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US Economic Outlook

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Chris G. Christopher, Jr., PhD, CBE

Chris G. Christopher, Jr. is Director in the US Macro and Global Economics services of IHS Markit. He brings 25 years of experience as an economist, academic, forecaster, and demographer. He a leading member of the US Macro forecasting team and directs the US Consumer Markets and Global Consumer Markets services.

Prior to joining IHS, Christopher worked for FedEx Services in the forecasting department and as the Chief Econometrician for OIT developing national and regional econometric models. In addition, he worked as a research economist at Regional Economic Models, Inc. (REMI); the New York State Legislative Tax Study Commissions; and as an associate professor, administrator, and university lecturer in econometrics, economics, and business.

Christopher holds a Bachelor of Arts in economics and political science, Master of Arts in economics, Master of Arts in mathematics, Doctorate of Philosophy in economics from the University at Albany. His Ph.D. concentrations are in game theory, mathematical economics, econometrics, and large-scale economic modeling and his Ph.D. dissertation is titled *A General Equilibrium Model of Economic Integration.*

Dr. Christopher has taught various graduate and undergraduate courses at various business schools and economics departments. At the graduate level he taught courses in econometrics, macroeconomic modeling, forecasting & policy analysis, and public economics. At the undergraduate level he taught several courses in macroeconomics, microeconomics, mathematical economic methods, economic statistics.

Dr. Christopher is often interviewed on macroeconomic and consumer related matters by the US and European media. In addition, he writes a quarterly column for CSCMP's *Supply Chain Quarterly*, has several academic publications, and writes perspective pieces for the mass media.

He is a member of the Econometric Society, American Economic Association, and National Association of Business Economists (NABE). Chris is on the board of economic advisors for the New York State Assembly, and a member of the NABE Travel & Transportation Roundtable. In addition, Chris is a NABE Certified Business Economist (CBE), Consensus Economics 2013 forecast accuracy award winner (US GDP & CPI).

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US economic growth will strengthen

- US consumers and businesses enter 2017 with rising optimism.
- Consumer spending will increase at a moderate pace, sustained by gains in employment, real incomes, and household net worth.
- Business fixed investment will benefit from an improving tax and regulatory environment, along with a recovery in energy prices.
- With demand outpacing supply, housing markets continue to recover.
- The recovery in industrial production will gain momentum as the inventory correction nears completion.
- Fiscal stimulus, accelerating prices and wages, and strengthening loan demand will lead to higher interest rates.
- In response to the dollar's appreciation, real import growth will outpace real export growth.
- Recent evidence is supporting "Animal Spirits" of a consumer and business kind. In addition, to a stronger stock market and dollar.

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President-elect Trump's domestic policy platform

- Reform personal income taxation, reducing the number of brackets from seven to three (12%, 25%, and 33%)
- Reduce the corporate income tax rate from 35% to 15% and apply the 15% rate to pass-through businesses
- Repeal and replace the Affordable Care Act
- Increase spending on infrastructure and defense
- Freeze hiring of federal employees to reduce workforce by attrition
- Cancel executive actions taken by President Obama
- Ease restrictions on energy production, allow pipeline projects to move forward, and open federal lands for energy exploration
- Change Dodd-Frank financial regulations

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President-elect Trump's international policy platform

- Foreign policy guided by an "America first" principal, emphasizing strength at home rather than engagements abroad
- Renegotiate the North American Free Trade Agreement (NAFTA)
- Withdraw from the Trans-Pacific Partnership (TPP)
- Label China a currency manipulator (although China has intervened to support the renminbi over the past two years)
- Build a wall to close the southern border with Mexico
- Deport or imprison illegal immigrants with felony convictions, multiple misdemeanor convictions, or two prior deportations
- Tightened screening of immigrants, "extreme vetting" of refugees

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Policy assumptions in the January forecast

- Personal income tax reforms that lower the average effective tax rate from 21.0% to 19.5%
- A reduction in the statutory corporate income tax rate from 35% to 20%, partially offset by a scaling back of tax credits
- A $250-billion increase in public infrastructure investments over 10 years, financed by tax receipts from repatriated corporate profits
- Federal Reserve policy rate increases of 75 basis points in each of the next three years, bringing the rate to a long-term equilibrium of 3%

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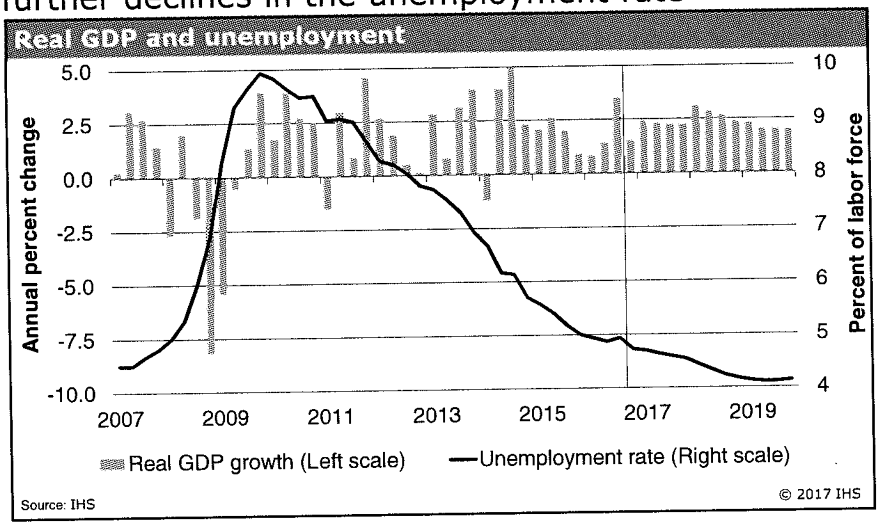
A 2017–18 pickup in real GDP growth will lead to further declines in the unemployment rate



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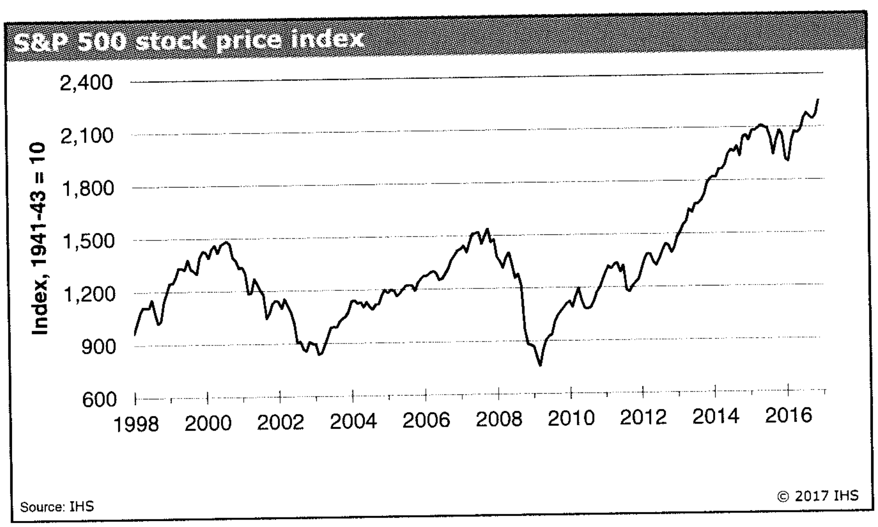
US stock prices are reaching new highs



