US Chartbook

v0.0, November 30, 2019

Notes

Very early stage draft – Contents not considered reliable.

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Contents

Ideas/Suggestions/To Do

Continue to fill out the content of the document. Additionally, refactor some of the older code and clean up some of the issues with older charts and text.

It will be nice to have a section showing the top five indicators: GDP growth, wages, epop, cpi inflation, 10-year treasury yields.

It will also be nice to have a section in that puts some context on numbers generally. The key example that I've tried to do before is to put a threshold on GDP growth that marks how much is needed for population growth and depreciation and then calculate how much one extra pp of growth (beyond the previous amount) is worth, per person. For example, if population growth is 0.6pp and depreciation is 0.8pp, then it would take 1.4pp to keep the same level of real per capita production. Beyond that, an extra percentage point of GDP might mean something like $900 per person in additional goods and services.

Section listing recent updates and upcoming releases would be nice. This would require some thinking in terms of implementation.

Get the table of contents up and running soon. Also look into options for links to footnotes at the end of the document. Add in some table and release numbers/data where available.

Beyond content, I still need to do/add: links to subsection, links to sources, links to data, links to code, date of last update, list of charts and numbering system, links between charts and references, marks for recent updates, explicitly note seasonal adjustment, adjusting to make text associated with values of less than one singular instead of plural (e.g. "0.1 percentage point"), and much much more.

Major LT developments: rise of imports, computers in the 1990s, welfare reform in 1996, rise in education level, aging of the population. Major MT developments: increase in health care costs, housing bubble, government austerity from 2010 to 2014. Major ST developments: low business investment, higher wages, increased employment, low interest rates on LT debt, low productivity growth.

Overall Economic Activity

This analysis of the United States economy begins with the most popular measure of economic activity, Gross Domestic Product (GDP). According to the Bureau of Economic Analysis, GDP–the seasonally-adjusted annualized value of goods and services produced in the US–was $21,542 billion in the third quarter of 2019, compared to an inflation-adjusted equivalent of $10,253 billion in the first quarter of 1989.

The US population is growing by about sixth-tenths of a percent per year. GDP per capita (see —), adjusted for inflation to 2019 Q3 dollars, has increased to $65,341 in 2019 Q3 from $41,603 in 1989 Q1.

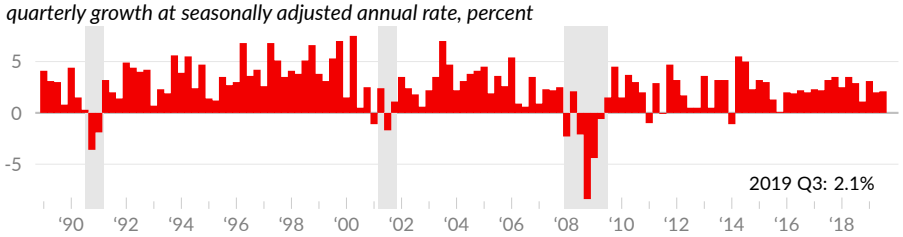
GDP per capita
in 2019 Q3 dollars

Source: Bureau of Economic Analysis

Economic Growth

GDP (see ■) increased at an annual rate of 2.1 percent during the third quarter of 2019, compared to an increase of 2.0 percent in the second quarter of 2019. Quarterly growth has averaged 2.5 percent over the past three years, 2.3 percent over the past 10 years, and 2.5 percent over the past 30 years.

Real Gross Domestic Product Growth
quarterly growth at seasonally adjusted annual rate, percent

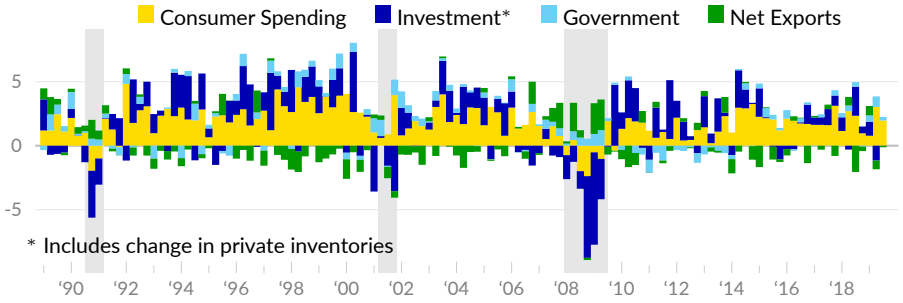


Source: Bureau of Economic Analysis

Components of Growth

The **expenditure approach** compiles GDP from the sum of spending on domestic goods and services. Major spending categories are consumer spending (see ■), private investment (gross spending on capital goods) and changes in private inventories (see ■), government spending and investment (see ■), and net exports (see ■) which is measured as foreign spending on US goods and services less US spending on goods and services produced by the rest of the world.

Real GDP Growth by Expenditure Type
percentage point contribution to GDP growth

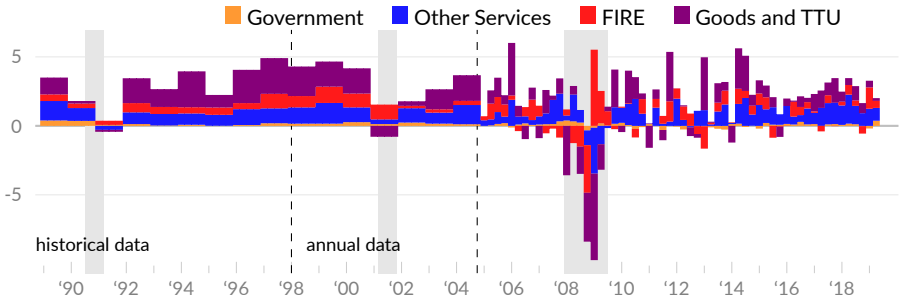


Source: Bureau of Economic Analysis

The **production approach** calculates GDP as the sum of gross value added–output minus inputs–in each sector. This identifies contributions from: goods-producing sectors combined with trade, transportation, and utilities (see), finance, insurance, and real estate (see), other service-providing sectors (see), and government (see).

Real GDP Growth by Industry Group

percentage point contribution to GDP growth

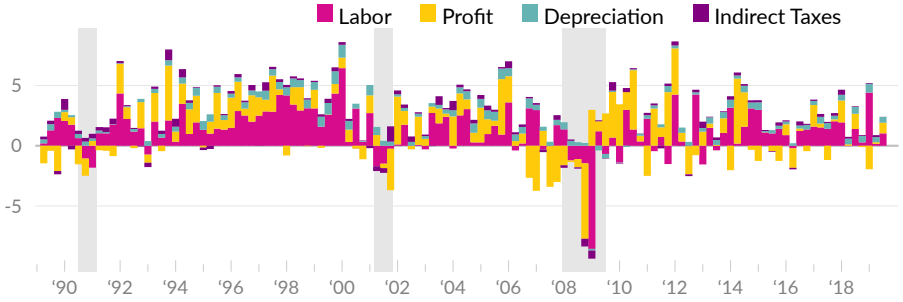


Source: Bureau of Economic Analysis

The **income approach** calculates GDP as the sum of market income to persons (in exchange for labor (see) or from returns on capital (see)), indirect taxes such as sales taxes or tariffs (see), and depreciation (see).

Real Gross Domestic Income Growth

percentage point contribution to GDI growth

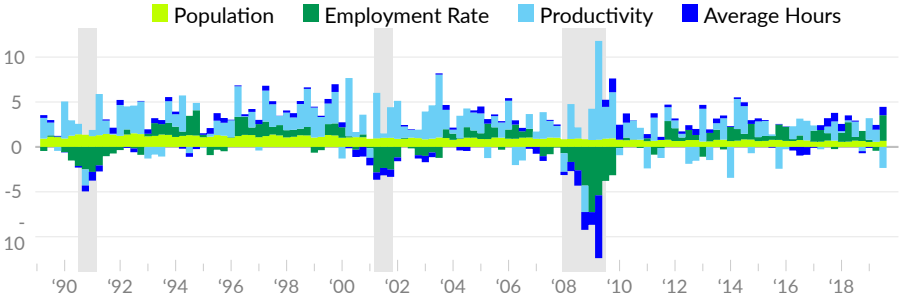


Source: Bureau of Economic Analysis

Changes to GDP can be assigned to changes in **household inputs**: population (see), employment rates (see), average hours worked (see), and total economy productivity (see).

Real GDP Growth by Inputs

percentage point contribution to GDP growth



Source: Author's Calculations

Components of Economic Growth

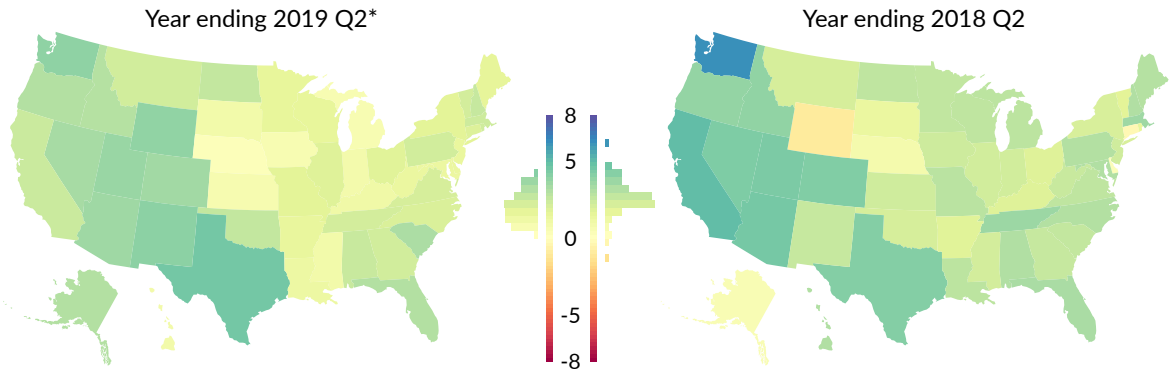
percentage point contribution to real GDP/GDI growth — *moving averages*

	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	3-year	10-year	30-year
Gross Domestic Product	2.1	2.0	3.1	1.1	2.9	2.5	2.3	2.5
Consumer Spending	1.97	3.03	0.78	0.97	2.34	1.87	1.65	1.82
Durable Goods	0.57	0.87	0.02	0.09	0.25	0.45	0.44	0.42
Non-durable Goods	0.59	0.87	0.30	0.24	0.50	0.41	0.33	0.34
Services	0.80	1.29	0.46	0.65	1.59	1.02	0.89	1.06
Gross Investment	-0.01	-1.16	1.09	0.53	2.27	0.64	0.94	0.60
Non-residential	-0.36	-0.14	0.60	0.64	0.29	0.53	0.61	0.53
Residential	0.18	-0.11	-0.04	-0.18	-0.16	0.01	0.13	0.03
Change in inventories	0.17	-0.91	0.53	0.07	2.14	0.10	0.20	0.04
Government	0.28	0.82	0.50	-0.07	0.36	0.29	-0.02	0.23
Federal	0.22	0.53	0.14	0.07	0.19	0.17	-0.01	0.07
State and Local	0.06	0.29	0.36	-0.14	0.17	0.12	-0.01	0.16
Net Exports	-0.11	-0.68	0.73	-0.35	-2.05	-0.29	-0.26	-0.16
Exports	0.11	-0.69	0.49	0.18	-0.78	0.24	0.48	0.49
Imports	-0.22	0.01	0.23	-0.53	-1.27	-0.53	-0.73	-0.66
Goods and TTU	–	0.20	0.48	0.73	1.04	0.78	0.72	0.90
Manufacturing	–	0.05	-0.40	0.25	0.51	0.24	0.21	0.33
Construction	–	-0.01	0.16	-0.14	0.03	0.06	0.04	-0.00
Retail Trade	–	0.01	0.46	-0.14	0.16	0.17	0.13	0.19
FIRE	–	0.51	1.55	-0.54	0.39	0.40	0.41	0.49
Other Services	–	0.93	1.24	0.92	1.33	1.18	0.97	0.89
Education & Healthcare	–	0.06	0.37	0.24	0.27	0.20	0.18	0.19
Professional & Business	–	0.78	0.85	0.31	0.73	0.57	0.43	0.35
Information	–	0.22	0.08	0.25	0.26	0.31	0.27	0.25
Government	–	0.37	-0.19	-0.02	0.12	0.11	0.03	0.11
Population	0.68	0.57	0.55	0.66	0.70	0.59	0.69	0.96
Employment Rate	2.85	-0.43	0.25	1.12	0.41	0.80	0.58	0.05
Average Hours	0.93	0.53	-0.11	-0.23	0.12	0.31	0.33	0.03
Productivity	-2.34	1.35	2.40	-0.47	1.70	0.65	0.69	1.42
Gross Domestic Income	2.4	0.9	3.2	0.8	3.3	2.3	2.4	2.5
Labor	1.03	0.15	4.41	0.28	1.39	1.41	1.15	1.29
Profit	0.88	0.14	-1.95	-0.11	1.26	0.23	0.78	0.65
Depreciation	0.48	0.43	0.73	0.53	0.59	0.46	0.34	0.42
Indirect Taxes	0.01	0.16	0.06	0.07	0.05	0.16	0.15	0.17

Source: Bureau of Economic Analysis and Author's Calculations

Real GDP Growth by State

percentage point change in real GDP



Source: Bureau of Economic Analysis

*For the year ending 2019 Q2, no states had real GDP growth of more than five percent, 26 states had real GDP growth between two and five percent, 25 states had less than two percent GDP growth, and no states had negative GDP growth.

Real GDP Growth by State

quarterly growth at seasonally adjusted annualized rate | *total growth, 2019 Q2*

	2019 Q2	'19 Q1	'18 Q4	'18 Q3	'18 Q2	1-year*	3-year	10-year
United States	3.5	2.9	1.1	3.1	2.0	2.3	8.3	25.5
Pacific	5.7	2.6	2.7	3.0	2.1	2.6	12.5	35.2
Washington	6.6	6.0	1.2	5.0	3.2	3.8	16.4	42.8
California	5.9	1.8	3.0	2.8	1.9	2.4	12.3	35.7
Oregon	2.8	4.3	2.7	2.9	2.0	3.0	11.4	31.5
Hawaii	4.2	0.8	1.8	0.2	0.5	0.8	6.2	20.3
Alaska	1.4	3.6	2.5	1.8	4.1	3.0	1.6	-4.9
West South Central	4.4	3.3	3.5	4.3	4.1	3.8	9.9	31.5
Texas	5.0	4.0	3.9	5.3	4.7	4.5	11.7	39.6
Oklahoma	2.8	1.1	3.8	2.6	2.7	2.5	4.4	24.2
Arkansas	3.8	0.9	1.3	1.6	1.8	1.4	4.1	14.0
Louisiana	2.2	1.7	1.2	-0.0	1.7	1.1	4.9	0.7
Mountain	3.8	3.7	2.9	4.0	3.0	3.4	11.4	24.0
Utah	3.2	2.8	1.7	7.0	3.0	3.6	13.1	35.1
Colorado	5.2	3.0	2.2	5.5	2.9	3.4	13.1	33.1
Idaho	3.5	2.9	4.4	2.1	2.4	2.9	11.9	25.0
Arizona	2.6	5.4	2.3	3.2	2.9	3.5	12.7	23.9
Montana	3.7	2.3	4.2	-0.5	2.5	2.1	5.9	19.2
Nevada	3.3	3.7	5.8	1.0	2.6	3.3	11.8	18.3
New Mexico	5.5	4.2	3.3	4.1	4.1	3.9	6.2	9.7

continued on next page . . .

