



## Notes

**Very early stage draft** – Contents not considered reliable.

## Contact

**Brian Wilson Dew**

✉ [brian.w.dew@gmail.com](mailto:brian.w.dew@gmail.com)

🐦 [@bd\\_econ](https://twitter.com/bd_econ)

🌐 [bdecon](https://github.com/bdecon)

## Contents

Overall Economic Activity

Overall Financial Activity

Households

Businesses

Government

External Sector

Labor Markets

Capital Markets

Prices

International Comparisons

References

## Ideas/Suggestions/To Do

For now, focus on filling out the content. Once around 1/3 of the content is in place ( 35 pages) start to look into ways to more efficiently create the document.

It will be nice to have a section showing the top five indicators: GDP growth, wages, pop, 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.

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, and much much more.

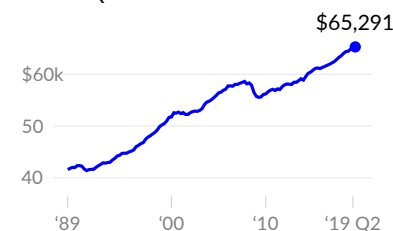
Major LT developments: rise of imports, computers in the late 1990s, welfare reform in 1996, rise in education level, aging of the population. Major MT developments: increase in health care costs, housing bubble, government austerity from 2010 to 2014. Major ST developments: low business investment, 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 \$21,525 billion in the third quarter of 2019, compared to an inflation-adjusted equivalent of \$10,250 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 \$65,291 in 2019 Q3 from \$41,591 in 1989 Q1.

**GDP per capita**  
in 2019 Q3 dollars



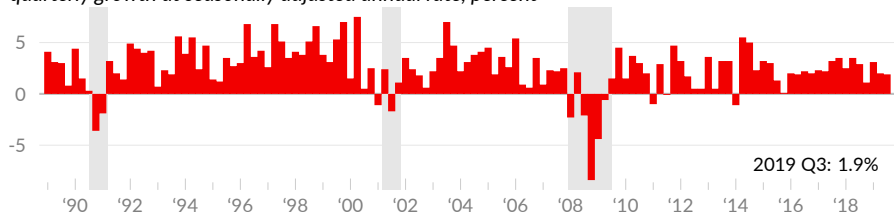
Source: Bureau of Economic Analysis

## Economic Growth

GDP (see ■) increased at an annual rate of 1.9 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