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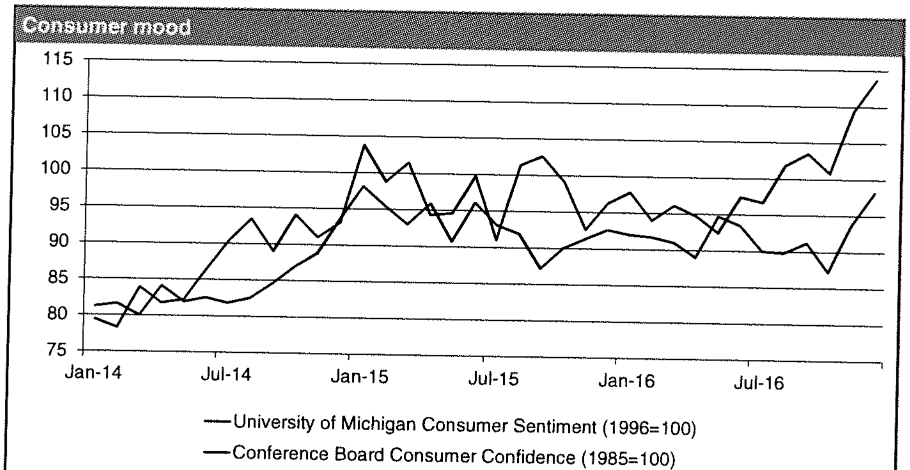
Consumer mood attaining record highs



Source: IHS Markit

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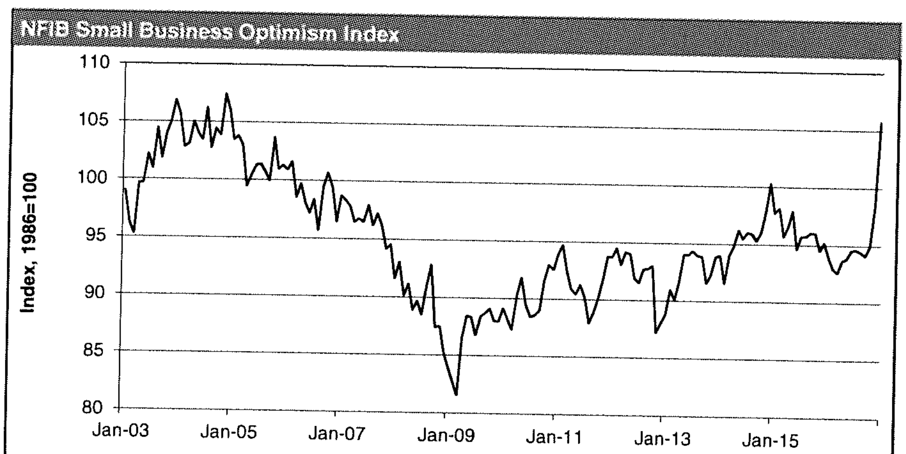
NFIB small business optimism



Source: IHS Markit

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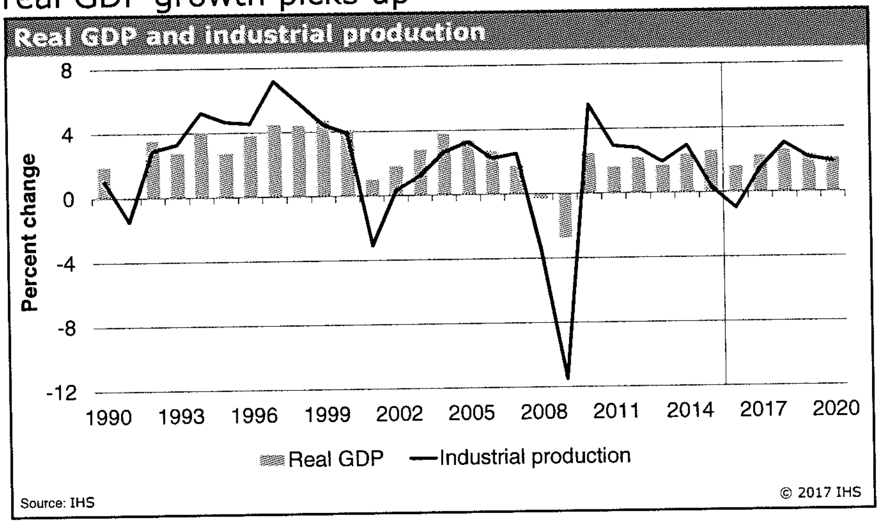
Industrial production will begin to recover in 2017 as real GDP growth picks up



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US economic growth by sector

Real GDP and its components

Percent change	2016	2017	2018	2019
Real GDP	1.6	2.3	2.6	2.3
Consumption	2.7	2.8	3.2	2.9
Residential investment	4.7	2.7	3.1	2.6
Business fixed investment	-0.2	4.6	4.5	3.9
Federal government	0.7	0.3	-0.8	-1.0
State & local government	0.9	0.8	1.4	1.4
Exports	0.4	1.9	2.3	3.1
Imports	0.9	4.4	6.4	5.1

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Other key US indicators

Key indicators

Percent change	2016	2017	2018	2019
Industrial production	-1.0	1.5	3.0	2.1
Payroll employment	1.7	1.3	1.2	1.2
Light-vehicle sales (Millions)	17.4	17.4	17.6	17.6
Housing starts (Millions)	1.16	1.22	1.32	1.39
Consumer Price Index	1.3	2.5	2.1	2.5
Core CPI	2.2	2.2	2.1	2.2
Brent crude oil price (USD/barrel)	44	54	57	64
Federal funds rate (%)	0.4	0.9	1.7	2.6
10-year Treasury yield (%)	1.8	2.7	3.2	3.8

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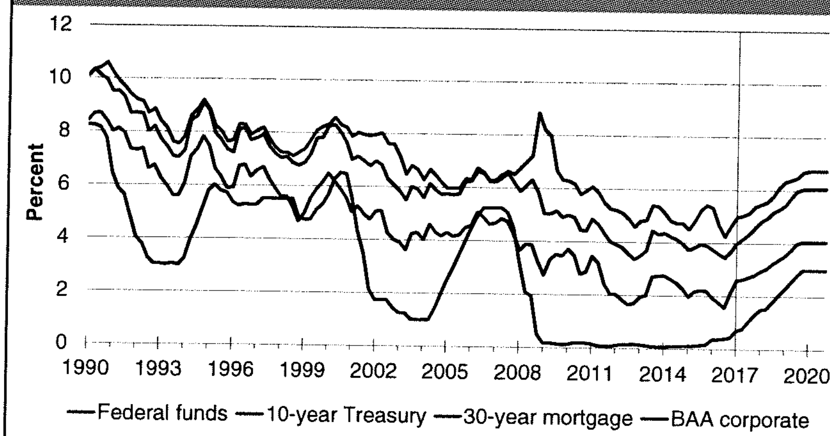
Interest rates will continue to rise as the Federal Reserve normalizes monetary policy

Interest rates



Source: IHS

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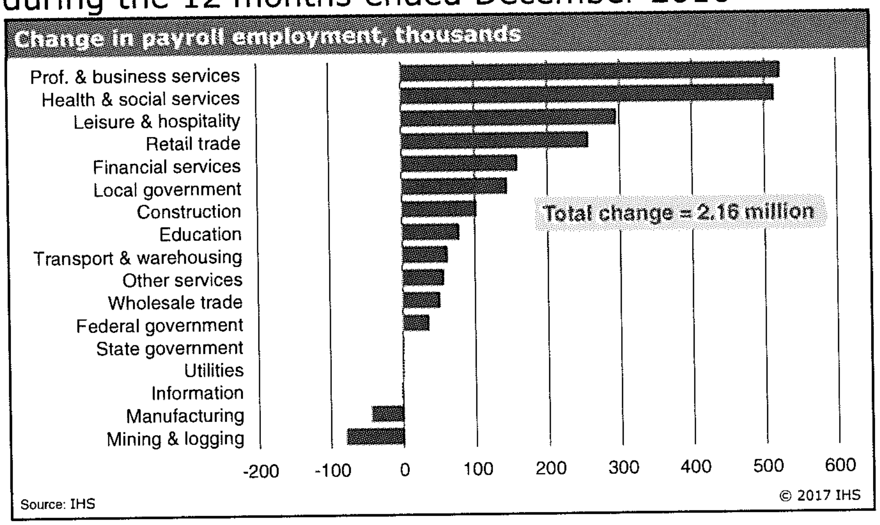
Services recorded the largest employment increases during the 12 months ended December 2016



