.6	3.7	3.9	4.0	3.8	3.5	3.8	3.9	4.1
Federal Surplus (Unified, nsa, bil. \$)	-372.2	-71.3	-261.5	-303.6	-375.0	-873.0	-1008.6	-1023.7	-1092.3	-1127.0	-318.9	-303.6	-312.6	-337.8	-309.6
Current Account Balance (Bil. \$)	-550.5	-519.7	-511.3	-524.2	-516.2	-488.5	-526.4	-507.2	-518.6	-569.8	-537.5	-524.2	-502.1	-531.3	-594.7
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.39	2.38	2.38	2.38	1.83	2.39	2.38	2.38	2.38	2.22	2.38	2.38	2.38	2.38
3-Month Treasury Bill Rate (%)	2.39	2.36	2.36	2.30	2.26	1.94	2.35	2.22	2.16	2.14	2.32	2.30	2.19	2.15	2.14
10-Year Treasury Note Yield (%)	2.65	2.38	2.30	2.32	2.45	2.91	2.41	2.62	2.96	3.17	3.03	2.32	2.77	3.06	3.22
30-Year Fixed Mortgage Rate (%)	4.38	4.08	4.05	4.09	4.20	4.54	4.15	4.33	4.59	4.76	4.78	4.09	4.45	4.66	4.81
S&P 500 Stock Index (average of period)	2722	2832	2810	2829	2842	2745	2798	2890	3005	3095	2692	2829	2942	3036	3133
S&P 500 Stock Index (end of period)	2834	2839	2940	2888	2901	2695	2875	2946	3044	3135	2507	2888	2997	3068	3176
Incomes															
After-Tax Profits (Billions of \$)	-3.2	13.0	2.1	2.0	1.6	6.3	1.9	2.3	3.5	4.0	11.1	3.3	1.7	4.3	3.7

Source: IHS Markit

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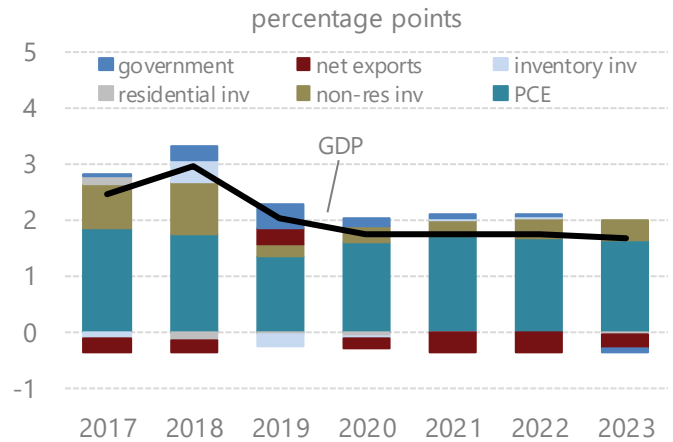
Modestly above-trend growth & rising interest rates

Growth to slow through 2023



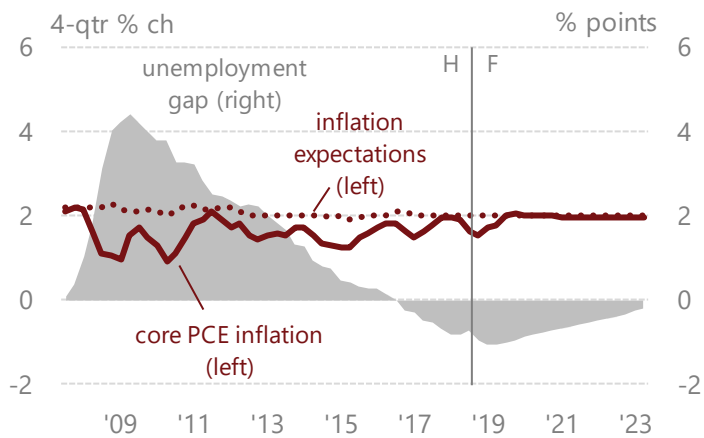
Source: Macroeconomic Advisers by IHS Markit, BEA, BLS

Contributions to GDP growth



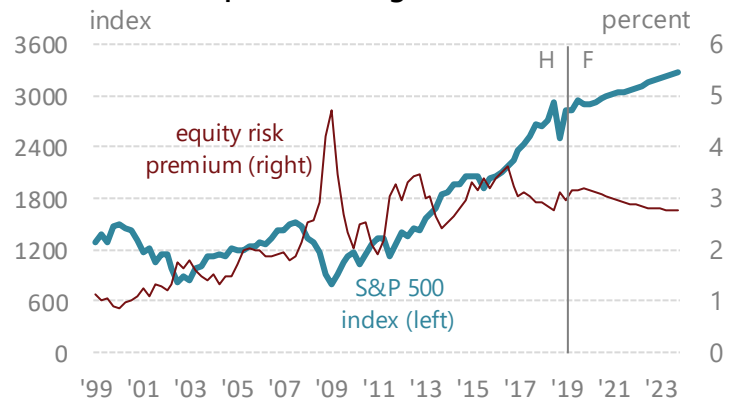
Source: Macroeconomic Advisers by IHS Markit, BEA

Core PCE inflation projected to rise



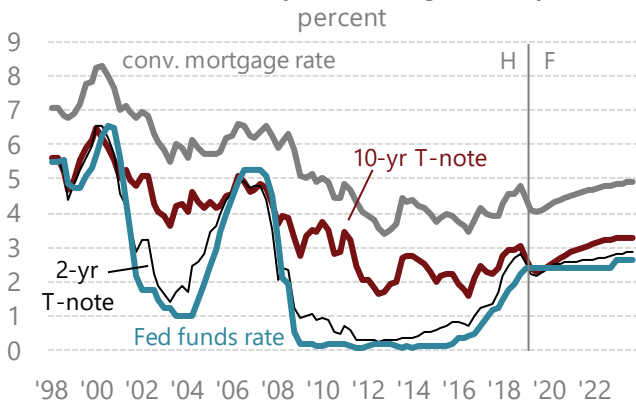
Source: Macroeconomic Advisers by IHS Markit, Philly Fed, BEA, BLS

Equities rebound after December correction as risk premium edges lower



Source: Macroeconomic Advisers by IHS Markit, S&P

Fed funds rate to remain unchanged through early 2023, term yields rise gradually



Source: Macroeconomic Advisers by IHS Markit, FRB

Forecast overview

	2018	2019	2020	2021	2022	2023
Real GDP*	3.0	2.0	1.8	1.7	1.7	1.7
Pvt Final Dom Dem*	3.0	1.8	2.1	2.4	2.4	2.3
Unemployment Rate**	3.8	3.5	3.8	3.9	4.1	4.3
Core PCE Inflation*	1.9	1.8	2.0	2.0	2.0	2.0
		1.8	2.2	2.2	2.2	2.1

* Q4 to Q4 percent change, ** Q4 average

Note: Prior forecast values shown below each line.

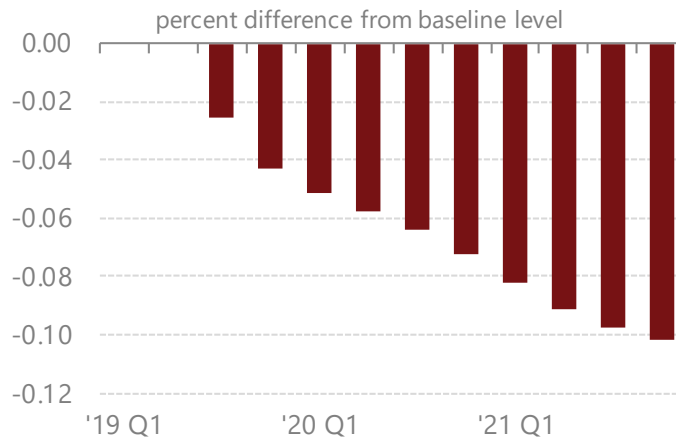
New China tariffs: small direct impacts, significant financial fallout

This month's forecast includes the step-up in tariffs on approximately \$200 billion of goods imported from China, from 10% to 25%, announced by President Trump effective 10 May. It also includes China's retaliatory tariffs on about \$60 billion of US exports, effective 1 June. The new tariffs are assumed permanent. When implementing the tariffs we assumed they are passed on to prices over four months, and we allocated them to the prices of items subject to the tariffs. The "static" increase in customs duties is \$26 billion, or just 0.1% of domestic demand, so the macro impacts through higher prices and lower real incomes are modest. Furthermore, our analysis suggests that a significant share of the cost increase will be offset by the re-sourcing of demand to countries not subject (yet) to such tariffs; there also will be some shifting of production to the US. In addition, the yuan has depreciated significantly since the tariffs were announced—another potential cost offset. The nearby charts show the resulting impact on the level of GDP and the level of the core PCE price index relative to the "pre-tariff baseline." After two and a half years, the level of GDP is down 0.1%. The PCE price level initially rises 0.08% but then, as the economy weakens slightly, that initial increase in price gradually erodes.

President Trump, intending to compel Mexico to stop the flow of unauthorized immigrants across the US southern border, also threatened to impose a tariff on imports from Mexico that would escalate from 5% in June to 25% by October. It was uncertain whether this threat would be carried out but, to pay some service to the risk, we included in this forecast a 5% tariff on goods imported from Mexico for US consumption, from 10 June through 31 August. This raised \$3.5 billion of customs duties, or just 0.02% of domestic demand. In addition, we modeled the responses as if the tariffs were considered temporary. Hence, they had negligible direct impacts on the forecast through prices and real incomes and, now that the President has rescinded his threat, there will be a negligible direct impact when we remove these tariffs from next month's forecast.

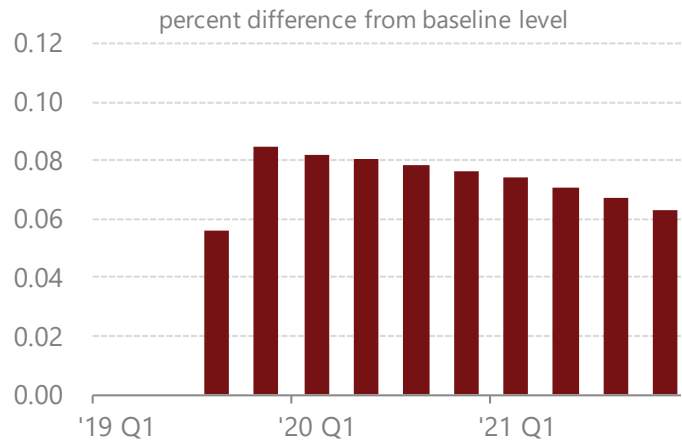
However, the Administration's unexpected ratcheting up of trade tensions sent equity markets into a tailspin, compelling us to revise up our near-term projection of the equity risk premium (see Equities) and down our near-term projection of equity valuations (see chart). This, along with downward revisions to wages and salaries suggested by a new wage report for the fourth quarter of 2018, led to a significant downward revision in our forecast for growth of PCE—about 0.3 percentage point annually through 2021 (see Consumption).

Impact of new China tariffs on real GDP



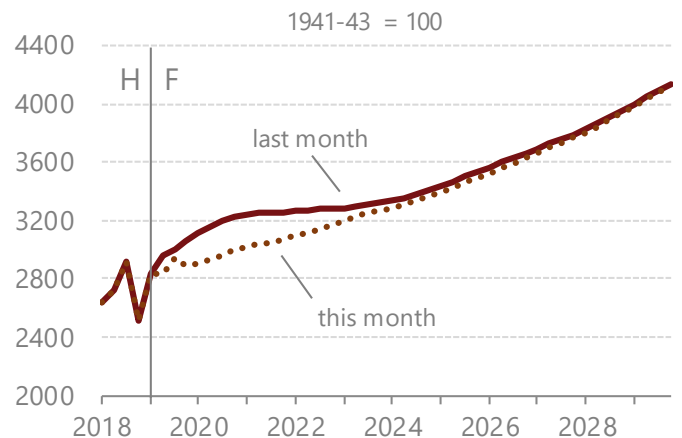
Source: Macroeconomic Advisers by IHS Markit

Impact of new China tariffs on PCE price



Source: Macroeconomic Advisers by IHS Markit

S&P 500 share price index



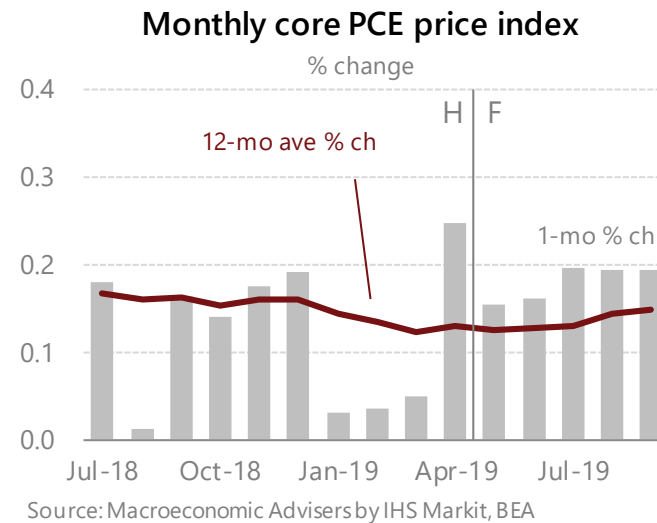
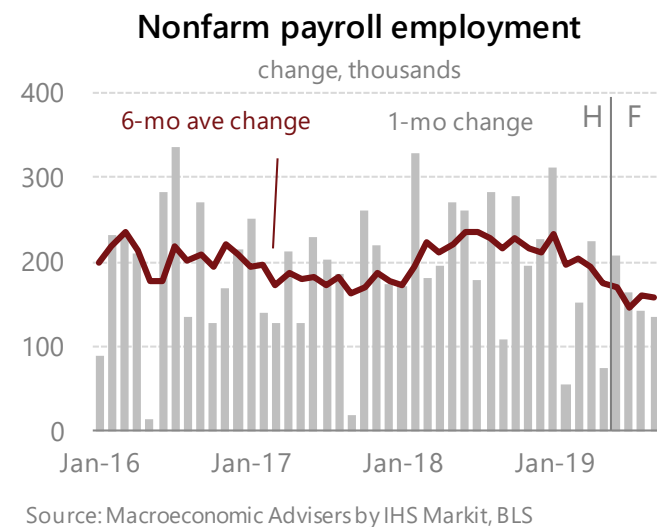
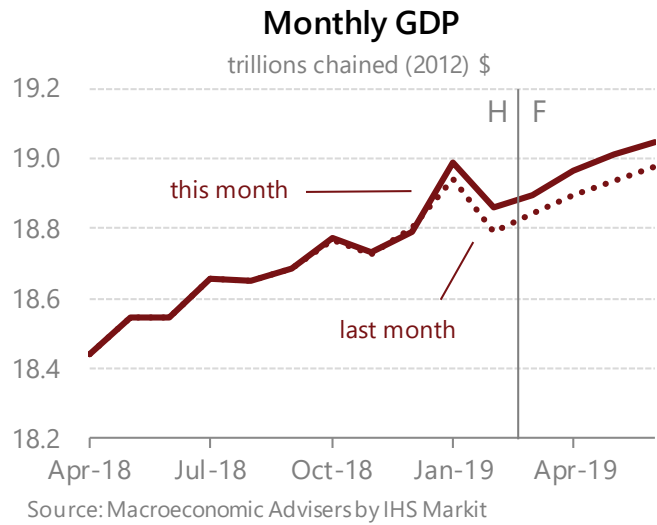
Source: Macroeconomic Advisers by IHS Markit, S&P

A sharp slowing accounted for by inventory investment

In our base forecast, GDP growth slows sharply from 3.1% in the first quarter to 1.5% in the second quarter. This deceleration is nearly fully accounted for by a sharp slowing in the pace of inventory investment; growth of final sales is expected to slip only 0.1 percentage point to 2.4% in the second quarter. The decline in the pace of inventory investment would prevent what would otherwise be a buildup of inventories to a level that, by our estimation, would not be supported by the underlying trend in final sales. Within final sales, solid increases in consumer and government spending and in fixed investment in intellectual property products is forecast to be partially offset in the second quarter by declines in business fixed investment in structures and equipment and in residential investment. The second-quarter contribution from government spending that is helping to prop up final sales in part reflects a rebound in federal spending following the effects on first-quarter GDP of the federal government shutdown. In the third quarter, GDP growth is expected to remain subdued (at 1.7%), reflecting continued, albeit moderating drag from declining inventory investment and a further slowing in growth of final sales to 1.9%.

The forecasted slowing of GDP growth from 3.2% over the four quarters ending in the first quarter to an average of 1.7% over the balance of this year is expected to contribute to a slowing trend in employment gains. The six-month moving average of monthly payroll gains peaked last July at 236 thousand per month and has been moving unevenly lower since. From June through September, we expect payrolls gains to average about 160 thousand per month. With the unemployment rate reported at 3.6% in May, we view the U.S. economy to have essentially reached capacity; we expect the unemployment rate to edge only slightly lower, averaging 3.5% over the second half of this year.

Following modest increases over the three months of the first quarter (reflecting temporary weakness in a few key components), the core PCE price index turned up in April, posting an increase that nearly rounded to 0.3%. We look for monthly increases from May through September that generally round up to 0.2%, with a firming profile reflecting our estimate of the pass-through of rising tariffs on imports from China. Still, the 12-month increase in the core PCE price index, which was 1.6% in April, is expected to rise to only 1.8% by September. A markdown in our inflation forecast led us to delay (to 2023) the date when we expect the Federal Reserve to next raise the target range for the federal funds rate.



Real GDP growth transitions to below 2% trend in 2021

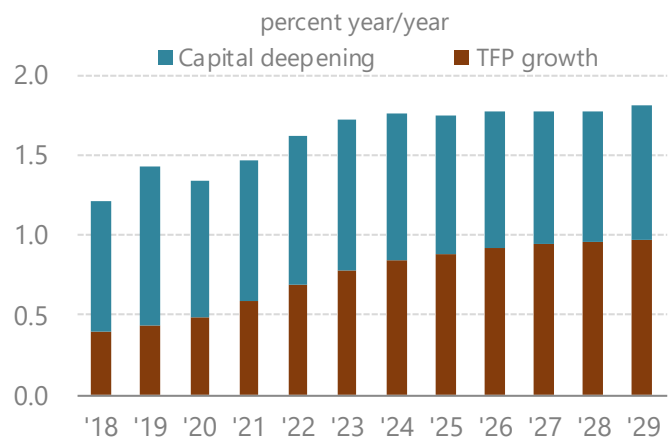
On the supply side of the economy, we project full-employment (or “trend”) GDP growth of 2% per year over the coming decade—slightly lower over the first five years, slightly higher over the last five—but with a shift in composition from growth in the labor force towards growth in productivity. Growth of full-employment productivity is projected to rise from 1.2% in 2018 to a peak of 1.7% in 2022 (see chart). Roughly two-thirds of the increase through 2022 is accounted for by an assumed increase in the growth of total factor productivity (TFP, see Key Forecast Assumptions). The contribution from capital deepening, consistent with our forecast of capital spending, temporarily rises to one percentage point in 2019 before averaging 0.9 percentage point thereafter (see chart). 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 during 2019-2020 is projected at 1.9%, just equal to our estimate of potential growth over those two years. The year 2021 sees a transition to modestly below-trend growth that persists through 2024, allowing the unemployment rate to drift up close to “full employment,” approximately 4.5%.

Several factors support trend-like growth through 2020: (1) in 2019, the 2017 Tax Act supports private demand while in 2019 and 2020 the Bipartisan Budget Act of 2018 supports government spending; (2) interest rates are low and monetary policy is on hold for the present; (3) recent gains in wealth, employment, and compensation, along with elevated consumer confidence, support growth of personal consumption expenditures; (4) a modest increase in housing starts is necessary to accommodate projected household formation; (5) foreign growth, while slowing, remains supportive of US exports; and (6) strong increases in US production of crude oil. These positive growth factors are offset by drag from inventory investment and, in 2020, net exports, which are restrained by a strong dollar.

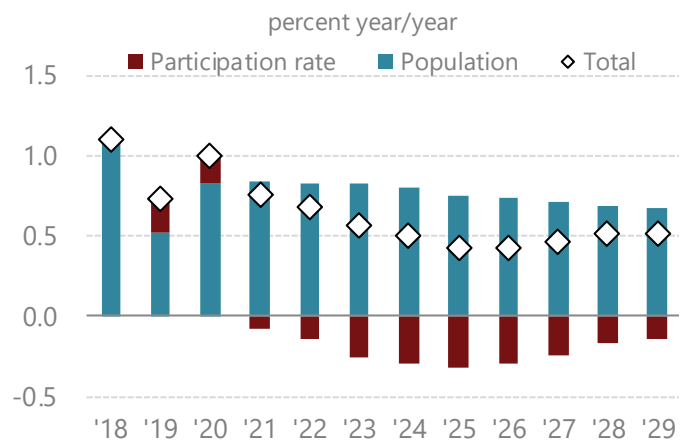
The slowdown after 2020 arises from: (1) waning fiscal stimulus (see Fiscal Policy); (2) the lagged effects of recent tariff increases; (3) an additional monetary tightening in 2023; (4) an upward drift in long-term interest rates as the premium in term Treasury yields gradually normalizes; (5) proximity to full employment that limits growth of labor income—a key driver of PCE—and a projected deceleration in household wealth as equity values flatten (see Equities) and house-price appreciation slows. As growth slows after 2020, a small positive output gap is gradually eliminated (see chart).