	2019 Q2	'19 Q1	'18 Q4	'18 Q3	'18 Q2	1-year*	3-year	10-year
continued from previous page . . .								
Wyoming	1.7	1.8	3.5	5.6	4.2	3.8	-0.8	-12.3
South Atlantic	2.8	3.6	1.0	2.8	1.7	2.3	8.4	21.4
South Carolina	3.7	3.6	3.8	3.5	1.8	3.2	10.4	27.5
Georgia	2.4	5.0	1.2	1.5	1.1	2.2	9.0	26.3
Florida	1.5	4.6	0.6	4.7	2.0	3.0	11.3	24.1
North Carolina	4.9	1.2	1.7	3.3	1.6	1.9	7.2	21.1
Maryland	3.5	0.7	0.9	1.8	1.5	1.2	6.1	20.4
District of Columbia	0.5	4.6	-0.0	1.1	2.1	1.9	5.4	19.1
Virginia	2.5	3.7	0.5	2.0	1.9	2.0	7.2	15.5
West Virginia	7.1	6.0	-0.1	-2.2	1.7	1.3	3.7	5.0
Delaware	0.6	5.5	-2.6	0.5	1.8	1.3	0.4	5.0
Middle Atlantic	2.7	2.2	-1.2	4.5	1.5	1.7	5.1	20.4
New York	2.3	1.7	-2.6	6.0	1.7	1.7	5.0	24.6
Pennsylvania	4.2	3.2	0.4	3.3	1.7	2.1	5.8	20.8
New Jersey	1.8	2.2	0.5	2.1	0.7	1.4	4.1	10.2
West North Central	3.8	2.0	-0.1	0.9	1.9	1.2	5.4	19.4
North Dakota	8.3	6.0	0.2	2.2	1.8	2.5	4.0	54.5
Minnesota	4.8	4.1	0.2	-0.4	2.0	1.4	7.7	23.3
Nebraska	-2.6	-3.1	2.2	-0.5	2.4	0.2	4.5	22.7
Iowa	4.2	1.0	-2.0	2.0	1.1	0.5	2.9	21.8
South Dakota	1.0	3.8	-0.4	-1.6	1.7	0.8	4.2	18.2
Kansas	3.1	1.6	-0.3	-1.1	2.2	0.6	5.4	17.2
Missouri	5.1	1.3	0.1	3.3	2.0	1.7	5.2	9.7
East North Central	1.4	3.1	-0.2	1.4	1.1	1.4	5.7	19.4
Michigan	1.9	2.0	-1.1	0.1	1.1	0.5	6.0	25.7
Indiana	0.5	2.2	0.2	-0.2	1.0	0.8	6.2	20.6
Wisconsin	1.0	2.2	1.4	1.1	1.1	1.5	5.7	20.2
Ohio	2.7	3.9	-0.5	2.3	1.3	1.7	6.0	19.4
Illinois	0.7	3.9	-0.0	2.2	1.1	1.8	4.9	15.1
East South Central	3.9	3.0	0.5	2.0	1.5	1.7	6.3	16.7
Tennessee	5.4	5.0	-1.2	3.3	1.3	2.1	8.1	25.0
Kentucky	2.7	1.3	1.5	0.1	1.0	1.0	4.8	14.7
Alabama	2.5	2.9	2.7	2.2	1.8	2.4	6.6	13.9
Mississippi	4.3	0.2	0.0	1.0	2.3	0.9	3.0	3.5
New England	2.2	2.4	0.1	4.8	1.3	2.1	6.6	16.5
Massachusetts	4.0	2.0	1.2	4.4	1.5	2.3	9.2	27.7
New Hampshire	1.2	2.3	-2.2	8.6	1.4	2.4	7.4	22.2
Vermont	3.3	0.3	1.1	5.7	1.3	2.1	3.8	13.4
Maine	3.3	2.8	-1.8	4.8	0.6	1.6	7.6	11.3
Rhode Island	2.6	-3.0	5.9	4.8	1.5	2.2	4.4	11.3
Connecticut	-1.6	4.6	-2.4	4.3	1.0	1.9	2.0	-0.6

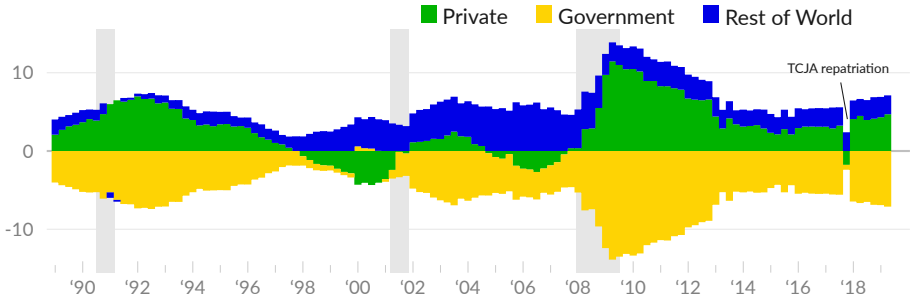
Source: Bureau of Economic Analysis

Financial Accounts

A high-level overview of US financial activities can be provided by dividing the world economy into three sectors: the US private sector (see ■), the US government (see ■), and the rest of the world (see ■), then examining the net lending and borrowing between the groups, which must sum to zero at an aggregate level. That is, if one sector is running a deficit, another sector must be running a surplus.

Sectoral Financial Balance

net lending (+) or borrowing (-), NIPA basis, by sector, as share of GDP

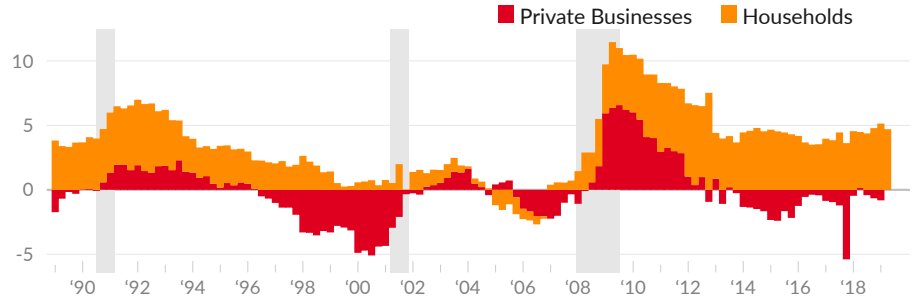


Source: Bureau of Economic Analysis

In 2019 Q2, the US private sector was a net lender (running a surplus) of the equivalent of 4.7 percent of GDP, compared to 2.3 percent in 2015 Q1. The rest of the world was a net lender to the US, to the equivalent of 2.4 percent of GDP in 2019 Q2 compared to 2.4 percent in 2015 Q1. Balancing these transactions, the government (federal, state, and local combined) was a net borrower (running a deficit) of the equivalent of 7.1 percent of GDP, compared to 4.7 percent in 2015.

Domestic Private Sector Financial Balance

net lending (+) or borrowing (-), NIPA basis, by sector, as share of GDP



Source: Bureau of Economic Analysis

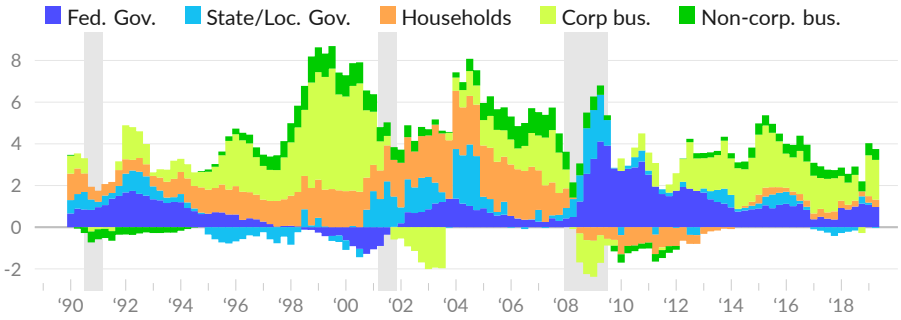
Liabilities

The contribution of different sectors to the total change in borrowing can identify potential risks in the domestic economy. For example, the tech bubble of the late 1990s and early 2000s shows up as a large increase in corporate borrowing. The housing bubble from the 1990s to 2007 shows up as an increase in household borrowing. Government borrowing increased following the collapse of the housing bubble, in an effort to compensate for the massive fall in wage income. Keep in mind, however, that the vast majority of liabilities in the domestic economy are to other domestic parties.

Domestic liabilities increased by 3.7 percent over the year ending 2019 Q2, after adjusting for inflation. Over the past three years, total domestic liabilities increased at an average annual rate of 3.0 percent. The federal government contributed 0.8 percentage points per year on average (see ■), while the state and local government subtracted 0.1 percentage points per year on average (see ■). Households and nonprofits contributed 0.3 percentage points per year on average over this three year period (see ■), corporate businesses contributed 1.5 percentage points per year on average (see ■)and non-corporate businesses contributed 0.5 percentage points per year on average (see ■).

Real Debt Growth

contribution to one-year percent change in liabilities, adjusted by PCE price deflator



Source: Federal Reserve, Bureau of Economic Analysis

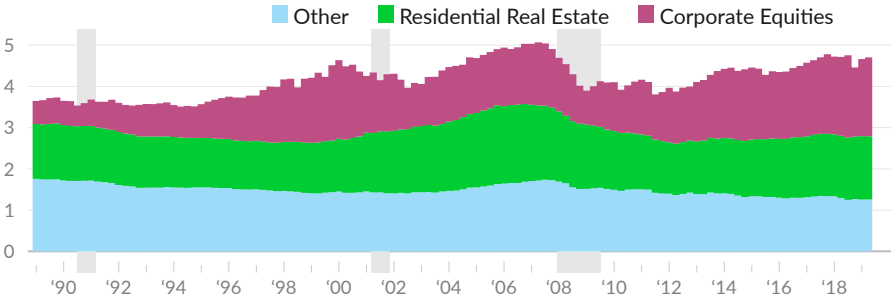
[TABLE HERE]

Wealth

Total US wealth is the tangible assets of all non-corporate sectors of the US, plus the market value of domestic corporate equities, less US financial obligations to the rest of the world. The ratio of US total wealth, excluding public lands, to GDP increased to 4.7 in 2019 Q2 from 3.65 in 1989 Q1. The market value of corporate equities (see ■) increased to a 1.92 multiple of GDP in 2019 Q2 from 0.56 in 1989 Q1. The market value of residential real estate (see ■) increased to 1.53 times GDP from 1.33 in 1989. The other category (see ■), which includes tangible assets other than residential real estate less US financial obligations to the rest of the world, decreased to 1.26 from 1.76 in 1989.

Total US Wealth to GDP Ratio

total US wealth divided by GDP



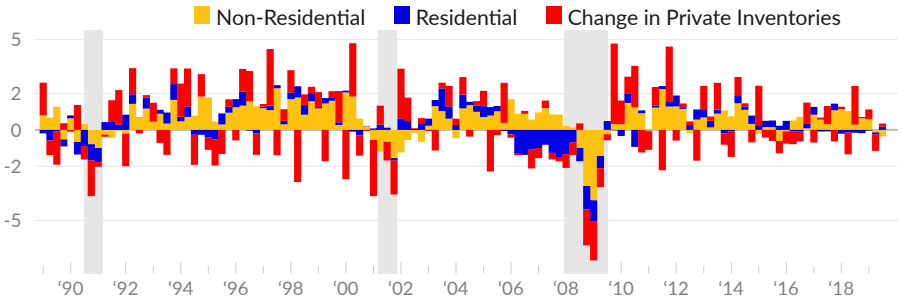
Source: Federal Reserve

Investment

Private fixed investment, as measured in the national accounts, includes construction and improvement of houses, apartment buildings, and other residential property (see ■), but not automobiles, appliances, or furniture. Non-residential private fixed investment includes the construction and improvement of offices, warehouses, factories, and other commercial and industrial property (see ■), as well as purchases of equipment and intellectual property products. The change in private inventories (see ■) at the end of the accounting period is also, at times, grouped with investment.

Private Fixed Investment

percentage point contribution to GDP growth



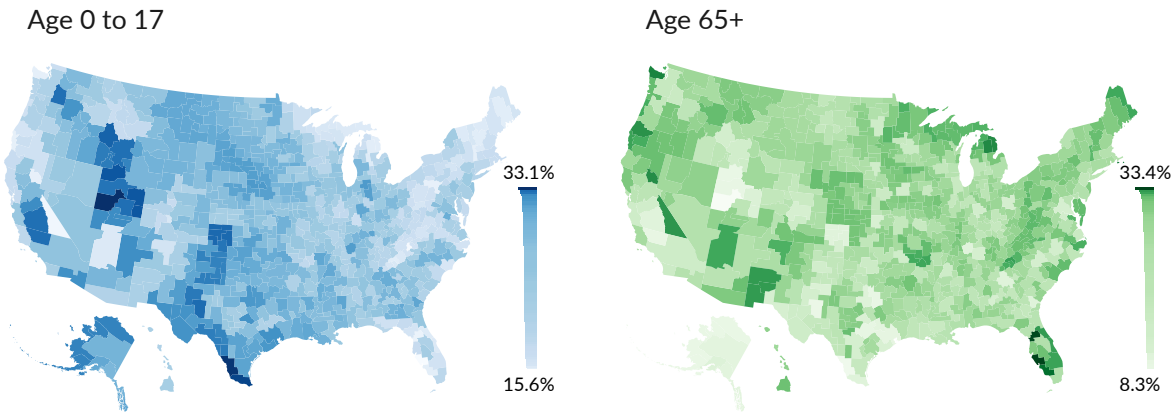
Source: Bureau of Economic Analysis

Households

This section covers the household sector of the economy loosely defined, and touches on demographics, personal income and outlays, residential fixed investment, household balance sheets, home ownership, housing prices, and housing construction and permitting.

[Table or chart on population]

Age Group Share of Commuter Zone Population, 2018



Source: American Community Survey, Dorn

Demographics and Household Formation

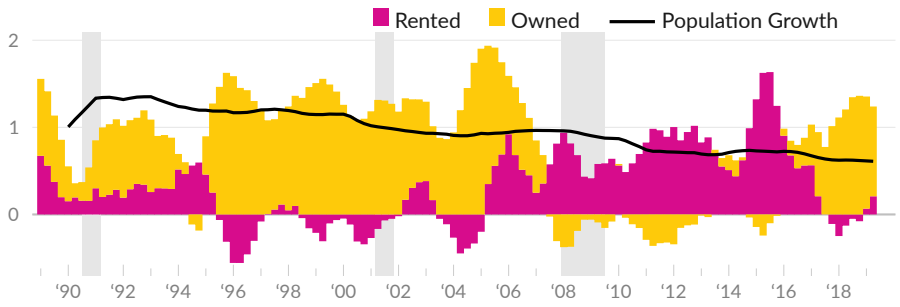
The Census Bureau estimates that the US population is 327.2 million in 2018 and reports population growth of 0.6 percent over the past year. By age, 22.9 percent are under the age of 18 and 16.1 percent age 65 or older. In 1989, the US population was 246.8 million, with 25.7 percent under 18 and 12.4 percent 65 or older.

The rate of household formation since 1989 can offer a high-level overview of some major demographic and economic developments. From 1989 to 1994,

This section should capture 1) population, 2) population growth, 3) aging, 4) increased education.

Household Formation by Type

one-year moving average of annual growth rates



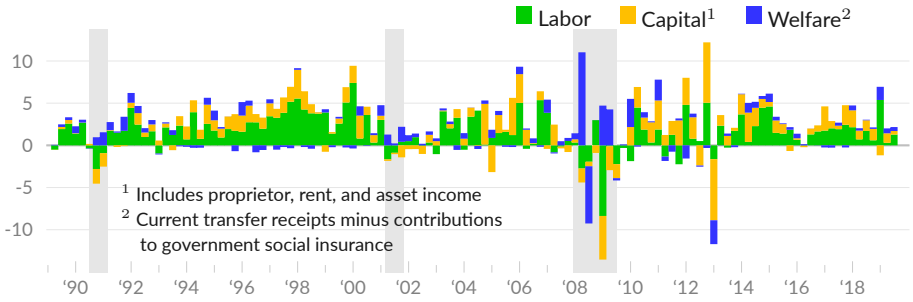
Source: Census Bureau

Income to Persons

This section looks at income received by people, by type of income, adjusted for inflation using the PCE implicit price deflator. Income is divided into labor income (see ■), which is measured as compensation of employees, capital income (see ■), measured as the sum of proprietor income, rental income, and dividend and interest income, and welfare income (see ■), which is measured as transfers to persons less contributions to social insurance.