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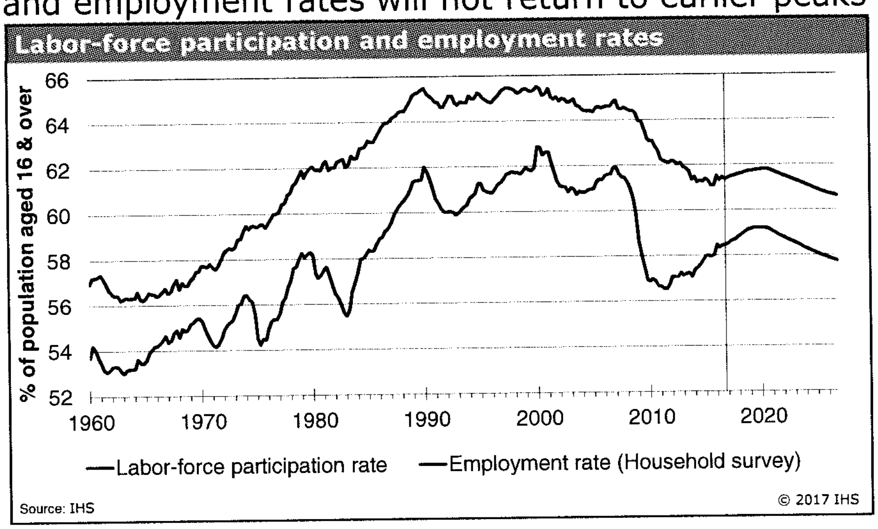
With baby boomers aging, labor-force participation and employment rates will not return to earlier peaks



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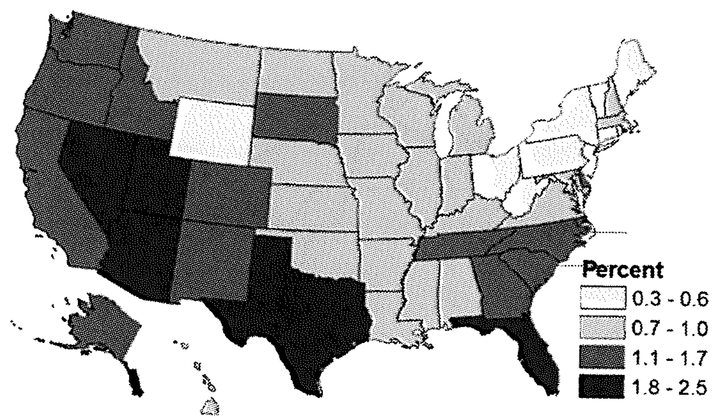
Western and southern states will lead in job growth

Annual percent change, 2016-21



Source: IHS

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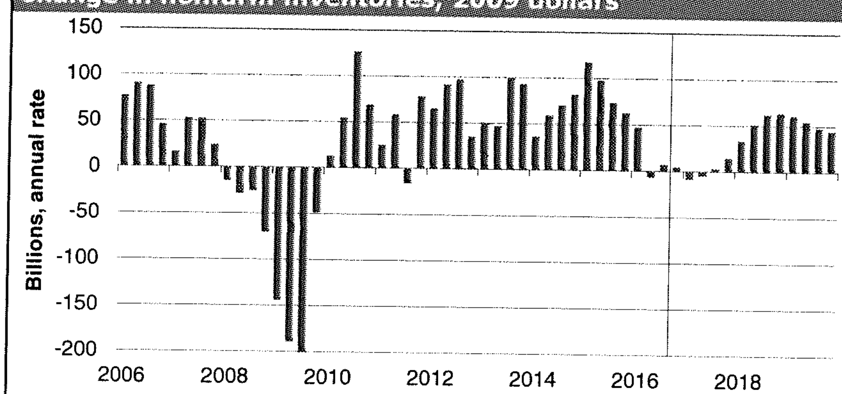
The inventory correction is well under way; restocking will boost economic growth in 2018

Change in nonfarm inventories, 2009 dollars



Source: IHS

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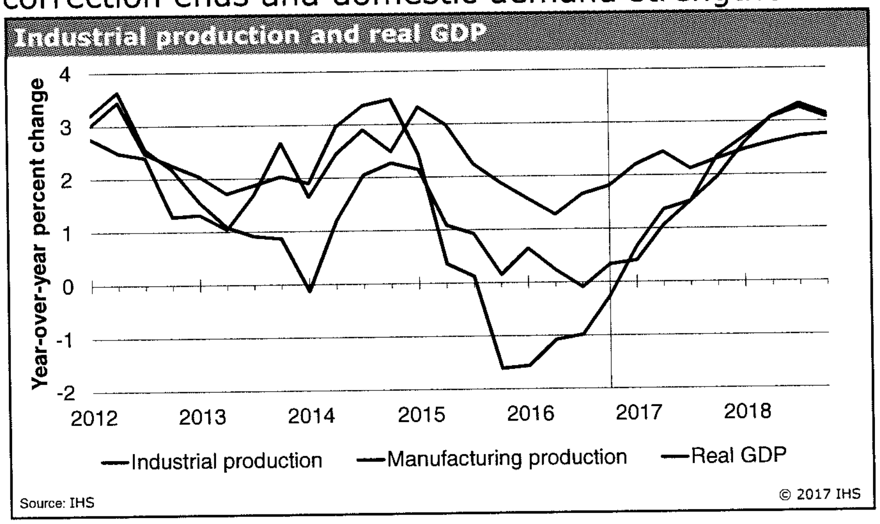
Industrial production will rebound as the inventory correction ends and domestic demand strengthens



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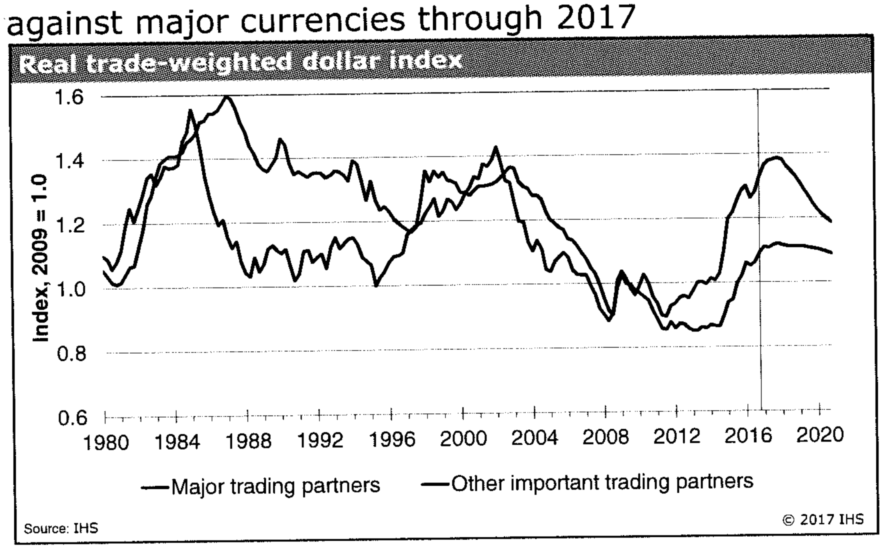
The dollar's real exchange value will strengthen against major currencies through 2017