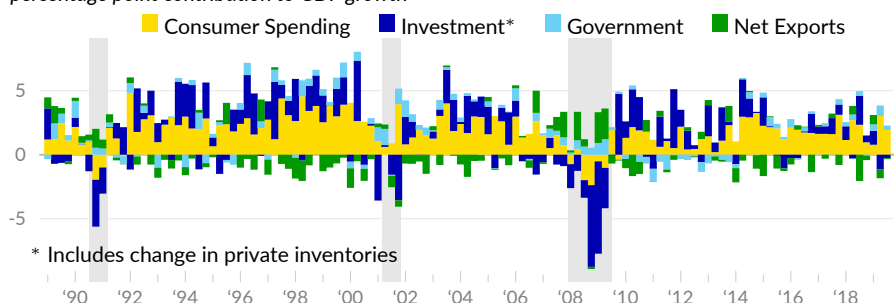
Source: Bureau of Economic Analysis

## 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

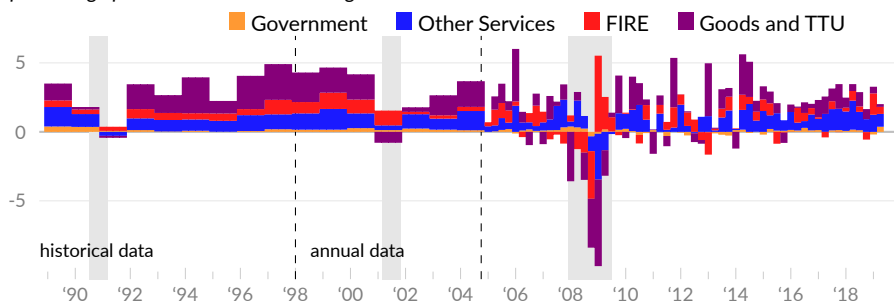


Source: Bureau of Economic Analysis

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

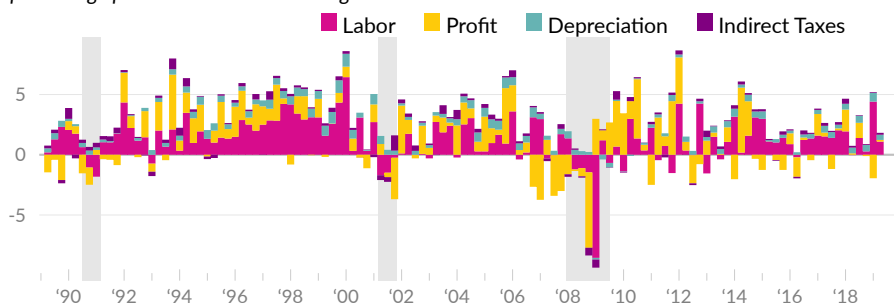


Source: Bureau of Economic Analysis

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

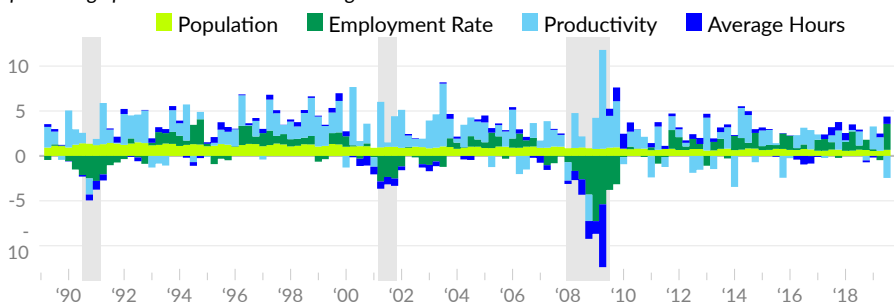


Source: Bureau of Economic Analysis

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

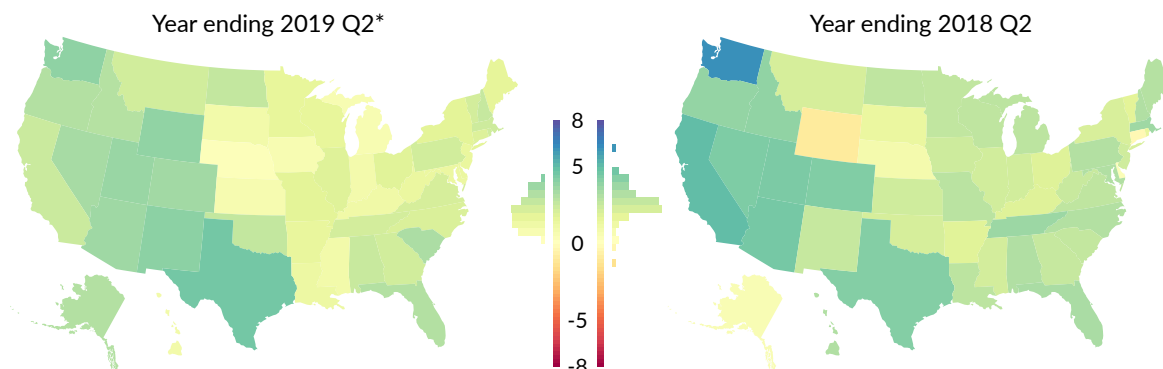
moving averages

	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	3- year	10- year	30- year
<span style="color: red;">■</span> <b>Gross Domestic Product</b>	1.9	2.0	3.1	1.1	2.9	2.5	2.3	2.5
<span style="color: yellow;">■</span> Consumer Spending	1.93	3.03	0.78	0.97	2.34	1.87	1.65	1.82
Durable Goods	0.53	0.87	0.02	0.09	0.25	0.45	0.44	0.42
Non-durable Goods	0.61	0.87	0.30	0.24	0.50	0.41	0.33	0.34
Services	0.79	1.29	0.46	0.65	1.59	1.01	0.89	1.06
<span style="color: blue;">■</span> Gross Investment	-0.27	-1.16	1.09	0.53	2.27	0.62	0.93	0.60
Non-residential	-0.40	-0.14	0.60	0.64	0.29	0.52	0.61	0.53
Residential	0.18	-0.11	-0.04	-0.18	-0.16	0.01	0.13	0.03
Change in inventories	-0.05	-0.91	0.53	0.07	2.14	0.09	0.20	0.03
<span style="color: lightblue;">■</span> Government	0.35	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	0.12	0.29	0.36	-0.14	0.17	0.13	-0.01	0.16
<span style="color: green;">■</span> Net Exports	-0.08	-0.68	0.73	-0.35	-2.05	-0.28	-0.26	-0.16
Exports	0.09	-0.69	0.49	0.18	-0.78	0.24	0.48	0.49
Imports	-0.17	0.01	0.23	-0.53	-1.27	-0.53	-0.73	-0.66
<span style="color: purple;">■</span> 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
<span style="color: red;">■</span> FIRE	-	0.51	1.55	-0.54	0.39	0.40	0.41	0.49
<span style="color: blue;">■</span> 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
<span style="color: orange;">■</span> Government	-	0.37	-0.19	-0.02	0.12	0.11	0.03	0.11
<span style="color: lime;">■</span> Population	0.68	0.57	0.55	0.66	0.70	0.65	0.71	0.97
<span style="color: green;">■</span> Employment Rate	2.89	-0.47	0.20	1.14	0.46	0.84	0.48	0.05
<span style="color: blue;">■</span> Average Hours	0.81	0.41	-0.18	-0.21	0.21	0.23	0.34	0.03
<span style="color: lightblue;">■</span> Productivity	-2.45	1.51	2.53	-0.50	1.56	0.79	0.77	1.43
<b>Gross Domestic Income</b>	-	1.8	3.2	0.8	3.3	2.0	2.4	2.5
<span style="color: magenta;">■</span> Labor	-	1.09	4.41	0.28	1.39	1.38	1.18	1.29
<span style="color: yellow;">■</span> Profit	-	0.14	-1.95	-0.11	1.26	0.04	0.78	0.63
<span style="color: teal;">■</span> Depreciation	-	0.43	0.73	0.53	0.59	0.44	0.31	0.42
<span style="color: purple;">■</span> Indirect Taxes	-	0.16	0.06	0.07	0.05	0.14	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
<b>United States</b>	3.5	2.9	1.1	3.1	2.0	2.3	8.3	25.5
<b>Pacific</b>	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
<b>West South Central</b>	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
<b>Mountain</b>	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
<b>South Atlantic</b>	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
<b>Middle Atlantic</b>	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
<b>West North Central</b>	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
<b>East North Central</b>	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
<b>East South Central</b>	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
<b>New England</b>	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

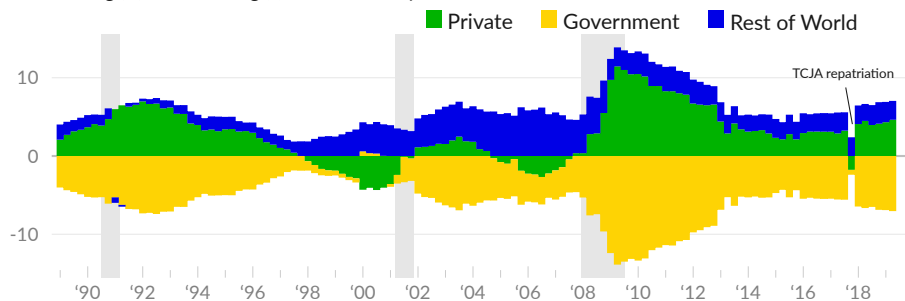
Source: Bureau of Economic Analysis

# 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

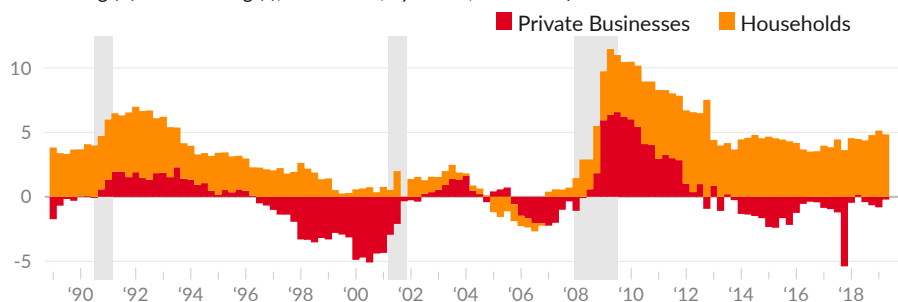


Source: Bureau of Economic Analysis

In 2019 Q2, the US private sector was a net lender (running a surplus) of the equivalent of 4.6 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 7.0 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

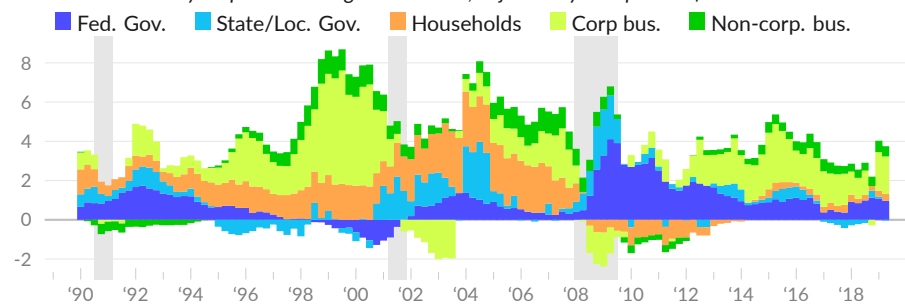


Source: Bureau of Economic Analysis



## Real Debt Growth

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



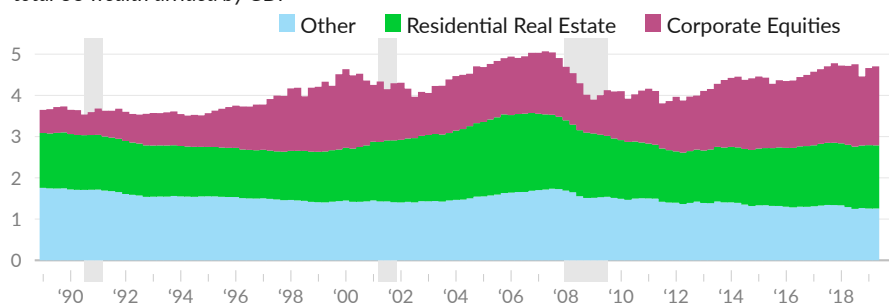
Source: Federal Reserve, Bureau of Economic Analysis