Growth of full-employment productivity



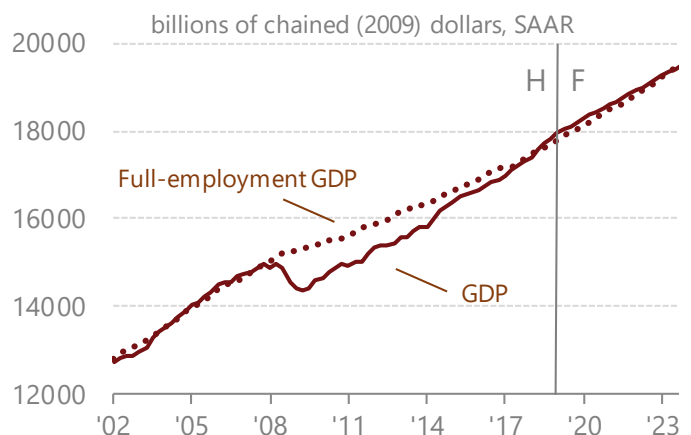
Source: Macroeconomic Advisers by IHS Markit

Growth of the labor force



Source: Macroeconomic Advisers by IHS Markit, BLS

Real GDP



Source: Macroeconomic Advisers by IHS Markit

Monetary policy on hold, new tariffs

Fiscal policy: Federal retirement and health benefits remain governed by current law. Discretionary spending builds through 2019 under caps set by the Bipartisan Budget Act of 2018, assumed to be extended beyond FY2019. 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, re-imposed on 2 March, is raised this fall without disruptions.

Monetary policy: We expect the Federal Open Market Committee to maintain the target range for the federal funds rate at 2.25%-2.50% for the immediate future. The Fed allows its balance sheet to shrink through the fall and maintains its 2% inflation objective. A gradual rise in inflation and a quickening in potential GDP growth eventually require another 25 basis point hike in the funds rate in early 2023, bringing the upper end of the target range to 2.75%, our estimate of "neutral."

Tariffs: In addition to previously assumed tariffs, this forecast also includes, effective 10 May, a step-up from 10% to 25% in the tariff on \$200 billion of goods from China and, effective 10 June through August, a 5% tariff on imports from Mexico (see What's New).

Global: Real, broad, trade-weighted growth of foreign GDP slows from 3.1% (year/year) in 2017 to 1.9% 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 2.4% by 2026.

Oil prices: The price of Brent crude is projected to fall from \$71 per barrel in 2018 to \$67 in 2020, before rising back to \$71 in 2023. Upward pressure from US sanctions on Iran and new IMO regulations on bunker fuel will be mitigated by rising US production. These assumptions are little changed from last month.

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 1.1 percentage points, to 62.3%, by the end of 2022. The annual rate of household formations slips from 1.40 million in 2018 to 1.22 million in 2023.

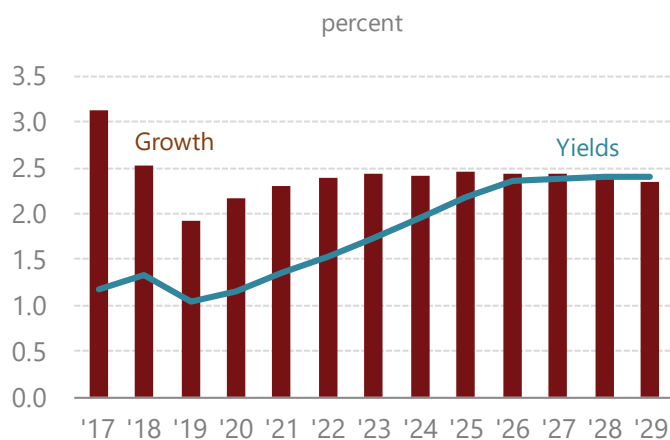
Productivity: In the MA/US model we assume growth of total factor productivity rises from 0.4% in 2018 to 0.9% by 2025, close to the average of the prior two decades (see chart). Growth of trend labor productivity rises from roughly 1% in 2018 to 1.7% by 2023.

Effective tariff on non-petro goods



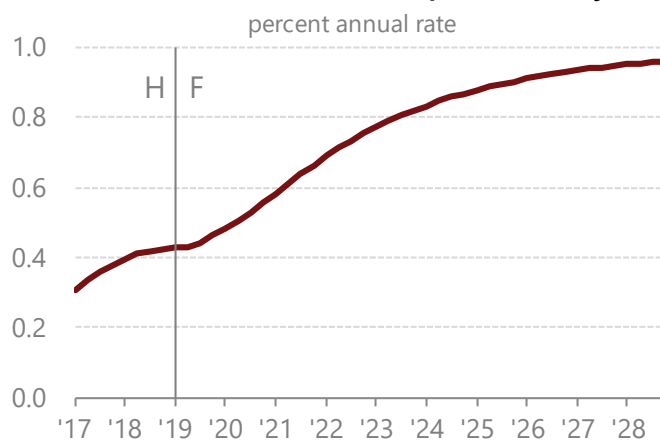
Source: Macroeconomic Advisers by IHS Markit

Foreign GDP growth and bond yields



Source: Macroeconomic Advisers by IHS Markit

Growth of total factor productivity



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 declines in a wide range of investment and consumer spending categories to end the expansion in its 131st 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 year-over-year growth drop from around 2.3% from the second quarter of 2020 to about 2.0% through the third 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 in line with 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 9.8% in 2020, not recovering to the baseline levels until 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 second 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 Q1 2021, catching up to baseline growth in early 2023 before outpacing it, while business fixed investment catches up with baseline growth in Q1 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 2019 and 2020, peaking at 6.0% 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 Q3 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 takes years 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 non-accelerating 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 about one percentage point higher than its baseline level over 2019–29, while the unemployment rate declines to 3.2% before beginning a gradual rise to between 3.9% and 4.1% over the long run. Core personal consumption expenditure (PCE) inflation averages 1.8% over the next ten years, two tenths lower than the baseline. The federal funds rate target range settles at 3.25–3.50%.

Even though the unemployment rate dips to as low as 3.2% in 2020, the lower natural rate of unemployment keeps core PCE inflation marginally below the baseline rate over the next several years. Despite tame inflation, the higher equilibrium federal funds rate assumed in this alternative scenario requires the Fed to raise rates at a faster pace than in the baseline starting in the first half of 2020. After several additional hikes, the federal funds rate settles at 3.25%–3.50%, remaining above its baseline level for the rest of the forecast interval.

Productivity rises at an annual average rate of 2.5% from 2019 to 2029, nearly one percentage point faster than the baseline, and rebounding from a lackluster post-recession pace that averaged just 0.6% over 2011–16. 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 3.5% during 2020–22. Thanks to improved finances and higher employment, household formation accelerates. This spurs a sharp rise in housing starts, which peak at 1.38 million, above the 1.28-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/barrel over the forecast horizon, about \$9/barrel higher than the baseline. After strengthening above its baseline values in the near term, the broad, real trade-weighted dollar depreciates 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 2.0% in 2019 amid slowing global growth, fading fiscal stimulus, and weaker stock price growth, followed by 1.8% in 2020	GDP growth slips below baseline to 1.8% in 2019; GDP contracts 1.6% in 2020, with a recession running from second-quarter 2020 to fourth-quarter 2020	Growth chugs along at 2.4% in 2019 as productivity picks up; growth remains roughly 1.0 percentage point higher than baseline over forecast interval
Consumer spending	Growth cools to 2.0% in 2019 before firming to 2.3% in 2020	Rises 1.5% in 2019, slows to 0.2% growth in 2020 amid a broad-based loss of confidence before bouncing back to 1.5% in 2021	Growth expands 2.4% in 2019 then rises to 3.4% in 2020 thanks to faster real income growth
Business investment	Growth is projected to ease to 1.5% in 2019 as nonfarm business sector output slows, then registers 2.2% in 2020	Slows to 1.0% growth in 2019, and then drops 6.4% in 2020 as businesses trim capex in the face of falling demand, recovering to 3.9% in 2021	Cools to 1.9% growth in 2019, before swelling to 5.2% growth in 2020
Housing	Gradual improvement, reaching over 1.25 million starts by end-2021	Housing starts drop below their baseline levels in 2019 and never surpass 1.10 million units after first quarter 2020	Young adults form households in greater numbers due to a strengthening economy, resulting in 1.35 million starts by 2024
Exports	Rise 1.9% in 2019 and 3.1% in 2020	Jump to 2.1% growth in 2019, helped by a lower dollar, before falling to 0.9% growth in 2020, rising to 2.3% growth in 2021	Rise 2.1% in 2019 and 3.3% 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	Federal Reserve hikes the federal funds rate once in 2023, bringing the upper end of the target range to 2.75%	Fed lowers the federal funds rate from third quarter 2019 to third quarter 2020, reaching the zero bound	The federal funds rate eventually rises to 3.25-3.50%, 0.50-0.75 percentage point higher than the baseline
Credit conditions	Gradually easing	Lending standards remain high	Rapidly easing
Productivity growth	Averages 1.3% from 2019 through 2022	Averages 1.0% during 2019–22, 0.3 percentage point below the baseline	Averages 2.1% during 2019–22, 0.8 percentage point above the baseline
Consumer confidence	Declines steadily before leveling out in first quarter 2023	Drops from second quarter 2019 to a low in fourth quarter 2020; 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 \$69 in 2019 and \$67 in 2020	Modestly lower than the baseline over the forecast interval starting fourth quarter 2019	Modestly higher than the baseline over the forecast interval
Stock markets	The S&P 500 recovers some of its recent losses, gaining 15.2% over 2019 (Dec. to Dec.)	The S&P 500 increases by 17.2% in 2019 before declining 9.8% in 2020 (Dec. to Dec.)	The S&P 500 climbs 15.4% in 2019 and rises 5.1% in 2020 (Dec. to Dec.)
Inflation (PCE)	Core personal consumption expenditures (PCE) price index rises 1.8% in 2019, then grows at 2.0% in 2020 and 2021	Core PCE inflation falls below baseline levels and remains there throughout the forecast	Core PCE inflation is lower than the baseline from 2019 through 2029 due to the lower natural rate of unemployment
Foreign growth	In 2019, Eurozone growth cools to 1.2%, 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 appreciates until the end of 2023, then depreciates through the end of the forecast	Depreciates quickly over recession period due to falling US rates	Eventually depreciates further than baseline due to wider comparative current account deficit

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

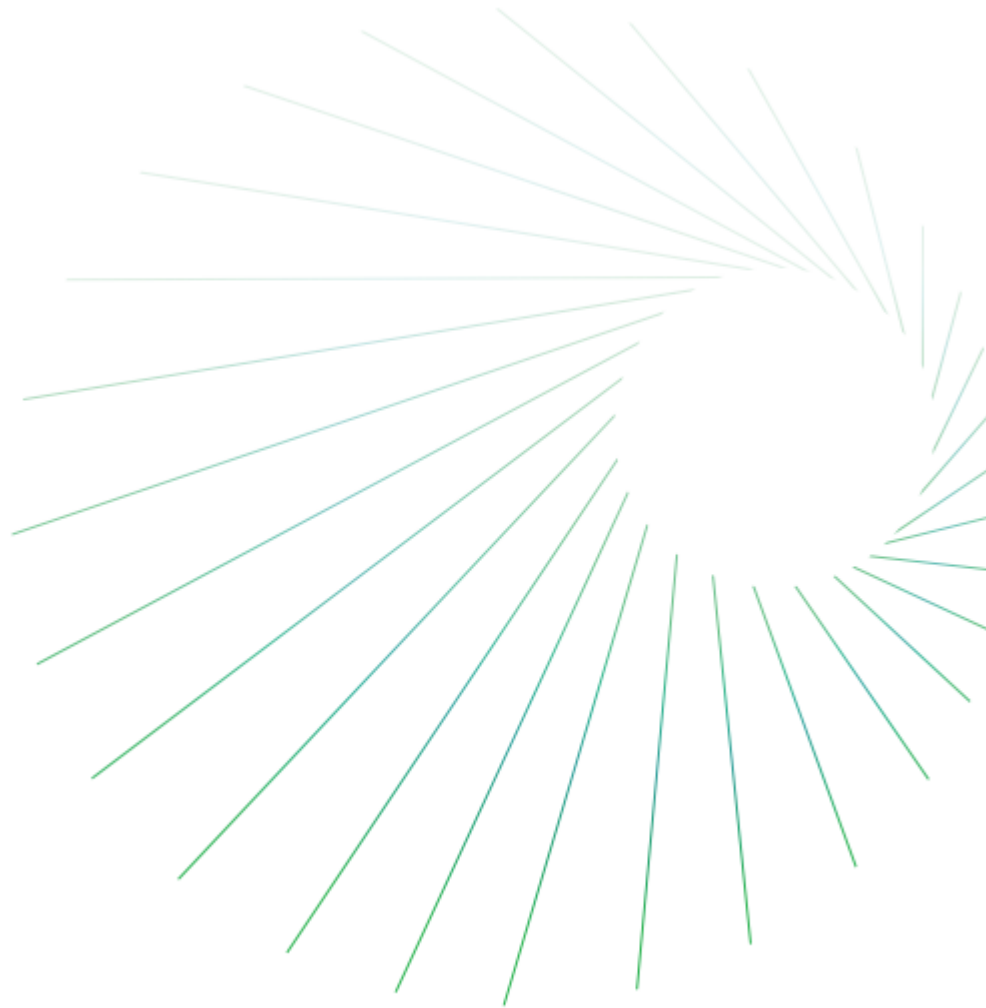
Alternative Scenarios of the US Economy

	Annual rates					Annual averages					Q4/Q4				
	2019:1	2019:2	2019:3	2019:4	2020:1	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	3.1	1.5	1.7	0.9	1.0	2.9	2.4	-0.3	0.1	2.0	3.0	1.8	-1.6	1.9	1.7
Total Consumption	1.3	2.9	1.7	0.3	1.8	2.6	2.2	0.7	0.7	1.8	2.6	1.5	0.2	1.5	1.9
Nonresidential Fixed Investment	2.3	-1.8	2.8	0.8	0.2	6.9	2.5	-2.9	-1.3	5.3	7.0	1.0	-6.4	3.9	5.3
Residential Fixed Investment	-3.5	-2.1	-0.3	3.4	-5.3	-0.3	-2.5	-10.5	-7.6	7.8	-3.3	-0.7	-18.8	5.8	3.8
Exports	4.8	-4.2	3.8	4.3	3.8	4.0	1.4	1.8	1.5	2.3	2.3	2.1	0.9	2.3	2.3
Imports	-2.5	-3.0	2.1	-0.3	2.3	4.5	0.5	-0.9	-0.5	5.9	3.4	-0.9	-2.6	3.1	6.0
Federal Government	-0.1	7.6	2.6	1.7	1.3	2.6	2.7	1.8	-0.5	-0.7	2.7	2.9	0.4	-0.4	-1.1
State & Local Government	4.0	3.5	1.2	1.2	1.0	0.8	2.0	0.5	-0.8	0.0	0.8	2.5	-0.4	-0.7	0.5
Prices & Wages, Percent Change															
Consumer Prices	0.9	3.0	2.9	1.5	1.3	2.4	1.9	1.7	2.0	2.1	2.2	2.0	1.5	2.1	2.1
Producer Prices, Finished Goods	-2.4	5.3	1.7	2.2	1.8	3.1	1.2	1.7	1.4	1.9	2.2	1.7	1.1	1.7	1.9
Employment Cost Index - Total Comp.	3.0	2.4	2.5	2.9	2.6	2.9	2.7	2.6	2.2	2.2	3.0	2.7	2.5	2.2	2.2
Other Key Measures, Percent Change															
Productivity	3.4	0.5	0.2	1.6	1.0	1.3	1.7	0.0	1.3	1.3	1.7	1.4	-0.5	2.2	0.7
Total Industrial Production	-1.9	-0.6	1.1	1.7	0.6	3.9	1.3	-0.7	-0.8	2.1	4.0	0.1	-2.4	1.4	1.6
Incomes, Percent Change															
Personal Income	3.3	3.9	4.0	3.6	4.0	4.4	3.8	2.9	1.9	4.0	4.3	3.7	1.8	3.0	4.0
After-Tax Profits (Four-qr.% change)	1.6	1.5	1.3	1.5	2.7	6.3	1.5	-3.1	4.6	6.5	11.1	1.5	-5.4	11.9	1.9
			Levels					Annual averages					Q4 values		
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	63.17	69.34	70.67	72.59	66.12	70.96	68.94	58.85	63.32	66.65	67.42	72.59	52.73	65.56	67.39
Nonfarm Inven. Chg. (Bil.2012 \$)	132.3	86.1	74.2	48.4	26.2	50.9	85.2	-37.3	-57.3	40.9	103.3	48.4	-95.8	0.5	35.7
Consumer Sentiment Index	94.5	93.8	86.5	86.1	83.5	98.4	90.2	78.3	75.6	78.5	98.1	86.1	74.1	76.4	80.1
Light Vehicle Sales (Mil. units, saar)	16.82	16.76	16.67	15.93	16.28	17.19	16.54	15.22	14.74	15.48	17.50	15.93	14.13	15.16	15.81
Housing Starts (Mil. units, saar)	1.203	1.201	1.202	1.165	1.106	1.250	1.192	0.947	0.953	1.057	1.185	1.165	0.825	1.026	1.072
Unemployment Rate (%)	3.9	3.6	3.6	4.0	4.1	3.9	3.8	4.7	6.0	5.8	3.8	4.0	5.5	6.0	5.7
Federal Surplus (Unified, FY, bil. \$)	-372.2	-71.9	-260.7	-305.5	-379.0	-779.0	-1023.8	-1059.0	-1231.4	-1294.2	-318.9	-305.5	-349.9	-377.3	-338.8
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.39	2.36	2.21	2.03	1.83	2.34	0.93	0.13	0.39	2.22	2.21	0.13	0.13	0.67
10-Year Treasury Note Yield (%)	2.65	2.38	2.25	2.02	1.87	2.91	2.33	1.67	1.97	2.63	3.03	2.02	1.48	2.29	2.80
			Annual rates					Annual averages					Q4/Q4		
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)															
Composition of Real GDP, Percent Change															
Gross Domestic Product	3.1	1.5	2.2	2.6	2.5	2.9	2.6	2.6	2.8	2.7	3.0	2.4	2.8	2.7	2.7
Total Consumption	1.3	2.9	2.2	3.0	2.9	2.6	2.5	3.0	3.6	3.5	2.6	2.4	3.4	3.6	3.4
Nonresidential Fixed Investment	2.3	-1.8	3.7	3.6	4.1	6.9	2.7	4.2	5.9	4.9	7.0	1.9	5.5	5.5	4.5
Residential Fixed Investment	-3.5	-1.8	-0.1	1.4	-0.5	-0.3	-2.6	-0.8	-0.9	1.5	-3.3	-1.0	-1.4	0.1	1.3
Exports	4.8	-4.2	4.0	3.9	3.6	4.0	1.4	3.1	2.9	2.8	2.3	2.1	3.3	2.8	2.8
Imports	-2.5	-3.0	3.4	1.9	3.1	4.5	0.8	3.0	5.7	5.4	3.4	-0.1	4.3	6.0	4.9
Federal Government	-0.1	7.6	2.6	1.7	1.4	2.6	2.7	1.8	-0.7	-1.0	2.7	2.9	0.4	-0.7	-1.4
State & Local Government	4.0	3.3	1.0	1.5	1.0	0.8	2.0	1.3	1.2	1.1	0.8	2.5	1.2	1.1	1.0
Prices & Wages, Percent Change															
Consumer Prices	0.9	2.5	1.9	2.4	1.8	2.4	1.7	1.9	1.8	1.9	2.2	1.9	1.7	1.9	2.0
Producer Prices, Finished Goods	-2.4	5.9	2.4	3.2	2.0	3.1	1.5	2.2	1.7	1.7	2.2	2.2	1.5	1.7	1.9
Employment Cost Index - Total Comp.	3.0	2.4	2.2	2.8	2.8	2.9	2.6	2.9	3.2	3.2	3.0	2.6	3.1	3.3	3.2
Other Key Measures, Percent Change															
Productivity	3.4	0.0	1.1	1.6	1.7	1.3	1.8	1.7	2.2	2.3	1.7	1.5	2.1	2.2	2.5
Total Industrial Production	-1.9	-0.6	2.4	1.8	1.2	3.9	1.4	1.6	2.0	2.1	4.0	0.4	1.8	1.9	2.1
Payroll Employment	1.7	1.6	0.9	0.6	0.9	1.7	1.5	0.9	0.8	0.8	1.8	1.2	0.8	0.9	0.6
Incomes, Percent Change															
Personal Income	3.3	4.4	4.4	6.0	5.5	4.4	4.1	5.4	5.4	5.2	4.3	4.5	5.5	5.3	5.1
After-Tax Profits (Four-qr.% change)	1.6	0.9	-1.7	-0.5	0.5	6.3	0.1	0.1	5.4	5.4	11.1	-0.5	2.2	5.7	5.9
			Levels					Annual averages					Q4 values		
Other Key Measures															
Brent Crude, Spot Price (\$/bbl)	63.17	69.34	71.59	73.87	75.33	70.96	69.49	76.39	78.60	80.58	67.42	73.87	77.33	79.33	81.33
Nonfarm Inven. Chg. (Bil. 2012 \$)	132.3	86.1	80.6	55.3	45.4	50.9	88.6	38.7	30.5	31.7	103.3	55.3	35.7	25.5	36.4
Consumer Sentiment Index	94.5	94.5	98.8	99.8	101.0	98.4	96.9	103.1	107.6	107.7	98.1	99.8	105.4	108.3	107.1
Light Vehicle Sales (Mil. units, saar)	16.82	16.76	16.71	16.92	16.86	17.19	16.80	17.04	17.37	17.37	17.50	16.92	17.24	17.38	17.37
Housing Starts (Mil. units, saar)	1.203	1.209	1.203	1.218	1.218	1.250	1.208	1.232	1.261	1.315	1.185	1.218	1.247	1.287	1.329
Unemployment Rate (%)	3.9	3.6	3.5	3.4	3.3	3.9	3.6	3.3	3.5	3.6	3.8	3.4	3.4	3.5	3.7
Federal Surplus (Unified, FY, bil. \$)	-372.2	-70.7	-259.7	-298.7	-367.6	-779.0	-1021.5	-986.3	-1019.1	-1061.1	-318.9	-298.7	-302.5	-319.6	-277.6
Financial Markets, NSA, Quarter Average															
Federal Funds Rate (%)	2.40	2.39	2.40	2.46	2.63	1.83	2.42	2.88	3.13	3.13	2.22	2.46	3.13	3.13	3.13
10-Year Treasury Note Yield (%)	2.65	2.38	2.69	2.82	3.00	2.91	2.64	3.43	3.81	3.88	3.03	2.82	3.71	3.82	3.92

Source: IHS Markit

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A Deeper Dive



Unemployment rate near cyclical low with employment gains to slow

Slowing growth in production and the dearth of qualified workers appear to be contributing to a material slowing in employment gains. Nevertheless, job growth is still expected to exceed growth of the labor force this year and push the unemployment rate down another tenth of a point to a cyclical low of 3.5% by the third quarter. We expect the unemployment rate to then begin to drift upward in early 2020, as employment gains continue to slow in an economy that by then will be growing below trend.