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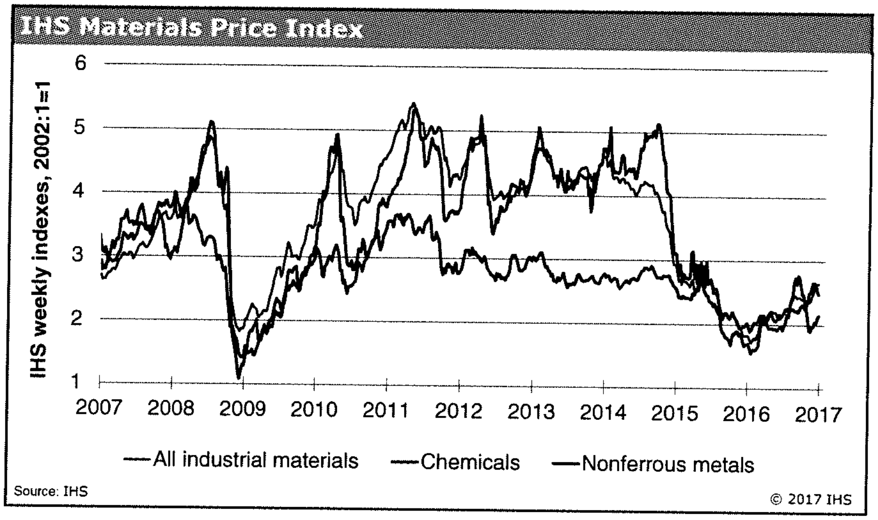
Industrial materials prices are rising



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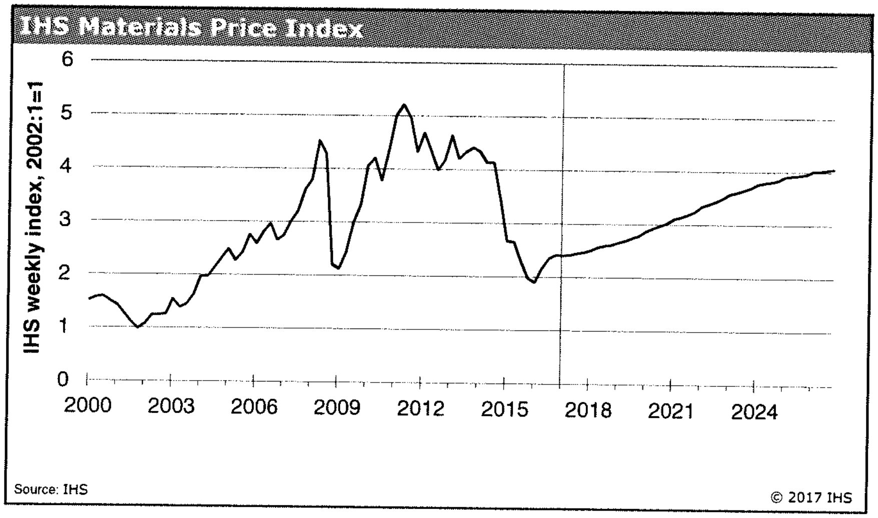
Industrial materials prices will slowly recover



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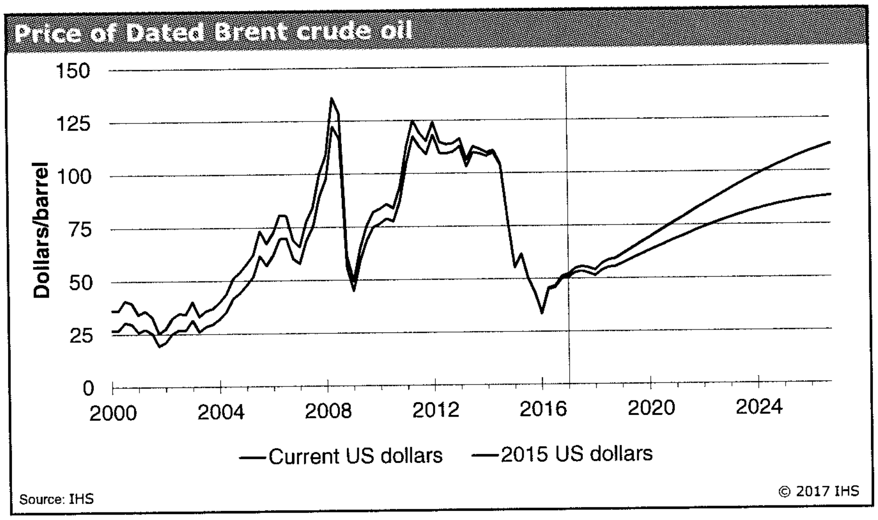
Crude oil prices will gradually recover



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US inflation dynamics

Inflationary pressures ↑	• Expansionary monetary policies • Skills shortages • Fiscal stimulus in 2018
Deflationary pressures ↓	• Excess productive capacity • Subpar global demand growth • Dollar appreciation

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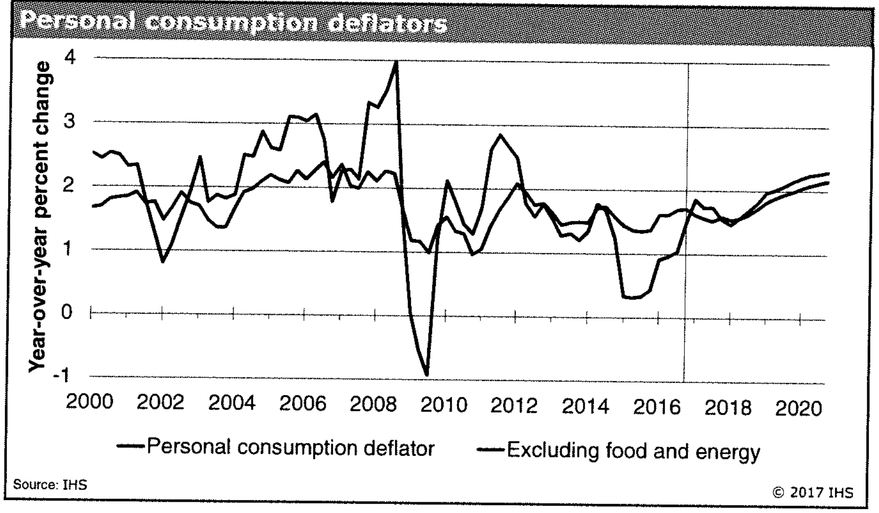
Consumer price inflation is picking up in response to recovering prices of oil and other commodities



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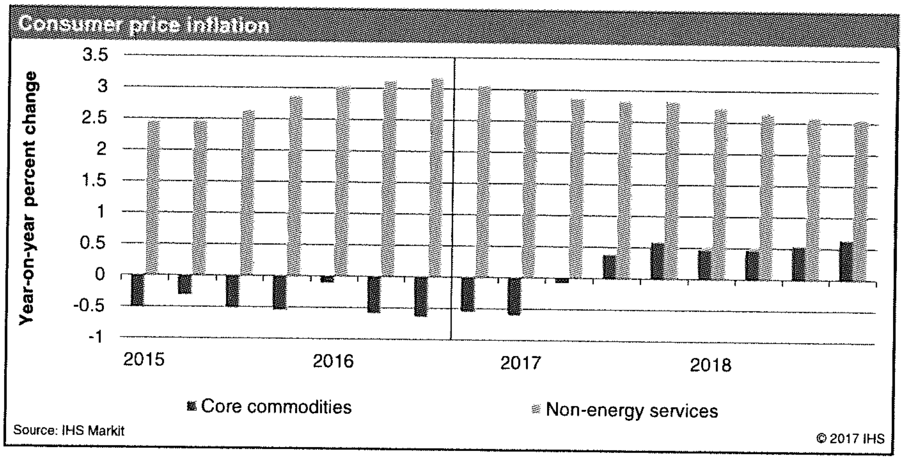
Consumer core commodities vs. non-energy service price inflation