## 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*



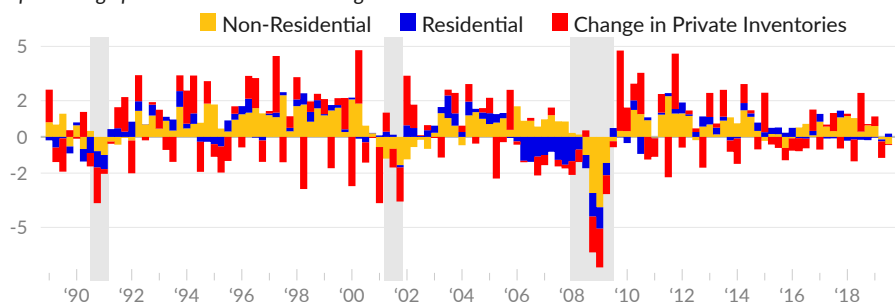
Source: Federal Reserve

## 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

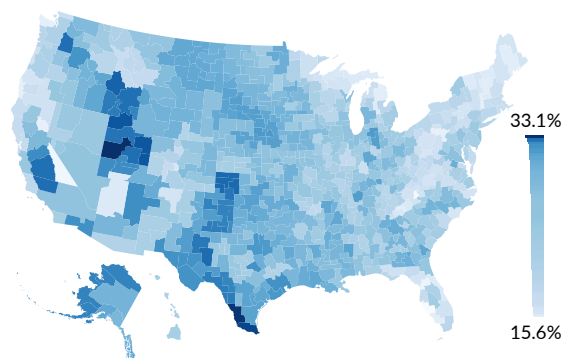
# Households

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.

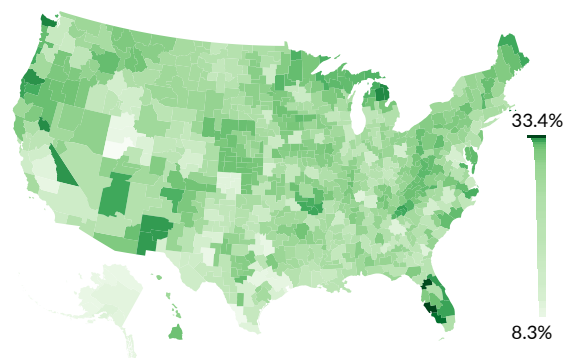
[Table or chart on population]

## Age Group Share of Commuter Zone Population, 2018

Age 0 to 17



Age 65+



Source: American Community Survey, Dorn

## Demographics and Household Formation

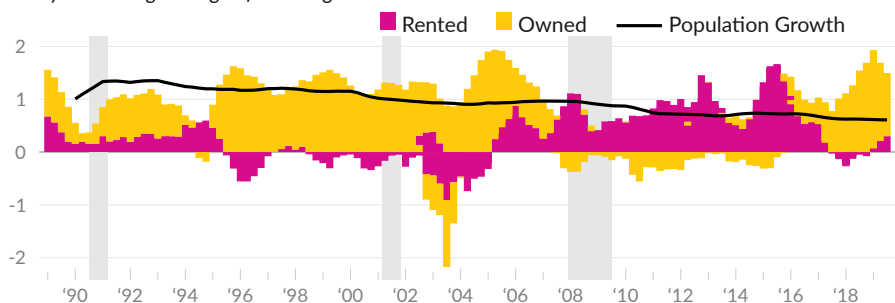
The Census Bureau estimates that the US population is 327.2 million in 2018 and reports population growth of 0.6 percent over the past year. By age, 22.9 percent are under the age of 18 and 16.1 percent age 65 or older. In 1989, the US population was 246.8 million, with 25.7 percent under 18 and 12.4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



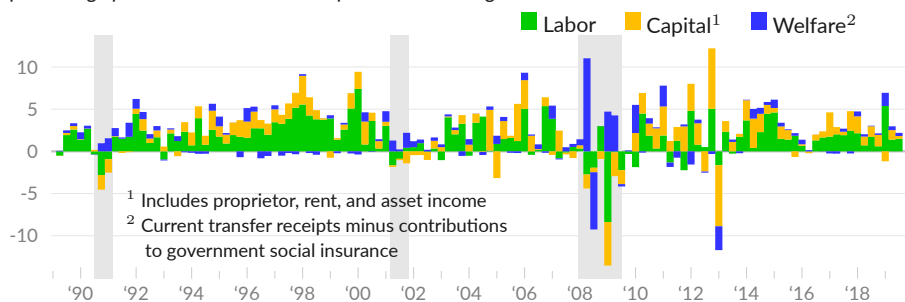
Source: Census Bureau

## 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

	2019	'19	'19	'18	'18	moving averages		
	Q3	Q2	Q1	Q4	Q3	3- year	10- year	30- year
Personal income	2.2	2.97	5.75	2.13	3.04	3.18	2.84	2.77
■ Labor	1.49	1.39	5.38	0.6	1.71	1.89	1.47	1.59
Wages and salaries	1.2	1.19	4.8	0.41	1.42	1.6	1.25	1.28
Supplements	0.3	0.2	0.58	0.19	0.29	0.28	0.22	0.31
■ Capital	0.33	1.13	-1.18	1.35	1.26	1.06	1.16	0.79
Proprietors' income	0.9	0.05	-0.11	0.65	0.24	0.33	0.4	0.29
Rental income	0.02	0.12	0.05	-0.08	0.19	0.11	0.26	0.19
Personal interest income	-0.81	0.9	-0.67	0.05	0.41	0.33	0.09	0.04
Personal dividend income	0.23	0.06	-0.46	0.72	0.43	0.29	0.41	0.27
■ Welfare	0.37	0.45	1.56	0.18	0.07	0.24	0.21	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	0.2	0.38	0.27	-0.16	0.0	0.09	0.13	0.14
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	-0.15	-0.14	-0.85	-0.04	-0.14	-0.23	-0.17	-0.2

Source: Bureau of Economic Analysis

[Gross Labor Income text and chart]

Capital Income

Welfare Income

[Breakout section on income of the aged]