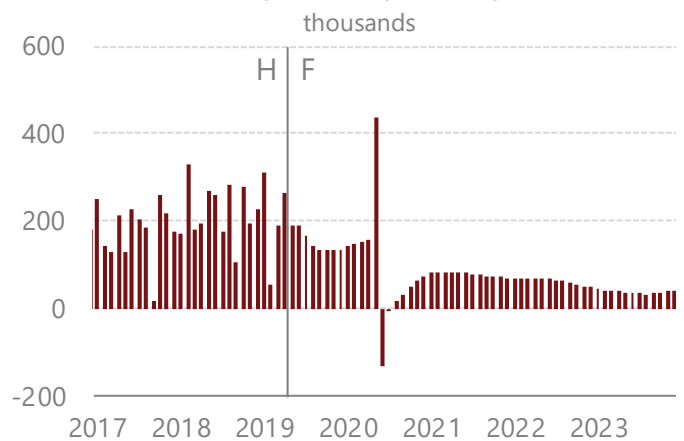
Nonfarm payrolls rose a tepid 75 thousand in May, following a downward-revised, but still quite strong 224 thousand gain in April. The unemployment rate held steady at 3.6%, the lowest since 1969. The labor force participation rate held steady at 62.8%. Employment gains are projected to average about 160 thousand per month over the remainder of 2019.

By mid 2020, 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 3.5% in 2018, the strongest such pace in over three years. Growth of private-sector output is expected to slow to 2.3% this year, largely accounting for the markedly slower pace of employment gains. Importantly, firming growth of labor productivity, which reduces the growth of hours worked relative to growth of output, has recently firmed. After languishing over 2011–2016, when growth averaged just 0.7%, labor productivity growth (nonfarm business sector) has firmed materially to 1.7% in 2018. We project productivity growth to average 1.4% over 2019–2023.

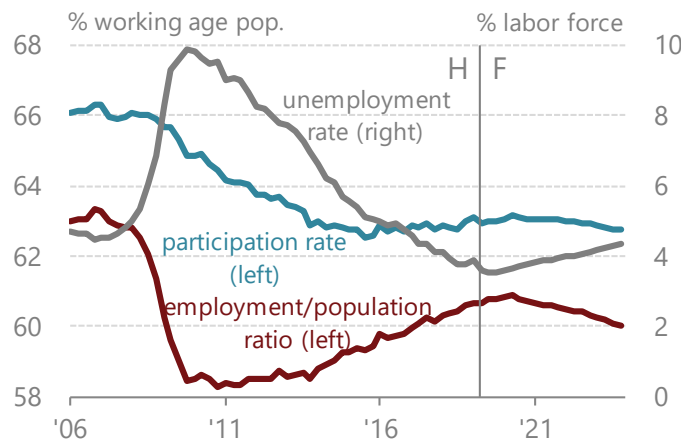
We continue to project that the labor force participation rate will edge ever-so-slightly higher through mid-2020 to 63.2%. That rise reflects the gradual unwinding of the remaining cyclical “discouraged-worker” effects we see as still present in the labor market, e.g. the still elevated average duration of unemployment. Nevertheless, we expect the peak to be reached in mid-2020, after which we then project a return to the trend decline in the aggregate labor force participation rate.

Monthly employment gains



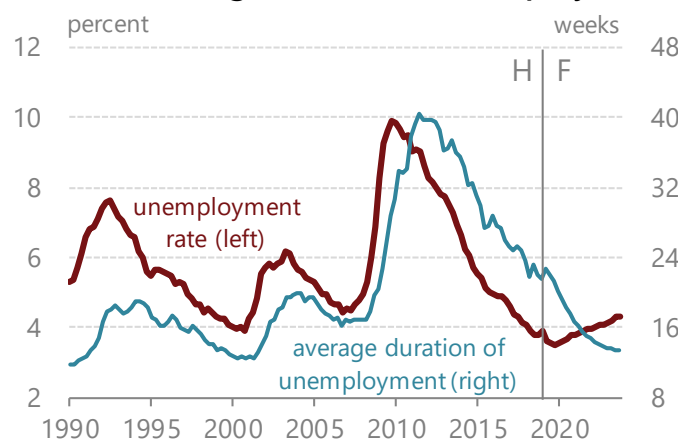
Source: Macroeconomic Advisers by IHS Markit, BLS

Emp. ratio falls as growth slows



Source: Macroeconomic Advisers by IHS Markit, BLS

Rate and avg. duration of unemployment



Source: Macroeconomic Advisers by IHS Markit

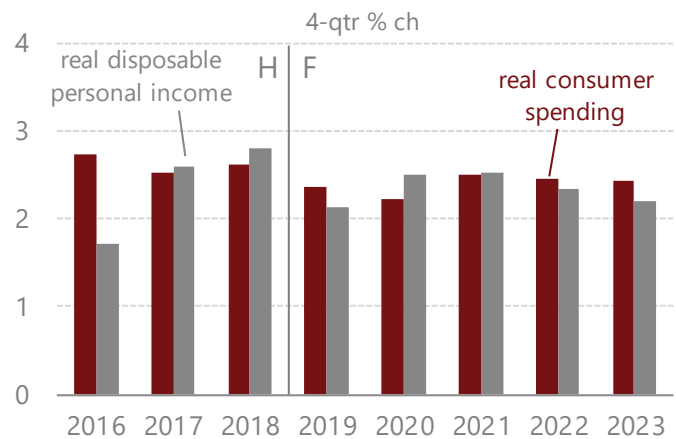
Wages and salaries slacken somewhat

According to BEA's second estimate, real disposable personal income (DPI) grew at a 2.2% annual rate in the first quarter of 2019, a downward revision of 0.2 percentage point from the advance estimate. The second estimate also included a sharp downward revision to DPI growth for the fourth quarter of 2018, from a 4.3% annual rate to 3.2%, reflecting the incorporation of data from the Quarterly Census of Employment and Wages. Four-quarter nominal wage and salary growth was revised down 0.7 percentage point to 3.9%. Personal current taxes were also revised modestly up. The trend in compensation has softened recently; twelve-month growth of private-sector average hourly earnings was 3.1% in May, the lowest in eight months. Still, labor markets remain tight.

Personal income showed strength in April. Wage and salary growth was a respectable 0.3%, while disposable personal income increased 0.4%. The saving rate ticked up 0.1 percentage point to 6.2%, still below the 2018 average of 6.7%. April's strength plus the downward revision to the first quarter's level raised our projection of second-quarter DPI growth 0.9 percentage point to 1.1%. Our real DPI forecast for 2019 has increased by 0.1 point to 1.8% (Q4/Q4); we are forecasting 2.8% growth in 2020, down 0.3 percentage point from last month, and 2.4% in 2021.

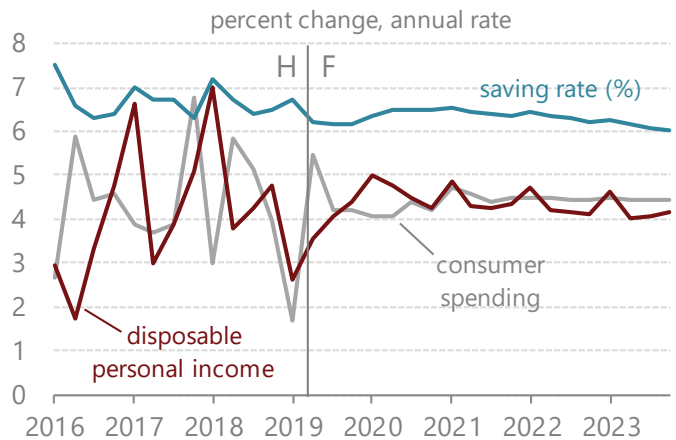
Trade-related volatility rattled equity markets in May, causing the S&P500 to decline 7% from its April 30 peak through June 3. Between the lower jump-off value and an increased equity risk premium, this forecast includes a lower path of share prices than last month. Household net worth is forecast to grow 7.9% in 2019 (Q4/Q4) compared with last month's 10.0%.

Real income and consumption



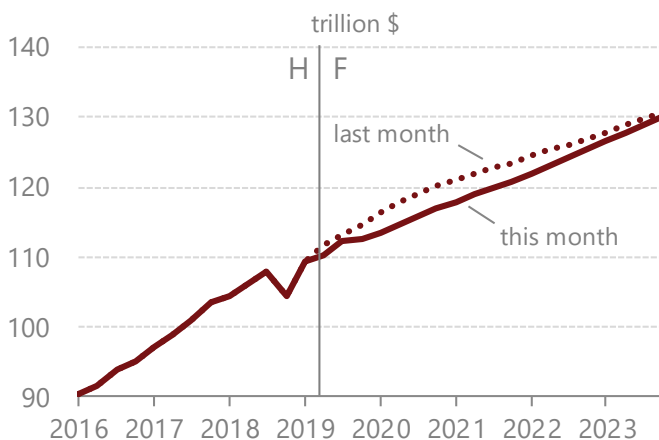
Source: Macroeconomic Advisers by IHS Markit

Saving rate settled in Q1



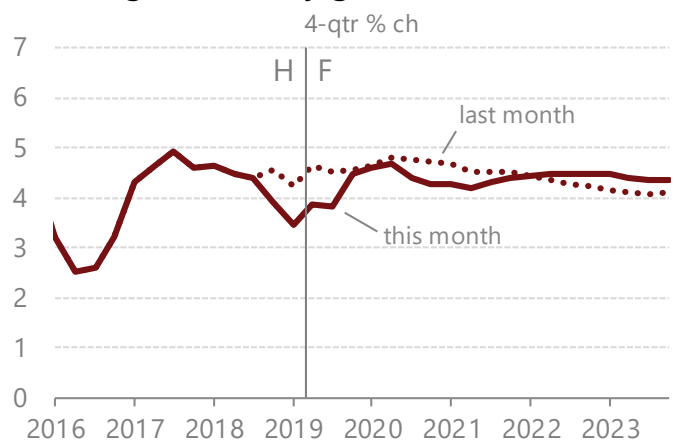
Source: Macroeconomic Advisers by IHS Markit, BEA

Household net worth



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

Wage and salary growth revised lower



Source: Macroeconomic Advisers by IHS Markit, BEA

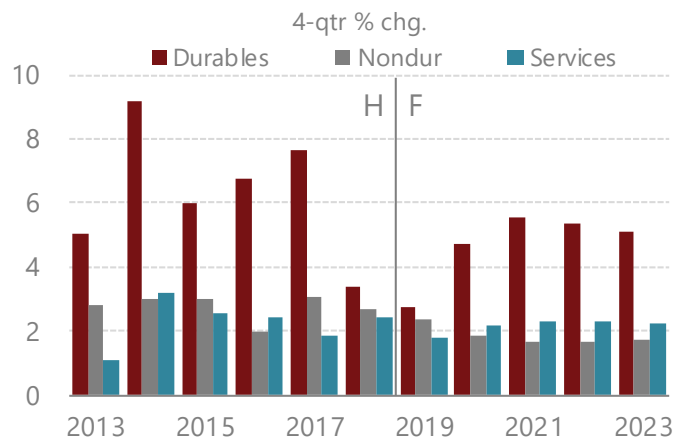
Personal consumption to slow in second half

According to BEA's second estimate, real personal consumption expenditures (PCE) grew 1.3% (annual rate) in the first quarter, up 0.1 percentage point from the advance estimate. Real PCE contributed just 0.9 percentage point to first-quarter GDP growth, as durable goods expenditures were dragged lower by spending on motor vehicles and parts, which plunged at a 15.9% annual rate. This situation is set to reverse in the second quarter; led by a 20.5% (annualized) surge in spending on motor vehicles and parts, PCE is expected to contribute 2 percentage points and more than fully account for second-quarter GDP growth.

The outlook has weakened for the next several quarters. Set off by the prospect of an escalation in trade tensions with China and Mexico, a lower path for stock prices implies diminished growth in household equity holdings and corresponding wealth-related spending. Tariff talk and stock-market volatility threaten consumer confidence, which has thus far remained resilient. In addition, the inclusion of a new wage report for the fourth quarter of 2018 resulted in a sizable downward revision to wage and salary growth (See Income & Wealth). The PCE growth forecast for the year's final two quarters averages 1.9%, 0.6 point below last month's forecast. With equities already up sharply since the completion of this forecast and an agreement reached to avoid the imposition of tariffs on Mexico, some of the downward pressure influencing this decrease has abated.

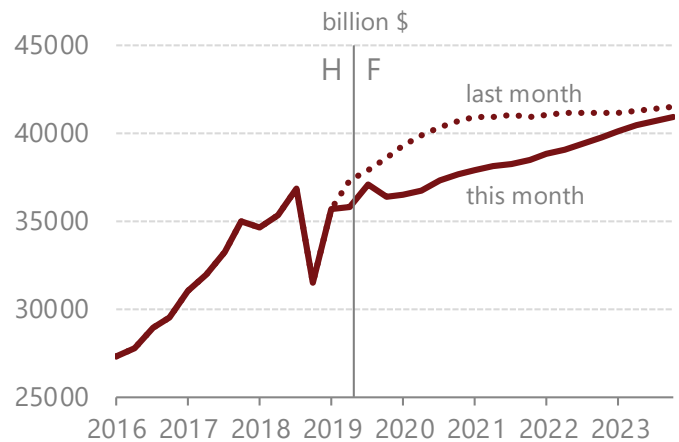
Despite these setbacks, the consumer spending outlook remains upbeat. Tight labor markets and elevated consumer confidence continue to support real PCE growth, which is expected to rate 2.0% in 2019 (Q4/Q4) before accelerating to 2.3% next year and 2.5% in 2021.

Real consumer spending



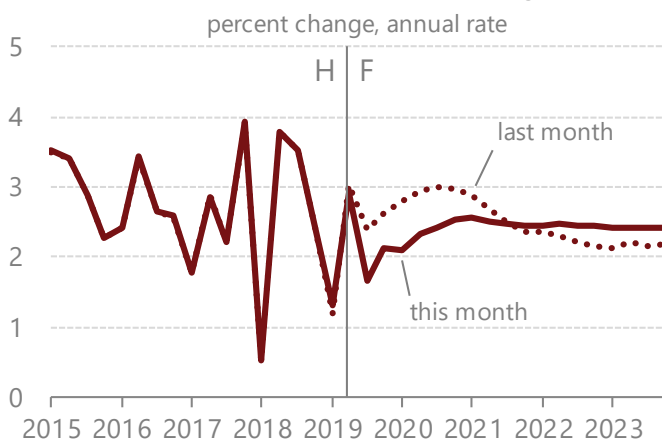
Source: Macroeconomic Advisers by IHS Markit, BEA

Household net worth: corp. equity



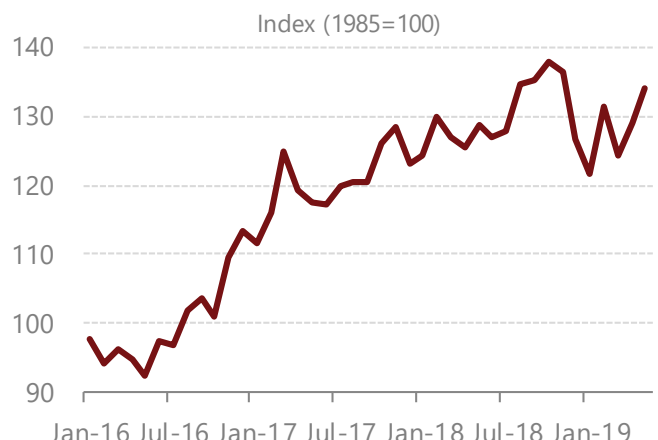
Source: Macroeconomic Advisers by IHS Markit, BEA

Real consumer spending



Source: Macroeconomic Advisers by IHS Markit, BEA

Conference Board Consumer Confidence



Source: Macroeconomic Advisers by IHS Markit, Conference Board

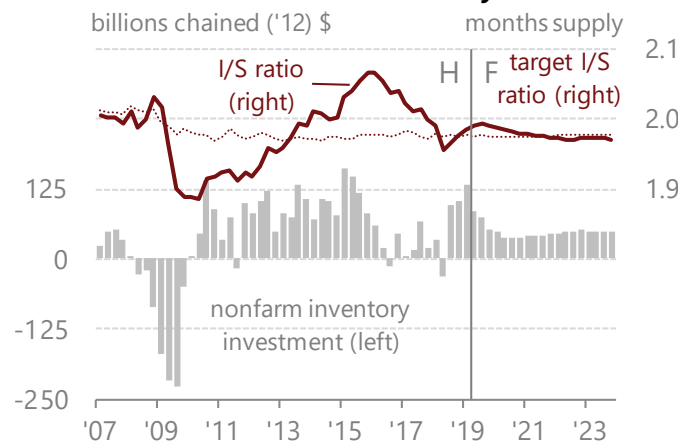
After reaching peak in Q1, inventory investment to slow sharply

Over the three quarters ending in the first quarter of this year, real nonfarm inventory investment was quite strong, putting the aggregate nonfarm inventory-to-sales (I/S) ratio on a rising track. This reversed what had been a declining trend in the I/S ratio over the prior couple of years, which, by our estimation, left the I/S ratio below an optimal level. In this light, the robust pace of inventory investment in recent quarters was in large part intentional.

There is evidence, though, that the pace of inventory-building in December and January was at least in part unintentional and that the rise in the I/S ratio through the first quarter was overdone. In the midst of financial turmoil and angst over the federal government shut-down, real consumer spending on goods dropped sharply in December and remained depressed in January. Over these two months, real nonfarm inventories accumulated at a record pace. The combination of weak demand and uncommonly fast inventory-building suggests the December-January inventory-build was, to some extent, unplanned and unwanted. This left the I/S ratio at the end of the first quarter, by our estimation, somewhat above an optimal level. In our forecast the quarterly pace of inventory investment declines after the first quarter to affect a slowing in the rate of growth of inventories sufficient to put a downward drift in the I/S ratio over the next few years.