Personal Income

percentage point contribution to real personal income growth



Source: Bureau of Economic Analysis

Some descriptive text here. Perhaps mention the total amount for real personal income and the share from labor, capital, and welfare in 1989, 2000, and 2019. Otherwise, at least mention the main three sources and how they contribute to change in personal income in the latest data.

Personal Income by Source

percentage point contribution to real personal income growth — *moving averages*

	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	3-year	10-year	30-year
Personal income	2.17	2.01	5.75	2.13	3.04	3.11	2.82	2.77
■ Labor	1.28	0.3	5.38	0.6	1.71	1.79	1.44	1.58
Wages and salaries	0.98	0.17	4.8	0.41	1.42	1.51	1.22	1.27
Supplements	0.3	0.13	0.58	0.19	0.29	0.28	0.22	0.31
■ Capital	0.42	1.13	-1.18	1.35	1.26	1.07	1.16	0.8
Proprietors' income	0.98	0.05	-0.11	0.65	0.24	0.34	0.4	0.29
Rental income	-0.01	0.12	0.05	-0.08	0.19	0.11	0.26	0.19
Personal interest income	-0.77	0.9	-0.67	0.05	0.41	0.34	0.09	0.04
Personal dividend income	0.21	0.06	-0.46	0.72	0.43	0.29	0.41	0.27
■ Welfare	0.47	0.58	1.56	0.18	0.07	0.25	0.22	0.39
Social security	0.07	0.03	0.83	0.13	0.09	0.16	0.16	0.16
Medicare	0.29	0.31	0.44	0.35	0.27	0.2	0.14	0.16
Medicaid	0.26	0.38	0.27	-0.16	0.0	0.09	0.13	0.15
Unemployment insurance	-0.0	-0.03	0.02	-0.01	-0.02	-0.01	-0.08	0.0
Veterans' benefits	0.03	0.03	0.1	0.03	0.01	0.04	0.04	0.02
Less welfare contributions	-0.12	-0.01	-0.85	-0.04	-0.14	-0.22	-0.17	-0.19

Source: Bureau of Economic Analysis

Capital Income

Welfare Income

[**Breakout section on income of the aged**]

Income of the aged is looking like a very important section. I hadn't realized the extent to which demographics are rapidly putting downward pressure on the employment rate. Something like four percent of the population is shifting from work age to retirement age.

It's important here to point out that social security retirement income is the solution, not the problem. There has been a reduction in private retirement benefits in the form of defined benefit pension plans and a shift towards reliance on 401k and IRA plans. But social security has never missed a payment. In contrast, hundreds of thousands of people are pushed in bankruptcy each year by medical bills. By not extending social insurance to younger people, a larger portion of pre-retirement-age people have their savings wiped out by common life events like having children or a period of illness. As a result, more pressure is put on social insurance for retirement.

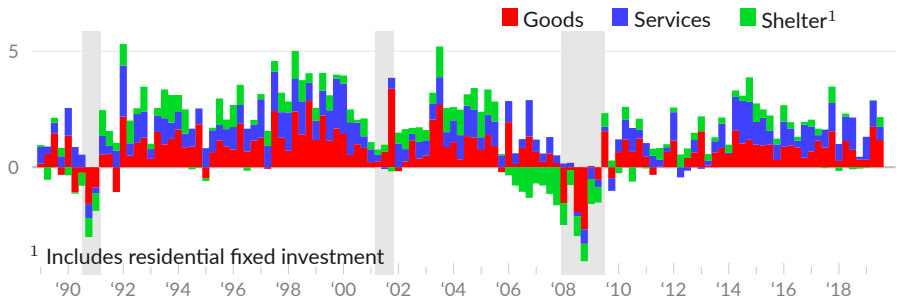
Ideally I would like to look at the demographics (employment adjustment for age), and then replicate the income of the aged calculation on an annual basis to show how many households are kept out of poverty by social security retirement income.

Household Expenditures

This section covers household spending on goods (see ■), services excluding housing and utilities (see ■), and shelter (see ■ , calculated as housing services and utilities combined with residential fixed investment). These categories contributed 1.98 percentage points to GDP growth in 2019 Q3 compared to an average contribution of 1.83 percentage points over the past three years.

Consumer Spending and Residential Investment

percentage point contribution to GDP growth



Source: Bureau of Economic Analysis

In the third quarter of 2019, household spending on goods contributed 1.17 percentage points to GDP growth, household spending on services other than housing and utilities contributed 0.57 percentage points, and shelter spending and investment contributed 0.42 percentage points. Spending on health care services contributed 0.13 percentage points to GDP growth in 2019 Q3 and has contributed 0.28 percentage points, on average, over the past three years.

Consumer Spending and Residential Investment

percentage point contribution to real GDP growth

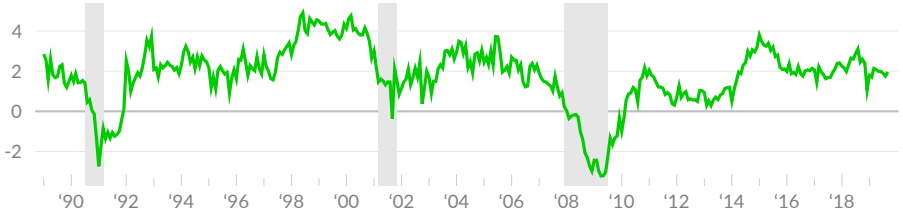
	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	*moving averages* 3-year	10-year	30-year
Total	1.98	3.00	1.32	0.56	2.21	1.83	1.60	1.73
■ Goods	1.17	1.74	0.32	0.33	0.75	0.86	0.77	0.76
Motor Vehicles and Parts	0.07	0.37	-0.27	0.07	0.01	0.11	0.12	0.08
Furniture and HH Equipment	0.10	0.14	0.03	-0.09	0.09	0.10	0.10	0.08
Recreational Durable Goods	0.31	0.32	0.23	0.04	0.12	0.19	0.17	0.21
Groceries	0.29	0.25	-0.08	0.07	0.13	0.15	0.10	0.08
Clothes and Shoes	-0.04	0.25	-0.07	0.00	0.15	0.05	0.05	0.08
■ Services (ex. Shelter)	0.57	1.12	0.99	0.12	1.39	0.85	0.69	0.74
Health Care Services	0.13	0.38	0.72	-0.22	0.60	0.28	0.29	0.27
Transportation	0.09	0.17	0.01	-0.02	-0.02	0.07	0.07	0.06
Recreational	-0.02	0.17	-0.03	0.09	0.02	0.06	0.06	0.07
Food and Accommodations	0.17	0.22	-0.06	-0.12	0.35	0.13	0.12	0.09
Financial and Insurance	0.02	0.05	0.15	0.10	0.05	0.08	0.02	0.13
■ Shelter	0.42	0.03	-0.03	-0.06	-0.09	0.14	0.28	0.26
Housing Services and Utilities	0.24	0.14	0.01	0.12	0.07	0.13	0.15	0.23
Residential Fixed Investment	0.18	-0.11	-0.04	-0.18	-0.16	0.01	0.13	0.03

Source: Bureau of Economic Analysis

Consumer spending is also reported on a monthly basis. Inflation- and population-adjusted consumer spending increased by 2.0 percent over the year ending September 2019, compared to an increase of 2.4 percent over the year ending September 2018.

Consumer Spending Growth

annual growth, per capita real personal consumption expenditures, percent



Source: Bureau of Economic Analysis

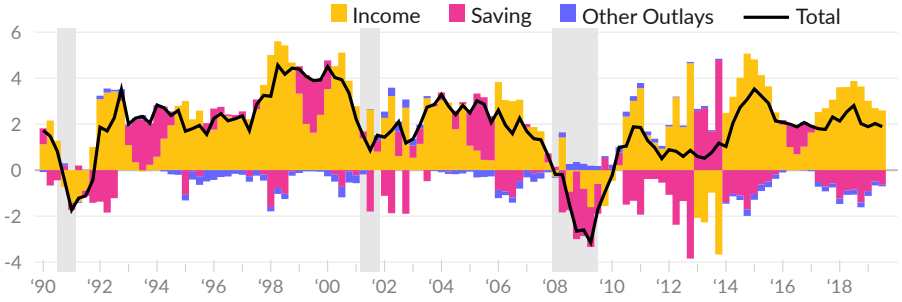
[Top quintile consumer spending share of gross pre-tax income and bottom 80 percent share]

Changes to consumer spending (see —) are largely the result of changes to income (see ■) and changes to the rate at which income is saved (see ■). Changes to other outlays (see ■) reflect changes in interest payments, fines and fees, and charitable giving.

Real per capita consumer spending increased at an average rate of 1.9 percent over the four quarters ending 2019 Q3. Changes to disposable income added 2.6 percentage points, changes to saving subtracted 0.6 percentage points, and changes to other outlays subtracted 0.1 percentage points. Over the past three years, real per capita consumer spending growth has averaged 2.2 percent, with income growth contribuing an average of 3.1 percentage points and saving subtracting an average of 0.7 percentage points.

Contributions to Consumer Spending

percentage point contribution to real per capita PCE growth, one-year moving average



Source: Bureau of Economic Analysis

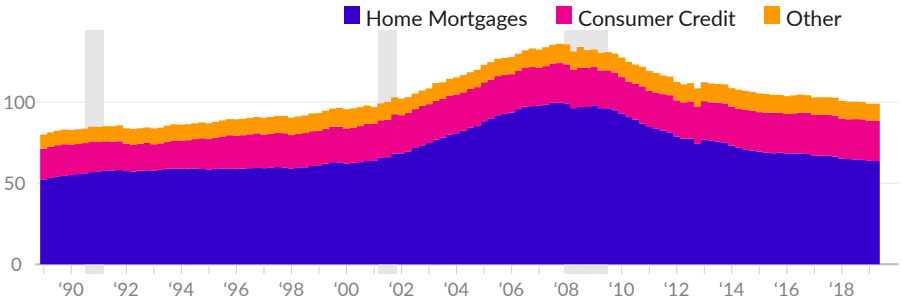
Household Balance Sheets

Liabilities

The Federal Reserve reports total liabilities of households and nonprofits of $16.21 trillion in 2019 Q2. The vast majority–$10.41 trillion or 64.3 percent of the total–are home mortgages (see ■). Consumer credit liabilities (see ■) which include auto loans, credit card debt, student loans, and other personal loans, total $4.06 trillion (25.0% of the total). The remaining liabilities (see ■) are primarily attributable to nonprofits.

The ratio of household and nonprofit debt to disposable personal income has fallen to 99.1 percent in 2019 Q2 from its housing-bubble peak of 136.1 percent in 2007 Q4. Over the past three years, nominal household and nonprofit debt has increased 10.4 percent while nominal disposable personal income has increased 16.4 percent. As a result, the ratio of household and nonprofit debt to disposable personal income has fallen by 5.2 percentage points.

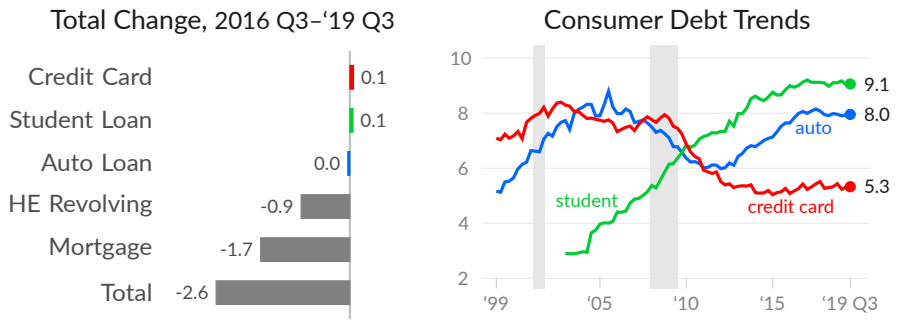
Household and Nonprofit Debt
by type, as share of disposable personal income



Source: Federal Reserve and Bureau of Economic Analysis

Federal Reserve Bank of New York (FRBNY) analysis of Equifax data shows $13.952 trillion in total consumer debt in 2019 Q3, which is equivalent to 84.4 percent of disposable personal income. Over the past three years, total consumer debt has increased by $1.60 trillion compared to an increase of $2.33 trillion in disposable personal income. As a result, the ratio of total consumer debt to disposable personal income has fallen by 2.6 percentage points over this period.

Mortgages and Consumer Credit
share of disposable personal income, percent



Source: Federal Reserve Bank of New York and Bureau of Economic Analysis

Trends in household debt over the past three years, measured in both the US Financial Accounts and the New York Fed Consumer Credit Panel, show consumer credit growing in line with income while mortgage debt falls relative to income. The two series below, Mortgage Debt Total and Consumer Credit, are comparable between both data sources. Discrepancies arise because the Financial Accounts include debt of nonprofit institutions and the Consumer Credit Panel does not include persons without a social security number.

According to the same FRBNY data, mortgage debt, including home equity lines of credit, totalled $9,833 billion in 2019 Q3, equivalent to 59.5 percent of disposable personal income (DPI). Student loans totalled $1,498 billion, or 9.1 percent of DPI; auto loans totalled $1,315 billion (8.0 percent of DPI); and credit card debt totalled $881 billion (5.3 percent of DPI).

Over the past three years, the ratio of total mortgage debt to disposable personal income fell by 2.6 percentage points, compared to an increase of 0.1 percentage points for student loans, virtually no change for auto loans, and an increase of 0.1 percentage points for credit card debt

Household Debt Outstanding

trillions of US Dollars | *share of disposable personal income*

	2019 Q3	2019 Q2	'19 Q3	'19 Q2	'16 Q3	'13 Q1	'03 Q1
Financial Accounts Total*	–	$16.21T	–	99.1	104.7	112.4	108.5
Mortgage Debt Total	–	$10.41T	–	63.7	68.3	77.1	74.8
Consumer Credit	–	$4.06T	–	24.8	25.2	23.6	24.0
Other	–	$1.74T	–	10.6	11.2	11.7	9.7
Consumer Credit Panel Total	$13.95T	$13.86T	84.4	84.7	86.9	90.9	87.2
Mortgage Debt Total	$9.83T	$9.80T	59.5	59.9	62.1	68.7	62.5
Mortgage	$9.44T	$9.41T	57.1	57.5	58.8	64.2	59.6
Home Equity Revolving	$0.40T	$0.40T	2.4	2.4	3.3	4.5	2.9
Consumer Credit	$4.12T	$4.06T	24.9	24.8	24.8	22.2	24.7
Auto Loan	$1.31T	$1.30T	8.0	7.9	8.0	6.4	7.7
Credit Card	$0.88T	$0.87T	5.3	5.3	5.3	5.3	8.3
Student Loan	$1.50T	$1.48T	9.1	9.0	9.0	8.0	2.9
Other	$0.42T	$0.41T	2.6	2.5	2.6	2.5	5.8

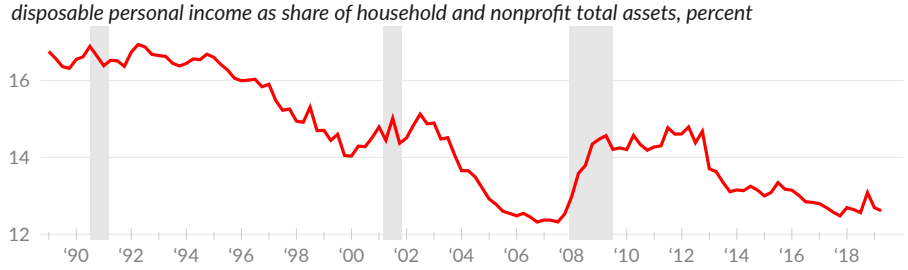
Source: Federal Reserve, Federal Reserve Bank of New York, Bureau of Economic Analysis

Assets

The return on total household assets has fallen, as measured by disposable income as a share of household assets.