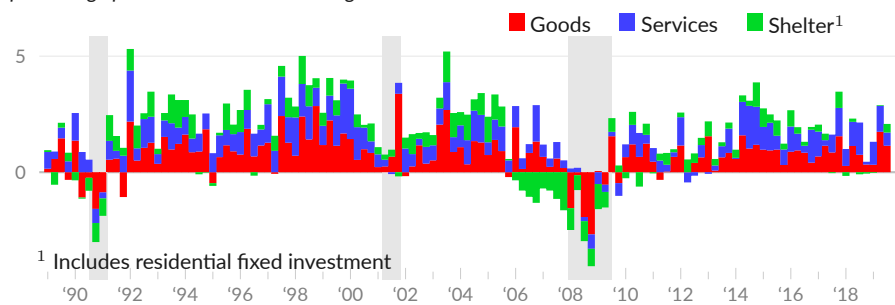
[Income to persons detailed table]

## 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 1.90 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 1.14 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 0.37 percentage points. Spending on health care services contributed 0.20 percentage points to GDP growth in 2019 Q3 and has contributed 0.29 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	1.9	3.0	1.32	0.56	2.21	1.83	1.6	1.72
■ Goods	1.14	1.74	0.32	0.33	0.75	0.86	0.77	0.76
Motor Vehicles and Parts	0.02	0.37	-0.27	0.07	0.01	0.1	0.12	0.08
Furniture and HH Equipment	0.1	0.14	0.03	-0.09	0.09	0.1	0.1	0.08
Recreational Durable Goods	0.32	0.32	0.23	0.04	0.12	0.19	0.17	0.21
Groceries	0.32	0.25	-0.08	0.07	0.13	0.15	0.1	0.08
Clothes and Shoes	-0.01	0.25	-0.07	0.0	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	0.2	0.38	0.72	-0.22	0.6	0.29	0.29	0.27
Transportation	0.1	0.17	0.01	-0.02	-0.02	0.07	0.07	0.06
Recreational	-0.01	0.17	-0.03	0.09	0.02	0.06	0.06	0.07
Food and Accommodations	0.13	0.22	-0.06	-0.12	0.35	0.13	0.12	0.09
Financial and Insurance	0.03	0.05	0.15	0.1	0.05	0.08	0.02	0.13
■ Shelter	0.37	0.03	-0.03	-0.06	-0.09	0.13	0.28	0.26
Housing Services and Utilities	0.19	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

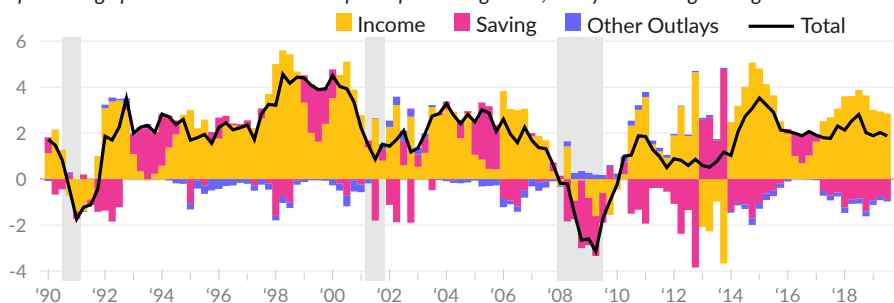
[Top quintile consumer spending share of gross pre-tax income and bottom 80 percent share]

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 2.9 percentage points, changes to saving subtracted 0.9 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 contributing an average of 3.1 percentage points and saving subtracting an average of 0.8 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

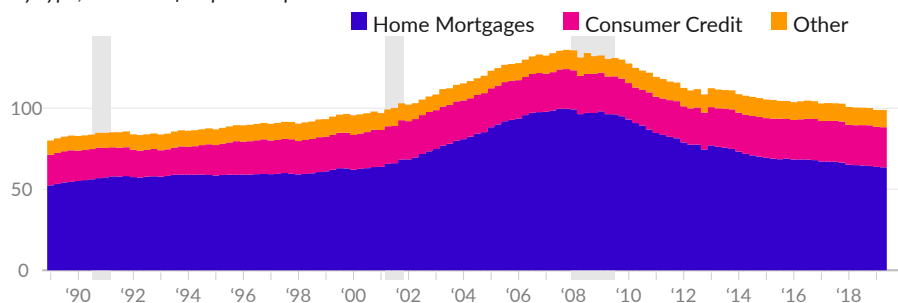
### Liabilities

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 98.9 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 16.7 percent. As a result, the ratio of household and nonprofit debt to disposable personal income has fallen by 5.4 percentage points.

### Household and Nonprofit Debt

by type, as share of disposable personal income

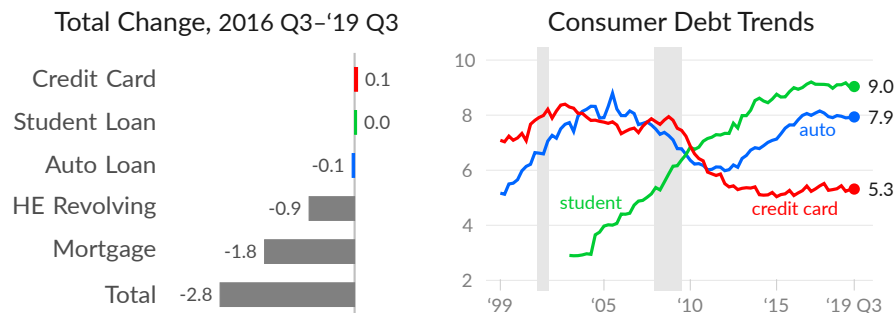


Source: Federal Reserve and Bureau of Economic Analysis

Federal Reserve Bank of New York analysis of Equifax data shows \$13.952 trillion in total consumer debt in 2019 Q3, which is equivalent to 84.2 percent of disposable personal income. Over the past three years, total consumer debt has increased by \$1.60 trillion compared to an increase of \$2.37 trillion in disposable personal income. As a result, the ratio of total consumer debt to disposable personal income has fallen by 2.7 percentage points over this period.

### Mortgages and Consumer Credit

share of disposable personal income



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.

Paragraph here about trends in auto loans, credit card debt, and student loans.

## 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	-	98.9	104.7	112.4	108.5
■ Mortgage Debt Total	-	\$10.41T	-	63.5	68.3	77.1	74.8
■ Consumer Credit	-	\$4.06T	-	24.7	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	84.2	84.6	86.9	90.9	87.2
Mortgage Debt Total	\$9.83T	\$9.8T	59.3	59.8	62.1	68.7	62.5
Mortgage	\$9.44T	\$9.41T	56.9	57.4	58.8	64.2	59.6
Home Equity Revolving	\$0.4T	\$0.4T	2.4	2.4	3.3	4.5	2.9
Consumer Credit	\$4.12T	\$4.06T	24.9	24.7	24.8	22.2	24.7
■ Auto Loan	\$1.32T	\$1.3T	7.9	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	\$1.5T	\$1.48T	9.0	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