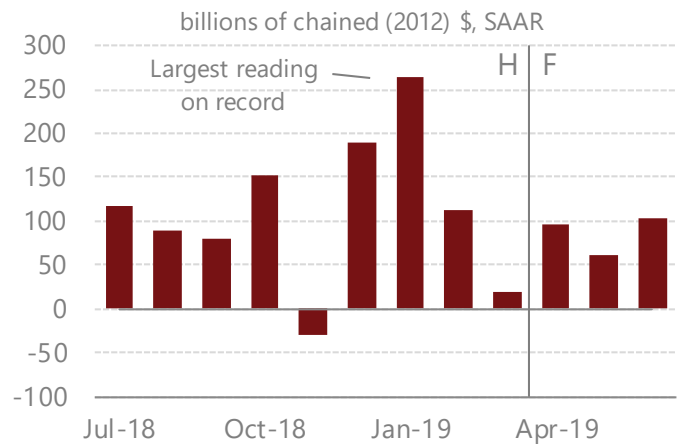
Relative to last month's forecast, the drag from inventory investment over the four quarters of this year has increased from -0.1 percentage point to -0.2 percentage point. This reflects a judgmental reduction of the projected optimal I/S ratio at retail motor vehicles and parts dealers.

Nonfarm I/S ratio & inventory investment



Source: Macroeconomic Advisers by IHS Markit, BEA

Real nonfarm inventory investment



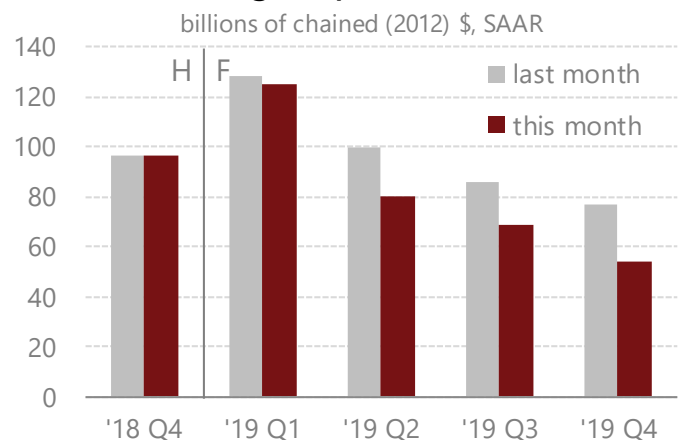
Source: Macroeconomic Advisers by IHS Markit, BEA

Autos and light trucks days' supply



Source: Macroeconomic Advisers by IHS Markit, BEA, Wards

Real change in private inventories



Source: Macroeconomic Advisers by IHS Markit, BEA

Nonresidential fixed investment to slow along with output

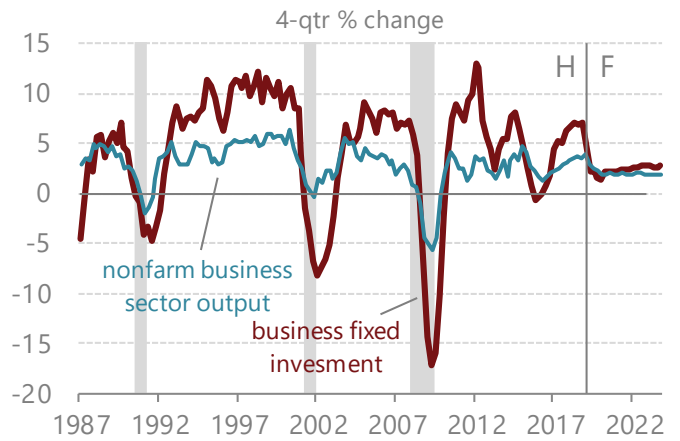
On a year-over-year basis, business fixed investment is expected to slow from 6.9% last year to 2.4% averaged over 2019 – 2023. This slowing primarily reflects a slowing in growth of nonfarm business-sector output from 3.5% last year to a five-year average of 2.1%. As output slows, businesses slow the accumulation of plant and equipment so that capacity slows along with sales.

The slowing of nonresidential fixed investment is expected to occur in each of the major components. Growth of equipment spending slows from 7.4% last year to an average of 2.2%, growth of business fixed investment in structures slows from 5.0% last year to 0.3%, and growth of intellectual property products slows from 7.5% last year to 4.2%.

While slowing growth of output is the primary factor shaping business fixed investment, other factors are playing a role as well. In the very near term, the forecast of business fixed investment in structures was reduced to reflect softer high-frequency data. What appeared to be a firming trend in the monthly data on value put-in-place of private nonresidential construction was turned on its head with upward revisions to data for February and March and a huge reported decline in April. This undercut the near-term momentum for structures spending.

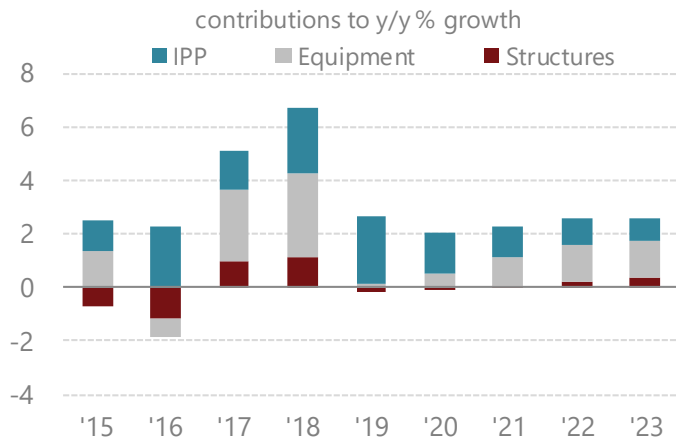
On the positive side, after widening last year, risk spreads in corporate debt yields are expected to narrow over the next several years, indicating improving attitudes about risk that will bolster capital spending. We expect bank lending standards for commercial and industrial loans to ease as attitudes about risk become more sanguine.

Nonres fixed investment & business output



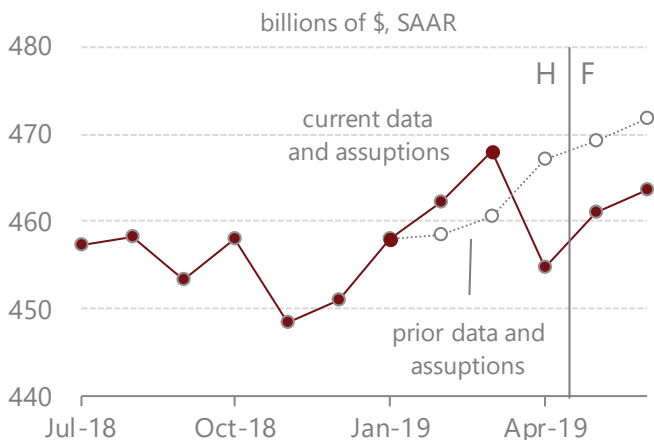
Source: Macroeconomic Advisers by IHS Markit, BEA

Growth of nonresidential fixed investment



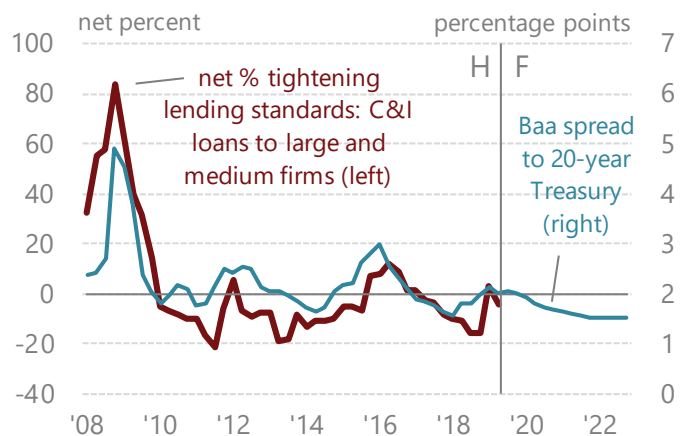
Source: Macroeconomic Advisers by IHS Markit, BEA

Private nonresidential construction



Source: Macroeconomic Advisers by IHS Markit, Census

Bank lending standards & risk spreads



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

A downgrade for housing starts

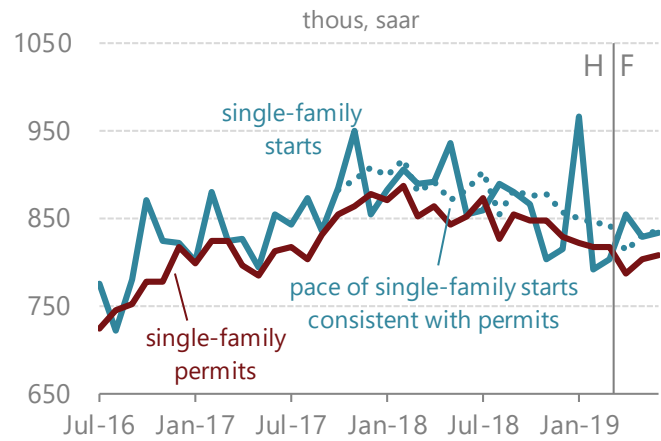
We made two significant changes to the housing forecast this month: housing starts and spending on residential home improvements were both lowered.

The sharp drop in mortgage rates has done little to revive the market for single-family new construction. The 30-year fixed rate mortgage rate dropped to 3.82% on 6 June, down from 4.94% in mid-November 2018. Single-family housing permits, which fell for the fifth straight time in April, plunging 3.7% to a 23-month low, have not responded. We believe that the demographics are playing a stronger role than we previously thought in suppressing new construction. In this forecast, we trimmed back the ramp-up in starts by lowering our projected rate of household formations through 2028 to 1.21 million per year and extending the period during which the vacancy rate declines. In this forecast, housing starts average 1.23 million a year over 2019-2029, down from last month's average of 1.30 million.

Real spending on residential improvements in recent years, according to the Bureau of Economic Analysis (BEA), has been solid. First-quarter real spending increased at an 3.2% annual rate from the fourth quarter and 7.7% from a year ago. Why, then, lower the forecast? The BEA estimates residential improvements using two indicators: retail sales of building material and garden supply stores (Census data) and earnings data for residential remodelers (BLS data). These estimates, though, are placeholders. Every year in the annual revisions, which come out next month, the BEA replaces these placeholders with an estimate based on the monthly construction report. And the monthly numbers are tanking. In April, residential improvements were down 21.7% from a year earlier. In the forecast, real spending on residential improvements increases 5.2% (annual average) in 2019 (previously 6.9%). Real spending declines in 2021 and 2022, where previously we had forecasted growth in both years.

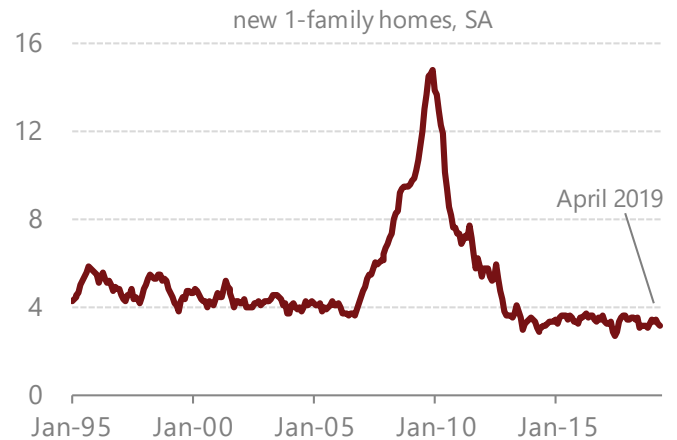
Housing prices are still rising in most places, but their growth has moderated. The national seasonally adjusted FHFA purchase-only index increased 5.1% y/y in the first quarter of this year, the lowest reading recorded since the first quarter of 2015. We expect the growth of home prices to moderate from the feverish pace of the past few years and eventually settle at about 2.9%.

Single-family starts and permits



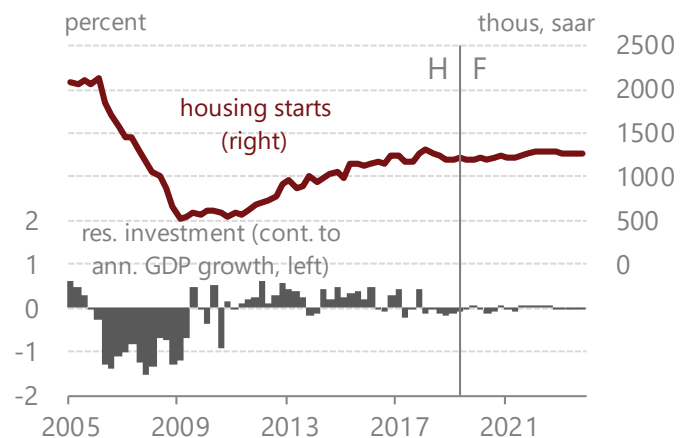
Source: Macroeconomic Advisers by IHS Markit, Census Bureau

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

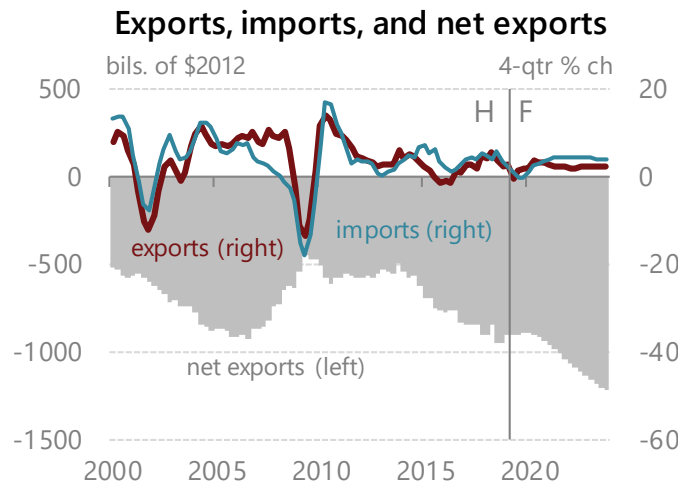
Stronger dollar puts downward pressure on net exports

According to BEA's second estimate, net exports increased \$52 billion in the first quarter of 2019, adding 1.0 percentage point to first-quarter GDP growth. We look for net exports to generally trend sideways through early 2020 before declines resume. As a result, net exports are, on average, neutral for GDP growth through the first half of next year. However, as the declining trend resumes, net exports again become a source of drag on GDP growth, subtracting an average of 0.3 percentage point from the second half of 2020 through the end of 2023.

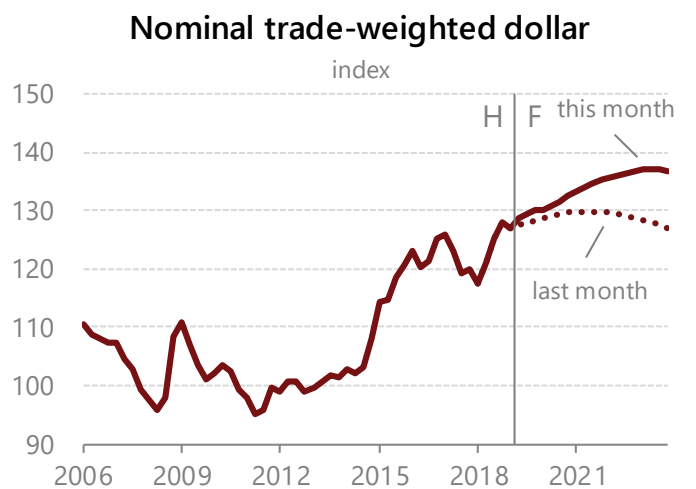
The nominal broad dollar appreciated sharply over most of 2018, as US trade tensions intensified and as increases in US interest rates outpaced those abroad. The dollar eased somewhat late last year and generally trended sideways through late April before turning up as trade tensions between the US and China resumed. Looking ahead, we expect the nominal, broad dollar to remain near recent levels through the end of this year before appreciating further beginning in 2020, reaching an average of 136.8 by the fourth quarter of 2023, nearly 8% higher than in last month's forecast. The stronger dollar in this month's forecast reflects a wider rate differential between domestic and foreign rates by the end of the short-term forecast. Though initially both domestic and foreign rates are revised lower, eventually domestic rates return to their previous forecast, while the downward revision to foreign rates persists.

Reflecting the higher dollar, projections for exports were marked down in this month's forecast. We expect export growth to ease from 2.3% last year to 1.9% this year, before firming to 2.5% over 2020–2023. Import growth was also revised lower in this month's forecast, as downward pressure from softer domestic demand outweighed the positive effects on imports from the higher dollar. After rising 3.4% last year, imports are projected to ease 0.3% over 2019. Import growth then firms to an average of 4.0% over 2020–2023.

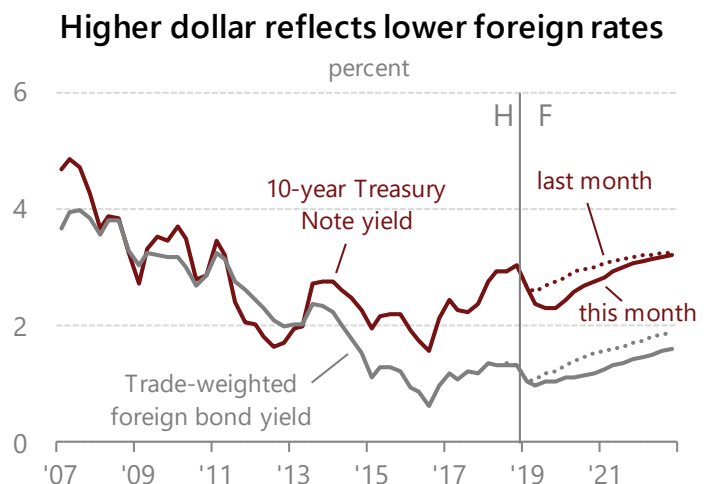
This forecast includes tariffs on \$250 billion of goods imported from China as well as the recently enacted step-up in the tariff rate on \$200 billion of those imports from 10% to 25% and all retaliatory tariffs to-date from China. This forecast also includes a 5% tariff rate on imports from Mexico, assumed to last three months. Following the completion of this forecast, these tariffs were called off. The implication of these tariffs were assumed to be minor, so removing them would not materially affect the forecast.



Source: Macroeconomic Advisers by IHS Markit, BEA



Source: Macroeconomic Advisers by IHS Markit, Federal Reserve



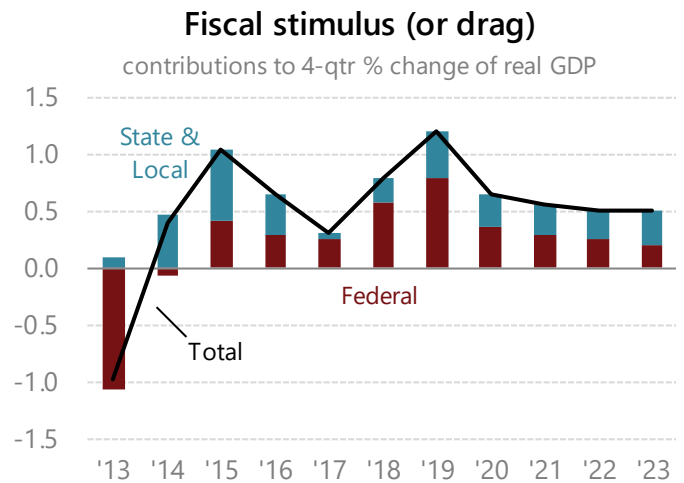
Source: Macroeconomic Advisers by IHS Markit, Federal Reserve

Slow progress on FY 2020 budget; fiscal speedbumps ahead

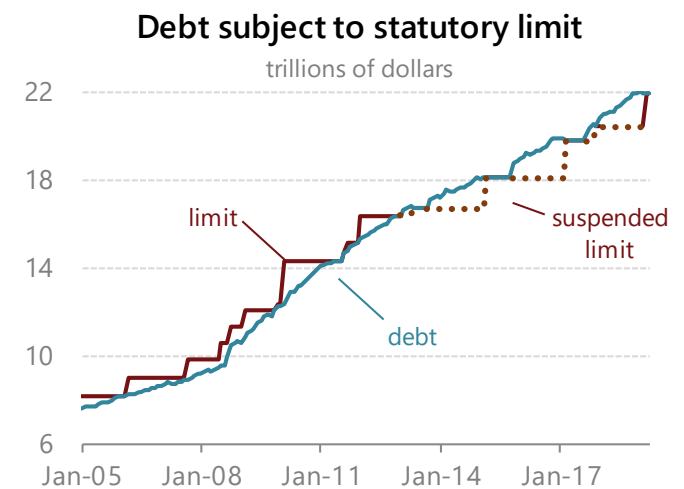
Congress has not adopted a Budget Resolution for fiscal year (FY) 2020 and, at this point, is not expected to. The House has invoked a procedure (“deeming”) that allows the Appropriations Committee (and sub-committees) to work on bills assuming current caps on discretionary spending are extended beyond FY 2019 in inflation-adjusted terms. Operating thus, the Committee has approved ten of the usual twelve departmental bills, two others have been approved in subcommittee, and a “minibus” bill covering five of the individual appropriations bills is scheduled for consideration by the full House starting Wednesday 12 June. The Senate has held hearings covering all twelve departments but has yet to pass an appropriation bill even in subcommittee. Importantly, no bills can become law before legislation is enacted setting new spending limits for FY 2020. Little progress has been made towards a compromise without which discretionary spending subject to caps will drop to levels set under the Budget Control Act of 2011, a potential cut of 10% that is a downside fiscal risk to the forecast. Another risk still unresolved is the debt ceiling, which was re-imposed in March and will become truly binding around the end of the fiscal year (see chart). Failure to raise (or suspend) the debt ceiling would precipitate a sharp fiscal contraction, while throwing global financial markets into turmoil.