Return on Household Assets

disposable personal income as share of household and nonprofit total assets, percent

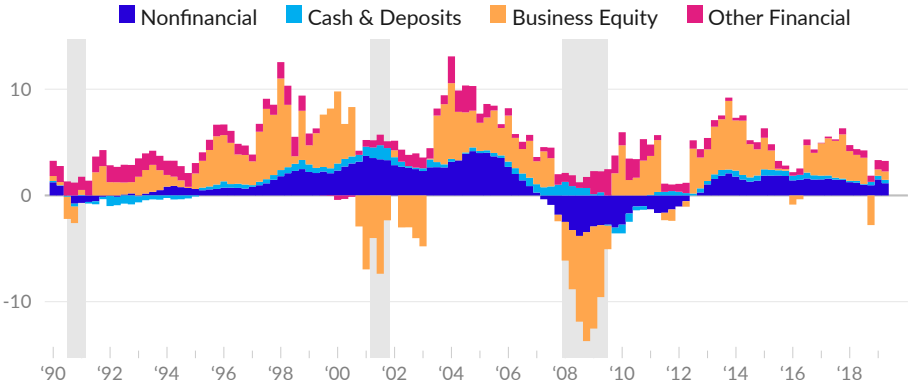


Source: Federal Reserve, Bureau of Economic Analysis

Text about growth in various types of household assets. I divided the Fed Z.1 household and nonprofit balance sheet data into: business equity–directly and indirectly held corporate equities + proprietor equity in noncorporate businesses; nonfinancial assets, which are primarily composed of real estate; deposits–which include cash as well as checking and saving accounts and money market funds; and other financial assets, which are primarily debt securities and loans and claims on insurance companies.

Contributions to Real Growth in Assets

contribution to one-year percent change in assets, adjusted by PCE price deflator

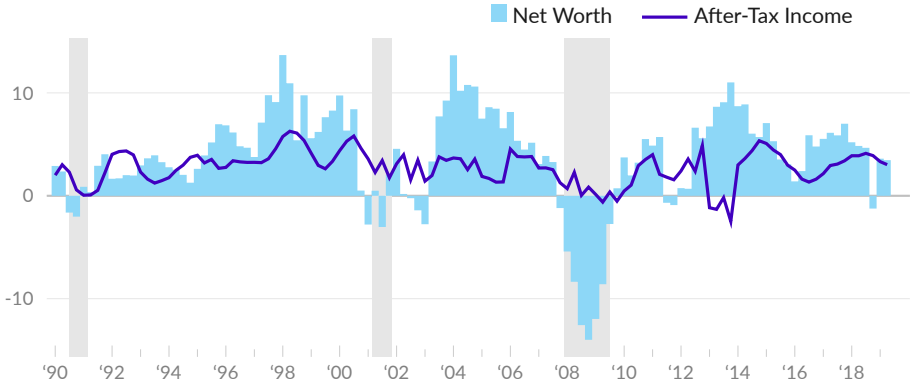


Source: Federal Reserve, Bureau of Economic Analysis

Rate of growth for both real net worth and real after tax income.

Net Worth and After-Tax Income Growth

one-year percent change in net worth and after-tax income, adjusted by PCE price deflator



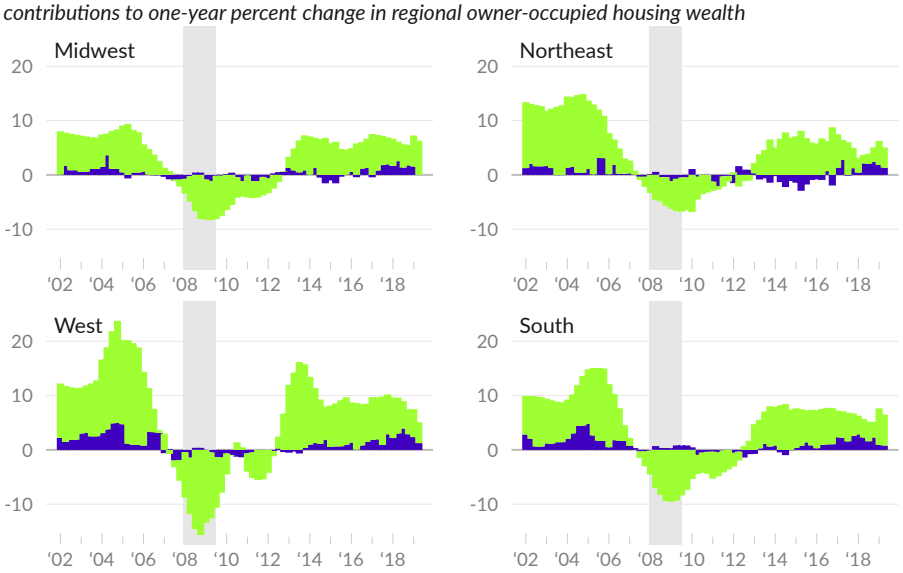
Source: Federal Reserve, Bureau of Economic Analysis

Housing

Some data here on the US total and regional change in the value of residential homes during and since the housing bubble.

Owner-Occupied Housing Wealth Unit Price Inventory

contributions to one-year percent change in regional owner-occupied housing wealth

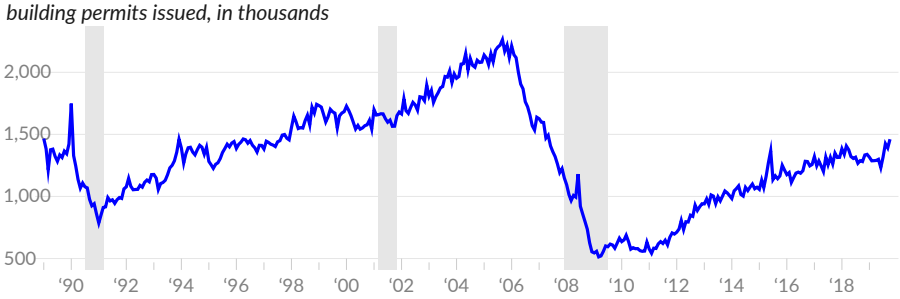


Source: Federal Reserve and Census Bureau

In October 2019, 1,461,000 new residential building permits were issued, the highest level since May 2007. Permits issued increased by 70,000 (5.0 percent) over the previous month, increased by 180,000 (14.1 percent) over last October, and increased by 361,000 (32.8 percent) total over the past five years.

Residential Construction

building permits issued, in thousands



Source: Census Bureau

Housing permits/starts

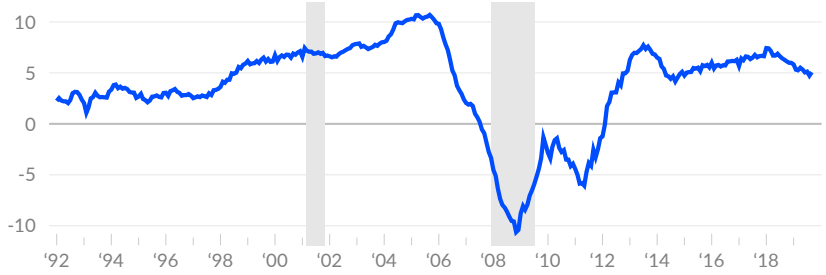
Geographic location of housing permits

Households; owners' equity in real estate as a percentage of household real estate, Level (HOEREPHRE)

The Federal Housing Finance Agency (FHFA) housing price index data look useful primarily because they offer geographic specificity. Look into ways to use these. Ideally, I want to know about the ratio of housing prices to rental equivalent. For now, the chart below is more or less a placeholder, though I may keep it or some variation.

House Price Index

one-year percent change



Source: Federal Housing Finance Agency

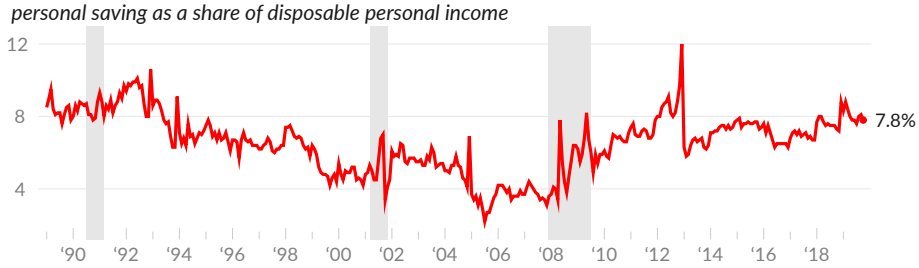
Saving

The portion of after-tax income that is not spent by households is considered personal saving, from an economic accounting perspective. Personal saving as a share of disposable personal income is referred to as the personal saving rate. Households use savings to handle unexpected expenses or cover expenses when income falls. However, economists also point out that aggregate personal saving is a direct reduction in corporate profits, as it represents income to persons that was at some point a business expense, but that does not get returned to businesses as revenue through consumer spending.

As of October 2019, the Bureau of Economic Analysis reports a rate of personal saving of 7.8 percent. Over the past three years, the personal saving rate increased by a total of 1.3 percentage points.

Personal Saving Rate

personal saving as a share of disposable personal income

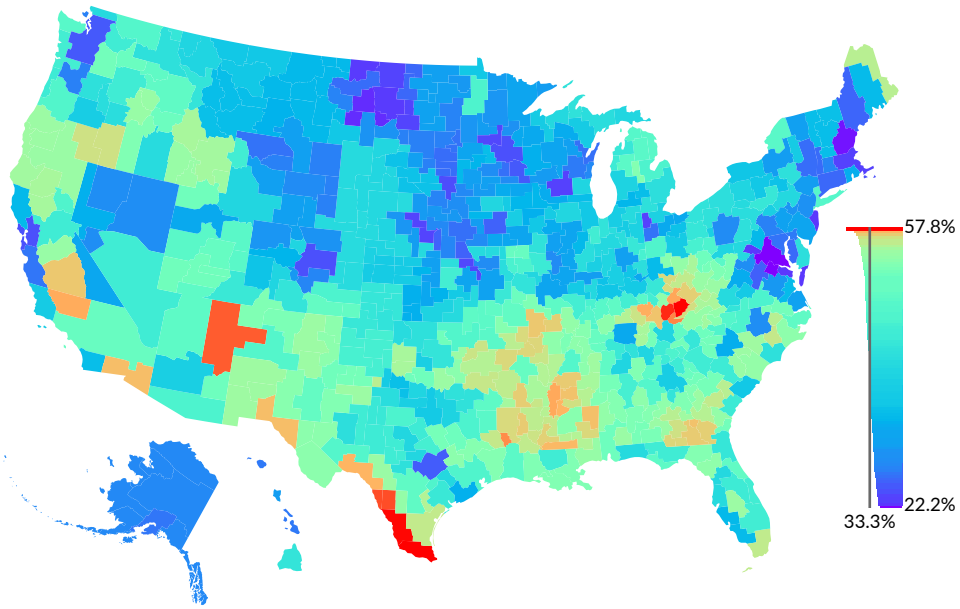


Source: Bureau of Economic Analysis

Poverty

Include data on number of people in poverty and the official poverty rate. Perhaps include a chart showing the official poverty rate over time. Perhaps also try to capture some concepts around methodology (SPM for example) and about relative poverty.

Share of local population in bottom third of housing-adjusted income, 2018
Share of commuting zone householders with after-housing-expense annual income below $13,573



Source: American Community Survey

Income and Expenses by Age and Number of Children

Poverty rates and amount of poverty in millions of people

Businesses

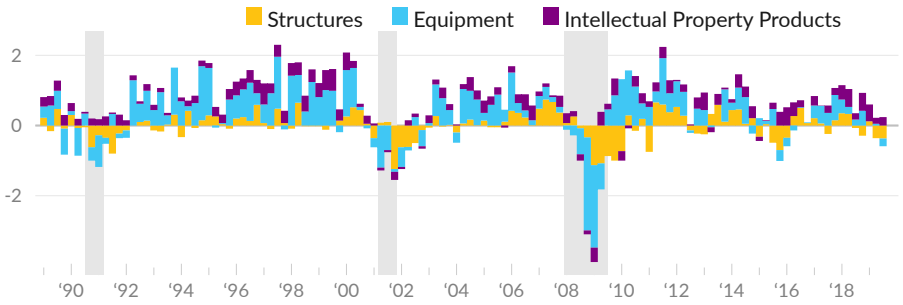
The factories, offices, and equipment that workers use to produce goods and services are all important to the economy. This section looks at the loosely defined business sector, with data covering business investment, retail sales, industrial production, corporate profits, and the financial activities of businesses.

Fixed Investment

When businesses purchase items with a useful life of more than one year it is considered and investment in fixed assets, which is an exchange of assets rather than an expense. Investments in fixed assets that make workers more productive, by definition, allow businesses to produce goods and services using less effort from people. Business gross investments in fixed assets are grouped broadly as structures (see), equipment (see), and intellectual property products (see).

Business Fixed Investment

percentage point contribution to GDP growth



Source: Bureau of Economic Analysis

Business investment subtracted 0.36 percentage points from GDP growth in the third quarter of 2019 compared to an average contribution of 0.53 percentage points over the past three years. In 2019 Q3, investment in structures subtracted 0.37 percentage points from GDP growth, investment in equipment subtracted 0.22 percentage points, and investment in intellectual property products contributed 0.24 percentage points.

Business Investment

percentage point contribution to real GDP growth

	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	*moving averages* 3-year	10-year	30-year
Total	-0.36	-0.14	0.60	0.64	0.29	0.53	0.61	0.53
Structures	-0.37	-0.36	0.12	-0.29	-0.07	0.04	-0.00	0.00
Equipment	-0.22	0.05	0.00	0.42	0.17	0.23	0.38	0.32
Information processing	-0.12	0.13	0.17	-0.04	0.20	0.14	0.15	0.21
Computers and peripherals	-0.19	0.17	0.05	-0.04	0.00	0.03	0.03	0.11
Industrial equipment	0.08	0.02	-0.04	0.08	0.07	0.05	0.05	0.02
Transportation equipment	-0.17	-0.14	-0.06	0.29	-0.07	-0.02	0.13	0.05
Intellectual property products	0.24	0.17	0.48	0.51	0.18	0.26	0.22	0.21
Software	0.16	0.11	0.26	0.19	0.15	0.16	0.13	0.12
Research and development	0.05	0.06	0.21	0.29	0.01	0.08	0.08	0.07

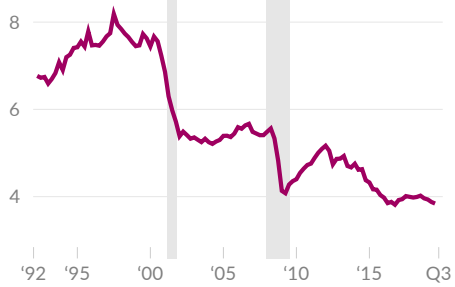
Source: Bureau of Economic Analysis

The productive investments of businesses are also measured by the new orders for core capital goods. The category excludes the more volatile aircraft orders as well as defense-related orders, and is derived from a Census Bureau survey of shipments, inventories, and orders.

New orders for manufactured core capital goods excluding aircraft totalled $69 billion in October 2019, equivalent to 3.8 percent of GDP.

New Orders for Core Capital Goods

nondefense capital goods ex-aircraft, share of GDP



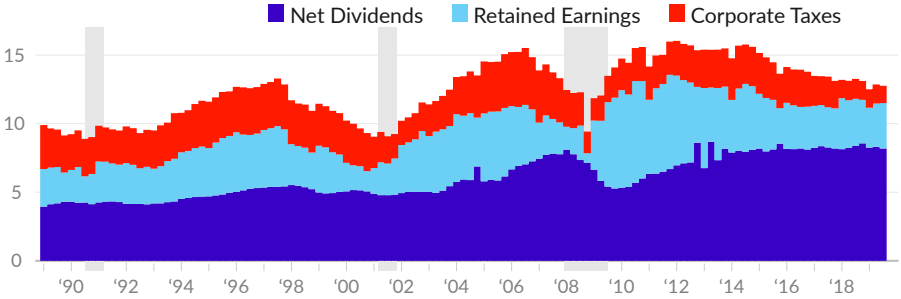
Source: Census Bureau

Corporate Profits

The national accounts include detailed information on corporate profits, which are an important determinant in the business cycle.