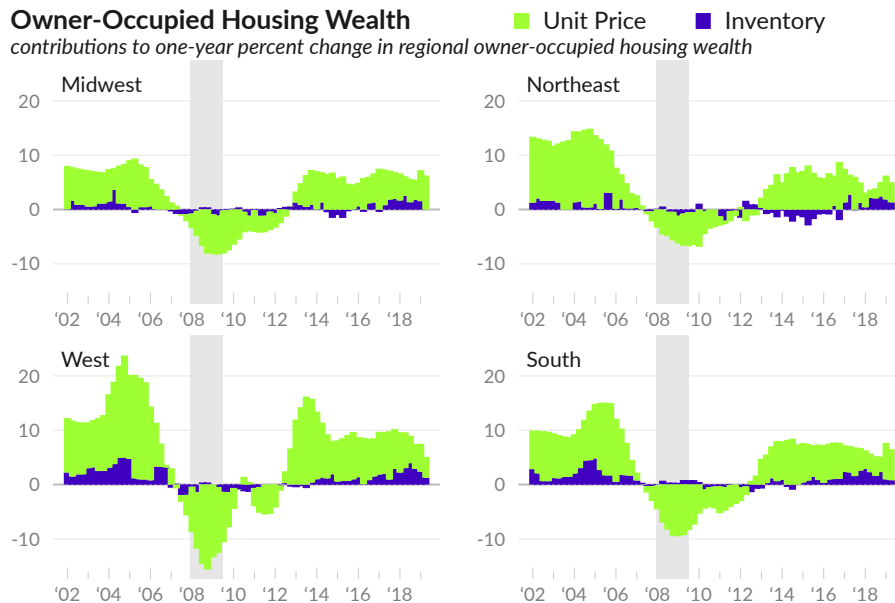
Source: Federal Reserve, Bureau of Economic Analysis

## Housing prices

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

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



Source: Federal Reserve and Census Bureau

## Housing permits/starts

### Geographic location of housing permits

### Personal Saving Rate

personal saving as a share of disposable personal income



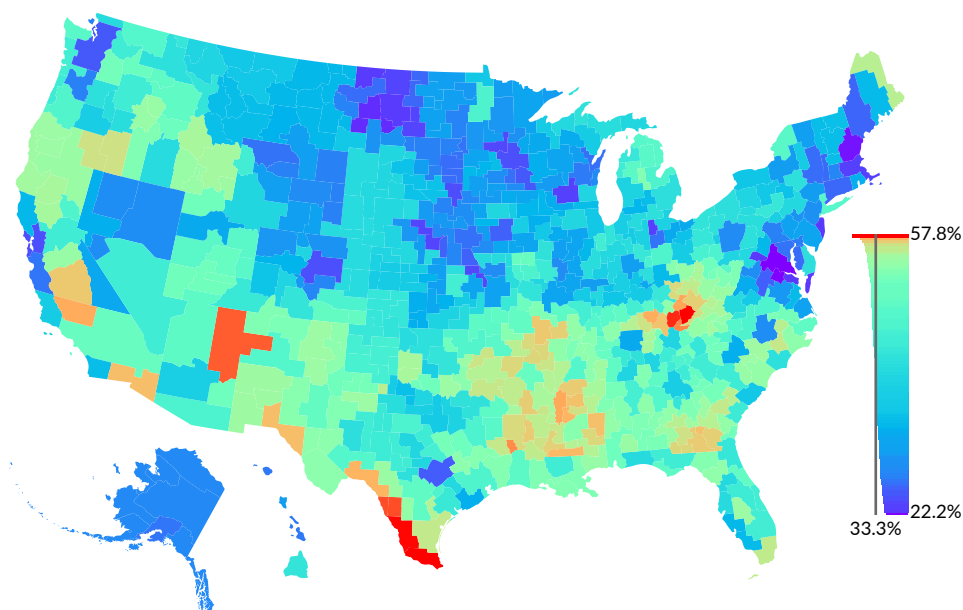
Source: Bureau of Economic Analysis

## 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

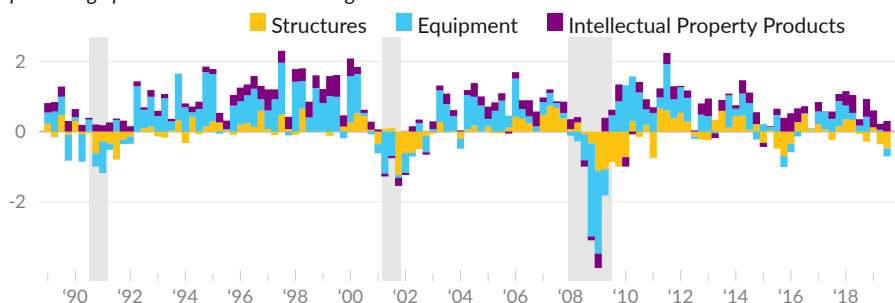
The factories, offices, and equipment that workers use to produce goods and services are all important to the economy. This section looks at the loosely defined business sector, with data covering business investment, retail sales, industrial production, corporate profits, and the financial activities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

## Fixed Investment

When businesses purchase items with a useful life of more than one year it is considered an 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 0.40 percentage points from GDP growth in the third quarter of 2019 compared to an average contribution of 0.52 percentage points over the past three years. In 2019 Q3, investment in structures subtracted 0.48 percentage points from GDP growth, investment in equipment subtracted 0.23 percentage points, and investment in intellectual property products contributed 0.30 percentage points.

### Business Investment

percentage point contribution to real GDP growth

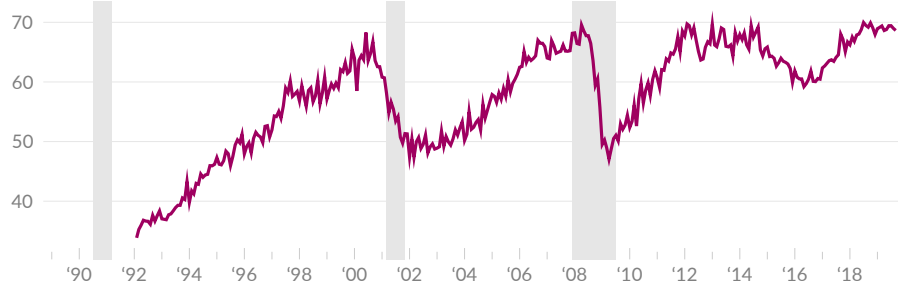
	2019 Q3	'19 Q2	'19 Q1	'18 Q4	'18 Q3	moving averages		
						3- year	10- year	30- year
Total	-0.4	-0.14	0.6	0.64	0.29	0.52	0.61	0.53
■ Structures	-0.48	-0.36	0.12	-0.29	-0.07	0.03	-0.0	0.0
■ Equipment	-0.23	0.05	0.0	0.42	0.17	0.23	0.38	0.32
Information processing	-0.15	0.13	0.17	-0.04	0.2	0.14	0.15	0.21
Computers and peripherals	-0.21	0.17	0.05	-0.04	0.0	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	-0.15	-0.14	-0.06	0.29	-0.07	-0.01	0.13	0.05
■ Intellectual property products	0.3	0.17	0.48	0.51	0.18	0.27	0.23	0.21
Software	0.15	0.11	0.26	0.19	0.15	0.16	0.13	0.12
Research and development	0.13	0.06	0.21	0.29	0.01	0.09	0.08	0.07

Source: Bureau of Economic Analysis

Investment can also be measured from 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 manufacturers.