Our fiscal assumptions are qualitatively similar to last month’s (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 over one percentage point of four-quarter GDP growth this year before then receding to 0.5 percentage point by 2021 (see chart). We have learned that for Q1 BEA assumed the partial federal shutdown in December and January delayed \$4.5 billion (at an annual rate) of non-defense purchases of intermediate goods and services that should be made up over the balance of this year. This is more than we assumed and creates a small upside risk to our assumptions for federal fiscal stimulus.

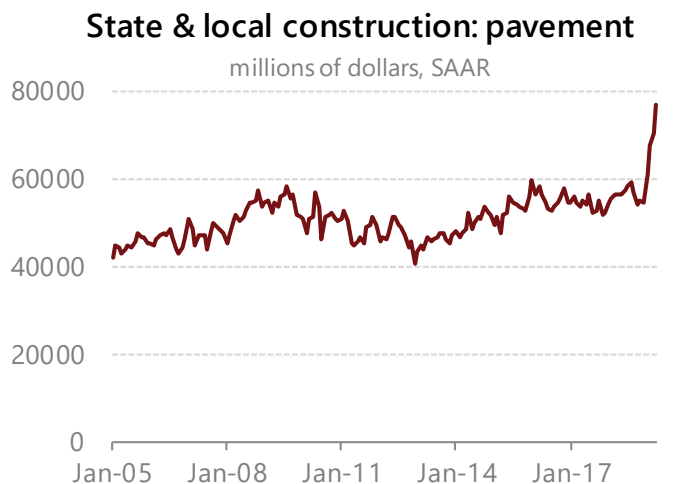
A notable development at the state and local level is that spending associated with infrastructure, especially for pavement, is skyrocketing (see chart). Our Construction Services Group believes it likely that impatient states and municipalities are forging ahead on needed projects that had been delayed awaiting enactment of a federal infrastructure package. We responded by raising our path for state and local gross investment, adding about 0.1 percentage point to GDP growth this year.



Source: Macroeconomic Advisers by IHS Markit



Source: Macroeconomic Advisers by IHS Markit, US Treasury



Source: Macroeconomic Advisers by IHS Markit, Census Bureau

Core inflation fell in early 2019, running below 2%

Core inflation eased in recent quarters, with softer momentum suggesting a slower rise toward approximately 2% over the next few years. In BEA's second estimate, the annualized change in the core price index for personal consumption expenditures (core PCE) was reported to have risen at a 1.0% annual rate in the first quarter, revised down three-tenths from the previously reported figure. This follows annualized increases over the third and fourth quarters of 2018 that were also below 2% (1.6% and 1.8%, respectively). The core PCE price index did rise more briskly in April, boosted by a rebound in the price index for portfolio management services that reflected recovery in equity markets in early 2019. However, even with a 0.2% increase on the month in April, the 12-month change remains low, at 1.6%. The overall PCE price index rose 0.3% in April and its 12-month change firmed slightly to 1.5%.

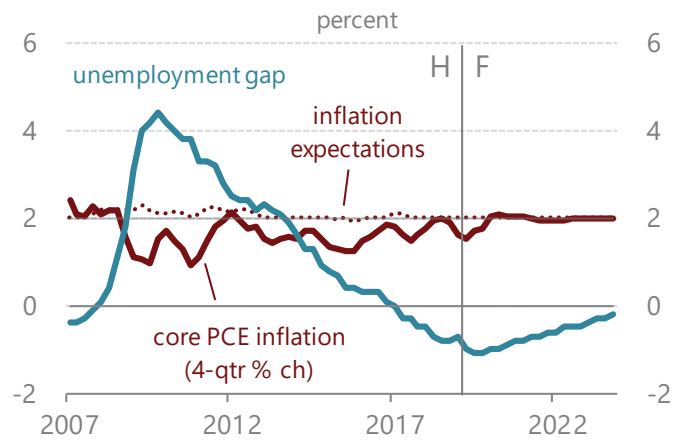
Some of the recent softness of inflation appears to be transient, so with tight labor markets and stable long-run inflation expectations, we continue to expect that core inflation will firm toward 2% over the next few years, but at a more gradual pace than before. By year, we expect core PCE inflation to rise from 1.8% in 2019 to 2.0% in 2020, and remain close to 2.0% in subsequent years.

Our base forecast no longer shows core inflation rising meaningfully above 2% in subsequent years. This reflects well-anchored inflation expectations (consistent with the 2% inflation target), indications that labor market slack/tightness has less of an impact on changes in inflation than in previous eras, and a strong trade-weighted dollar. Low global inflation trends and a strong dollar are projected to result in modest declines in nonpetroleum import prices over the next few years that will contribute to muted inflation.

Labor markets are tight by traditional measures, including low unemployment as a share of the civilian labor force and an elevated ratio of vacancies to unemployment. However, wage growth remains moderate and unit labor costs have declined over the past year, aided by an upturn in productivity growth. These developments suggest that labor cost pressures on price inflation are, for now, quiescent.

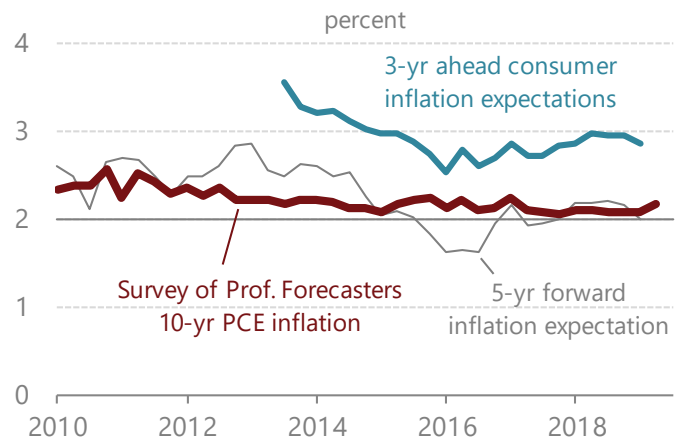
Energy prices are expected to contribute modestly to overall inflation in 2019, then detract modestly in 2020. The price index for gasoline is projected to rise about 4% this year then decline about 7% next year.

Core PCE inflation projected to rise



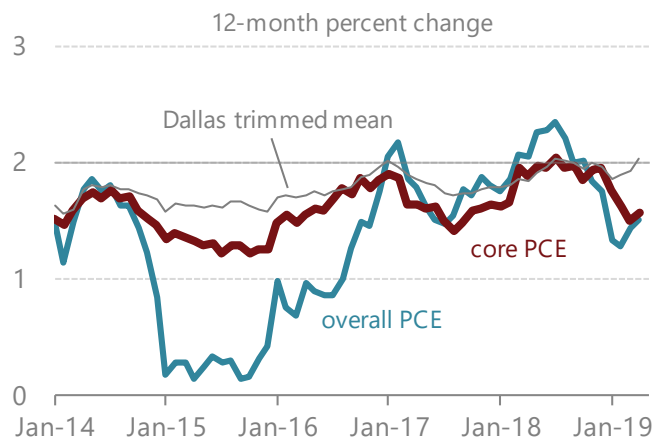
Source: MA by IHS Markit, BLS, Philly Fed Survey

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 "call" changed to long pause

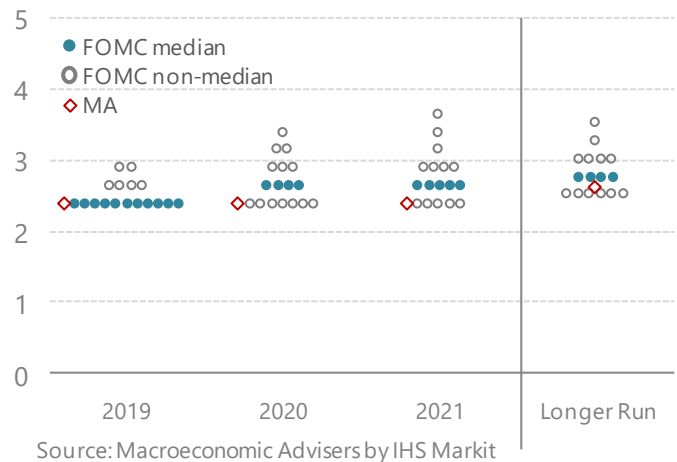
Since the beginning of 2019, the Fed has adopted a "patient" approach to interest-rate policy pending clarity about the economy's direction. The patient approach has resulted in a pause that appears likely to continue for some time. Real growth remains positive and labor markets are tight, but estimates of first-half GDP growth have moved lower in response to data on spending and production. Inflation by most measures is running below the Fed's 2% target and has eased in recent quarters. Risks to the outlook from global developments, trade tensions, and financial markets remain heightened. However, in the US, broad equity indices have largely recovered, albeit unevenly, from the 2018 swoon. Communication from Federal Reserve policymakers suggests that most are comfortable keeping the funds rate target at its current setting (of 2¼% to 2½%) for some time.

In response to a softer outlook for real growth and low inflation, we changed our Fed "call" to anticipate no change in the target for the federal funds rate for the next few years. We do *assume* that the funds-rate target eventually will be raised slightly to be consistent with a long-run neutral setting, after inflation reaches 2% on a sustained basis accompanied by trend-like growth and sustainable conditions in labor markets. In our forecast, this adjustment is pushed back to 2023.

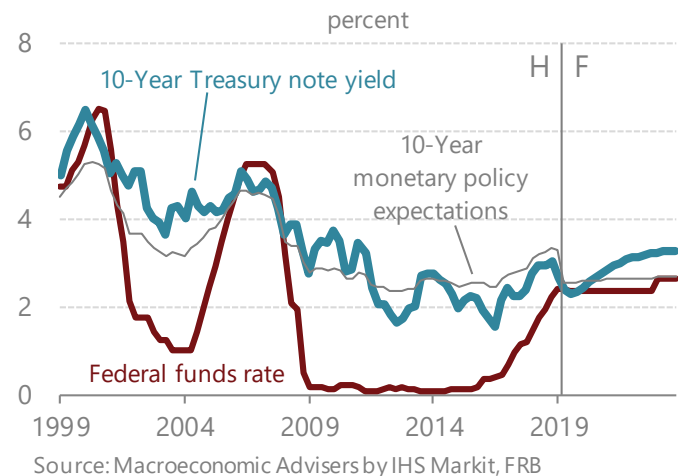
Financial markets have priced in a more dovish outlook for the Fed, with fed funds futures suggesting high probabilities of multiple rate cuts *this year*, presumably to reflect fears of a sharper slowdown perhaps ignited by financial fallout and other disruptions related to tariffs and other trade policies. As this report was prepared, futures suggested a modal expectation for 50 basis points of Fed rate cuts in 2019 and additional cuts in 2020. In our view, expectations for significant Fed rate cuts are premature based on current projections for growth, labor markets, and inflation, and generally favorable conditions in financial markets.

To be sure, there are downside risks to the real outlook, including the possibility that the administration could decide to impose escalating tariffs on imports from Mexico, a step that it decided in the last few days not to take. Such a step could result in weaker investor sentiment, gapping risk spreads, lower equities, and more impetus for a slowdown in real growth that might prompt the Fed to cut rates. Should the outlook weaken considerably for this or other reasons, the FOMC would like move quickly to ease monetary policy through interest rate cuts.

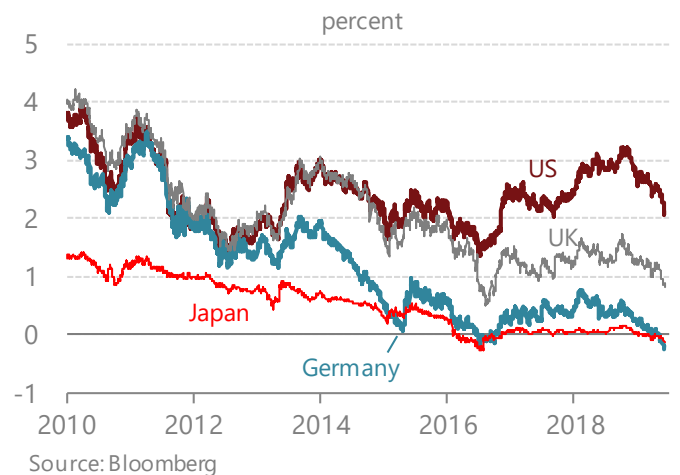
FOMC dots and MA funds rate forecast



Modest increases in bond yields



Global bond yields remain low



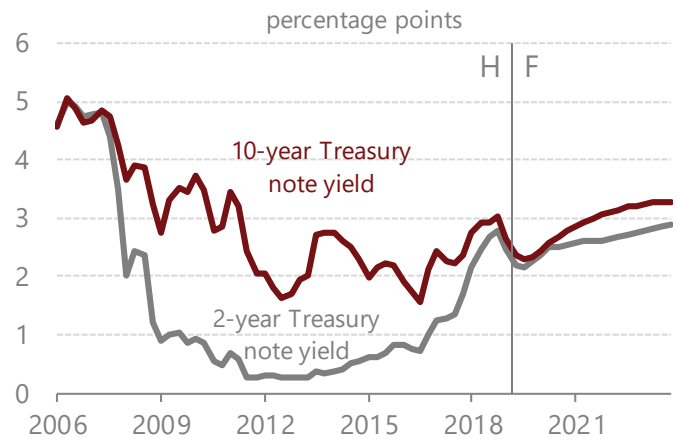
Treasury yields fall to lowest levels in more than a year

Term Treasury yields declined recently to the lowest levels in more than a year. The 2-year Treasury Note yield fell as low as 1.82% (on 3 June, after a remark from Fed Chairman Powell highlighting the Fed's willingness to adjust policy as needed). In recent days it has recovered slightly to about 1.94%, comparable to levels in early January 2018. The 10-year note yield fell to 2.07% (also on 3 June) and has firmed modestly to about 2.16%, a level previously seen in September 2017.

Investors have bid up bond prices on concerns about slowing growth, reinforced by uncertainties stemming from tariffs and broad trade tensions between the US and several of its most important trading partners (especially China and Mexico). The inflation outlook has also softened with recent readings on core inflation declining further below the Fed's 2% objective. These and other developments have resulted in a reassessment in financial markets regarding Fed interest rate policy, with investors pricing in significant probabilities of multiple rate cuts and bidding up bond prices in a broadly consistent fashion.

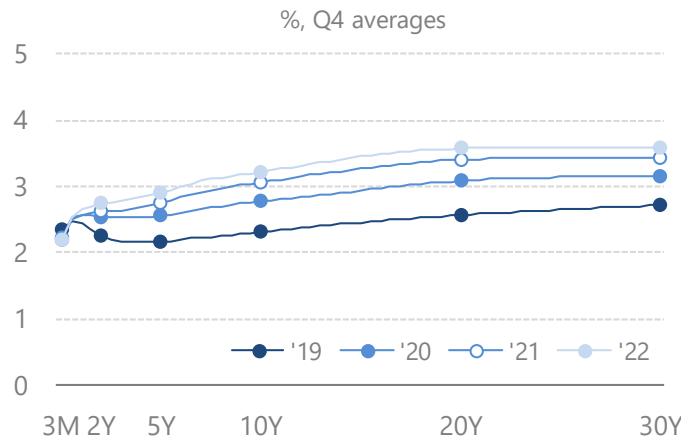
Looking ahead, we expect the FOMC to keep the funds-rate target at its current setting. As markets price in the likelihood that the Fed will remain on hold, bond yields will be pushed higher. We project that the 2-year yield will increase to near 2.30% by year's end and above 2.50% in late 2020. The 10-year yield is projected to rise to about 2.35% in late 2019 and on to about 2.80% in late 2020. The 10-2 spread is projected to remain positive but low by historical standards.

Treasury yields



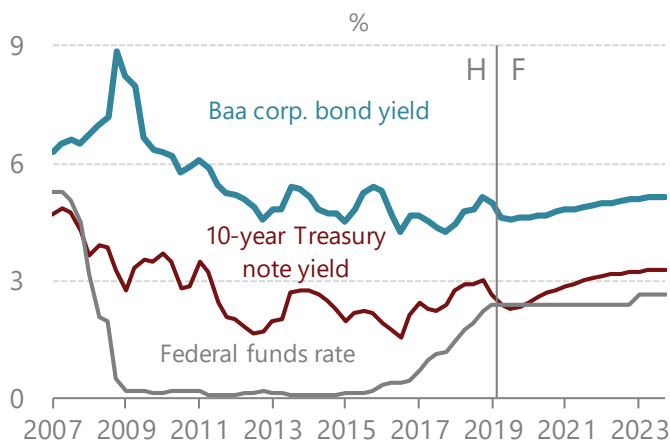
Source: Macroeconomic Advisers by IHS Markit, FRB

Yield curve rises and steepens



Source: Macroeconomic Advisers by IHS Markit

Bond yields low



Source: Macroeconomic Advisers by IHS Markit

Holding period returns on treasuries

1-year holding period return through Q4, percent

	'18	'19	'20	'21	'22	'23
2-year T-Note	0.75	3.16	1.94	2.54	2.62	2.68
Rates view	-1.10	0.22	-0.13	0.00	-0.07	-0.18
Rolldown	0.14	0.13	-0.19	-0.03	0.05	0.09
Interest income	1.71	2.81	2.26	2.57	2.64	2.77
10-year T-Note	-2.68	9.16	-1.05	0.80	2.14	3.23
Rates view	-5.32	5.95	-3.61	-2.24	-1.27	-0.34
Rolldown	0.25	0.16	0.23	0.25	0.33	0.33
Interest income	2.39	3.05	2.33	2.79	3.08	3.24
30-year T-Bond	-5.41	14.57	-5.46	-1.97	0.73	3.01
Rates view	-8.64	11.11	-8.48	-5.27	-2.76	-0.62
Rolldown	0.39	0.17	0.29	0.12	0.03	0.01
Interest income	2.84	3.29	2.73	3.18	3.46	3.62

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

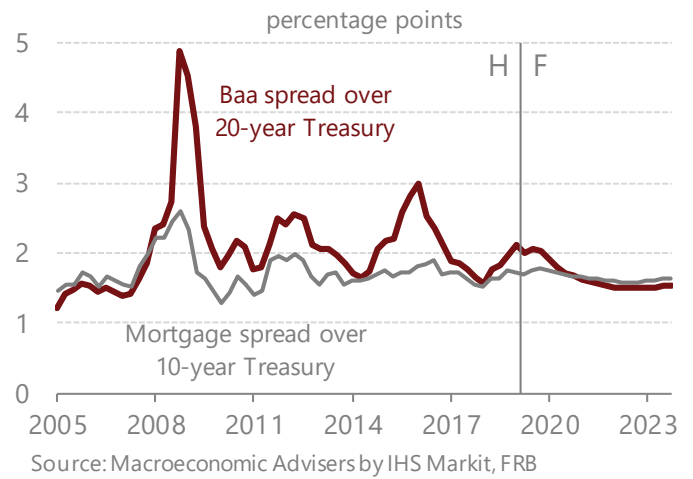
Risk spreads to narrow from elevated levels

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, until renewed uncertainty over US trade policy in recent weeks has again left markets unsettled. The spread between yields on Baa corporate bonds and comparable Treasuries has widened from 190 basis points at the time last month's forecast was being prepared to 215 basis points as of this month's forecast.

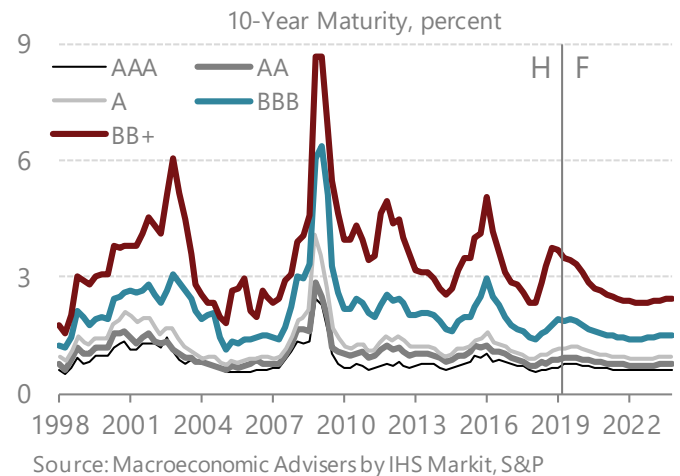
We expect risk spreads to remain somewhat elevated over the next few quarters before a narrowing resumes, supported by trend-like GDP growth, ample corporate liquidity, and broadly stable financial conditions. The Baa spread cited above is projected to narrow gradually, from an average of 205 basis points in the third quarter of 2019 to 153 basis points by the end of 2023. Given the projected path of Treasury yields, the Baa yield is projected to ease from 4.97% in the first quarter of 2019 to 4.62% in the second and further to 4.59% by the fourth quarter of this year. As Treasury yields then begin to turn up, so too does the Baa yield, rising gradually to 5.15% by the fourth quarter of 2023.