Destination of Corporate Profits

share of net national income

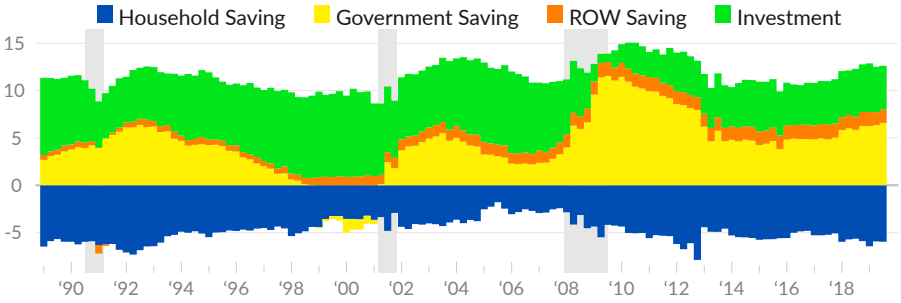


Source: Bureau of Economic Analysis

Aggregate corporate savings (corporate profits less dividends and corporate profit tax) are the result of net investment and nonbusiness saving. Investment is a source of aggregate profit because it is revenue for one party but not an expense for the other. Nonbusiness saving, which includes household, government, and rest of world saving, necessarily reduces aggregate corporate profits because it is money that did not return to businesses as revenue.

Sources of Corporate Saving

contribution to corporate saving, as share of gross national income

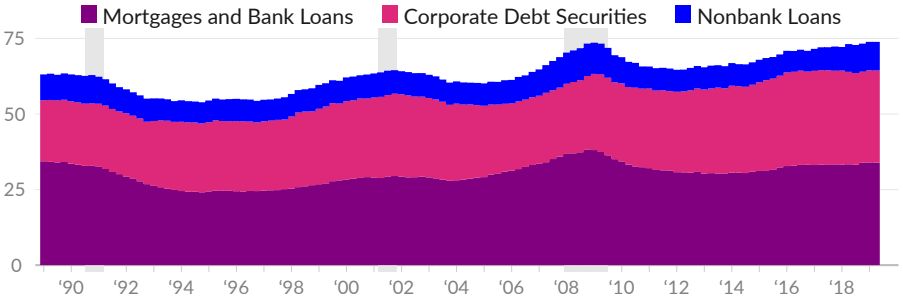


Source: Bureau of Economic Analysis

Business Debt

As of 2019 Q2, nonfinancial business debt–the debt security and loan liabilities of nonfinancial businesses–both corporate and non-corporate–totals $15,764 billion, with $9,973 billion (63.3%) held by corporate businesses. Over the past three years, nonfinancial business debt has increased faster than overall economic activity. As a share of GDP, nonfinancial business debt increased by 3.0 percentage points to 73.9 percent in 2019 Q2 from 70.9 percent in 2016 Q2. The vast majority of the increase, 2.6 percentage points, comes from nonbank loans (see ■).

Nonfinancial Business Debt
by type, as share of GDP

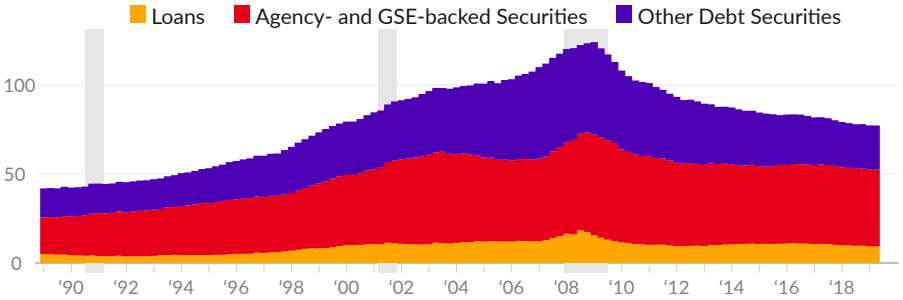


Source: Federal Reserve and Bureau of Economic Analysis

The debt of the domestic financial sector includes agency and government-sponsored enterprise (GSE) backed securities, corporate and foreign bonds, loans, and open market paper. The long-term increase in financial sector debt reflects the emergence and growth of various asset-backed securities. In addition to home mortgage-backed securities, the domestic financial sector issues debt securities based on commercial mortgages, auto loans, credit card, student debt, and even restaurant revenue.

Domestic financial sector debt has fallen as a share of GDP to 77.3 percent in 2019 Q2 from a housing-bubble peak of 124.3 percent in 2009 Q1.

Financial Sector Debt
by type, as share of GDP



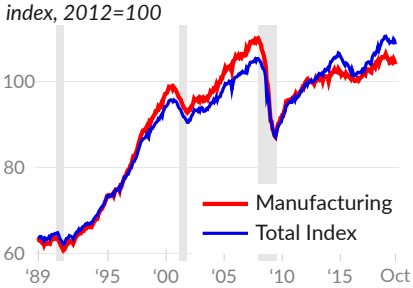
Source: Federal Reserve and Bureau of Economic Analysis

Industrial Production

Manufacturing production increased at an annual rate of 1.0 percent over the past three years, as of October 2019, but remains 5.5 percent below its December 2007 rate. Total industrial production increased at an annual rate of 2.1 percent over the same period. Mining production increased at an annual rate of 8.6 percent, while production of electric and gas utilities increased at an annual rate of 0.8 percent.

By market group, production of consumer goods increased at an annual rate of 0.3 percent over the past three years, as of October 2019. Production of business equipment increased at an annual rate of 2.8 percent, production of nonindustrial supplies increased at an annual rate of 1.1 percent, and production of materials increased at an annual rate of 3.2 percent.

Industrial Production
index, 2012=100



Source: Federal Reserve

Industrial Production Growth
percentage point contribution to one-year growth of total index — *moving averages*

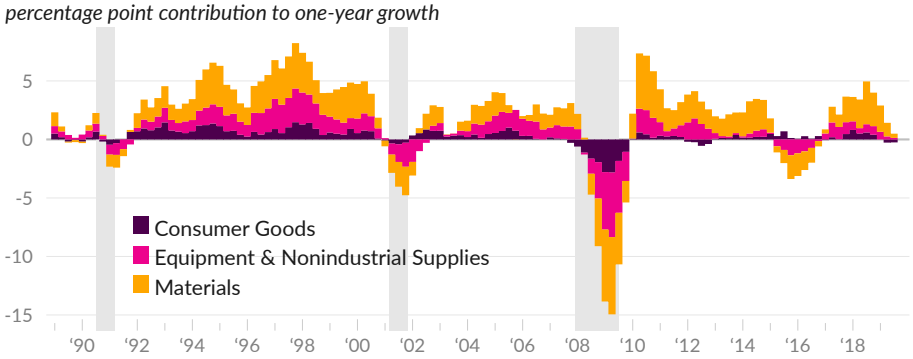
	Oct 2019	Sep 2019	Aug 2019	1-year	3-year	10-year	30-year
Total index	-1.13	-0.07	0.37	1.63	2.42	2.03	1.91
Manufacturing	-1.12	-0.71	-0.31	0.31	1.10	1.14	1.53
Durable manufacturing	-0.76	-0.26	0.20	0.60	0.82	1.09	1.48
Motor vehicles & parts	-0.60	-0.37	0.02	-0.02	0.06	0.41	0.23
Nondurable manufacturing	-0.23	-0.34	-0.39	-0.13	0.40	0.21	0.17
Mining	0.38	0.49	0.75	1.34	1.28	0.92	0.30
Utilities	-0.43	0.10	-0.13	-0.05	0.13	0.07	0.13
Consumer goods	-0.59	-0.34	-0.30	-0.11	0.20	0.16	0.25
Consumer durables	-0.43	-0.26	-0.05	-0.04	0.07	0.20	0.16
Automotive products	-0.35	-0.21	-0.02	-0.04	0.04	0.18	0.12
Consumer nondurables	-0.14	-0.07	-0.25	-0.07	0.14	-0.03	0.11
Foods and tobacco	0.13	-0.11	-0.21	-0.05	0.09	0.07	0.06
Chemical products	0.04	0.02	0.07	0.03	0.04	-0.07	0.05
Consumer energy products	-0.22	0.06	-0.04	0.02	0.09	0.05	0.06
Equipment & nonindustrial supplies	-0.29	0.03	0.17	0.36	0.62	0.43	0.52
Equipment	-0.17	-0.03	0.12	0.34	0.40	0.26	0.37
Industrial equipment	-0.14	-0.12	-0.08	0.04	0.12	0.08	0.04
Nonindustrial supplies	-0.12	0.07	0.05	0.02	0.21	0.19	0.18
Construction supplies	0.06	0.10	0.09	0.10	0.13	0.11	0.04
Business supplies	-0.18	-0.03	-0.04	-0.07	0.08	0.08	0.14
Materials	-0.25	0.23	0.50	1.39	1.62	1.49	1.15
Consumer parts	-0.28	-0.21	-0.11	-0.08	0.00	0.15	0.10
Equipment parts	-0.01	0.02	0.06	0.16	0.15	0.24	0.66
Chemical materials	-0.08	-0.03	-0.08	0.09	0.18	0.09	0.05
Energy materials	0.35	0.56	0.64	1.21	1.18	0.87	0.33

Source: Federal Reserve

Market group data show the lack of growth in the production of consumer goods, equipment, and nonindustrial supplies over the past decade.

Industrial Production Growth, Market Group

percentage point contribution to one-year growth

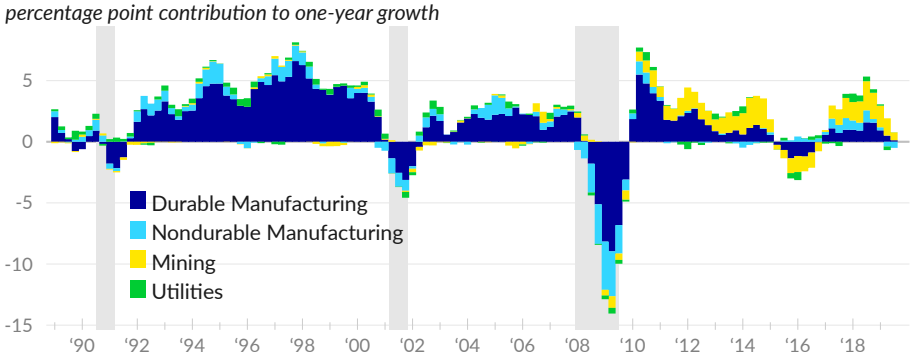


Source: Federal Reserve

Industry group data show a change in the composition of new industrial activity, towards mining and away from manufacturing.

Industrial Production Growth, Industry Group

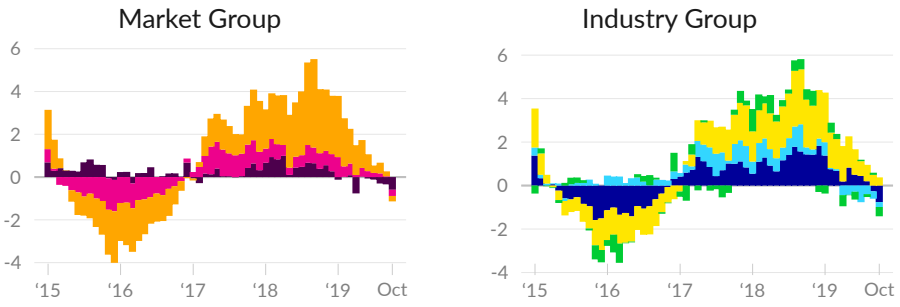
percentage point contribution to one-year growth



Source: Federal Reserve

The most recent slowdown has been broad-based. The monthly data are shown in detail below.

Recent data in detail



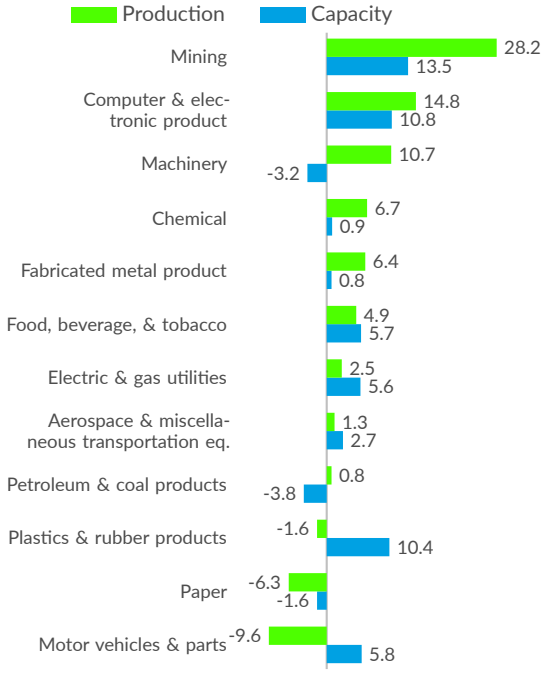
Source: Federal Reserve

Of a subset of 12 industries that contribute the majority of industrial production, nine increased production over the past three years, three decreased production, and none were unchanged. Mining production increased by 28.2 percent in total over the three years ending October 2019. Computer & electronic product production increased by 14.8 percent, and machinery production increased by 10.7 percent. In contrast, motor vehicles & parts production decreased by 9.6 percent over the same period.

Over the three years ending October 2019, nine of the 12 industries increased industrial capacity, three decreased capacity, and none were unchanged. The most significant change over the period was an increase of 13.5 percent in mining capacity, follwed by an increase of 10.8 percent in computer & electronic product capacity.

Industrial Production and Capacity

total three-year growth, percent

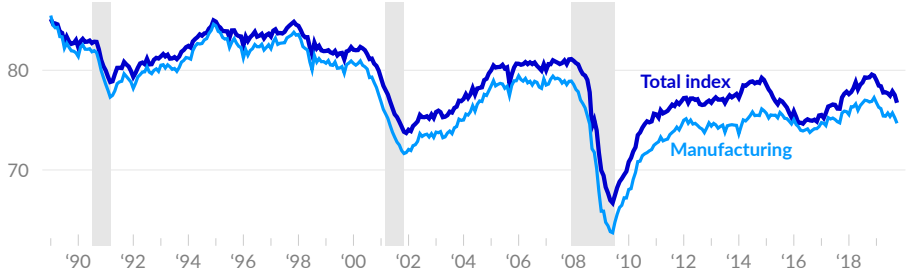


Source: Federal Reserve

The Federal Reserve's monthly industrial production report also measures the economy's total industrial capacity. The extent to which the economy is using its industrial capacity is called capacity utilization, and calculated as industrial production as a share of total industrial capacity. In October 2019, the industrial capacity utilization rate was 76.7 percent, and the manufacturing capacity utilization rate was 74.7 percent.

Capacity Utilization

industrial production as a share of total capacity, percent



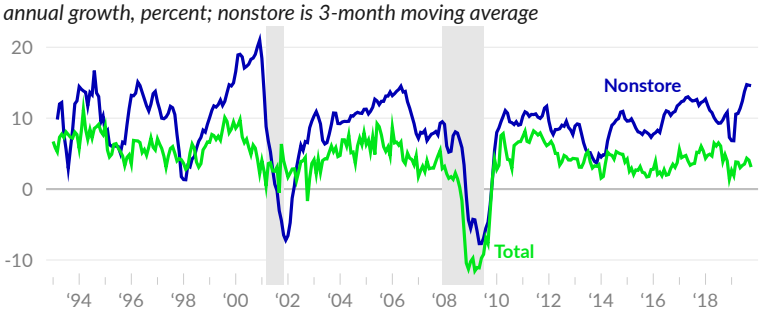
Source: Census Bureau

Retail Sales

According to the Census Bureau, retail and food service sales totalled $526.5 billion in October 2019, equivalent to roughly 29.3 percent of GDP on an annualized basis. Over the past year, retail and food service sales increased by 3.1 percent, without adjusting for prices. Nonstore sales, which include online retailers, have increased by 14.3 percent over the same period, and total $67.9 billion, or roughly 3.8 percent of GDP.