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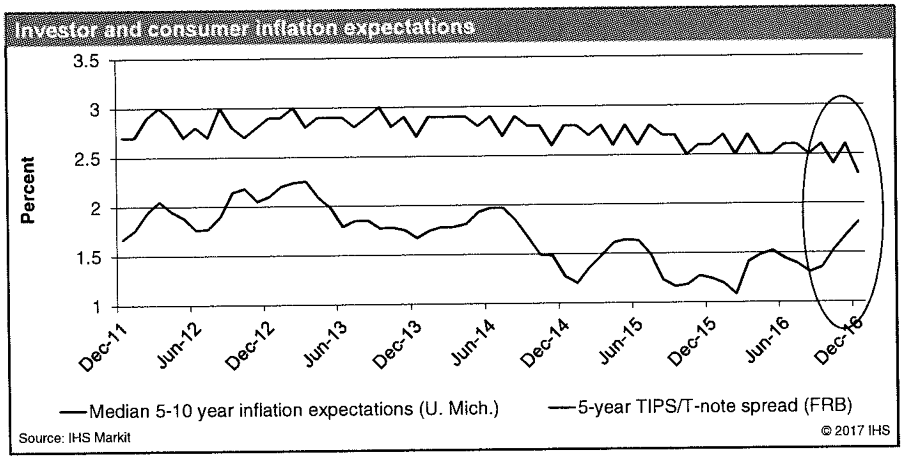
Investor and consumer inflation expectations headed in opposite directions



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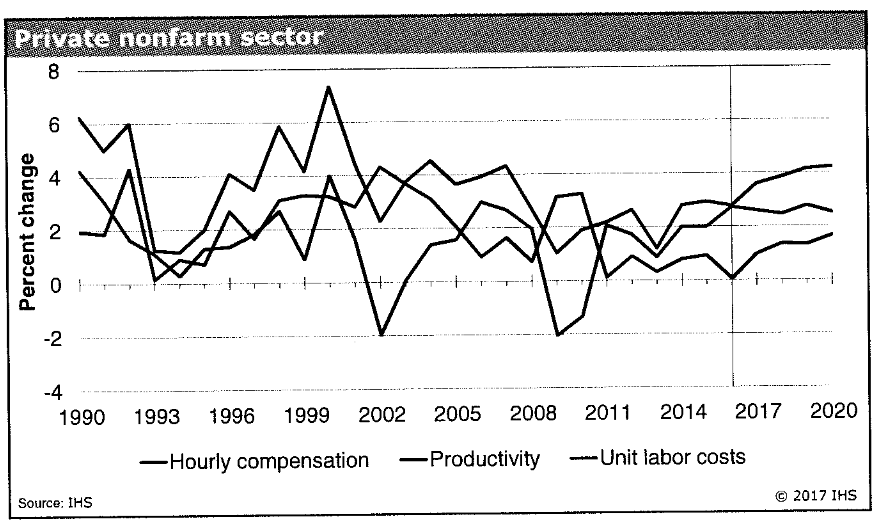
Labor compensation and productivity will accelerate



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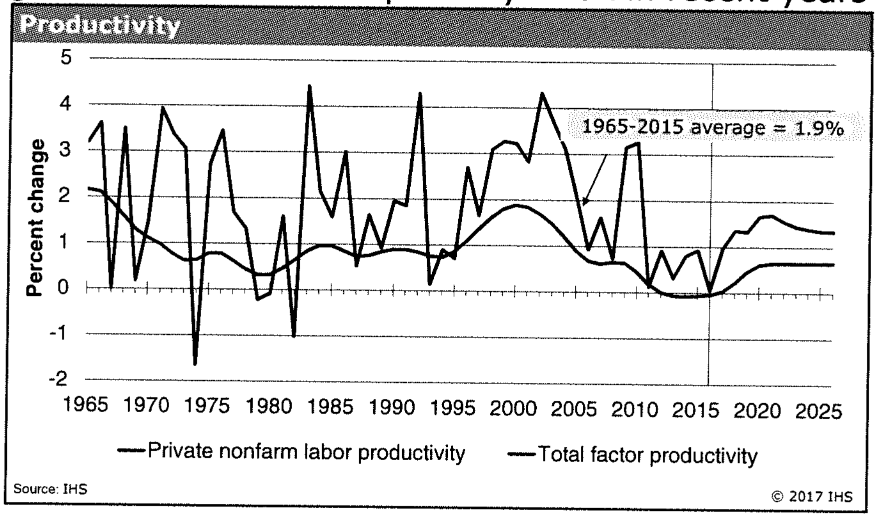
Labor productivity and total factor productivity growth have been exceptionally weak in recent years



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Consumer spending

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Forces affecting consumer spending

Positive forces
- Employment growth
- Wage acceleration
- Rising asset values
- Income tax cuts in 2018
- E-commerce retail expanding

Negative forces
- High student debt burdens
- Precautionary saving
- Elevated poverty rates, rising income inequality
- Payroll cycle economics

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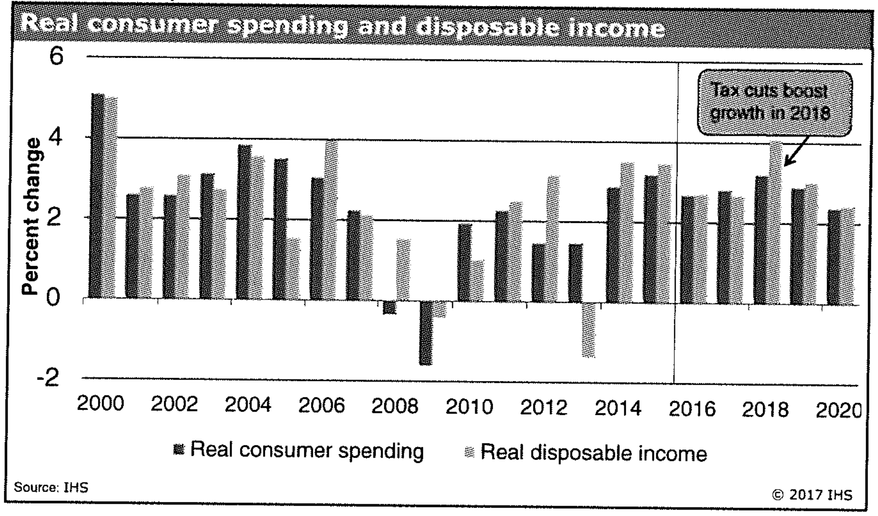
The consumer market environment is favorable