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 fell to 3.82% in early June, down from 4.94% in mid-November. Looking ahead, we expect the conventional 30-year mortgage rate to be pushed up with the gradual rise in Treasury yields that begins later this year, to 4.45% by the fourth quarter of 2020 and to 4.89% by the end of 2023.

Risk spreads narrow over forecast horizon



Risk spreads to narrow across ratings



CBOE volatility index for S&P 500



New trade tensions leave equity investors wary

On Friday 3 May, the S&P 500 share price index closed at 2946, continuing a recovery from the spasm that gripped financial markets late last year. But on 5 May, President Trump tweeted his intent to slap new tariffs on China. Investors, under the impression—from the White House communications—that trade talks with China were progressing towards a favorable conclusion, were blindsided. Then, in early June, the President threatened new and progressively steepening tariffs on Mexico as an inducement to stem the flow of immigrants across the US border. The equity premium shot up to 3.40% (see chart) and the S&P hit a low of 2744 on June 3, down 7% from the record high. The sell-off would have been worse had not Fed Chair Powell, and other Fed officials, publicly indicated an openness to cutting interest rates if uncertainty over trade policy threatened the expansion. Since then the S&P has reversed about one third of those losses, as the President has rescinded his threat against Mexico. While we expect the premium to retreat gradually to 2.8%, in the interim we expect share prices to be lower than projected last month (see What's New).

With most companies reporting, first-quarter S&P operating earnings per share (EPS) were \$38.2, up 9.1% for the quarter but still below the peak of \$41.4 reached in the third quarter of 2018. We estimate second-quarter EPS rebounded further, to \$40.2, still below the previous peak. Indeed, we expect the four-quarter change in EPS to turn briefly negative in the third quarter. We anticipated this deceleration in earnings as a one-time boost to after-tax earnings from the 40% cut in the corporate tax rate in 2018 falls out of calculated four-quarter changes in EPS. Even so, the outlook for earnings is subdued. Profits are high relative to GDP and we expect margins to be pressured in coming years for several reasons. Tight labor markets will keep upward pressure on wages, even as GDP growth slows. Interest expense will rise as new debt is issued, and old debt refinanced, at higher interest rates. New tariffs are disrupting supply chains and raising costs. And finally, some corporate tax breaks (such as expensing) will be phased out in years ahead even as other base-broadening provisions of the 2017 Tax Act grow in importance. Thus, from 2018 through 2029, we project S&P operating earnings to grow only 3.5% per year, declining slightly relative to GDP (see chart). With the gradual decline in the equity premium offset by a gradual increase in term yields, the ratio of the S&P share price index to four-quarter trailing EPS will hover just over 18 (see chart), close to its current and equilibrium value.

S&P 500 daily equity risk premium



Source: Macroeconomic Advisers by IHS Markit

S&P 500 operating earnings



Source: Macroeconomic Advisers by IHS Markit, S&P

S&P 500 P/E ratio



Source: Macroeconomic Advisers by IHS Markit, S&P

Monthly Economic Indicators

	Apr. 2018	May. 2018	Oct. 2018	Nov. 2018	Dec. 2018	Jan. 2019	Feb. 2019	Mar. 2019	Apr. 2019	May. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	108.2	107.4	109.9	110.5	110.6	110.1	109.6	109.7	109.2		102.1	104.4	108.6
Percent Change	0.9	-0.8	0.2	0.5	0.0	-0.4	-0.5	0.2	-0.5		-2.0	2.3	3.9
Percent Change Year Earlier	3.8	2.8	4.1	4.1	3.8	3.6	2.7	2.3	0.9				
Capacity Utilization, Manufacturing (%)	76.6	76.0	76.8	76.9	77.3	76.7	76.2	76.2	75.7		74.2	75.1	76.6
Unemployment Rate (%)	3.9	3.8	3.8	3.7	3.9	4.0	3.8	3.8	3.6	3.6	4.9	4.4	3.9
Payroll Employment (Mil.)	148.475	148.745	149.852	150.048	150.275	150.587	150.643	150.796	151.020	151.095	144.348	146.611	149.064
Change (Mil.)	0.196	0.270	0.277	0.196	0.227	0.312	0.056	0.153	0.224	0.075	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.091	1.091	1.114	1.115	1.114	1.114	1.116	1.119	1.121		1.000	1.040	1.099
Percent Change	0.6	0.0	-0.1	0.1	-0.1	0.0	0.2	0.3	0.2		1.0	4.0	5.7
New Orders, Mfg. (Bil. \$)	494.4	499.4	503.2	500.4	501.4	501.7	496.8	503.3	499.3		440.4	465.5	499.4
Percent Change	-0.6	1.0	-2.2	-0.5	0.2	0.1	-1.0	1.3	-0.8		-2.9	5.7	7.3
Inv. Chg., Mfg. & Trade (Bil. \$)	5.6	7.2	13.0	-0.1	14.8	16.9	5.9	-0.1			30.7	62.1	93.6
Merchandise Trade Bal. (Bil. \$)	-69.3	-65.6	-76.1	-72.9	-79.8	-71.9	-69.9	-71.8	-70.9		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012\$)	14260	14274	14425	14450	14591	14570	14579	14557	14575		13596	13949	14341
Percent Change	-0.0	0.1	0.2	0.2	1.0	-0.1	0.1	-0.2	0.1		1.7	2.6	2.8
Personal Income (Bil. \$)	17414	17461	17760	17788	17956	17944	17985	18006	18099		16125	16831	17570
Percent Change	0.2	0.3	0.3	0.2	0.9	-0.1	0.2	0.1	0.5		2.6	4.4	4.4
Personal Saving Rate (%)	6.8	6.6	6.2	6.0	7.4	6.9	7.0	6.1	6.2		6.7	6.7	6.7
Consumer Expenditures (Bil. \$)	13805	13881	14169	14239	14157	14197	14195	14353	14393		12767	13321	13949
Percent Change	0.5	0.5	0.6	0.5	-0.6	0.3	-0.0	1.1	0.3		3.8	4.3	4.7
Retail Sales (Bil. \$)	497.8	504.0	511.6	511.6	503.3	507.2	505.8	514.3	513.4		5497.9	5758.7	6040.5
Percent Change	0.4	1.2	1.0	-0.0	-1.6	0.8	-0.3	1.7	-0.2		2.9	4.7	4.9
Non-Auto. Retail Sales (Bil. \$)	395.8	401.2	408.1	407.7	399.1	404.8	403.6	408.8	409.1		4357.5	4561.8	4811.2
Percent Change	0.4	1.4	0.8	-0.1	-2.1	1.4	-0.3	1.3	0.1		2.5	4.7	5.5
New Light-Vehicle Sales (Mil.)	17.2	17.2	17.6	17.4	17.5	16.7	16.4	17.3	16.3	17.3	17.5	17.1	17.2
Housing Starts (Mil.)	1.267	1.332	1.211	1.202	1.142	1.291	1.149	1.168	1.235		1.178	1.209	1.250
New Home Sales (Mil.)	0.629	0.65	0.557	0.615	0.564	0.644	0.669	0.723	0.673		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.430	5.400	5.220	5.210	5.000	4.930	5.480	5.210	5.190		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. \$)	2.5	21.5	20.2	21.7	12.0	17.0	15.5	11.0	17.5		233.1	183.7	181.0
Prices and Wages													
CPI, All Urban Consumers	2.500	2.506	2.528	2.528	2.527	2.527	2.531	2.541	2.550		2.400	2.451	2.511
Percent Change Year Earlier	2.4	2.7	2.5	2.2	1.9	1.5	1.5	1.9	2.0		1.3	2.1	2.4
Core Cons. Price Defl. (2012=100.0)	109.6	109.8	110.5	110.7	110.9	111.0	111.0	111.1	111.3		106.2	108.0	110.0
Percent Change Year Earlier	1.9	2.0	1.8	1.9	2.0	1.8	1.6	1.5	1.6		1.7	1.6	1.9
PPI, Finished Goods	2.028	2.043	2.064	2.05	2.039	2.027	2.031	2.059	2.067	2.064	1.919	1.980	2.041
Percent Change Year Earlier	2.4	4.0	3.6	1.9	1.2	0.2	0.4	1.4	1.9	1.0	-1.0	3.2	3.1
PPI, Industrial Commodities (NSA)	2.013	2.044	2.076	2.046	2.023	2.002	1.999	2.026	2.035	2.028	1.846	1.937	2.037
Percent Change Year Earlier	4.4	6.2	6.1	4.0	2.6	0.6	-0.3	1.4	1.1	-0.8	-2.3	4.9	5.2
Avg. Private Hourly Earnings (\$)	22.55	22.62	22.9	22.99	23.09	23.11	23.17	23.25	23.31	23.38	21.55	22.05	22.70
Percent Change Year Earlier	2.8	2.9	3.2	3.4	3.5	3.4	3.4	3.4	3.4	3.4	2.5	2.3	3.0
Brent Crude, Spot Price (\$/bbl.)	71.96	76.86	81.03	64.75	56.48	59.41	63.96	66.14	71.23	71.17	44.24	54.83	70.96
Percent Change Year Earlier	33.7	33.7	40.9	3.2	-12.3	-14.0	-2.1	0.2	-1.0	-7.4	-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	2.49	2.97	3.17
Percent Change Year Earlier	-9.0	-9.6	13.8	37.6	40.8	-20.3	1.0	9.3	-5.5	-6.0	-4.5	18.9	6.8
Financial Markets, Period Average													
Federal Funds Rate (%)	1.69	1.70	2.19	2.20	2.27	2.40	2.40	2.41	2.42	2.39	0.40	1.00	1.83
3-Month T-Bill Rate (%)	1.76	1.86	2.25	2.33	2.37	2.37	2.39	2.40	2.38	2.35	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	4.75	4.75	5.25	5.25	5.35	5.50	5.50	5.50	5.50	5.50	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	2.87	2.98	3.15	3.12	2.83	2.71	2.68	2.57	2.53	2.40	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.47	4.59	4.83	4.87	4.64	4.47	4.40	4.28	4.14	4.07	3.65	3.99	4.54
M1 Money Supply (Bil. \$)	3660	3655	3721	3700	3751	3744	3766	3726	3783		3249	3524	3678
Percent Change	0.1	-0.2	0.5	-0.6	1.4	-0.2	0.6	-1.1	1.5		7.7	7.8	3.8
M2 Money Supply (Bil. \$)	13974	14035	14247	14265	14368	14438	14444	14468	14514		12852	13585	14105
Percent Change	0.2	0.4	0.2	0.1	0.7	0.5	0.0	0.2	0.3		6.9	4.8	3.7

Source: IHS Markit

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Monthly Economic Indicators

	Apr. 2018	May. 2018	Oct. 2018	Nov. 2018	Dec. 2018	Jan. 2019	Feb. 2019	Mar. 2019	Apr. 2019	May. 2019	2016	2017	2018
Industrial Markets													
Industrial Prod. Total (2012=100.0)	108.2	107.4	109.9	110.5	110.6	110.1	109.6	109.7	109.2		102.1	104.4	108.6
Percent Change (Q4/Q4 for Annual Values)	0.9	-0.8	0.2	0.5	0.0	-0.4	-0.5	0.2	-0.5		-0.3	3.6	4.0
Percent Change Year Earlier	3.8	2.8	4.1	4.1	3.8	3.6	2.7	2.3	0.9				
Capacity Utilization, Manufacturing (%)	76.6	76.0	76.8	76.9	77.3	76.7	76.2	76.2	75.7		74.2	75.1	76.6
Unemployment Rate (%)	3.9	3.8	3.8	3.7	3.9	4.0	3.8	3.8	3.6	3.6	4.9	4.4	3.9
Payroll Employment (Mil.)	148.475	148.745	149.852	150.048	150.275	150.587	150.643	150.796	151.020	151.095	144.348	146.611	149.064
Change (Mil.)	0.196	0.270	0.277	0.196	0.227	0.312	0.056	0.153	0.224	0.075	2.522	2.263	2.454
Leading Indicator (2016=1.000)	1.091	1.091	1.114	1.115	1.114	1.114	1.116	1.119	1.121		1.000	1.040	1.099
Percent Change (Q4/Q4 for Annual Values)	0.6	0.0	-0.1	0.1	-0.1	0.0	0.2	0.3	0.2		1.0	5.6	4.8
New Orders, Mfg. (Bil. \$)	494.4	499.4	503.2	500.4	501.4	501.7	496.8	503.3	499.3		440.4	465.5	499.4
Percent Change (Q4/Q4 for Annual Values)	-0.6	1.0	-2.2	-0.5	0.2	0.1	-1.0	1.3	-0.8		1.1	6.9	4.3
Inv. Chg., Mfg. & Trade (Bil. \$)	5.6	7.2	13.0	-0.1	14.8	16.9	5.9	-0.1			30.7	62.1	93.6
Merchandise Trade Bal. (Bil. \$)	-69.3	-65.6	-76.1	-72.9	-79.8	-71.9	-69.9	-71.8	-70.9		-735.3	-793.4	-874.8
Consumer Markets													
Disposable Income (Bil. 2012\$)	14260	14274	14425	14450	14591	14570	14579	14557	14575		13596	13949	14341
Percent Change (Q4/Q4 for Annual Values)	-0.0	0.1	0.2	0.2	1.0	-0.1	0.1	-0.2	0.1		1.6	2.8	3.0
Personal Income (Bil. \$)	17414	17461	17760	17788	17956	17944	17985	18006	18099		16125	16831	17570
Percent Change (Q4/Q4 for Annual Values)	0.2	0.3	0.3	0.2	0.9	-0.1	0.2	0.1	0.5		3.0	4.6	4.3
Personal Saving Rate (%)	6.8	6.6	6.2	6.0	7.4	6.9	7.0	6.1	6.2		6.7	6.7	6.7
Consumer Expenditures (Bil. \$)	13805	13881	14169	14239	14157	14197	14195	14353	14393		12767	13321	13949
Percent Change (Q4/Q4 for Annual Values)	0.5	0.5	0.6	0.5	-0.6	0.3	-0.0	1.1	0.3		4.4	4.5	4.5
Retail Sales (Bil. \$)	497.8	504.0	511.6	511.6	503.3	507.2	505.8	514.3	513.4		5497.9	5758.7	6040.5
Percent Change (Q4/Q4 for Annual Values)	0.4	1.2	1.0	-0.0	-1.6	0.8	-0.3	1.7	-0.2		3.5	5.7	3.4
Non-Auto. Retail Sales (Bil. \$)	395.8	401.2	408.1	407.7	399.1	404.8	403.6	408.8	409.1		4357.5	4561.8	4811.2
Percent Change (Q4/Q4 for Annual Values)	0.4	1.4	0.8	-0.1	-2.1	1.4	-0.3	1.3	0.1		3.0	6.0	3.9
New Light-Vehicle Sales (Mil.)	17.2	17.2	17.6	17.4	17.5	16.7	16.4	17.3	16.3	17.3	17.5	17.1	17.2
Housing Starts (Mil.)	1.267	1.332	1.211	1.202	1.142	1.291	1.149	1.168	1.235		1.178	1.209	1.250
New Home Sales (Mil.)	0.629	0.65	0.557	0.615	0.564	0.644	0.669	0.723	0.673		0.562	0.617	0.615
Existing Home Sales (Mil.)	5.430	5.400	5.220	5.210	5.000	4.930	5.480	5.210	5.190		5.437	5.531	5.341
Chg. Consumer Install. Credit (Bil. \$)	2.5	21.5	20.2	21.7	12.0	17.0	15.5	11.0	17.5		233.1	183.7	181.0
Prices and Wages													
CPI, All Urban Consumers	2.500	2.506	2.528	2.528	2.527	2.527	2.531	2.541	2.550		2.400	2.451	2.511
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.4	2.7	2.5	2.2	1.9	1.5	1.5	1.9	2.0		1.8	2.1	2.2
Core Cons. Price Defl. (2012=100.0)	109.6	109.8	110.5	110.7	110.9	111.0	111.0	111.1	111.3		106.2	108.0	110.0
Percent Change Year Earlier (Q4/Q4 for Annual Values)	1.9	2.0	1.8	1.9	2.0	1.8	1.6	1.5	1.6		1.8	1.6	1.9
PPI, Finished Goods	2.028	2.043	2.064	2.05	2.039	2.027	2.031	2.059	2.067	2.064	1.919	1.980	2.041
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.4	4.0	3.6	1.9	1.2	0.2	0.4	1.4	1.9	1.0	1.0	3.4	2.2
PPI, Industrial Commodities (NSA)	2.013	2.044	2.076	2.046	2.023	2.002	1.999	2.026	2.035	2.028	1.846	1.937	2.037
Percent Change Year Earlier (Q4/Q4 for Annual Values)	4.4	6.2	6.1	4.0	2.6	0.6	-0.3	1.4	1.1	-0.8	1.7	4.9	4.2
Avg. Private Hourly Earnings (\$)	22.55	22.62	22.9	22.99	23.09	23.11	23.17	23.25	23.31	23.38	21.55	22.05	22.70
Percent Change Year Earlier (Q4/Q4 for Annual Values)	2.8	2.9	3.2	3.4	3.5	3.4	3.4	3.4	3.4	3.4	2.5	2.3	3.4
Brent Crude, Spot Price (\$/bbl.)	71.96	76.86	81.03	64.75	56.48	59.41	63.96	66.14	71.23	71.17	44.24	54.83	70.96
Percent Change Year Earlier (Q4/Q4 for Annual Values)	33.7	33.7	40.9	3.2	-12.3	-14.0	-2.1	0.2	-1.0	-7.4	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	2.49	2.97	3.17
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	44.1	-3.9	30.8
Financial Markets, Period Average													
Federal Funds Rate (%)	1.69	1.70	2.19	2.20	2.27	2.40	2.40	2.41	2.42	2.39	0.40	1.00	1.83
3-Month T-Bill Rate (%)	1.76	1.86	2.25	2.33	2.37	2.37	2.39	2.40	2.38	2.35	0.32	0.93	1.94
Commercial Bank Prime Rate (%)	4.75	4.75	5.25	5.25	5.35	5.50	5.50	5.50	5.50	5.50	3.51	4.10	4.90
10-Year Treasury Note Yield (%)	2.87	2.98	3.15	3.12	2.83	2.71	2.68	2.57	2.53	2.40	1.84	2.33	2.91
Conv. Mortgage Rate, FHLMC (%)	4.47	4.59	4.83	4.87	4.64	4.47	4.40	4.28	4.14	4.07	3.65	3.99	4.54
M1 Money Supply (Bil. \$)	3660	3655	3721	3700	3751	3744	3766	3726	3783		3249	3524	3678
Percent Change (Q4/Q4 for Annual Values)	0.1	-0.2	0.5	-0.6	1.4	-0.2	0.6	-1.1	1.5		9.1	8.1	3.0
M2 Money Supply (Bil. \$)	13974	14035	14247	14265	14368	14438	14444	14468	14514		12852	13585	14105
Percent Change (Q4/Q4 for Annual Values)	0.2	0.4	0.2	0.1	0.7	0.5	0.0	0.2	0.3		7.3	4.9	3.5