### New Orders for Core Capital Goods

*non-defense capital goods, excluding aircraft, seasonally adjusted, monthly, in billions of USD*



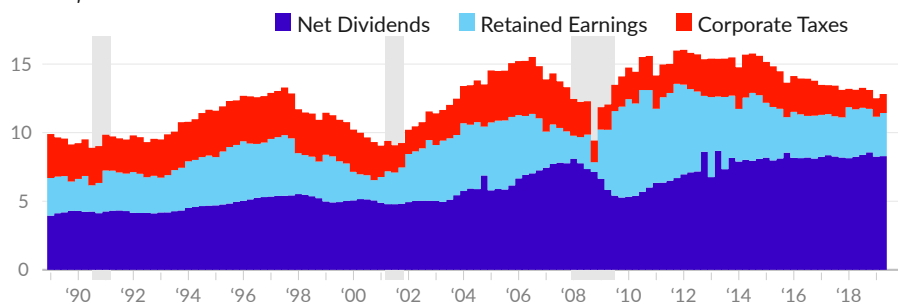
Source: Census Bureau

## 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*

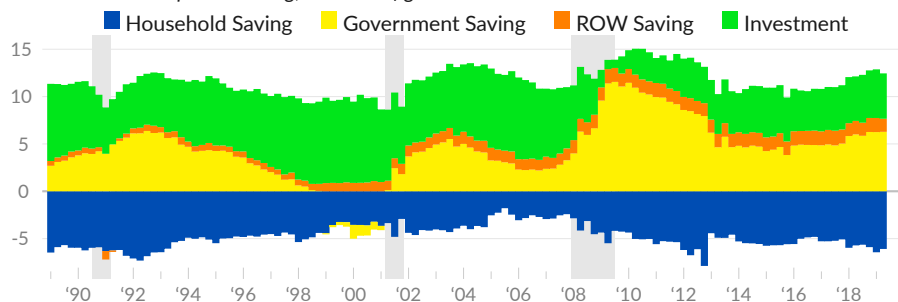


Source: Bureau of Economic Analysis

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

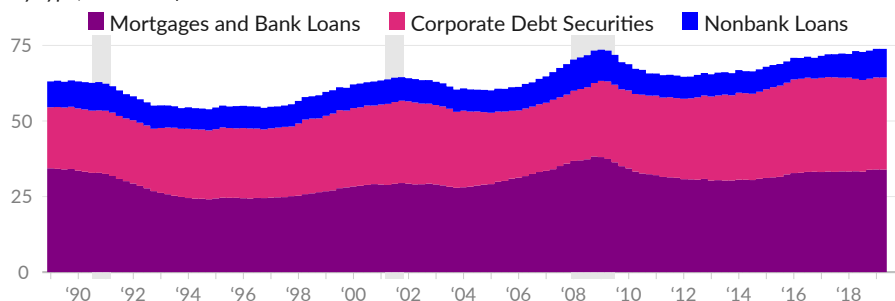


## Business Debt

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



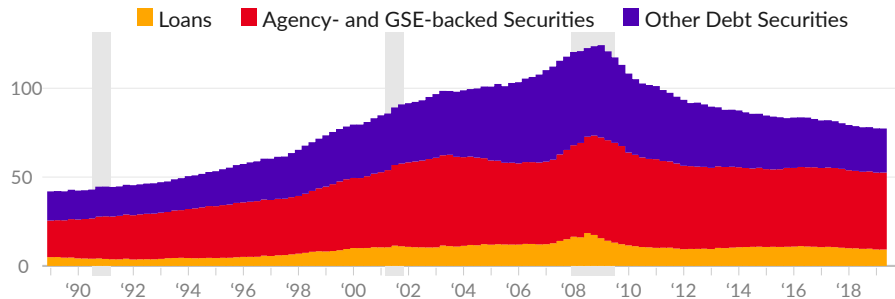
Source: Federal Reserve and Bureau of Economic Analysis

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

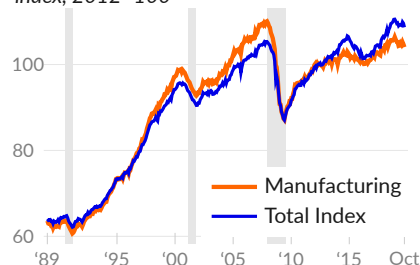
## Industrial Production

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

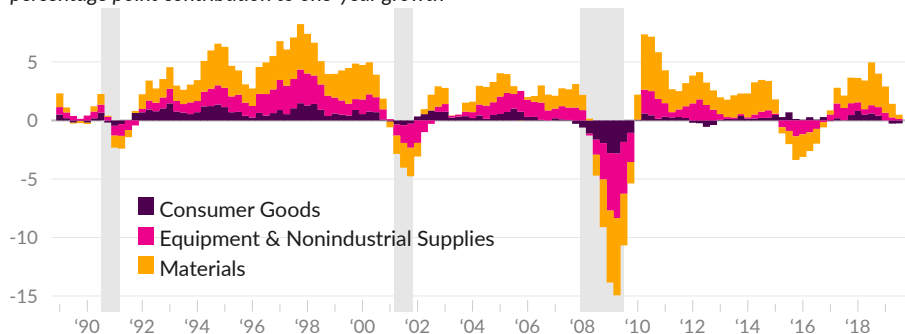
	Oct 2019	Sep 2019	Aug 2019	1- year	3- year	10- year	30- year
Total index	-1.13	-0.07	0.37	1.63	2.42	2.03	1.91
Manufacturing	-1.12	-0.71	-0.31	0.31	1.10	1.14	1.53
■ Durable manufacturing	-0.76	-0.26	0.20	0.60	0.82	1.09	1.48
Motor vehicles & parts	-0.60	-0.37	0.02	-0.02	0.06	0.41	0.23
■ Nondurable manufacturing	-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

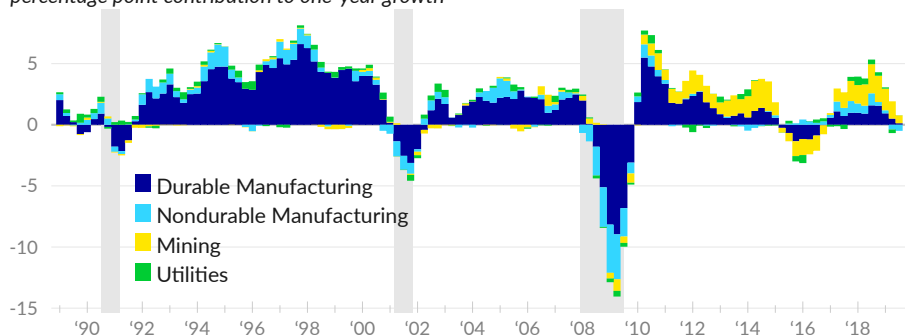


Source: Federal Reserve

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

### Industrial Production Growth, Industry Group

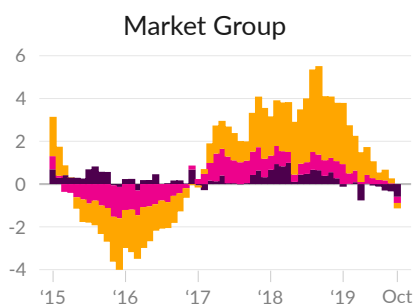
percentage point contribution to one-year growth