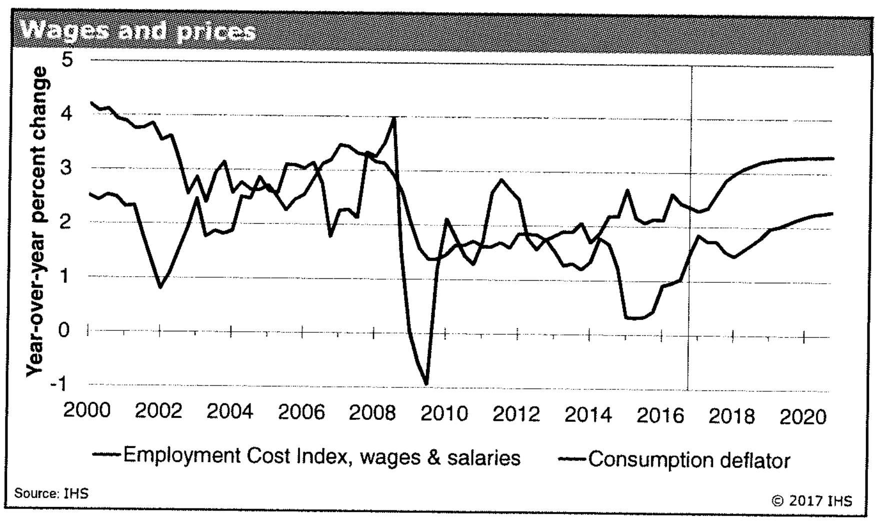
Consumer market indicators

Percent change	2016	2017	2018	2019
Real consumption	2.7	2.8	3.2	2.9
Real disposable income	2.7	2.7	4.1	3.0
Real household net worth	4.3	3.0	2.6	2.1
Payroll employment	1.7	1.3	1.2	1.2
Real wage rate	1.3	0.8	1.5	1.2
Consumption price deflator	1.1	1.7	1.6	2.0
Light-vehicle sales (Millions)	17.4	17.4	17.6	17.6
Single-family home sales (Millions)	5.40	5.50	5.48	5.59

Consumer spending will be supported by solid growth in real disposable income



Wage gains will continue to outpace inflation



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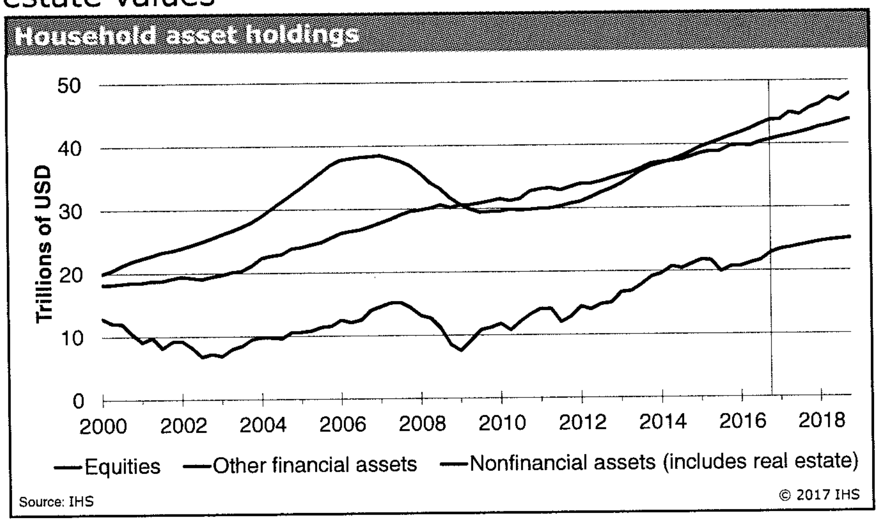
Household asset appreciation is led by rising real estate values



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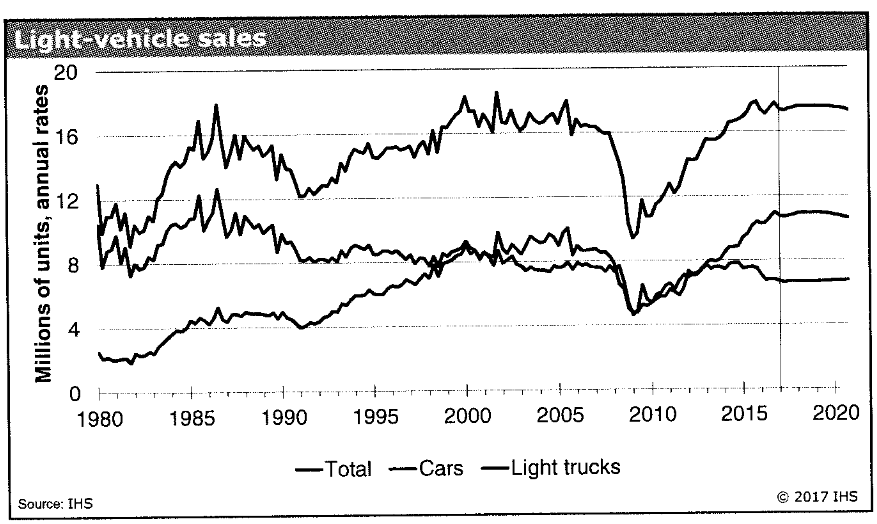
US light-vehicle sales have reached their peak



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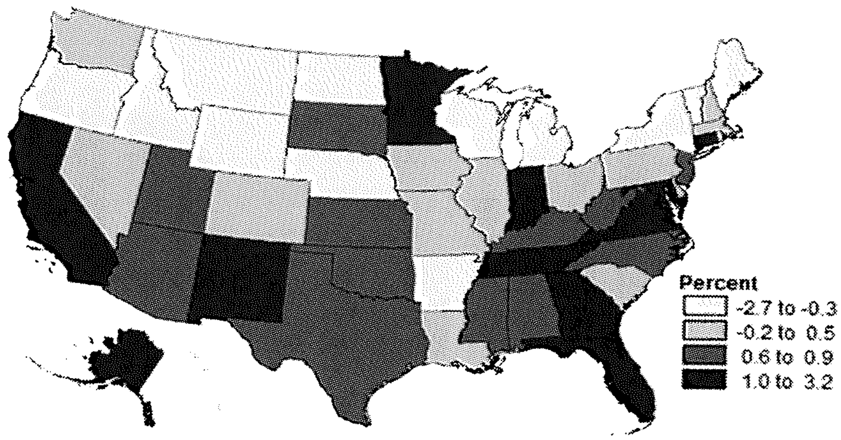
The South and West will see a disproportionate share of new auto sales

New passenger car and light truck registrations forecast, 2015-19, average annual growth



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Income Distribution

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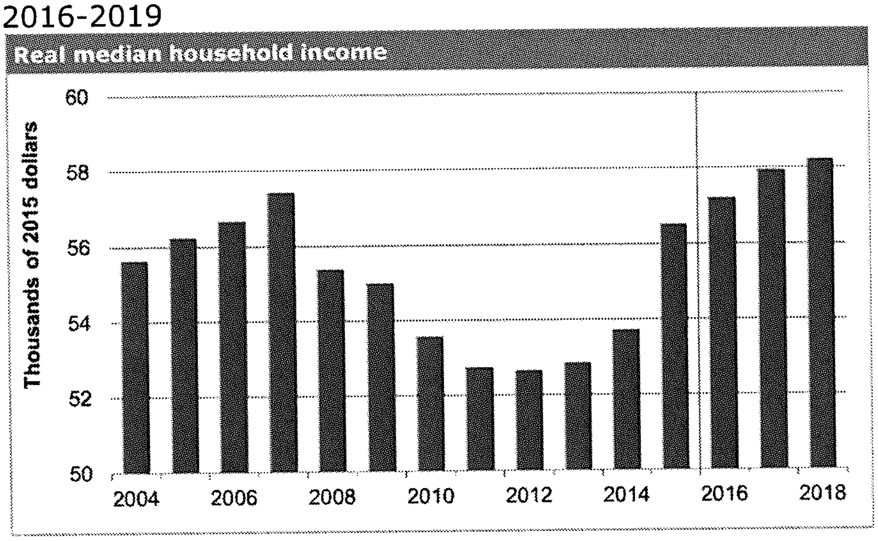
Real median household income expected to gain traction 2016-2019