Retail Sales and Food Services

annual growth, percent; nonstore is 3-month moving average



Source: Census Bureau

Free cash flow

Balance sheets

Inventories

[Box on tech industry]

Government

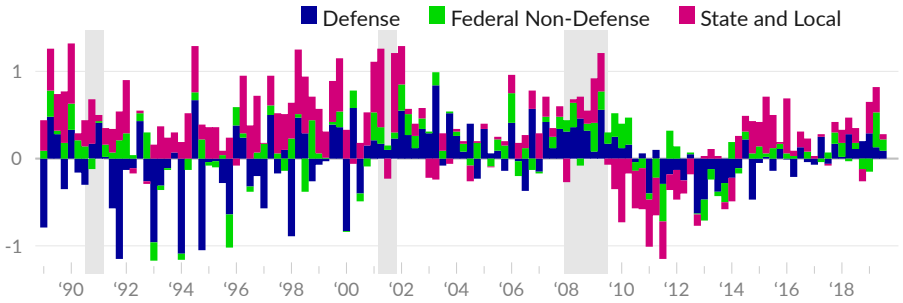
Public institutions are collectively referred to as the public-sector or the government. In the United States, the government has the authority to spend, tax, and create money, as well as to regulate private sector activities. The government also enforces policies that determine the ownership of property. These activities are all extremely important in determining the production and distribution in the economy.

Government Consumption and Investment

Government consumption expeditures and gross investment, which provide services and infrastructure, contributed 0.28 percentage points to real GDP growth in 2019 Q3, compared to an average contribution of 0.38 percentage points over the past year and an average of 0.23 percentage points since 1989. In 2019 Q3, federal defense (see ■) contributed 0.09 percentage points, federal nondefense (see ■) contributed 0.13 percentage points, and state and local government (see ■) contributed 0.06 percentage points.

Government Consumption and Investment

percentage point contribution to GDP growth



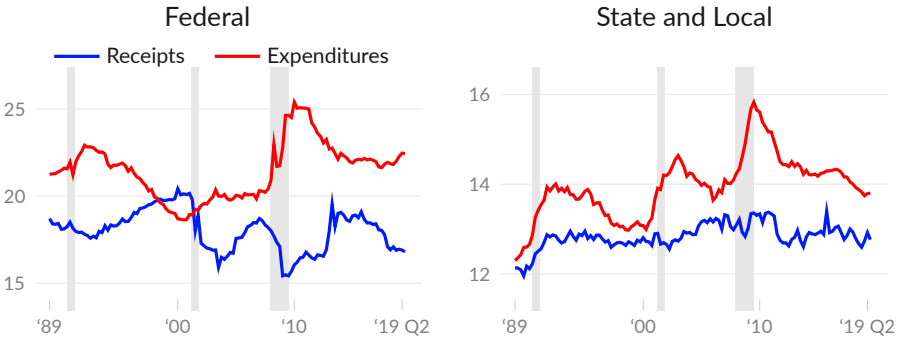
Source: Bureau of Economic Analysis

Table here.

Government expenditures provide services and income to people. Government receipts remove demand from the economy. When government expenditures exceed receipts, it is referred to as a government deficit, and corresponds to a private sector surplus. The size of the government deficit relative to GDP gives insight into the extent to which the government is stimulating the economy by increasing household income and corporate profits.

Individual text here on the size of deficits at a federal and state and local level, as well as recent changes.

Receipts and Expenditures as Share of GDP



Source: Bureau of Economic Analysis

Outlays on interest as share of GDP

Federal

State

Local

Balance sheets

International Transactions

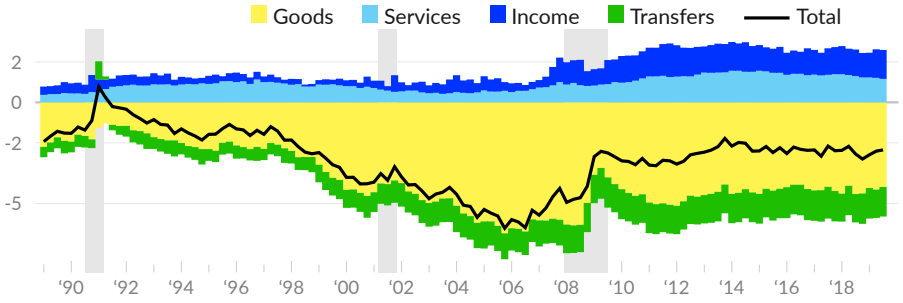
Transactions between the US and the rest of the world are recorded in the balance of payments as either current account transactions (which measure income) or capital and financial account transactions (which measure change in ownership of assets). This section details imbalances in international transactions, changes in trade by goods and by partner, international investment positions, and exchange rates.

Balance of Payments

The current account balance can be decomposed based on the balance on individual categories. Four major categories are the balance on trade in goods (see), the balance on trade in services (see), the balance on primary income (such as wages or income from assets, referred to here as income [see]), and secondary income (such as remittances and taxes, referred to here as transfers [see]). As of 2019 Q3, the US runs a current account deficit of 2.4 percent of GDP, primarily as the result of a trade deficit on goods of 4.2 percent of GDP.

Current Account Balance

balance on individual current account component, as percent of GDP



Source: Bureau of Economic Analysis

[Capital account balance]

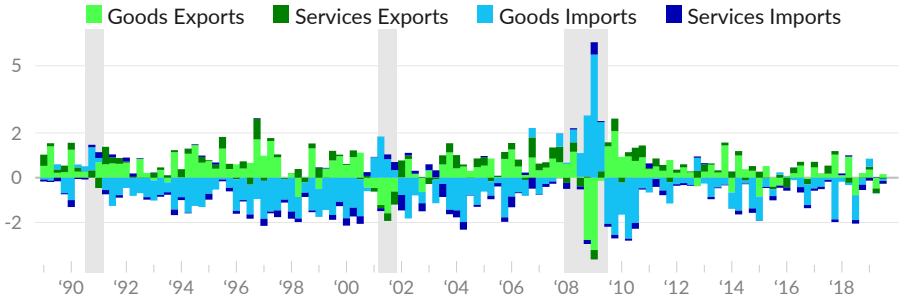
Trade

The trade balance (exports of goods ■ and services ■ minus imports of goods ■ and services ■) acts as an adjustment to consumption and investment in GDP calculations. As the US runs a persistent trade deficit, trade will generally subtract from GDP growth. In the income approach, the expanded trade deficit reduced nominal compensation of employees (extensive margin through outsourcing, intensive margin through lower wages from labor market slack) and reduced prices.

Goods exports contributed 0.16 percentage points to GDP growth in the third quarter of 2019 while services exports subtracted 0.05 percentage points. Good imports subtracted 0.09 percentage points from GDP growth and services imports subtracted 0.13 percentage points.

International Trade

percentage point contribution to GDP growth

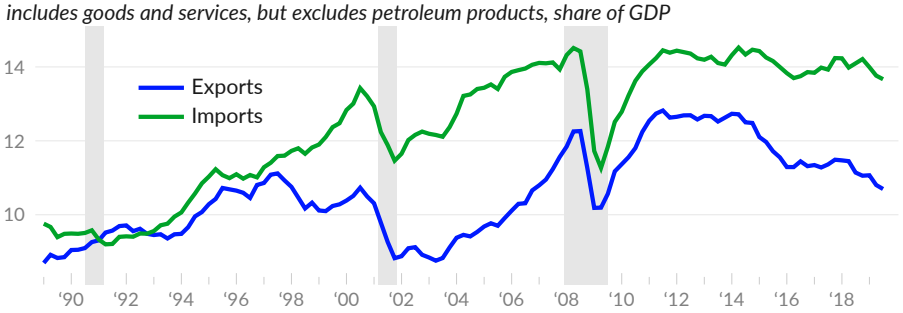


Source: Bureau of Economic Analysis

2019 Q3: 2.1%

Imports and Exports, Nonpetroleum

includes goods and services, but excludes petroleum products, share of GDP



Source: Bureau of Economic Analysis

Changes to the trade balance come from a myriad of potential sources, such as changes in demand or relative supply of other countries, changes in exchange rates, changes in preferences for categories of goods, changes in trade policy, and changes in domestic demand. The following table captures the nominal value of major categories of goods and services as a share of nominal gross domestic product at various points over the past 30 years.

Exports and Imports by Type

percentage point share of GDP — *period averages*

	2019 Q3	'19 Q2	'18 Q3	2016	2012 –13	2005 –06	1998 –99	1989 –93
Exports of goods and services	11.58	11.73	12.10	11.86	13.54	10.33	10.41	9.42
Exports of goods	7.60	7.71	8.01	7.72	9.34	7.32	7.52	6.84
Foods, feeds, and beverages	0.65	0.66	0.65	0.70	0.82	0.46	0.50	0.60
Industrial supplies & materials	2.41	2.49	2.62	2.07	2.96	1.92	1.55	1.65
Petroleum and products	0.88	0.93	0.96	0.53	0.90	0.28	0.11	0.12
Capital goods, except automotive	2.51	2.54	2.70	2.78	3.22	2.84	3.27	2.61
Automotive vehicles, & parts	0.77	0.75	0.75	0.80	0.91	0.77	0.79	0.67
Consumer goods, ex. food & auto	0.96	0.96	0.99	1.03	1.12	0.91	0.86	0.74
Durable goods	0.49	0.51	0.54	0.56	0.61	0.50	0.44	0.39
Nondurable goods	0.48	0.45	0.45	0.48	0.51	0.41	0.42	0.35
Exports of services	3.98	4.02	4.09	4.15	4.19	3.02	2.90	2.58
Transport	0.42	0.43	0.45	0.45	0.52	0.41	0.48	0.59
Travel	0.99	1.01	1.02	1.10	1.03	0.77	0.95	0.90
Intellectual property charges	0.57	0.58	0.61	0.66	0.77	0.59	0.44	0.29
Other business services	1.80	1.79	1.80	1.73	1.67	1.04	0.85	0.60
Imports of goods and services	14.61	14.84	15.33	14.64	16.76	15.89	12.63	10.38
Imports of goods	11.79	12.02	12.54	11.87	13.95	13.44	10.59	8.45
Foods, feeds, and beverages	0.71	0.72	0.72	0.70	0.69	0.54	0.46	0.43
Industrial supplies & materials	2.38	2.53	2.86	2.34	4.26	4.24	2.22	2.16
Petroleum and products	0.94	1.08	1.24	0.85	2.50	2.15	0.65	0.87
Capital goods, except automotive	3.15	3.20	3.40	3.17	3.37	3.00	3.03	2.04
Automotive vehicles, & parts	1.78	1.82	1.81	1.87	1.84	1.84	1.74	1.46
Consumer goods, ex. food & auto	3.12	3.10	3.11	3.13	3.19	3.20	2.47	1.83
Durable goods	1.56	1.53	1.64	1.63	1.71	1.75	1.29	0.97
Nondurable goods	1.56	1.57	1.47	1.49	1.48	1.46	1.18	0.86
Imports of services	2.82	2.81	2.79	2.77	2.81	2.45	2.04	1.93
Transport	0.50	0.51	0.52	0.52	0.53	0.57	0.54	0.55
Travel	0.71	0.71	0.70	0.66	0.60	0.61	0.63	0.61
Intellectual property charges	0.27	0.27	0.27	0.25	0.24	0.19	0.13	0.06
Other business services	1.17	1.16	1.14	1.19	1.24	0.83	0.54	0.38

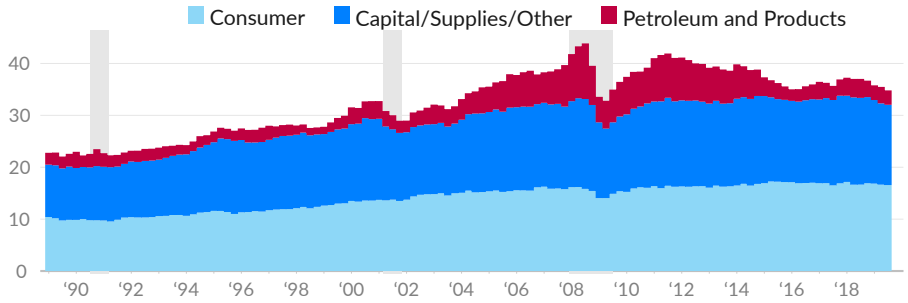
Source: Bureau of Economic Analysis

Goods can be produced domestically or imported or some combination of the two. The import share of the total US demand for goods, measured as US produced goods and imported goods less exported goods, is also referred to as "import penetration". This measure has risen considerably over the past thirty years. The majority of the long-term increase has been concentrated in consumer goods, while the decrease since 2011 has come primarily from petroleum and products.

From 1989 to 2011, imports of consumer goods increased by the equivalent of 6.0 percent of domestic consumption of goods (see); petroleum and products imports increased by the equilavent of 6.1 percent (see); and all other goods, primarily capital good, industrial supplies, and materials, increased by the equivalent of 6.2 percent (see). Since 2011, imports of consumer goods increased by the equivalent of 0.2 percent of domestic goods demand; imports of petroleum and products decreased by the equivalent of 5.6 percent; and other imports decreased by the equivalent of 0.8 percent.

Import Share of Goods

import share of domestic-produced and imported goods less exports, by category



Source: Bureau of Economic Analysis

Trade in Goods

Trade in Services

Trade balance

[One page table to capture lots of external sector items as contribution to GDP growth (where possible) or otherwise as a share of GDP]

Direct and Portfolio Investment – related here and to IIP below: the total value of domestic holdings of foreign assets is much smaller than the total value of foreign holdings of domestic assets, but, the return on foreign assets is so much higher than the return on domestic assets that the the US has positive net income from abroad.

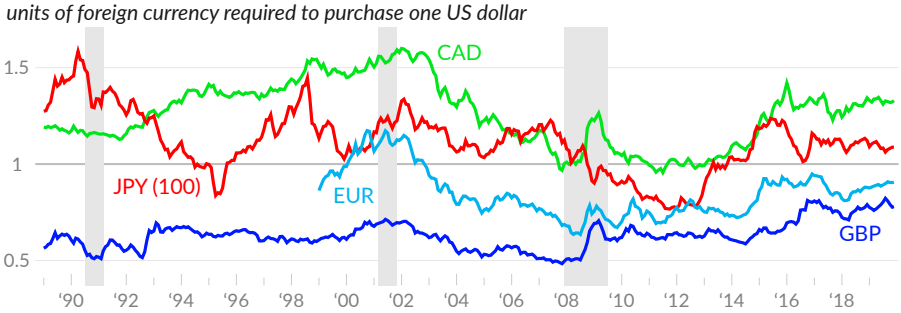
International Investment Position

Exchange Rates

Text here about exchange rates with selected other major currencies. The first chart shows the amount of Japanese Yen (JPY), British Pounds (GBP), Euros (EUR), and Canadian Dollars (CAD) required to buy one US Dollar (USD).

Selected Exchange Rates

units of foreign currency required to purchase one US dollar

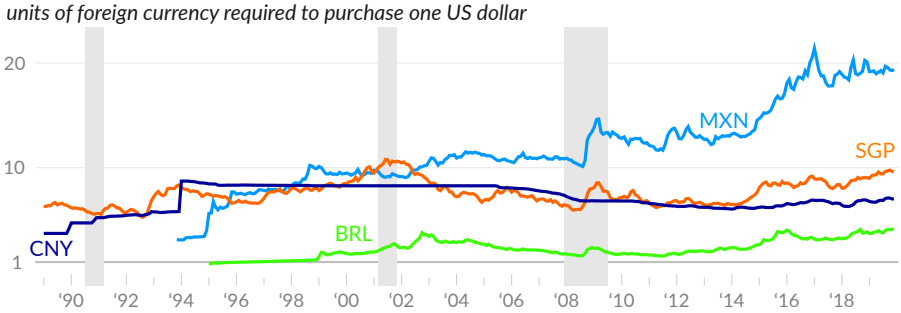


Source: Federal Reserve

Text here about other exchange rates. This next chart covers the Mexican Peso (MXN), the Brazilian Real (BRL), the Chinese Yuan (CNY), and the Singapore Dollar (SGP).