Source: IHS Markit

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Summary of the US Economy

	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4	2021:1	2021:2	2021:3	2021:4
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.2	3.1	1.5	1.7	1.9	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.8
Final Sales of Domestic Product	2.1	2.5	2.4	1.9	2.2	1.9	2.0	1.7	1.7	1.7	1.7	1.7	1.8
Gross Domestic Income	0.5	1.4	1.8	1.9	2.1	2.0	2.0	1.8	1.8	1.9	1.8	1.8	1.8
Avg. of GDP and GDI	1.3	2.2	1.7	1.8	2.0	1.9	1.9	1.7	1.8	1.9	1.7	1.8	1.8
Total Consumption	2.5	1.3	2.9	1.7	2.1	2.1	2.3	2.4	2.5	2.6	2.5	2.5	2.5
Durables	3.6	-4.6	11.1	1.8	3.2	4.0	4.5	5.2	5.2	5.9	5.6	5.3	5.3
Nondurables	2.1	2.0	3.6	2.0	1.8	1.7	1.9	1.8	2.1	1.7	1.7	1.7	1.6
Services	2.4	2.1	1.6	1.5	2.1	2.0	2.1	2.2	2.3	2.3	2.3	2.3	2.3
Nonresidential Fixed Investment	5.4	2.3	-1.8	2.8	2.7	1.9	1.6	2.8	2.3	2.3	2.3	2.3	2.5
Equipment	6.6	-1.1	-7.5	0.7	2.1	1.6	1.1	3.3	2.4	2.7	2.9	2.9	3.2
Information Processing Equipment	-2.8	-0.3	1.9	2.9	3.3	3.3	3.1	3.4	2.9	3.4	3.0	2.9	3.1
Industrial Equipment	5.5	-2.8	-5.0	-5.5	0.2	0.9	3.7	4.4	7.0	8.6	7.8	3.1	5.7
Transportation equipment	17.0	6.2	-20.5	0.4	13.3	3.4	11.3	-2.6	-6.8	-4.8	-4.4	1.7	7.7
Aircraft	58.9	-39.1	-61.7	9.9	128.6	37.6	41.3	9.8	11.8	9.9	9.1	10.9	9.5
Other Equipment	11.2	-8.1	-7.1	3.5	-8.9	-2.1	-14.2	9.4	8.5	5.0	6.6	4.1	-3.4
Intellectual Property Products	10.7	7.2	8.0	6.1	5.3	4.0	3.5	3.7	3.5	3.3	3.1	3.0	3.0
Structures	-3.9	1.7	-4.9	1.7	-0.1	-0.7	-0.2	0.4	0.4	0.1	-0.0	-0.0	0.3
Commercial & Health Care	-6.9	6.6	-2.9	5.6	1.4	-1.8	-2.3	0.8	1.8	2.6	1.7	1.2	6.0
Manufacturing	2.1	3.8	-4.2	4.2	2.3	1.8	-10.6	-4.9	-1.6	12.3	7.3	6.6	-2.0
Power & Communication	-14.1	-0.1	-18.2	-20.4	-20.1	-29.3	-4.5	1.1	-4.1	-8.0	-12.1	-15.1	-19.1
Mining & Petroleum	-2.7	-1.3	6.9	13.5	9.3	13.2	3.1	-1.9	-1.0	-7.0	-2.3	0.9	1.5
Other	6.9	-1.4	-8.0	3.6	4.7	11.1	8.0	4.5	4.1	4.9	5.4	5.1	6.3
Residential Fixed Investment	-4.7	-3.5	-1.8	-0.4	0.9	-1.0	-2.9	-2.6	0.3	-1.3	-2.1	0.0	2.0
Exports	1.8	4.8	-4.2	3.8	3.7	3.7	3.0	3.0	2.6	2.4	2.0	1.9	2.0
Imports	2.0	-2.5	-3.0	2.1	2.1	2.9	3.3	4.0	4.6	4.3	4.2	4.1	4.2
Federal Government	1.1	-0.1	7.6	2.5	1.6	1.4	4.0	-2.0	-1.8	-0.6	-0.6	-0.7	-1.2
State & Local Government	-1.3	4.0	3.3	1.0	0.8	1.2	1.4	1.2	1.4	1.1	1.0	1.0	1.0
Billions of Dollars													
Real GDP	18765.3	18907.5	18979.3	19059.2	19148.2	19235.5	19322.1	19402.9	19484.9	19572.2	19654.3	19737.8	19824.6
Nominal GDP	20865.1	21048.8	21246.3	21478.1	21685.0	21905.3	22127.4	22346.3	22566.0	22804.6	23032.2	23261.8	23501.1
Prices & Wages, Percent Change, Annual Rate													
GDP Deflator	1.7	0.8	2.2	2.7	2.0	2.2	2.3	2.3	2.2	2.4	2.3	2.3	2.4
Consumer Prices	1.5	0.9	3.1	2.9	2.2	1.9	1.5	2.0	1.4	2.5	2.3	2.0	2.1
Producer Prices, Finished Goods	0.4	-2.4	5.9	2.4	3.0	2.3	1.3	1.7	1.0	2.0	2.2	2.0	2.0
Employment Cost Index - Total Comp.	2.4	3.0	2.6	2.7	3.3	3.2	3.6	3.3	3.3	3.5	3.5	3.6	3.6
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	67.42	63.17	69.34	70.67	72.67	70.33	67.33	67.33	64.00	65.61	66.84	67.04	67.42
Productivity (%ch., saar)	1.3	3.4	0.5	0.2	0.9	0.9	1.0	1.2	1.2	1.4	1.4	1.5	1.6
Total Industrial Production (%ch., saar)	3.9	-1.9	-0.6	1.1	1.3	0.9	1.3	1.2	1.0	1.1	0.8	1.0	1.0
Factory Operating Rate	77.0	76.4	75.9	75.8	75.7	75.6	75.5	75.4	75.3	75.2	75.0	74.9	74.8
Nonfarm Inven. Chg. (Bil. 2012 \$)	103.3	132.3	85.9	73.9	53.4	48.4	39.0	37.9	36.8	40.1	42.5	43.0	43.6
Consumer Sentiment Index	98.1	94.5	98.1	96.7	96.1	96.0	95.9	95.7	95.4	95.0	94.7	94.4	94.1
Light Vehicle Sales (Mil. units, saar)	17.50	16.82	16.76	16.67	16.79	16.68	16.64	16.62	16.57	16.54	16.50	16.46	16.43
Housing Starts (Mil. units, saar)	1.185	1.203	1.209	1.201	1.204	1.209	1.206	1.218	1.231	1.216	1.228	1.246	1.264
Exist. House Sales (Total, Mil. saar)	5.143	5.207	5.316	5.355	5.501	5.475	5.448	5.441	5.473	5.454	5.457	5.518	5.609
Unemployment Rate (%)	3.8	3.9	3.6	3.5	3.5	3.6	3.6	3.7	3.8	3.8	3.9	3.9	3.9
Payroll Employment (%ch., saar)	1.7	1.7	1.6	1.3	1.1	1.1	1.5	0.2	0.4	0.6	0.6	0.6	0.6
Federal Surplus (Unified, nsa, bil. \$)	-318.9	-372.2	-71.3	-261.5	-303.6	-375.0	-79.0	-257.1	-312.6	-389.8	-91.5	-273.3	-337.8
Current Account Balance (Bil. \$)	-537.5	-550.5	-519.7	-511.3	-524.2	-516.2	-505.8	-504.6	-502.1	-506.3	-515.3	-521.5	-531.3
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.22	2.40	2.39	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38
3-Month Treasury Bill Rate (%)	2.32	2.39	2.36	2.36	2.30	2.26	2.23	2.20	2.19	2.17	2.16	2.16	2.15
10-Year Treasury Note Yield (%)	3.03	2.65	2.38	2.30	2.32	2.45	2.58	2.68	2.77	2.85	2.92	2.99	3.06
30-Year Fixed Mortgage Rate (%)	4.78	4.38	4.08	4.05	4.09	4.20	4.30	4.38	4.45	4.50	4.56	4.61	4.66
S&P 500 Stock Index	2692	2722	2832	2810	2829	2842	2871	2906	2942	2972	2997	3017	3036
(Four-Quarter % change)	3.3	-0.4	4.8	-1.5	5.1	4.4	1.4	3.4	4.0	4.6	4.4	3.8	3.2
Exchange Rate, Broad Index of Partners	1.282	1.272	1.289	1.298	1.302	1.304	1.311	1.319	1.329	1.336	1.343	1.350	1.356
(% change, annual rate)	9.1	-3.0	5.4	2.8	1.4	0.5	2.0	2.7	3.0	2.1	2.1	2.1	1.9
Incomes													
Personal Income (% ch., saar)	4.1	3.3	4.2	4.1	4.4	5.0	4.8	4.5	4.2	4.8	4.3	4.3	4.3
Real Disposable Income (%ch., saar)	3.2	2.2	1.1	1.5	2.3	3.0	3.0	2.5	2.6	2.7	2.2	2.3	2.3
Saving Rate (%)	6.5	6.7	6.2	6.2	6.2	6.3	6.5	6.5	6.5	6.5	6.4	6.4	6.4
After-Tax Profits (Billions of \$)	1946	1930	1990	2001	2011	2019	2019	2036	2045	2069	2089	2108	2133
(Four-quarter % change)	3.6	4.2	5.1	5.5	7.2	6.4	4.4	4.2	4.1	4.0	3.9	3.9	3.8

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	2.2	2.9	2.5	1.8	1.7	1.8	1.7	1.8
Final Sales of Domestic Product	2.1	1.6	2.6	2.6	2.1	2.2	2.7	2.3	2.0	1.7	1.7	1.7	1.8
Gross Domestic Income	3.4	1.3	3.2	2.6	0.8	2.3	2.3	1.8	2.0	1.8	1.8	1.7	1.8
Avg. of GDP and GDI	2.8	1.6	2.8	2.7	1.2	2.2	2.6	2.1	1.9	1.8	1.8	1.7	1.8
Total Consumption	1.5	1.5	2.9	3.7	2.7	2.5	2.6	2.4	2.2	2.5	2.5	2.4	2.4
Durables	6.0	6.1	7.2	7.6	5.5	6.8	5.5	2.9	4.3	5.4	5.4	5.2	4.9
Nondurables	0.4	1.8	2.6	3.4	2.7	2.1	2.8	2.7	2.0	1.8	1.6	1.7	1.7
Services	1.2	0.6	2.4	3.2	2.3	2.0	2.1	2.2	2.0	2.3	2.3	2.3	2.2
Nonresidential Fixed Investment	9.5	4.1	6.9	1.8	0.5	5.3	6.9	2.6	2.0	2.3	2.6	2.7	2.9
Equipment	11.0	4.7	6.7	3.1	-1.5	6.1	7.4	0.4	1.1	2.7	3.3	3.3	3.4
Information Processing Equipment	9.2	6.2	4.8	6.7	4.4	11.9	9.5	1.8	3.1	3.1	3.2	3.1	3.1
Industrial Equipment	8.4	-1.4	4.0	0.2	-1.2	6.6	5.2	-0.4	0.9	6.4	4.7	3.9	2.5
Transportation equipment	18.4	10.8	10.8	10.2	-5.9	-3.7	7.0	0.6	3.1	-2.3	2.5	4.5	3.2
Aircraft	1.6	5.5	13.7	1.8	-10.5	9.9	7.9	-16.5	30.4	11.8	10.8	10.2	10.3
Other Equipment	9.5	2.2	7.8	-6.8	-4.5	9.0	7.0	-1.2	-3.5	4.5	3.2	1.9	5.0
Intellectual Property Products	5.0	5.4	4.3	3.7	7.5	4.6	7.5	7.7	4.6	3.3	3.0	2.5	2.5
Structures	13.0	1.3	10.6	-3.0	-5.0	4.6	5.0	-0.7	-0.3	0.1	0.8	1.6	2.4
Commercial & Health Care	8.4	3.6	12.9	10.6	17.7	3.2	0.6	-0.5	0.1	1.8	6.1	5.7	3.8
Manufacturing	15.2	4.2	13.0	33.8	-5.1	-15.2	-7.7	1.6	-1.7	3.3	-4.1	-1.5	-2.5
Power & Communication	21.0	-4.4	15.0	-3.4	0.3	-1.5	-0.9	-10.6	-16.6	-8.3	-12.9	-12.3	-1.3
Mining & Petroleum	11.9	1.6	6.8	-29.1	-43.2	41.8	28.8	5.3	7.3	-2.3	1.0	1.4	2.2
Other	10.7	3.3	8.3	9.3	7.2	1.7	2.9	1.0	5.8	5.1	4.6	5.0	4.4
Residential Fixed Investment	13.0	12.4	3.9	10.1	6.5	3.3	-0.3	-2.6	-1.1	-1.1	0.7	-0.9	-0.4
Exports	3.4	3.6	4.3	0.6	-0.1	3.0	4.0	1.3	2.9	2.4	2.1	2.4	2.8
Imports	2.7	1.5	5.1	5.5	1.9	4.6	4.5	0.6	2.6	4.2	4.2	4.0	3.8
Federal Government	-1.9	-5.5	-2.6	-0.0	0.4	0.7	2.6	2.7	1.8	-0.8	-1.1	-2.4	-1.6
State & Local Government	-2.2	-0.3	0.1	3.0	2.0	-0.5	0.8	1.9	1.3	1.2	1.0	0.9	0.9
Billions of Dollars													
Real GDP	16197.0	16495.4	16899.8	17386.7	17659.2	18050.7	18566.4	19023.5	19361.4	19697.2	20044.0	20374.8	20745.8
Nominal GDP	16197.0	16784.9	17521.7	18219.3	18707.2	19485.4	20494.1	21364.6	22236.2	23149.9	24110.6	25077.4	26111.1
Prices & Wages, Percent Change													
GDP Deflator	1.9	1.8	1.9	1.0	1.1	1.9	2.2	1.8	2.3	2.3	2.3	2.3	2.3
Consumer Prices	2.1	1.5	1.6	0.1	1.3	2.1	2.4	2.0	2.1	2.0	2.2	2.2	2.2
Producer Prices, Finished Goods	1.9	1.2	1.9	-3.3	-1.0	3.2	3.1	1.5	2.3	1.8	2.1	2.1	2.1
Employment Cost Index - Total Comp.	1.9	1.9	2.1	2.1	2.1	2.5	2.9	2.8	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	68.96	67.25	66.73	68.75	70.92	73.26
Productivity (%ch.)	0.9	0.5	0.8	1.3	0.2	1.2	1.3	1.7	0.9	1.3	1.6	1.6	1.8
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	1.2	1.0	1.0	1.1	0.9	1.2
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.9	75.4	75.0	74.6	74.2	74.0
Nonfarm Inven. Chg. (Bil. 2012 \$)	89.9	98.2	90.3	127.8	28.4	27.4	50.9	86.4	40.5	42.3	48.5	49.5	55.2
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	96.4	95.7	94.5	93.5	93.2	93.3
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.19	16.76	16.63	16.48	16.40	16.54	16.66
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.204	1.216	1.238	1.281	1.267	1.257
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.344	5.459	5.509	5.607	5.626	5.633
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.6	3.7	3.9	4.0	4.3	4.4
Payroll Employment (%ch.)	1.7	1.6	1.9	2.1	1.8	1.6	1.7	1.6	1.1	0.6	0.6	0.4	0.3
Federal Surplus (Unified, FY, bil. \$)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-1008.6	-1023.7	-1092.3	-1127.0	-1141.7	-1128.5
Current Account Balance (Bil. \$)	-426.8	-348.8	-365.2	-407.8	-432.9	-449.1	-488.5	-526.4	-507.2	-518.6	-569.8	-634.5	-680.5
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.39	2.38	2.38	2.38	2.63	2.63
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.35	2.22	2.16	2.14	2.37	2.36
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.41	2.62	2.96	3.17	3.26	3.25
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	4.15	4.33	4.59	4.76	4.87	4.89
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2798	2890	3005	3095	3190	3279
(Percent change)	8.7	19.1	17.5	6.8	1.5	17.0	12.1	1.9	3.3	4.0	3.0	3.1	2.8
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.290	1.316	1.346	1.367	1.373	1.364
(% change, annual rate)	2.8	1.1	3.1	12.5	4.6	-0.3	0.7	4.7	2.0	2.3	1.5	0.4	-0.7
Incomes													
Personal Income (% ch.)	5.1	1.2	5.7	4.9	2.6	4.4	4.4	3.9	4.6	4.5	4.4	4.2	4.3
Real Disposable Income (%ch.)	3.3	-1.3	4.0	4.1	1.7	2.6	2.8	2.1	2.5	2.5	2.3	2.2	2.3
Saving Rate (%)	8.9	6.4	7.4	7.6	6.7	6.7	6.7	6.3	6.4	6.4	6.3	6.1	6.0
After-Tax Profits (Billions of \$)	1821	1789	1855	1737	1737	1831	1947	1983	2030	2100	2183	2307	2455
(Percent change)	18.5	-1.8	3.7	-6.4	-0.0	5.4	6.3	1.9	2.3	3.5	4.0	5.7	6.4

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	2.7	2.0	1.9	2.5	3.0	2.0	1.8	1.7	1.7	1.7	1.9
Final Sales of Domestic Product	1.9	2.0	3.0	1.9	2.1	2.6	2.6	2.2	1.8	1.7	1.7	1.7	1.9
Gross Domestic Income	2.9	1.5	4.0	1.4	1.2	2.3	2.4	1.8	1.9	1.8	1.8	1.7	1.9
Avg. of GDP and GDI	2.2	2.1	3.3	1.7	1.5	2.4	2.7	1.9	1.8	1.8	1.8	1.7	1.9
Total Consumption	1.6	1.9	3.8	3.0	2.8	2.7	2.6	2.0	2.3	2.5	2.5	2.4	2.3
Durables	6.3	5.0	9.2	6.0	6.8	7.7	3.4	2.7	4.7	5.5	5.4	5.1	4.7
Nondurables	0.7	2.8	3.0	3.0	2.0	3.0	2.7	2.3	1.9	1.7	1.6	1.7	1.7
Services	1.2	1.1	3.2	2.6	2.4	1.8	2.4	1.8	2.2	2.3	2.3	2.2	2.2
Nonresidential Fixed Investment	5.6	5.4	6.4	-0.7	1.8	6.3	7.0	1.5	2.2	2.4	2.8	2.7	2.9
Equipment	7.8	5.4	5.1	2.0	-1.4	9.6	5.8	-1.5	2.1	2.9	3.5	3.3	3.4
Information Processing Equipment	8.8	5.8	5.6	7.9	4.2	12.9	6.4	1.9	3.2	3.1	3.3	3.0	3.1
Industrial Equipment	-0.0	-2.7	4.3	0.8	0.1	7.9	4.6	-3.3	4.0	6.3	4.6	3.0	2.8
Transportation equipment	13.6	10.8	8.5	7.3	-9.0	3.1	7.0	-1.0	1.1	-0.1	2.4	4.5	3.6
Aircraft	-6.8	22.9	-5.7	-8.7	-0.4	8.7	20.0	-12.5	24.3	9.9	10.9	10.2	10.1
Other Equipment	8.8	6.8	1.7	-10.6	-1.0	14.2	4.4	-5.3	-0.1	3.0	3.9	2.8	4.4
Intellectual Property Products	3.7	4.5	6.4	3.5	5.8	4.2	10.2	6.7	3.7	3.1	2.9	2.4	2.6
Structures	4.0	6.7	8.8	-10.7	2.5	2.9	4.9	-0.4	-0.0	0.1	1.2	1.9	2.6
Commercial & Health Care	4.9	8.7	13.8	5.6	21.8	-2.3	-1.1	2.6	-0.4	2.9	7.4	4.6	3.5
Manufacturing	6.7	4.4	29.4	10.8	-7.6	-15.2	-3.1	1.5	-3.9	5.9	-6.4	-0.5	-3.4
Power & Communication	12.6	14.6	-16.1	9.2	10.4	-12.0	1.6	-15.1	-10.0	-13.7	-11.8	-8.9	1.2
Mining & Petroleum	-4.2	2.0	14.8	-46.6	-32.5	65.6	22.2	7.0	3.2	-1.8	1.5	1.2	3.0
Other	7.3	4.5	12.4	2.9	9.3	0.5	4.6	-0.4	6.9	5.4	4.0	5.2	4.1
Residential Fixed Investment	15.4	7.1	7.8	8.9	4.5	3.8	-3.3	-1.2	-1.6	-0.4	0.3	-1.0	-0.0
Exports	2.1	6.0	3.0	-1.6	0.8	4.7	2.3	1.9	3.1	2.1	2.2	2.5	3.1
Imports	0.6	3.0	6.7	3.4	3.1	5.4	3.4	-0.3	3.7	4.2	4.3	3.9	3.7
Federal Government	-2.6	-6.1	-1.2	1.2	0.2	1.3	2.7	2.9	0.3	-0.8	-1.5	-2.6	-0.9
State & Local Government	-1.7	0.2	1.1	2.8	1.4	-0.5	0.8	2.3	1.3	1.0	1.0	0.9	0.9
Billions of Dollars													
Real GDP	16197.0	16495.4	16899.8	17386.7	17659.2	18050.7	18566.4	19023.5	19361.4	19697.2	20044.0	20374.8	20745.8
Nominal GDP	16197.0	16784.9	17521.7	18219.3	18707.2	19485.4	20494.1	21364.6	22236.2	23149.9	24110.6	25077.4	26111.1
Prices & Wages, Percent Change (Q4/Q4)													
GDP Deflator	2.1	1.8	1.6	0.9	1.5	2.0	2.1	1.9	2.3	2.4	2.3	2.3	2.2
Consumer Prices	1.9	1.2	1.2	0.4	1.8	2.1	2.2	2.3	1.7	2.2	2.2	2.2	2.2
Producer Prices, Finished Goods	1.7	0.9	0.6	-3.4	1.0	3.4	2.2	2.2	1.5	2.1	2.1	2.1	2.1
Employment Cost Index - Total Comp.	1.8	2.0	2.3	1.9	2.2	2.6	3.0	2.9	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	68.96	67.25	66.73	68.75	70.92	73.26
Productivity (%ch.)	0.3	1.5	0.3	0.7	1.0	1.0	1.7	1.2	1.1	1.4	1.6	1.7	1.8
Total Industrial Production (%ch.)	3.0	2.0	3.1	-1.0	-2.0	2.3	3.9	1.2	1.0	1.0	1.1	0.9	1.2
Factory Operating Rate	74.5	74.4	75.2	75.3	74.2	75.1	76.6	75.9	75.4	75.0	74.6	74.2	74.0
Nonfarm Inven. Chg. (Bil. 2012 \$)	89.9	98.2	90.3	127.8	28.4	27.4	50.9	86.4	40.5	42.3	48.5	49.5	55.2
Consumer Sentiment Index	76.5	79.2	84.1	92.9	91.8	96.8	98.4	96.4	95.7	94.5	93.5	93.2	93.3
Light Vehicle Sales (Mil. units)	14.43	15.53	16.45	17.40	17.46	17.14	17.19	16.76	16.63	16.48	16.40	16.54	16.66
Housing Starts (Mil. units)	0.784	0.928	1.000	1.107	1.178	1.209	1.250	1.204	1.216	1.238	1.281	1.267	1.257
Exist. House Sales (Total, Mil. units)	4.657	5.078	4.923	5.228	5.437	5.531	5.341	5.344	5.459	5.509	5.607	5.626	5.633
Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.6	3.7	3.9	4.0	4.3	4.4
Payroll Employment (%ch.)	1.6	1.8	2.1	2.0	1.7	1.5	1.8	1.4	0.8	0.6	0.5	0.3	0.4
Federal Surplus (Unified, FY, bil. \$)	-1060.8	-559.5	-487.7	-478.0	-581.7	-680.9	-873.0	-1008.6	-1023.7	-1092.3	-1127.0	-1141.7	-1128.5
Current Account Balance (Bil. \$)	-426.8	-348.8	-365.2	-407.8	-432.9	-449.1	-488.5	-526.4	-507.2	-518.6	-569.8	-634.5	-680.5
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	0.14	0.11	0.09	0.13	0.40	1.00	1.83	2.39	2.38	2.38	2.38	2.63	2.63
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.05	0.32	0.93	1.94	2.35	2.22	2.16	2.14	2.37	2.36
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.14	1.84	2.33	2.91	2.41	2.62	2.96	3.17	3.26	3.25
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	3.85	3.65	3.99	4.54	4.15	4.33	4.59	4.76	4.87	4.89
S&P 500 Stock Index	1380	1643	1931	2061	2092	2448	2745	2798	2890	3005	3095	3190	3279
(Percent change, Q4/Q4)	15.7	24.8	13.6	2.0	6.4	19.2	3.3	5.1	4.0	3.2	3.2	2.8	3.0
Exchange Rate, Broad Index of Partners	1.000	1.011	1.043	1.173	1.227	1.224	1.232	1.290	1.316	1.346	1.367	1.373	1.364
(% change, Q4/Q4)	-0.4	2.2	6.5	11.8	3.9	-4.1	6.5	1.6	2.1	2.1	1.1	0.0	-1.0
Incomes													
Personal Income (%ch., Q4/Q4)	6.8	-0.3	6.6	3.8	3.0	4.6	4.3	4.0	4.6	4.4	4.3	4.2	4.4
Real Disposable Income (%ch., Q4/Q4)	4.9	-2.5	5.2	3.1	1.6	2.8	3.0	1.8	2.8	2.4	2.3	2.2	2.4
Saving Rate (%)	8.9	6.4	7.4	7.6	6.7	6.7	6.7	6.3	6.4	6.4	6.3	6.1	6.0
After-Tax Profits (Billions of \$)	1821	1789	1855	1737	1737	1831	1947	1983	2030	2100	2183	2307	2455
(Percent change, Q4/Q4)	10.4	3.0	1.7	-12.7	10.8	-3.2	11.1	3.3	1.7	4.3	3.7	5.7	6.7