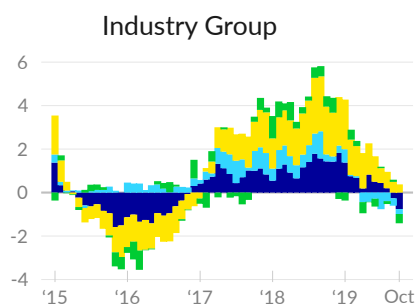
Source: Federal Reserve

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

### Recent data in detail



Source: Federal Reserve



Retail sales

Free cash flow

Balance sheets

Inventories

[Box on tech industry]

# Government

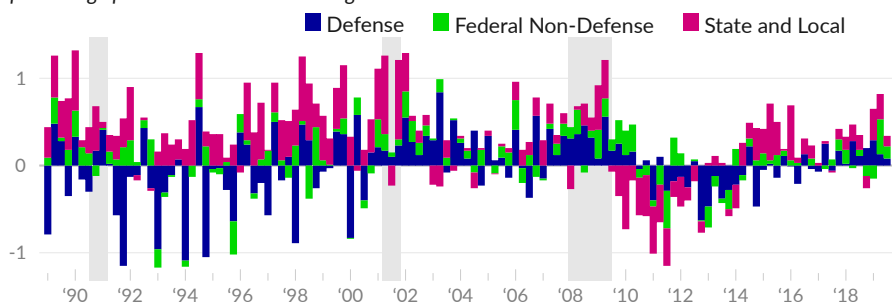
## Overview

### Government Consumption and Investment

Government consumption expenditures and gross investment, which provide services and infrastructure, contributed 0.35 percentage points to real GDP growth in 2019 Q3, compared to an average contribution of 0.40 percentage points over the past year and an average of 0.23 percentage points since 1989. In 2019 Q3, federal defense (see ■) contributed 0.08 percentage points, federal nondefense (see ■) contributed 0.14 percentage points, and state and local government (see ■) contributed 0.12 percentage points.

#### Government Consumption and Investment

*percentage point contribution to GDP growth*

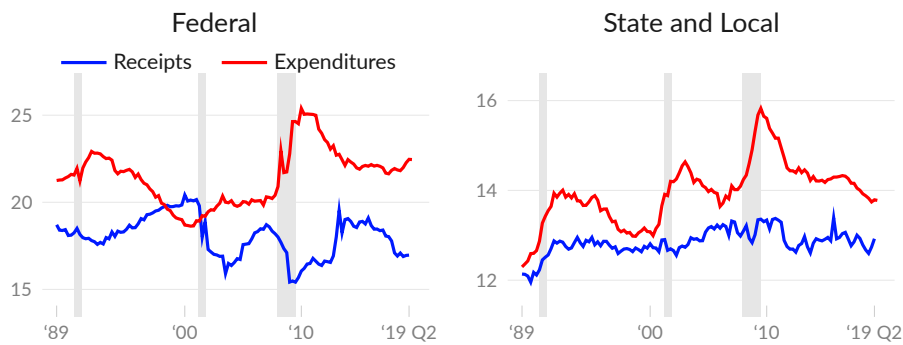


Source: Bureau of Economic Analysis

Table [here](#).

Text here.

### 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

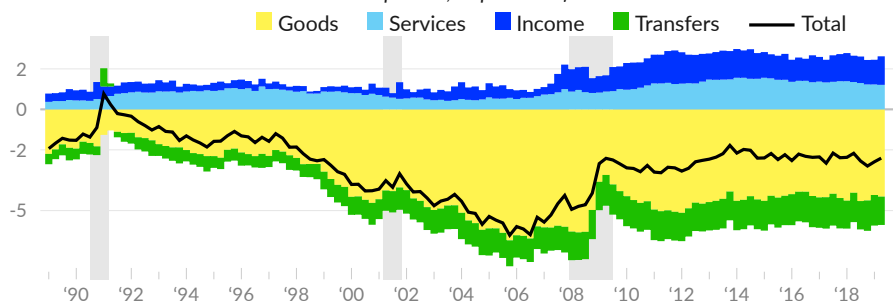
Transactions between the US and the rest of the world are recorded in the balance of payments as either current account transactions (which measure income) or capital and financial account transactions (which measure change in ownership of assets). This section details imbalances in international transactions, 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 Q2, the US runs a current account deficit of 2.4 percent of GDP, primarily as the result of a trade deficit on goods of 4.3 percent of GDP.

### Current Account Balance

*balance on individual current account component, as percent of GDP*



Source: Bureau of Economic Analysis

[Capital account balance]

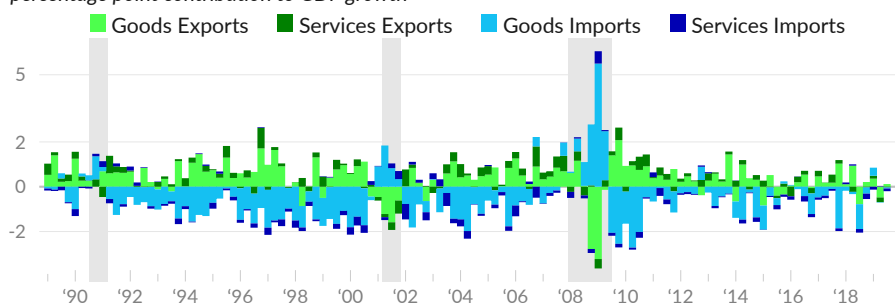
## Trade

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 0.12 percentage points to GDP growth in the third quarter of 2019 while services exports subtracted 0.03 percentage points. Good imports subtracted 0.05 percentage points from GDP growth and services imports subtracted 0.12 percentage points.

### International Trade

*percentage point contribution to GDP growth*

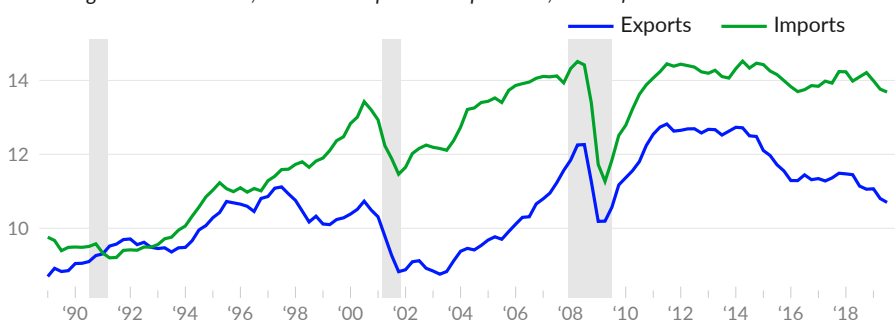


Source: Bureau of Economic Analysis

Nonpetroleum goods and services imports (see —) were equivalent to 13.7 percent of GDP in the third quarter of 2019, while exports of nonpetroleum goods and services (see —) were equivalent to 10.7 percent of GDP.