Selected Exchange Rates, Continued

units of foreign currency required to purchase one US dollar

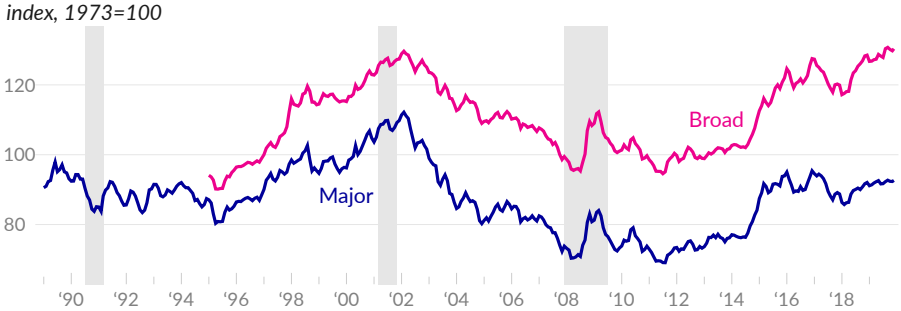


Source: Federal Reserve

Trade-weighted dollar indices discussed here. Major currencies index goes back further, while the broad index starts in 1994.

Trade-Weighted USD Indices

index, 1973=100



Source: Federal Reserve

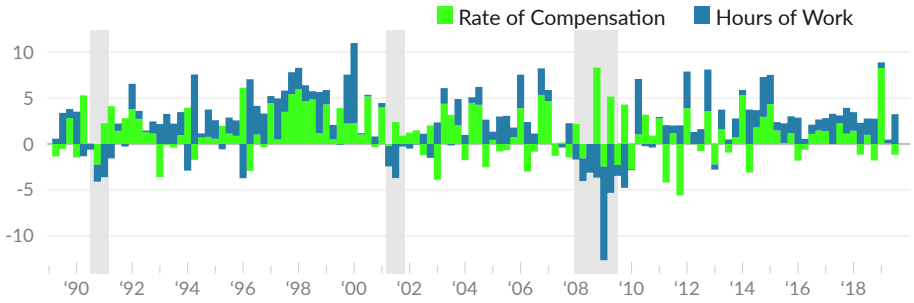
Labor Markets

Labor is the primary source of income for US households and essential to the production of goods and services. In labor markets, unlike other markets, wages (the price of labor) tend not to be cut in response to a decrease in demand; businesses instead employ fewer workers and/or cut hours.

Gross labor income (compensation of employees in the national accounts), which captures both employment and wages, increased at an annualized and inflation-adjusted rate of 2.08 percent in 2019 Q3. Changes in wages subtracted 1.17 percentage points, and changes in total hours worked contributed 3.25 percentage points.

Gross Labor Income Growth

percentage point contribution to gross labor income growth



Source: Author's Calculations

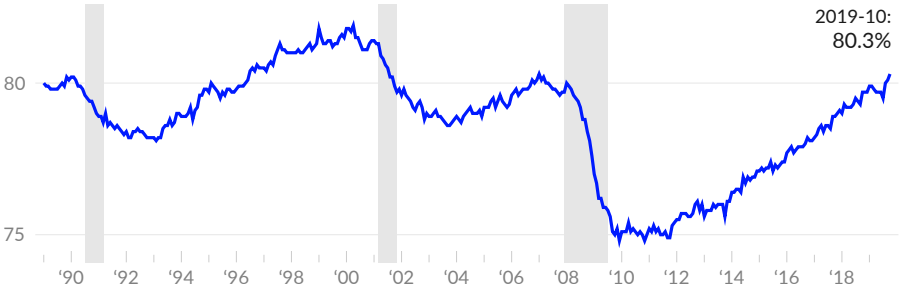
More text here.

Employment

In October 2019, 80.3% of 25-54 years olds were employed, the highest level since January 2007. Over the past year, the age 25-54 employment rate has increased by 0.6 percentage points. The current age 25-54 employment rate is 1.0 percentage points (equivalent to 1.2 million workers) below the average during 1998–99, a period with a particularly tight labor market.

Employment Rate

employed share of age 25-54 population



Source: Bureau of Labor Statistics

The monthly establishment survey enables tracking of non-farm payrolls. In September 2019, the US economy added 136,000 jobs. In 2019 Q2, the US added an average of 146,000 jobs per month, compared to 205,000 in 2019 Q1 and an annual average of 205,000 in 2018.

[Quarterly employment growth with dot for latest monthly value]

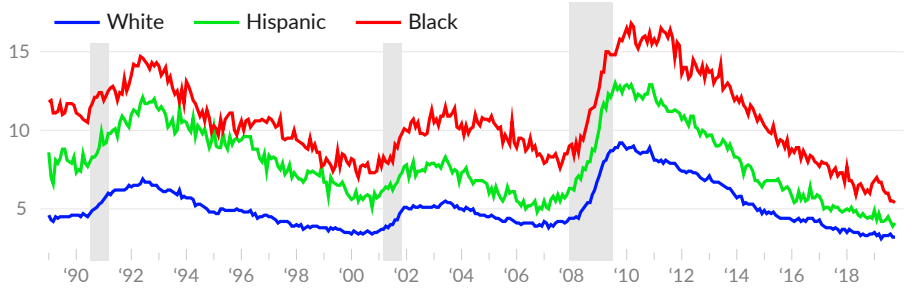
Unemployment

The conventional "unemployment rate" is measured as the number of people who do not have a job and looked for one during a reference week, divided by the labor force, which includes the unemployed and those with jobs.

Unemployment is currently very low. BLS reports 5.9 million unemployed persons in October 2019, and an unemployment rate of 3.6 percent. Over the past year, the black or African American unemployment rate has fallen by 0.8 percentage points to 5.4 percent.

Unemployment Rate

unemployed share of labor force



Source: Bureau of Labor Statistics

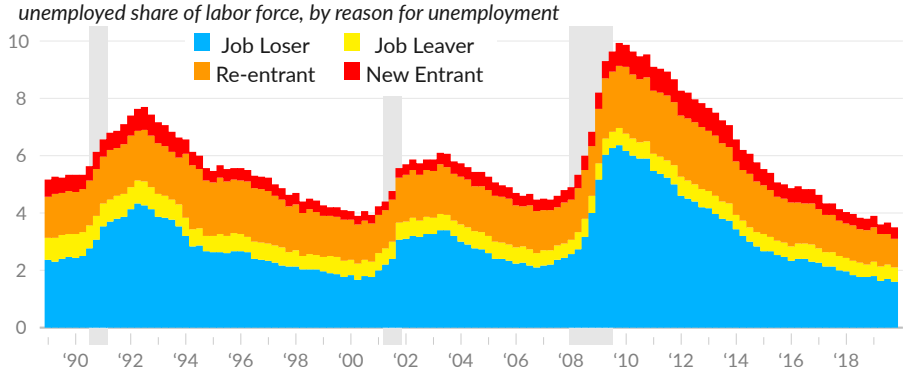
Reasons for unemployment

There are multiple reasons for unemployment. During the trough of a business cycle, most unemployed are those who lost a job, for example from layoffs, or had a temporary job end (see ■). In general, many of the unemployed are re-entrants to the labor market, meaning they were out of the labor force prior but are looking for a job again (see ■). Some are new-entrants who are looking for their first job (see ■). A small portion are also those who left a job voluntarily and are looking for a new one (see ■).

In October 2019, 1.6 percent of the labor force were unemployed because of losing a job or having a job end, 0.5 percent were re-entrants, 1.0 percent new entrants, and 0.4 percent job leavers.

Unemployment by Reason

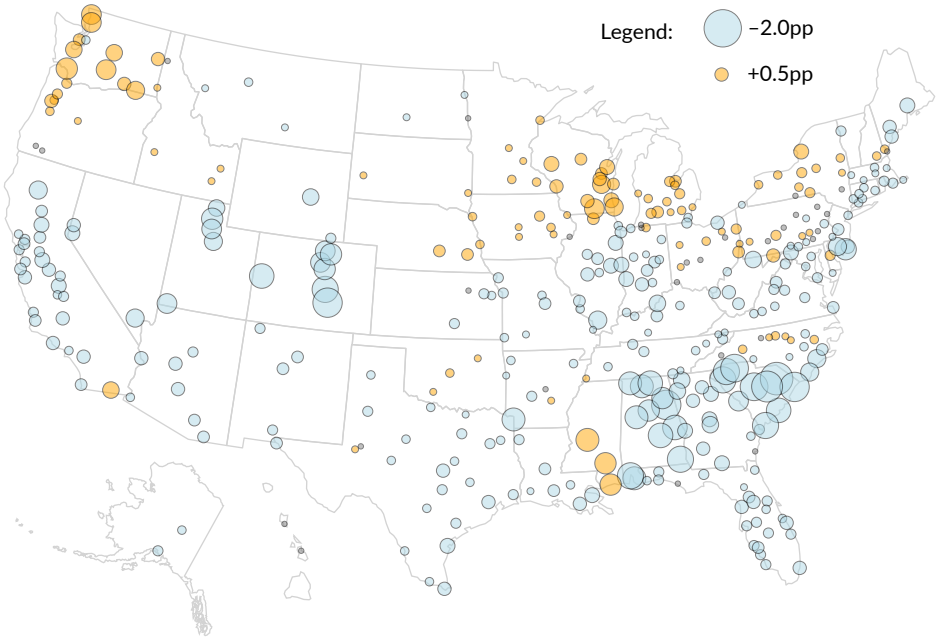
unemployed share of labor force, by reason for unemployment



Source: Bureau of Labor Statistics

Summary text about local area estimates of unemployment. Will need to think about tables that show highlights, because there are too many MSAs to list all data. Something that captures diffusion would be nice. Perhaps I can list how many metro areas had the unemployment rate fall over the past year, and then talk about how many unemployed people that actually means–so that population is taken into consideration in some meaningful way.

Change in Unemployment Rate by Metro Area
one-year change, in percentage points, September 2019



Source: Bureau of Labor Statistics

Non-participation

Start with chart of labor force participation rate, including age-adjusted version. Alternatively, tie the size of unemployment to the size of non-participation. The things I want to capture in this section:

1) Definitions

2) Long-term trend–increase in female participation

3) Aging population puts downward pressure

4) Reasons for non-participation

5) Disability as a reason

6) School as a reason

7) Retirement as a reason

8) Care for family – elder care

9) Care for family – child care

10) Recent trends

11) At least one good crosstab

12) Geographic specificity if possible

The Current Population Survey asks people who are not employed or looking for work about their major activities and reasons for not participating in the labor market. The answers show a tendency to vary by age, in intuitive ways, but also a strong relationship to the business cycle. By age, those age 16–24 who are not in the labor force disproportionately cite school as the reason for non-participation, while those 55+ disproportionately cite retirement.

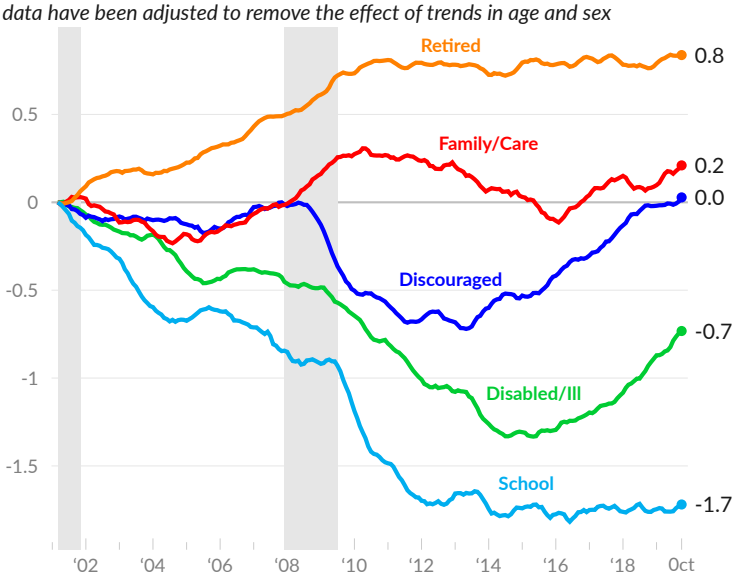
[CHART HERE – bar chart]

An important contribution to ..

Within those, age 18–64, the ...

Contributions to Labor Force Participation Since March 2001

cumulative percentage point contribution to age 18-64 labor force participation, data have been adjusted to remove the effect of trends in age and sex

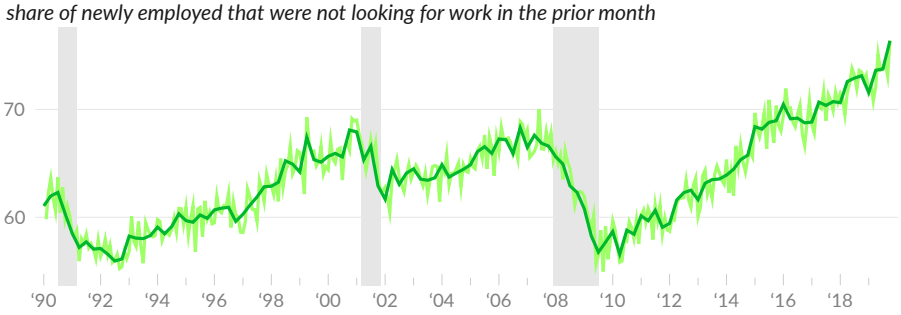


Source: Author's Calculations from Current Population Survey

Labor Force Flows

Among newly employed workers, the vast majority were considered to be out of the labor force the prior month, as opposed unemployed. In October 2019, 6.2 million people were newly employed (on a gross basis). Of these, 76.4 percent were not looking for work in the prior month. With low unemployment, new employees are being pulled from outside of the labor force and bypassing unemployment. Three years ago, in October 2016, 66.6 percent of the newly employed were not looking for work month prior.

Newly Employed, Not Previously Looking For Work
share of newly employed that were not looking for work in the prior month



Source: Bureau of Labor Statistics

The great recession worsened job-finding prospects for those not in the labor force (NILF) due to disability or illness. Only over the past few years have these prospects recovered. Over the year ending October 2019, 8.2 percent of persons age 25–54 who were NILF due to disability in the prior year are now employed. This one-year rate of job-finding has increased substantially from its 2010–2013 average of 6.0 percent

Flow, Disability to Work
NILF disability/illness, share employed one year later

Source: Author's Calculations

Part-time and full-time and hours worked

Job growth

Wage growth:

[AHE and UWE both in various forms]

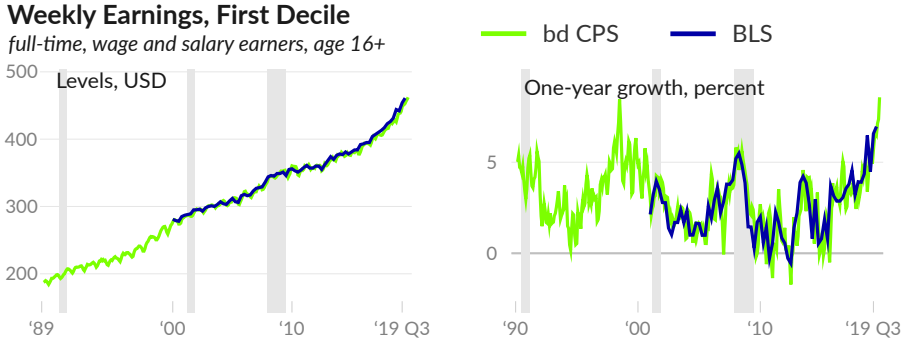
[Either FRB Atlanta Wage Tracker or replication]

Wage Growth

The usual wages of full-time workers can be measured at various points in the income distribution using the Current Population Survey. BLS reports these data by decile and quartile, with the most commonly used measure being the median usual weekly earnings. The first decile usual weekly earnings of full-time workers have increased rapidly over the past year, suggesting fewer people are working full-time for less than $10 per hour.