Source: IHS Markit

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Alternative Scenarios of the US Economy

	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2018	2019	2020	2021	2022	2023	2024
Pessimistic: Loss of confidence leads to a three-quarter recession (Prob. = 35%)													
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.2	3.1	1.5	1.7	0.9	1.0	2.9	2.4	-0.3	0.1	2.0	1.6	2.3
Total Consumption	2.5	1.3	2.9	1.7	0.3	1.8	2.6	2.2	0.7	0.7	1.8	2.2	3.0
Nonresidential Fixed Investment	5.4	2.3	-1.8	2.8	0.8	0.2	6.9	2.5	-2.9	-1.3	5.3	4.5	3.6
Residential Fixed Investment	-4.7	-3.5	-2.1	-0.3	3.4	-5.3	-0.3	-2.5	-10.5	-7.6	7.8	0.4	-1.0
Exports	1.8	4.8	-4.2	3.8	4.3	3.8	4.0	1.4	1.8	1.5	2.3	2.6	3.0
Imports	2.0	-2.5	-3.0	2.1	-0.3	2.3	4.5	0.5	-0.9	-0.5	5.9	4.7	3.8
Federal Government	1.1	-0.1	7.6	2.6	1.7	1.3	2.6	2.7	1.8	-0.5	-0.7	-2.1	-1.3
State & Local Government	-1.3	4.0	3.5	1.2	1.2	1.0	0.8	2.0	0.5	-0.8	0.0	0.7	0.7
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	1.5	0.9	3.0	2.9	1.5	1.3	2.4	1.9	1.7	2.0	2.1	2.1	2.1
Producer Prices, Finished Goods	0.4	-2.4	5.3	1.7	2.2	1.8	3.1	1.2	1.7	1.4	1.9	1.9	1.9
Employment Cost Index - Total Comp.	2.4	3.0	2.4	2.5	2.9	2.6	2.9	2.7	2.6	2.2	2.2	2.3	2.4
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	67.42	63.17	69.34	70.67	72.59	66.12	70.96	68.94	58.85	63.32	66.65	68.67	70.61
Productivity (%ch., saar)	1.3	3.4	0.5	0.2	1.6	1.0	1.3	1.7	0.0	1.3	1.3	0.8	2.0
Total Industrial Production (%ch., saar)	3.9	-1.9	-0.6	1.1	1.7	0.6	3.9	1.3	-0.7	-0.8	2.1	1.0	1.3
Nonfarm Inven. Chg. (Bil. 2012 \$)	103.3	132.3	86.1	74.2	48.4	26.2	50.9	85.2	-37.3	-57.3	40.9	17.1	17.9
Consumer Sentiment Index	98.1	94.5	93.8	86.5	86.1	83.5	98.4	90.2	78.3	75.6	78.5	82.7	84.9
Light Vehicle Sales (Mil. units, saar)	17.50	16.82	16.76	16.67	15.93	16.28	17.19	16.54	15.22	14.74	15.48	16.18	16.54
Housing Starts (Mil. units, saar)	1.185	1.203	1.201	1.202	1.165	1.106	1.250	1.192	0.947	0.953	1.057	1.064	1.055
Unemployment Rate (%)	3.8	3.9	3.6	3.6	4.0	4.1	3.9	3.8	4.7	6.0	5.8	5.6	5.5
Payroll Employment (%ch., saar)	1.7	1.7	1.6	1.3	-0.5	-0.1	1.7	1.5	-0.3	-0.8	0.7	0.8	0.7
Federal Surplus (Unified, FY, bil. \$)	-318.9	-372.2	-71.9	-260.7	-305.5	-379.0	-779.0	-1023.8	-1059.0	-1231.4	-1294.2	-1236.6	-1208.7
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.22	2.40	2.39	2.36	2.21	2.03	1.83	2.34	0.93	0.13	0.39	1.44	1.97
10-Year Treasury Note Yield (%)	3.03	2.65	2.38	2.25	2.02	1.87	2.91	2.33	1.67	1.97	2.63	2.92	3.00
Incomes													
Personal Income (% ch., saar)	4.1	3.3	3.9	4.0	3.6	4.0	4.4	3.8	2.9	1.9	4.0	3.8	4.2
After-Tax Profits (Four-qr.% change)	11.1	1.6	1.5	1.3	1.5	2.7	6.3	1.5	-3.1	4.6	6.5	2.4	8.8
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)													
Composition of Real GDP, Percent Change, Annual Rate													
Gross Domestic Product	2.2	3.1	1.5	2.2	2.6	2.5	2.9	2.6	2.6	2.8	2.7	2.5	2.5
Total Consumption	2.5	1.3	2.9	2.2	3.0	2.9	2.6	2.5	3.0	3.6	3.5	3.3	3.1
Nonresidential Fixed Investment	5.4	2.3	-1.8	3.7	3.6	4.1	6.9	2.7	4.2	5.9	4.9	3.6	3.6
Residential Fixed Investment	-4.7	-3.5	-1.8	-0.1	1.4	-0.5	-0.3	-2.6	-0.8	-0.9	1.5	0.9	1.2
Exports	1.8	4.8	-4.2	4.0	3.9	3.6	4.0	1.4	3.1	2.9	2.8	2.7	3.0
Imports	2.0	-2.5	-3.0	3.4	1.9	3.1	4.5	0.8	3.0	5.7	5.4	4.0	4.0
Federal Government	1.1	-0.1	7.6	2.6	1.7	1.4	2.6	2.7	1.8	-0.7	-1.0	-2.4	-1.5
State & Local Government	-1.3	4.0	3.3	1.0	1.5	1.0	0.8	2.0	1.3	1.2	1.1	1.0	1.0
Prices & Wages, Percent Change, Annual Rate													
Consumer Prices	1.5	0.9	2.5	1.9	2.4	1.8	2.4	1.7	1.9	1.8	1.9	2.0	2.0
Producer Prices, Finished Goods	0.4	-2.4	5.9	2.4	3.2	2.0	3.1	1.5	2.2	1.7	1.7	1.9	1.9
Employment Cost Index - Total Comp.	2.4	3.0	2.4	2.2	2.8	2.8	2.9	2.6	2.9	3.2	3.2	3.3	3.4
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	67.42	63.17	69.34	71.59	73.87	75.33	70.96	69.49	76.39	78.60	80.58	82.58	84.58
Productivity (%ch., saar)	1.3	3.4	0.0	1.1	1.6	1.7	1.3	1.8	1.7	2.2	2.3	2.5	2.7
Total Industrial Production (%ch., saar)	3.9	-1.9	-0.6	2.4	1.8	1.2	3.9	1.4	1.6	2.0	2.1	2.0	2.1
Nonfarm Inven. Chg. (Bil. 2012 \$)	103.3	132.3	86.1	80.6	55.3	45.4	50.9	88.6	38.7	30.5	31.7	34.8	41.3
Consumer Sentiment Index	98.1	94.5	94.5	98.8	99.8	101.0	98.4	96.9	103.1	107.6	107.7	105.7	104.4
Light Vehicle Sales (Mil. units, saar)	17.50	16.82	16.76	16.71	16.92	16.86	17.19	16.80	17.04	17.37	17.37	17.43	17.55
Housing Starts (Mil. units, saar)	1.185	1.203	1.209	1.203	1.218	1.218	1.250	1.208	1.232	1.261	1.315	1.343	1.360
Unemployment Rate (%)	3.8	3.9	3.6	3.5	3.4	3.3	3.9	3.6	3.3	3.5	3.6	3.8	3.9
Payroll Employment (%ch., saar)	1.7	1.7	1.6	0.9	0.6	0.9	1.7	1.5	0.9	0.8	0.8	0.5	0.3
Federal Surplus (Unified, FY, bil. \$)	-318.9	-372.2	-70.7	-259.7	-298.7	-367.6	-779.0	-1021.5	-986.3	-1019.1	-1061.1	-979.4	-908.1
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.22	2.40	2.39	2.40	2.46	2.63	1.83	2.42	2.88	3.13	3.13	3.38	3.38
10-Year Treasury Note Yield (%)	3.03	2.65	2.38	2.69	2.82	3.00	2.91	2.64	3.43	3.81	3.88	3.98	4.06
Incomes													
Personal Income (% ch., saar)	4.1	3.3	4.4	4.4	6.0	5.5	4.4	4.1	5.4	5.4	5.2	4.9	4.8
After-Tax Profits (Four-qr.% change)	11.1	1.6	0.9	-1.7	-0.5	0.5	6.3	0.1	0.1	5.4	5.4	6.5	5.6

Source: IHS Markit

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Alternative Scenarios of the US Economy

	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2018	2019	2020	2021	2022	2023	2024
Pessimistic: Loss of confidence leads to a three-quarter recession (Prob. = 35%)													
Composition of Real GDP, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Gross Domestic Product	2.2	3.1	1.5	1.7	0.9	1.0	3.0	1.8	-1.6	1.9	1.7	1.8	2.6
Total Consumption	2.5	1.3	2.9	1.7	0.3	1.8	2.6	1.5	0.2	1.5	1.9	2.5	3.3
Nonresidential Fixed Investment	5.4	2.3	-1.8	2.8	0.8	0.2	7.0	1.0	-6.4	3.9	5.3	4.0	3.4
Residential Fixed Investment	-4.7	-3.5	-2.1	-0.3	3.4	-5.3	-3.3	-0.7	-18.8	5.8	3.8	-0.4	-1.2
Exports	1.8	4.8	-4.2	3.8	4.3	3.8	2.3	2.1	0.9	2.3	2.3	2.7	3.2
Imports	2.0	-2.5	-3.0	2.1	-0.3	2.3	3.4	-0.9	-2.6	3.1	6.0	4.2	3.6
Federal Government	1.1	-0.1	7.6	2.6	1.7	1.3	2.7	2.9	0.4	-0.4	-1.1	-2.3	-0.7
State & Local Government	-1.3	4.0	3.5	1.2	1.2	1.0	0.8	2.5	-0.4	-0.7	0.5	0.7	0.7
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	1.5	0.9	3.0	2.9	1.5	1.3	2.2	2.0	1.5	2.1	2.1	2.1	2.1
Producer Prices, Finished Goods	0.4	-2.4	5.3	1.7	2.2	1.8	2.2	1.7	1.1	1.7	1.9	1.8	1.9
Employment Cost Index - Total Comp.	2.4	3.0	2.4	2.5	2.9	2.6	3.0	2.7	2.5	2.2	2.2	2.3	2.5
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	67.42	63.17	69.34	70.67	72.59	66.12	70.96	68.94	58.85	63.32	66.65	68.67	70.61
Productivity (%ch., saar)	1.3	3.4	0.5	0.2	1.6	1.0	1.7	1.4	-0.5	2.2	0.7	1.2	2.4
Total Industrial Production (%ch., saar)	3.9	-1.9	-0.6	1.1	1.7	0.6	4.0	0.1	-2.4	1.4	1.6	1.0	1.5
Nonfarm Inven. Chg. (Bil. 2012 \$)	103.3	132.3	86.1	74.2	48.4	26.2	50.9	85.2	-37.3	-57.3	40.9	17.1	17.9
Consumer Sentiment Index	98.1	94.5	93.8	86.5	86.1	83.5	98.4	90.2	78.3	75.6	78.5	82.7	84.9
Light Vehicle Sales (Mil. units, saar)	17.50	16.82	16.76	16.67	15.93	16.28	17.19	16.54	15.22	14.74	15.48	16.18	16.54
Housing Starts (Mil. units, saar)	1.185	1.203	1.201	1.202	1.165	1.106	1.250	1.192	0.947	0.953	1.057	1.064	1.055
Unemployment Rate (%)	3.8	3.9	3.6	3.6	4.0	4.1	3.9	3.8	4.7	6.0	5.8	5.6	5.5
Payroll Employment (%ch., saar)	1.7	1.7	1.6	1.3	-0.5	-0.1	1.8	1.0	-1.1	0.1	0.8	0.8	0.6
Federal Surplus (Unified, FY, bil. \$)	-318.9	-372.2	-71.9	-260.7	-305.5	-379.0	-779.0	-1023.8	-1059.0	-1231.4	-1294.2	-1236.6	-1208.7
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.22	2.40	2.39	2.36	2.21	2.03	1.83	2.34	0.93	0.13	0.39	1.44	1.97
10-Year Treasury Note Yield (%)	3.03	2.65	2.38	2.25	2.02	1.87	2.91	2.33	1.67	1.97	2.63	2.92	3.00
Incomes													
Personal Income (% ch., saar)	4.1	3.3	3.9	4.0	3.6	4.0	4.3	3.7	1.8	3.0	4.0	3.9	4.3
After-Tax Profits (Four-qr.% change)	11.1	1.6	1.5	1.3	1.5	2.7	11.1	1.5	-5.4	11.9	1.9	3.6	11.9
Optimistic: Strong productivity growth and less inflation (Prob. = 10%)													
Composition of Real GDP, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Gross Domestic Product	2.2	3.1	1.5	2.2	2.6	2.5	3.0	2.4	2.8	2.7	2.7	2.4	2.6
Total Consumption	2.5	1.3	2.9	2.2	3.0	2.9	2.6	2.4	3.4	3.6	3.4	3.2	3.1
Nonresidential Fixed Investment	5.4	2.3	-1.8	3.7	3.6	4.1	7.0	1.9	5.5	5.5	4.5	3.5	3.8
Residential Fixed Investment	-4.7	-3.5	-1.8	-0.1	1.4	-0.5	-3.3	-1.0	-1.4	0.1	1.3	0.9	1.4
Exports	1.8	4.8	-4.2	4.0	3.9	3.6	2.3	2.1	3.3	2.8	2.8	2.7	3.2
Imports	2.0	-2.5	-3.0	3.4	1.9	3.1	3.4	-0.1	4.3	6.0	4.9	3.7	4.1
Federal Government	1.1	-0.1	7.6	2.6	1.7	1.4	2.7	2.9	0.4	-0.7	-1.4	-2.5	-0.8
State & Local Government	-1.3	4.0	3.3	1.0	1.5	1.0	0.8	2.5	1.2	1.1	1.0	1.0	0.9
Prices & Wages, Percent Change, Annual Rate													
(Q4/Q4 for Annual Values)													
Consumer Prices	1.5	0.9	2.5	1.9	2.4	1.8	2.2	1.9	1.7	1.9	2.0	2.0	2.1
Producer Prices, Finished Goods	0.4	-2.4	5.9	2.4	3.2	2.0	2.2	2.2	1.5	1.7	1.9	1.9	1.9
Employment Cost Index - Total Comp.	2.4	3.0	2.4	2.2	2.8	2.8	3.0	2.6	3.1	3.3	3.2	3.3	3.4
Other Key Measures													
Brent Crude, Spot Price (\$/bbl)	67.42	63.17	69.34	71.59	73.87	75.33	70.96	69.49	76.39	78.60	80.58	82.58	84.58
Productivity (%ch., saar)	1.3	3.4	0.0	1.1	1.6	1.7	1.7	1.5	2.1	2.2	2.5	2.6	2.7
Total Industrial Production (%ch., saar)	3.9	-1.9	-0.6	2.4	1.8	1.2	4.0	0.4	1.8	1.9	2.1	2.0	2.3
Nonfarm Inven. Chg. (Bil. 2012 \$)	103.3	132.3	86.1	80.6	55.3	45.4	50.9	88.6	38.7	30.5	31.7	34.8	41.3
Consumer Sentiment Index	98.1	94.5	94.5	98.8	99.8	101.0	98.4	96.9	103.1	107.6	107.7	105.7	104.4
Light Vehicle Sales (Mil. units, saar)	17.50	16.82	16.76	16.71	16.92	16.86	17.19	16.80	17.04	17.37	17.37	17.43	17.55
Housing Starts (Mil. units, saar)	1.185	1.203	1.209	1.203	1.218	1.218	1.250	1.208	1.232	1.261	1.315	1.343	1.360
Unemployment Rate (%)	3.8	3.9	3.6	3.5	3.4	3.3	3.9	3.6	3.3	3.5	3.6	3.8	3.9
Payroll Employment (%ch., saar)	1.7	1.7	1.6	0.9	0.6	0.9	1.8	1.2	0.8	0.9	0.6	0.4	0.3
Federal Surplus (Unified, FY, bil. \$)	-318.9	-372.2	-70.7	-259.7	-298.7	-367.6	-779.0	-1021.5	-986.3	-1019.1	-1061.1	-979.4	-908.1
Financial Markets, NSA, Quarter Average													
Federal Funds Rate (%)	2.22	2.40	2.39	2.40	2.46	2.63	1.83	2.42	2.88	3.13	3.13	3.38	3.38
10-Year Treasury Note Yield (%)	3.03	2.65	2.38	2.69	2.82	3.00	2.91	2.64	3.43	3.81	3.88	3.98	4.06
Incomes													
Personal Income (% ch., saar)	4.1	3.3	4.4	4.4	6.0	5.5	4.3	4.5	5.5	5.3	5.1	4.7	4.9
After-Tax Profits (Four-qr.% change)	11.1	1.6	0.9	-1.7	-0.5	0.5	11.1	-0.5	2.2	5.7	5.9	5.3	5.9

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