### 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*

	<i>period averages</i>							
	2019 Q3	'19 Q2	'18 Q3	2016	2012 -13	2005 -06	1998 -99	1989 -93
Exports of goods and services	11.59	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	0.89	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	0.48	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	14.63	14.84	15.33	14.64	16.76	15.89	12.63	10.38
Imports of goods	11.81	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	1.55	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	0.28	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

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]

Exchange rates

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

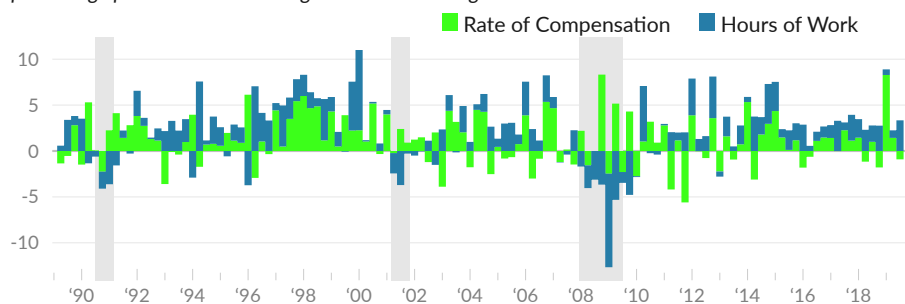
## Labor Markets

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 2.43 percent in 2019 Q3. Changes in wages subtracted -0.91 percentage points, and changes in total hours worked contributed 3.34 percentage points

### Gross Labor Income Growth

*percentage point contribution to gross labor income growth*



Source: Author's Calculations

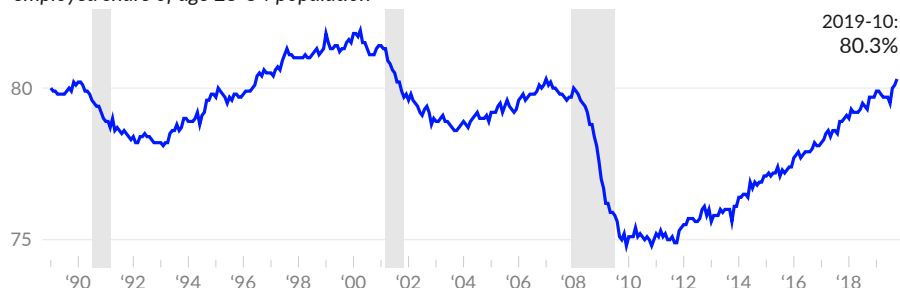
...

## 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*



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 Rate

Unemployment by reason

Unemployment by duration

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]

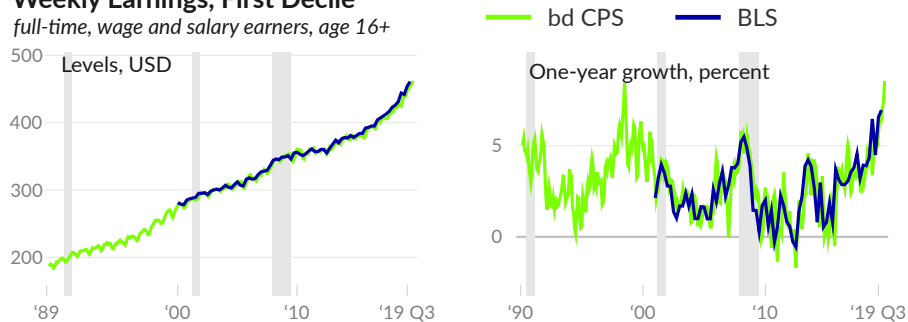
## Wage Growth

Wage text goes here. Explain two sources and provide some basic numbers.

Wage data for low-wage earners is useful for understanding the extent to which the labor market is able to cover living expenses.

### Weekly Earnings, First Decile

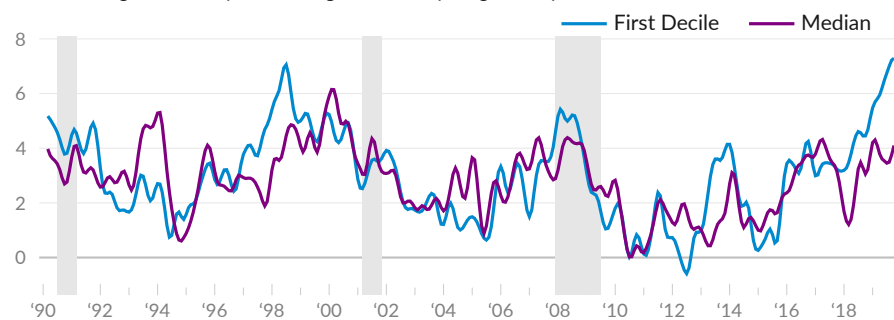
*full-time, wage and salary earners, age 16+*



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

Quits

Openings

### New Unemployment Insurance Claims

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



Source: Department of Labor

Flows

Reasons for non-participation

Union membership

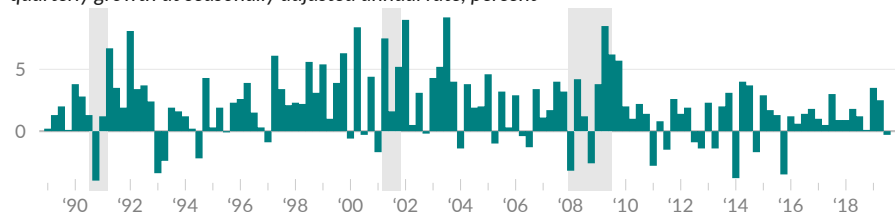
State- and sub-state-level analysis

### Labor Productivity

Labor productivity, measured as real output per hour in the nonfarm business sector, decreased at an annual rate of 0.3 percent in 2019 Q3, following an increase of 2.5 percent in 2019 Q2 (see ■). 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

# Capital Markets

Overview

Equity markets

[SP500]

text....

## S&P 500 Real Return

*trailing 20-year annualized real return*



Source: Shiller, Author's Calculations

[VIX]

Interest rates

[Fed funds rate]

[Fed balance sheet or excess reserve or both]

[10year and 2year]

[AAA and high-yield]

Yield curve

Valuations

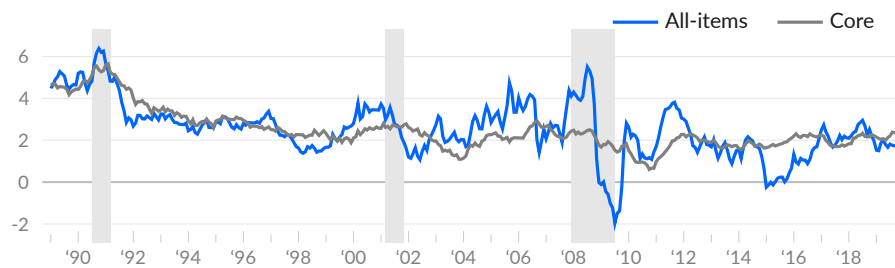
[PE Ratio]

# 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

CPI:

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

[CPI-U components contribution - horizontal range chart]

PPI

XMPI

PCE

Expectations



# **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.