Weekly Earnings, First Decile

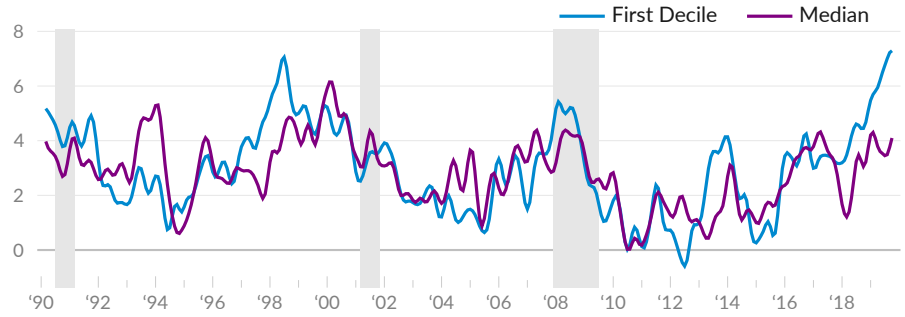
full-time, wage and salary earners, age 16+



Source: Bureau of Labor Statistics and Author's Calculations

Weekly Earnings Growth, First Decile and Median

full-time, wage and salary earners, age 16+, one-year growth, percent



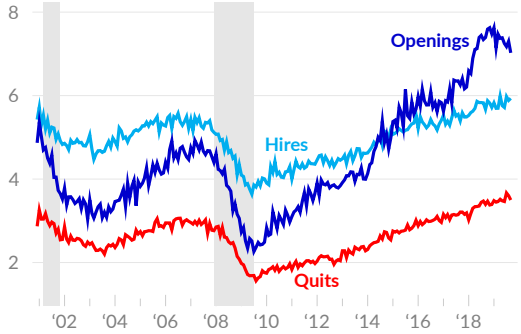
Source: Author's Calculations

Some types of turnover in the labor market are healthy and mean people are better able find a new job if they do not like the one they have. The Bureau of Labor Statistics reports the number of job openings, hires, and separations in several industry groups on a monthly basis. Within separations, these data distinguish voluntarily leaving of a job as "quits".

In September 2019, there were 7.0 million total job openings and 5.9 million hires completed. In the same month there were 5.8 million total separations, of which 3.5 million were voluntary. In comparison, there are 5.8 million unemployed persons in September 2019. The ratio of job openings to unemployed persons was 1.2 in the latest month, compared to 0.7 in the same month three years prior.

Job Turnover

job openings, hires, and quits, in millions



Source: Bureau of Labor Statistics

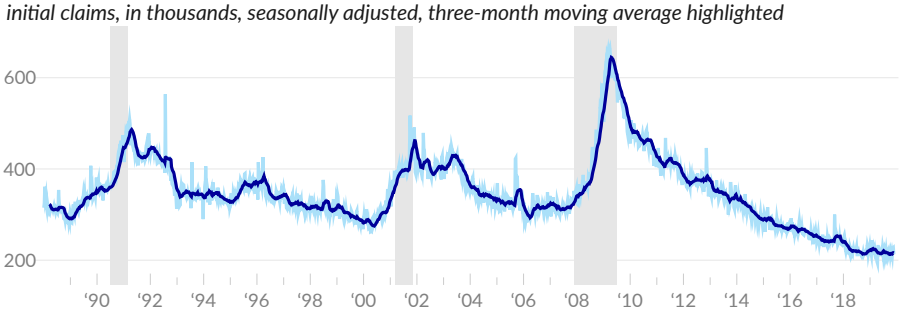
Quits

Openings

The Department of Labor reported 213,000 initial claims for unemployment insurance during the week ending November 23, 2019. Over the past three months, initial claims averaged 215,833 per week. During the same three month period three years ago, initial claims averaged 252,417 per week.

New Unemployment Insurance Claims

initial claims, in thousands, seasonally adjusted, three-month moving average highlighted



Source: Department of Labor

Reasons for non-participation

Union membership

State- and sub-state-level analysis

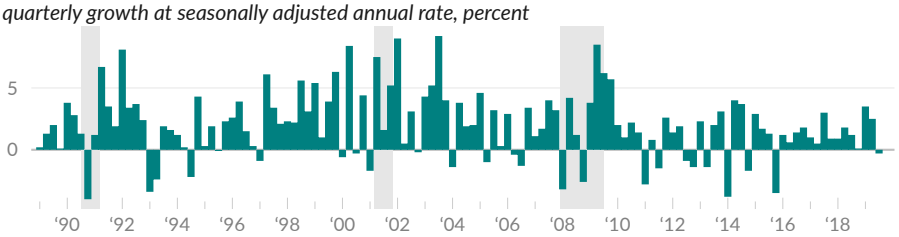
Labor Productivity

Labor productivity is reported by the Bureau of Labor Statistics and measured as real output per hour of work in the nonfarm business sector. Economic theory suggests that labor productivity is particularly important for long-term real economic growth. The measure captures the rate at which people, with all of the resources and equipment and infrastructure available to them, are able to produce goods and services with their work. An increase in labor productivity means real wages can increase without putting upward pressure on inflation. Alternatively, an increase in productivity means a society can meet its material needs with less work.

In 2019 Q3, labor productivity decreased at an annual rate of 0.3 percent (see ■), as the result of an increase of 2.1 percent in real ouput and an increase of 2.4 percent in hours worked. In the prior quarter, 2019 Q2, labor productivity increased at an annual rate of 2.5 percent, as real output increased at an annual rate of 1.9 percent and hours of work decreased at an annual rate of 0.3 percent. Over the past five years, labor productivity growth has averaged 1.0 percent, compared to a 1989-onward average of 2.0 percent.

Labor Productivity Growth

quarterly growth at seasonally adjusted annual rate, percent



Source: Bureau of Labor Statistics

There are two areas to investigate in understanding trends in productivity growth rates. The first is the theory that the level of business net investment in equipment and other capital goods, particularly relative to the size of the workforce, determines productivity growth. Such investment allows more goods and services to be produced by the same number amount of work. The second theory, sometimes called the Kaldor-Verdoorn Law, is that overall economic growth and capacity utilization determine productivity growth. In this scenario an economy facing real resource constraints is more likely to find ways to produce goods and services more efficiently.

Financial Markets

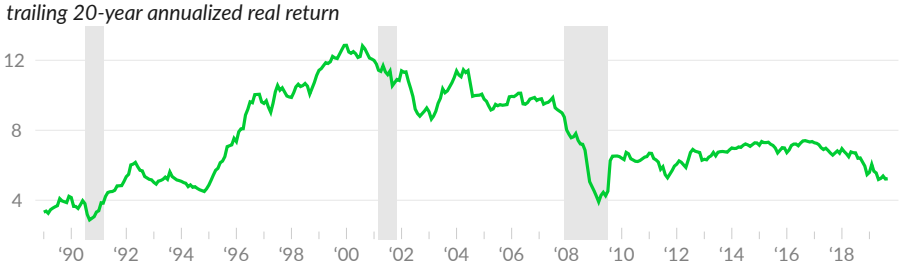
The US equity markets and capital markets provide businesses and governments with funding for activities and fixed investments.

Equity Markets

[SP500]

According to historical stock market return data from Robert Shiller, the inflation-adjusted trailing twenty year annual rate of return of the S&P 500 was 5.2 percent as of September 2019. Real returns are currently low relative to the average trailing twenty year real annual return of 10.1 percent during 1995–2005.

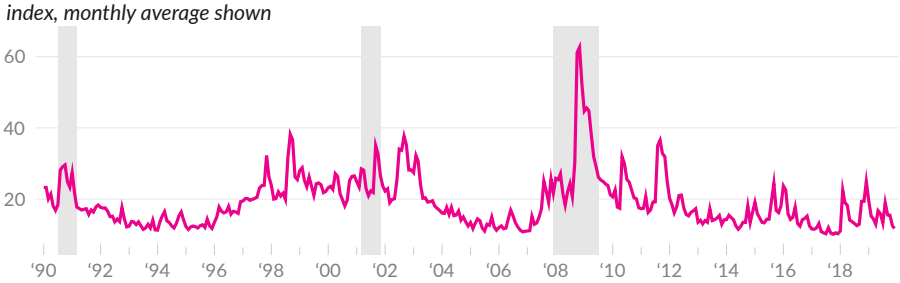
S&P 500 Real Return
trailing 20-year annualized real return



Source: Shiller, Author's Calculations

The Chicago Board Options Exchange uses S&P 500 options data to identify expectations of future volatility.

S&P 500 Volatility Index
index, monthly average shown



Source: Chicago Board Options Exchange

Valuations

[PE Ratio]

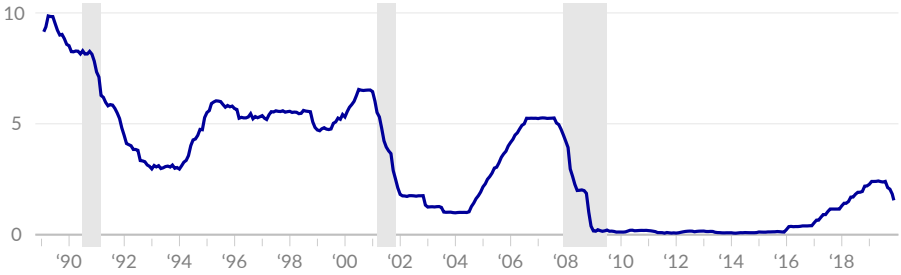
Interest Rates

The US Federal Reserve System (Fed) has a congressional mandate to promote price stability and maximum employment. In practice, a Fed committee determines the federal funds rate, which aims to influence interest rates in the broader economy. Fed monetary policy can be neutral or be used to stimulate or slow the economy.

Actual data here on recent moves by the Fed and the Fed funds rate.

Effective Fed Funds Rate

percent, monthly average except for latest value

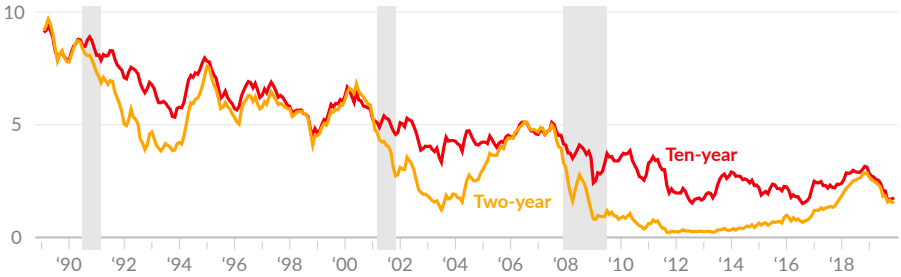


Source: Federal Reserve

Text here about Treasury yields.

Treasury Constant Maturity Yields

percent, monthly average except for latest value



Source: Federal Reserve

[Fed liabilities]

[Fed assets]

[AAA and high-yield]

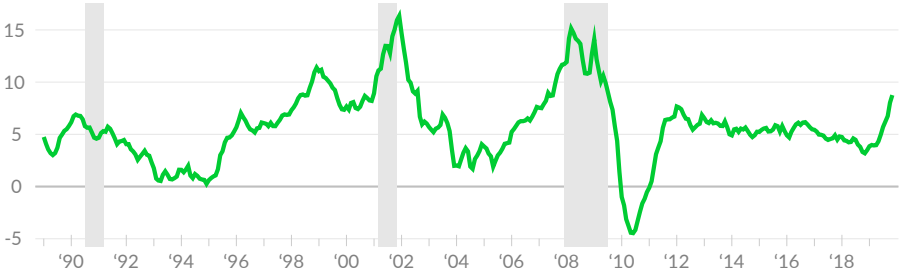
Yield curve

Money and Monetary Policy

Text here on the money supply.

M2 and Institutional Money Funds

one-year percent change, monthly average

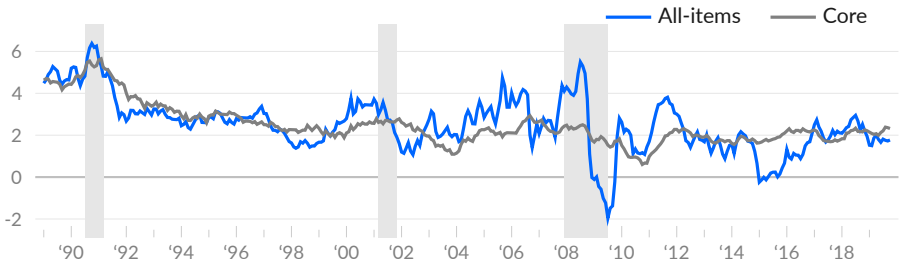


Source: Federal Reserve

Prices

Consumer prices increased by 1.8 percent over the year ending October 2019, according to the CPI for all urban consumers. Core inflation, which does not include the more volatile food and energy prices, was 2.3 percent.

Consumer Price Index
annual growth, percent

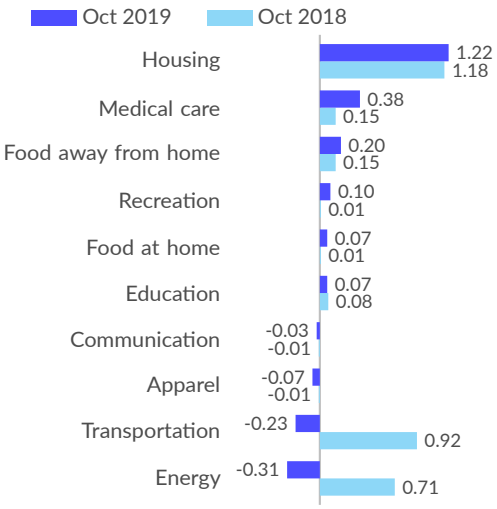


Source: Bureau of Labor Statistics

Housing has been the largest contributor to inflation since XXXXXX, XXXX. In October 2019, housing contributed X.X percentage points to overall CPI inflation, compared to a contribution of X.X percentage points in October 2018. Medical care added X.X percentage points to overall inflation in October 2019, compared to a contribution of X.X percent in October 2018.

In October 2019, Energy subtracted X.X percentage points from overall CPI inflation, compared to a contribution of X.X percent in October 2019. In total, six of the ten selected CPI components contributed positively to overall CPI inflation, while four subtracted from inflation and none were unchanged.

Consumer Price Index
contribution to annual growth, percentage points



Source: Bureau of Labor Statistics

CPI:

[CPI-U growth - core, all-items, CPI-U-RS]

[CPI-U components contribution - horizontal range chart]

PPI

XMPI

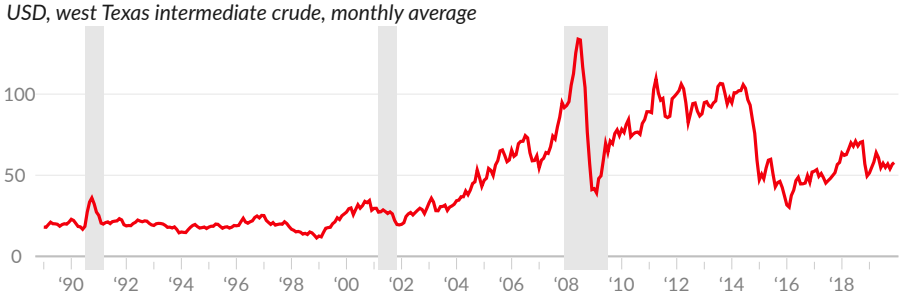
PCE

Expectations

As of November 25, 2019, a barrel of west Texas intermediate (WTI) crude oil sells for $57.79. Over the past year, this measure of oil prices has increased by 1.5 percent. Over the past three years, the price increased by 26.6 percent. Currently, the WTI price is $76.09 per barrel below its June 2008 average.

Oil Price

USD, west Texas intermediate crude, monthly average



Source: FRED

International Comparisons

Demographics

Economic Activity

Labor Markets

Poverty

References

List of tables and sources along with some notes...

One option for this section is to have some json data that captures what original data goes into each series and also what types of calculations are done on the original data.

Acknowledgments

Gabriel Mathy, Iordan Koulov, Lara Merling, Kevin Cashman, Rebecca Watts, Dean Baker, Eileen Appelbaum, John Schmitt, Yevgeniya Korniyenko, Magali Pinat, Rainer Köhler, Gersenda Varisco, Venkat Josyula, Tom Augspurger, Mike Sieferling, Matt Bruenig, and Ernie Tedeschi, Ryan Bonkosky, Vikas Sharma.