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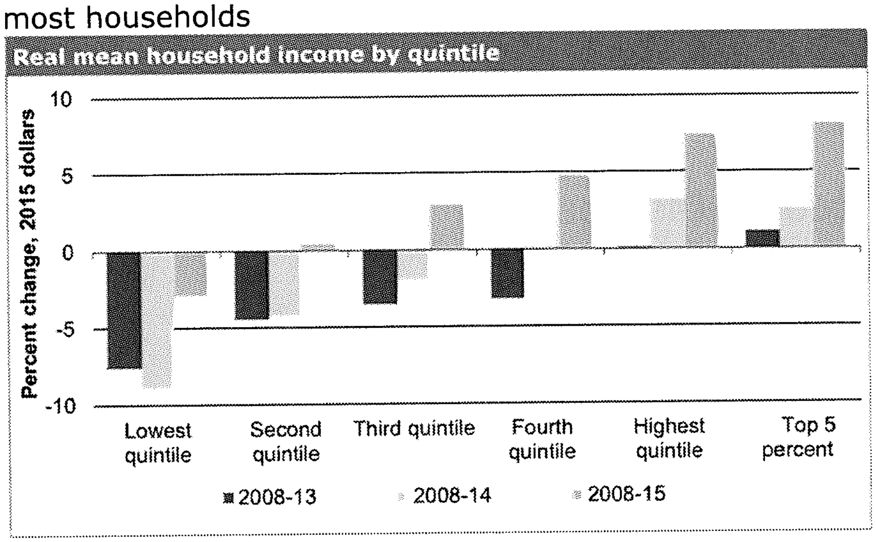
Incomes have only just recovered from the recession for most households



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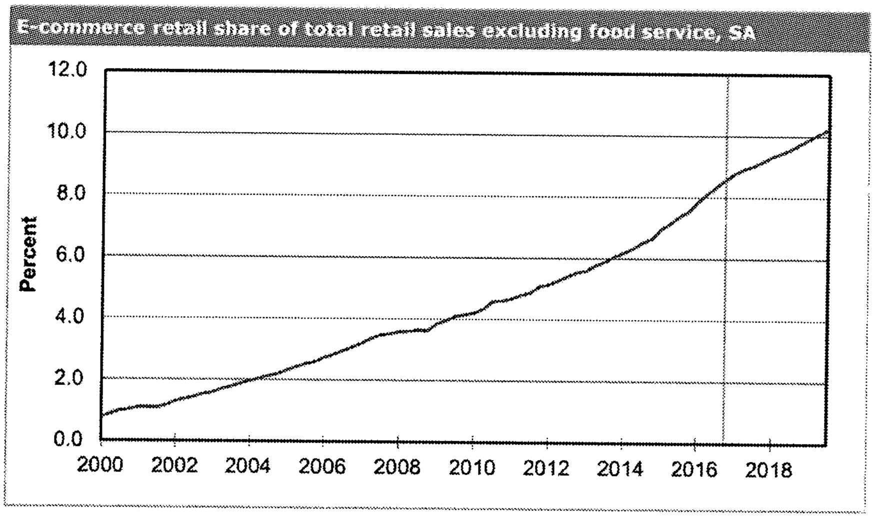
E-commerce retail share of total retail sales excluding food service (retail trade)



Housing markets

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Housing markets will continue to recover

- Housing demand is supported by sustained growth in employment and real incomes. Mortgage rates are still low, but rising.
- Supply is constrained by shortages of labor and developed lots.
- As demand outpaces supply, home prices are rising.
- With many new households choosing to rent rather than own, the US homeownership rate has fallen to a 51-year low.
- Lean inventories of unsold homes, low rental vacancy rates, and rising prices will encourage builders to step up construction activity.
- Multifamily units will account for one-third of starts.

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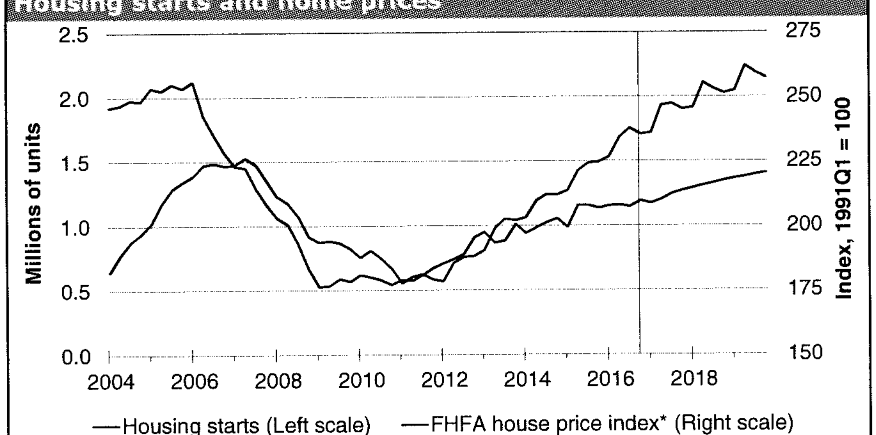
A slow recovery in housing starts is contributing to upward pressure on home prices

Housing starts and home prices



* Purchase-only index
Source: IHS

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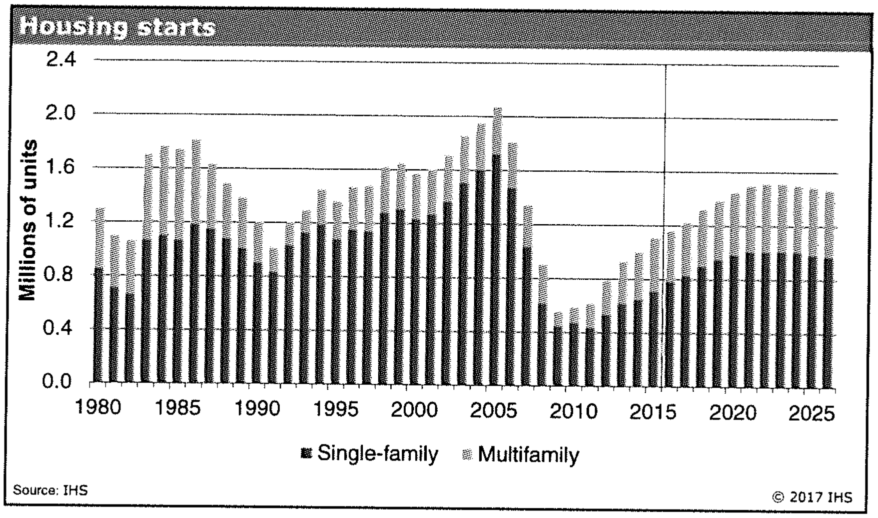
A protracted recovery in US housing starts since the financial crisis



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Business investment

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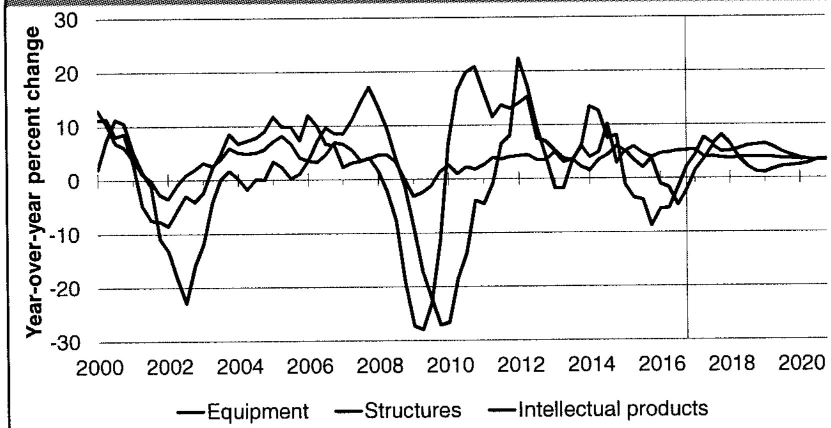
An upturn in energy-related investment will contribute to stronger growth in capital spending

Real business fixed investment



Source: IHS

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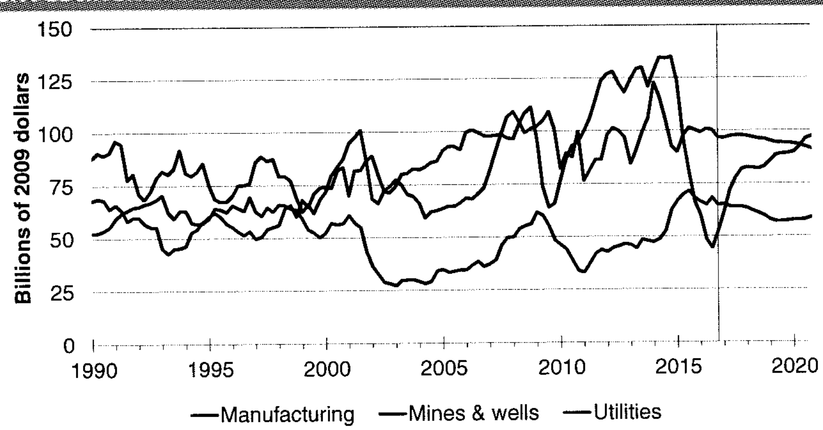
Investment in manufacturing structures will retreat, while investment in mines and wells will rebound

Investment in structures



Source: IHS

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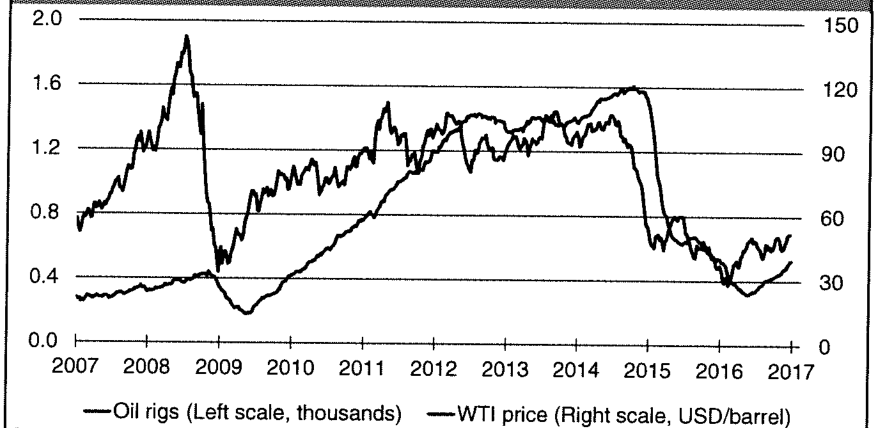
US oil drilling is recovering in response to firmer crude oil prices

Weekly oil rig count and West Texas Intermediate crude oil price



Sources: Baker Hughes [http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother] and EIA [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=rwtc&f=w]

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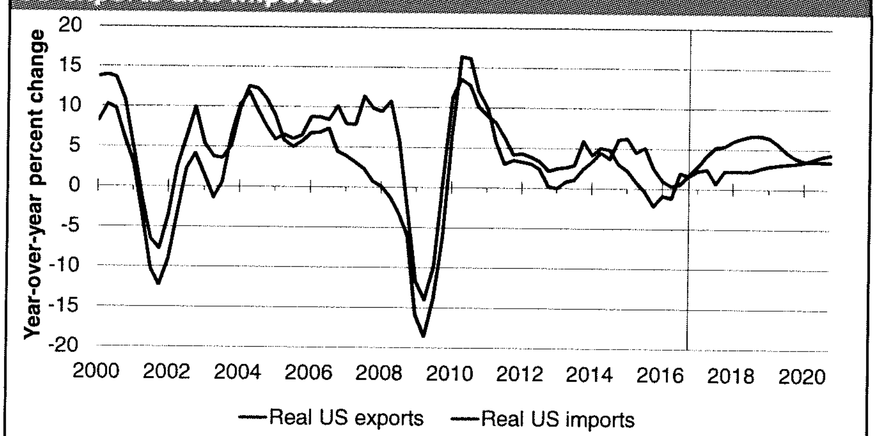
US real import growth will outpace real export growth, as a strong dollar hurts global competitiveness

US exports and imports



Source: IHS

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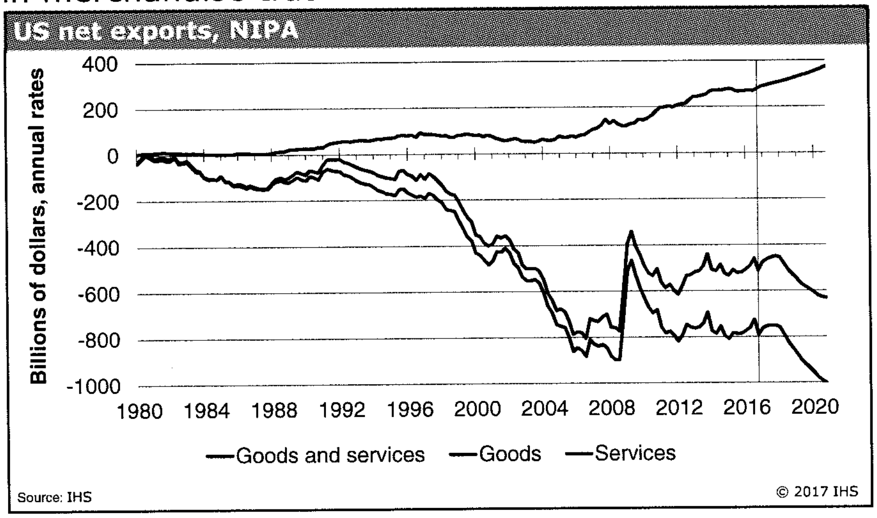
Surpluses in services trade partially offset US deficits in merchandise trade



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Risks to the US forecast

Scenario	Characteristics
Recession induced by strained trade relations (Probability = 20%)	• Strained trade relations with Mexico and China undermine business confidence, investment, and productivity. • A major stock market correction, rising oil prices, and federal budget cuts hurt consumer spending. • The US suffers a recession in the first half of 2018.
Lower taxes and fewer regulations (Probability = 15%)	• A rollback of regulations and lower corporate taxes result in higher capital spending and productivity. • Consumer and housing markets benefit from higher incomes and lower inflation and interest rates. • Stronger global economic growth helps exports.
Baseline forecast (Probability = 65%)	• The Fed gradually raises interest rates through 2019. • Personal and corporate income tax rates are cut in 2018. • Consumer spending growth continues; capital spending on equipment and structures rebounds. • Global economic growth picks up moderately in 2017–18.

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Bottom line for the US economy

- Real GDP growth is projected to pick up from 1.6% in 2016 to 2.3% in 2017 and 2.6% in 2018.
- Consumer spending will be supported by solid gains in employment, real disposable incomes, and household net worth.
- Business fixed investment will benefit from an improving tax and regulatory environment, along with a recovery in energy prices.
- Foreign trade will remain a drag on real GDP growth, due to a strong dollar and sluggish expansions in some major export markets.
- Wage and price inflation will rise in 2017.
- The Federal Reserve will gradually raise the federal funds rate to an equilibrium level of 3% by the end of 2019.

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Thank You!

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